1813 Casita Vista Piace Santa Rosa, CA 95409 (707) 539-7765

February 24, 1997

To Whom It May Concern:

Sarah abrasus

J. Quarle' & Associates/Golder Associates is presenting this preliminary environmental site assessment report for the property located at 2364 Baumann Avenue, San Lorenzo, California, on my behalf.

Thank you for your cooperation in this matter.

Sincerely,

Serah Abrams

180 Grand Avenue, Suite 250 Oakland, California 94612 Telephone: (510) 239-9000 Fax: (510) 239-9010



TRANSMITTAL LETTER

TO:

Amy Leech

Alameda County Health Agency Department of Environmental Health

1131 Harbor Bay Parkway Alameda, California 94502 DATE:

March 18, 1997

PROJECT NO.:

963-7136

SEN	ГВҮ:	Kent R. Reynolds	
<u>X</u>	Mail Hand Car Overnight	ried t Express	Other Under Separate Cover Enclosed

Quantity	Item	Description
1 Copy	Report	Preliminary Environmental Site Assessment Report
	-	2364 Baumann Avenue, San Lorenzo, California
1	Check	\$500.00
Remarks:		
For your review	•	

Per

Kent R. Re∜nolds

11:6 NA 81 AAM 76

ENATURE STOR

Golder Associates Inc.

180 Grand Avenue, Suite 250 Oakland, CA USA 94612 Telephone (510) 239-9000 Fax (510) 239-9010



PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT REPORT 2364 BAUMANN AVENUE SAN LORENZO, CALIFORNIA

Prepared for:

Sarah Abrams 1813 Casita Vista Place Santa Rosa, California

95409

PROTECTION

PROTECTION

Prepared by:

Golder Associates Inc. Oakland, California

Kent R. Reynolds

Senior Hydrogeologist

Diane Il. Sarmiento, P.E.

Senior Engineer

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1. INTRODUCTION

This report presents the results of the Preliminary Environmental Site Assessment (ESA) conducted by Golder Associates for the property located at 2364 Baumann Avenue, San Lorenzo, California (Figure 1). The property is owned by Sarah Abrams and is currently unoccupied. The subject property has historically been used by the Service Manufacturing Company for truck body manufacturing. The purpose of the ESA was to identify documented and potential environmental issues from onsite and offsite sources. The scope of work for this ESA consisted of a site history review, regulatory review, site reconnaissance and soil sampling and analysis. The site history and regulatory review included the review of the information documented in the Phase I Environmental Site Assessment performed by Environmental Testing & Management (ETM) dated March 27, 1996.

2. SITE DESCRIPTION

The subject property (site) is located in western San Lorenzo, approximately one-half mile east of the San Francisco Bay. An adjacent property located southwest of the subject property at 2400 Baumann Avenue, was also formerly operated by Service Manufacturing. The site is bordered to the northwest by the Gallo Salame food manufacturing plant (2411 Baumann Avenue); to the southeast by Santini Foods Inc. (16505 Worthley Drive); and to the northeast by Worthley Drive.

The site vicinity is zoned for heavy industrial use. The site is approximately a one-acre polygonal parcel of land with a 20,000 square foot concrete, tilt-up style building. The area surrounding the building is primarily asphalt with limited soil exposure. The building located at 2400 Baumann Avenue is currently being improved by Gallo Salame for food production.

3. GEOLOGY AND HYDROGEOLOGY

The site is located in an area reclaimed from the nearby bay margin and is immediately underlain by fill material composed of rock and surficial deposits derived from nearby cuts or quarries (Nilsen, 1973). This fill material covers bay deposits consisting of alluvial and estuarian discontinuous deposits of soft mud and silt with some shell, peat, sand and gravel layers. Shallow groundwater is estimated to occur at approximately 7 to 8 feet below ground surface (bgs). Surface water from the site discharges via storm drains to San Francisco Bay.

4. SITE HISTORY REVIEW

The following section describes the site history and summarizes information in ETM's Phase I ESA. The site history identifies previous operations at the subject site. The building at the site was constructed in 1978. Prior to 1978, the site was vacant and was reportedly used for

agricultural purposes (ETM, 1996). The site was accupied by Service Manufacturing from 1978 to 1995 and used for the fabrication and painting of truck bodies. Operations ceased at the site in 1995. During Service Manufacturing's operations, welding materials, solvents and paints were used. Accidental spillage or leaks of these materials may have resulted in degradation of site soil chemical quality. During the Phase I Environmental Site Assessment performed by Environmental Testing & Management in March 1996, paint stains were identified on asphalt and concrete floors at the site.

5. REGULATORY REVIEW

This section summarizes the regulatory review performed by ETM and identifies records of onsite and offsite sources which may have potential environmental impact on the subject site. ETM retained Environmental Risk Information & Imaging Services (ERIIS) to provide a comprehensive list of sites in the vicinity of the subject property currently identified with federal, state and local environmental regulatory agencies.

Review of the ERIIS report indicates that the site or adjacent sites are not on the Federal National Priorities List; Resource Conservation and Recovery Information System - Treatment Storage, and Disposal Facilities; Comprehensive Environmental Response, Compensation and Liability Information System. Grant Avenue Trammell Crow Company was identified by the Resource Conservation and Recovery Information System - Large Quantity and Small Quantity Generators as a generator of small quantities of hazardous wastes. The Trammell Crow site is located approximately 0.15 miles northwest of the subject site.

Review of ERIIS state database indicates nine Hazardous Waste Sites are located in the vicinity of the subject property. Due to the "No Further Action" status of these sites, it is not likely that these sites pose an environmental concern for the subject property. Five leaking underground storage tanks were identified in the vicinity of the site. All five cases are either closed or are located down-gradient or cross-gradient of the subject property. Five active underground storage tanks were also identified near the subject property. Due to the location and distance, none of the sites identified above are interpreted to pose a risk to the subject property.

Review of local regulatory agency files identified two records regarding the subject property. Service Manufacturing facility was listed as requiring no further action with the Alameda County Department of Environmental Health (EMT, 1996). An inspection report by the Alameda County Urban Runoff Clean Water Program, dated October 1993, reported potential stormwater concerns regarding waste containers exposed to rainfall and paint overspray accumulation on surfaces which drain to sewer. A subsequent inspection in June 1995 reported compliance regarding storm water ordinances. The Alameda County Department of Environmental Health conducted an inspection in October 1993 and reported the storage of hazardous materials on site including paint thinner, phosphatizing solution, undercoating material, lead batteries and hydraulic oil. A request was made for preparation of a Hazardous Material Business Plan, which was subsequently submitted in November 1993 (EMT, 1996).

6. SITE RECONNAISSANCE

w/what?

Golder conducted a site reconnaissance on two occasions to identify potential areas of concern related to the use of hazardous materials at the site. During the site reconnaissance we identified five areas of potential environmental concern including three stained asphalt areas outside the building, a build up of primer paint in the canopy area and a grit tank inside the building. The locations of these features are shown in Figure 2.

The stained asphalt areas are limited to an area of approximately ten square feet. The presence of oil in these areas is thought to be related to oil associated with the former compressor. The asphalt in these areas was found to be in good condition with no evidence of cracking.

The build up of paint in the canopy area was found to be of variable thickness up to two centimeters thick. The paint primarily consisted of a gray material identified as undercoating paint. The paint build up was discontinuous throughout the canopy area and the concrete floor was intact.

A grit tank was observed near the internal west portion of the building (Figure 2). The volume of the grit tank is approximately 100 gallons. Review of site building plans indicates a catch basin located under the canopy, drains to the grit tank (Figure 2). Approximately two feet of standing water was observed in the grit tank with no apparent sheen or odor. The grit tank was reportedly used by Service Manufacturing for collecting rinse water from the cleaning of truck bodies prior to painting. The tank walls and bottom appeared in good condition with no cracks or observable leaks. The tank drains to the sanitary sewer. The Oro Loma Sanitary District indicated that the grit tank is not permitted.

7. SOIL SAMPLING AND ANALYSIS

On January 6, 1997, a soil investigation was conducted to assess soil conditions (quality) within the three oil-stain areas and the grit tank area. In addition, a sample of paint was collected from the canopy area. The field investigation included drilling six borings, collecting soil samples and paint samples, and classification of soil lithology. The locations of soil borings are shown in Figure 2.

Three borings (B2, B5 and B6) were drilled in the oil-stained areas to a depth of seven feet. Borings were drilled with a hydraulic push drill rig and continuously cored. Soil samples were logged using Unified Soil Classification System and screened with an organic vapor meter (OVM) for volatile organic compounds. Borehole logs and OVM screening results are included in Appendix A. Soil samples collected at 2 and 5 feet below ground surface (bgs) from boring B2, and from 2 feet bgs from borings B5 and B6 were retained for chemical analysis. Soil samples were collected in clean stainless steel tubes and transported under chain-of-custody to a State of California certified laboratory. Stained area soil samples were analyzed for total petroleum hydrocarbons (TPH) as oil (EPA Method 3550/8015 (modified)) and lead (EPA Method 6010).

Borings B3 and B4 were drilled in the vicinity of the grit tank and boring B1 was adjacent to the catch basin, to a depth of 10 feet bgs. Borings were also drilled with a hydraulic push drill rig and continuously cored. All core material was logged using Unified Soil Classification and screened with an organic vapor meter (OVM) for volatile organic compounds. Borehole logs and OVM screening results are included in Appendix A. Soil samples at 4.5 feet bgs from borings B3 and B4, and from 5 feet bgs from boring B1 were retained for chemical analysis. Soil samples were collected in clean stainless steel tubes and transported under chain-of-custody to a State of California certified laboratory. Grit tank and catch basin soil samples were analyzed for volatile organic compounds (EPA Method 8260) and TPH as oil (EPA Method 3550/8015 [modified]).

One paint sample was collected from the build up in the undercoating canopy area. The paint sample was collected in a clean plastic sample container and transported under chain-of-custody to a State of California certified laboratory. The paint sample was analyzed for Lead (EPA Method 6010).

8. RESULTS

This section presents a summary the results of the field investigation.

The site was found to be underlain by approximately 4 to 5 feet of fill material consisting of gravel, sand and silt. Bluish-colored gravel was observed to a depth of approximately three feet in borings B1, B2, B5 and B6. Beneath the fill material bay mud deposits were encountered consisting of discontinuous layers of clayey silt, silty sand and sand. Sandow ground water was encountered at about 7 feet bgs across the site.

Soil sample analytical reports are included in Appendix B and summarized in Table 1. **Note:**volatile organic compounds were detected in any soil samples. Maximum lead concentrations were detected in soil samples from boring B2 at concentrations of 440 milligrams per kilogram (mg/kg) at 2 feet bgs and 770 mg/kg at 5 feet bgs. Lead concentrations in soil samples from borings B5 and B6 at 2 feet bgs were less than 10 mg/kg. TPH as oil was detected in all soil samples at concentrations ranging from 6 mg/kg to 690 mg/kg. Maximum concentrations of TPH as oil were detected in soils samples from borings B1 (690 mg/kg at 5 ft bgs), B2 (410 mg/kg at 2 ft bgs).

The total lead concentrations in the paint sample collected from paint in the undercoating canopy area was reported at 84 mg/kg.

All laboratory quality assurance/quality control were within acceptable criteria. Laboratory quality assurance/quality control data are included in Appendix B.

The origin of TPH and lead in fill materials located near the location of a former compressor is unknown. Possible explanations for the presence of TPH include: TPH present in fill prior placement onsite, naturally occurring organic matter and onsite releases. Possible explanations regarding the presence of lead at the site include: lead may be a naturally occurring element associated with imported gravel or possible use onsite.

9. SUMMARY AND CONCLUSIONS

Review of available historical information indicates the subject site was first developed in 1978. The site was occupied by Service Manufacturing until 1995 and used for the fabrication and painting of truck bodies. Currently the site is vacant. Review of the ETM Phase I ESA indicates there are no outstanding regulatory enforcement issues associated with the subject property. Three areas of potential concern were identified during Golder's site reconnaissance including: stained asphalt areas, a grit tank and catch basin, and a build up of paint in the undercoating canopy area.

Six borings were drilled to investigate the soil chemical quality in these areas. Soil samples were collected and analyzed to assess the presence of chemicals in onsite soil. The field investigation results indicate that no volatile organic compounds are present in soil near the grit tank. Lead and TPH as oil were detected in soils in the vicinity of the catch basin associated with the grit tank and the nearby stained asphalt. No regulatory standards exist for TPH as oil. The presence of TPH as oil may have been present in the fill prior to placement onsite or the result of spills or leaks associated with compressors that were located in these areas. The higher concentrations of TPH as oil near the catch basin suggests that some oil may have been introduced to the soil through the catch basin.

sample (51 mg/kg) exceeds hazarding lead (50 mg/kg) under California Gode of Ingulations Title 22. This material is planned to be removed in the future in exceedance with applicable State of California Regulations.

Comparison of concentrations of lead in soil samples from the site with the U.S. Environmental Protection Agency (EPA) Preliminary Remediation Goals (PRGs) indicate that the concentration of lead in soil from borings B1 and B2 does not exceed the EPA level of 1,000 mg/kg for industrial use.

The presence of TPH and lead in the former compressor area is not interpreted to pose a risk to human health or the environment for the following reasons:

- TPH is relatively insoluble, immobile and is expected to biodegrade over-time.
- Ground water quality in the vicinity of the site is likely neutral (in terms of pH) and therefore, dissolved concentrations of lead are expected to be low.
- The former compressor area is covered with asphalt, thereby limiting access (exposure) to TPH and lead in the fill material.

No remediation is warranted except in the event that this material is excavated as part of future construction activities.

10. LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

This report was prepared for the exclusive use of Ms. Sarah Abrams. The report is based on data and information collected during the ESA of the property conducted by Golder and is based solely on the site conditions encountered at the time of the visit, supplemented by historical information and data obtained by Golder as described in this report.

In evaluating the property, Golder has relied in good faith on information provided by the client. We accept no responsibility for any deficiency, misstatements, or inaccuracies contained in this report as a result of omissions, misinterpretations or fraudulent act of persons involved.

Any use which a third party makes of this report or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. The assessment of environmental conditions presented have been made using the historical and technical data collected and information referenced in the report.

There is the possibility that sources of future environmental issues have yet to manifest themselves to the point where they are identified through a preliminary ESA such as the one conducted.

11. REFERENCES

Environmental Testing of Mgnt, 1996. Phase I Environmental Site Assessment, Former Service Manufacturing - 2400 Baumann Avenue, San Lorenzo, California.

Nilsen, T.H., 1973. Preliminary Small Photointerpretation Map of Landslide and Other Surficial Deposits of the Livermore and Part of the Hayward 15 minute quadrangles, Alameda and Contra Costa Counties, California, U.S.G.S. miscellaneous field studies map, MF-530.

USEPA, 1995. Region IX Preliminary Remediation Goals (PRGs) First Half 1995. United States Environmental Protection Agency.

Table 1
Summary of Chemical Analysis Results
2364 Baumann Avenue,
San Lorenzo, California

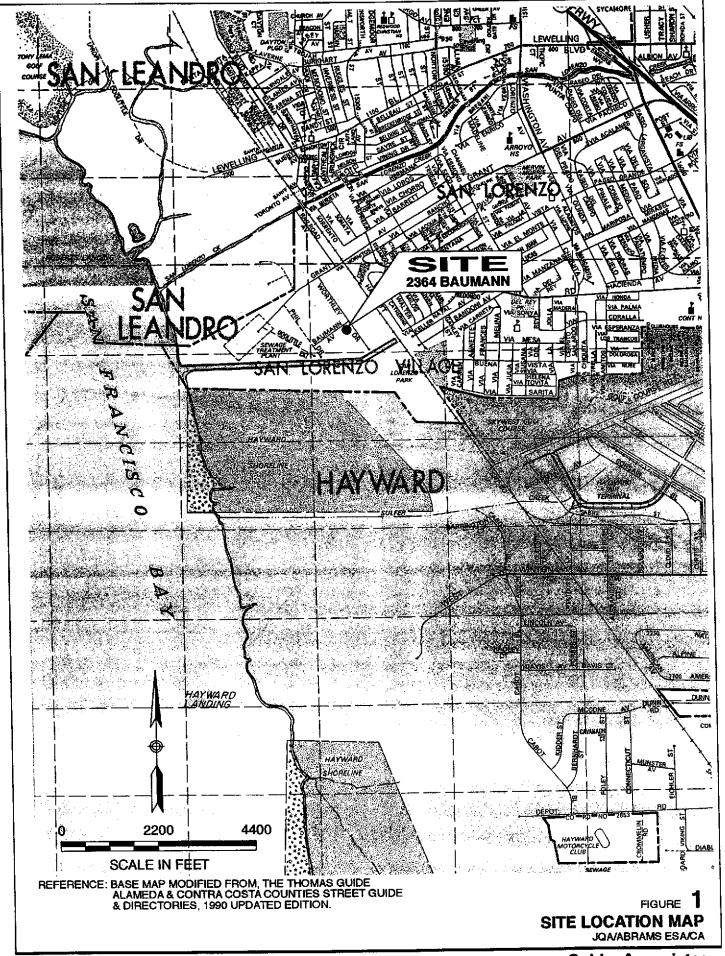
								Former Spray
Area	Catch Basin	Oil-St	ained	Grit	Tank	Oil-S	Paint Booth	
Boring Location	B1	B2	B2	В3	B4	B5	B6	Paint
Sample Depth Interval (feet bgs)	5.0 - 5.5	2.0 - 2.5	5.0 - 5.5	4.5 - 5.0	4.5 - 5.0	2.0 - 2.5	2.0 - 2.5	<u> </u>
Analyte								
Lead	NA	440	770	NA	NA	7	9	84
(EPA Method 6010)								
TPH as oil	690	410	270	6	8	27	18	NA
(EPA Method 3550/GC-FID)								
Volatile Organic Compounds	ND	NA	NA	ND	ND	NA	NA	NA
(EPA Method 8260)								

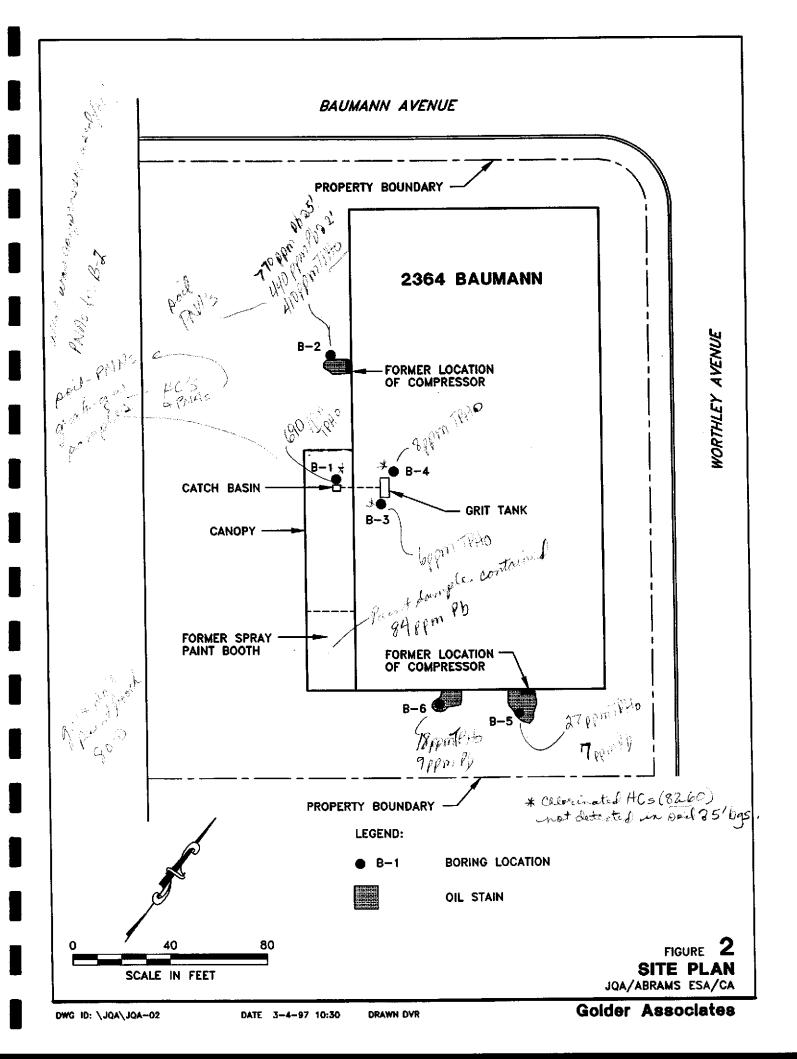
Notes:

All concentrations reported in milligrams per kilogram (mg/kg)

ND - None detected at or above laboratory reporting limits

NA - Analysis not requested





APPENDIX A

Borehle Logs

ATI	NO. JQA/ABRAMS ESA/CA ON 90' AZIMUTH NA		1		DRIL	LING DATE	1/6/	97 DATUM MSL DRILL RIG XI	
	SOIL PROFILE	g				AMPLES			NOTES
	SOIL PROFILE DESCRIPTION	GRAPHIC LOG	nace	NUMBER	TYPE	8 IN	RECOVERY	SAMPLE DESCRIPTION	PIEZOMETE STANDPIP INSTALLATIO
	0-0.40 ft. Concrete.	XX	1	1					
	0.4-9.0 ft. Loose, light brown (7.5YR 6/4), sand and gravel, damp (FILL).	5888	FIL						
	2.8-9.0 ft. Oxidizing yellow brown. 3.0-4.0 ft. Compact, gray brown (5Y 5/2), send and gravel, damp (FILL).							OVM = 0.0 ppm	
	4.0-5.0 ft. Compact, clive (5Y 5/4), SILTY SAND, some GRAVEL, (SM), damp.	888	SM					Sample 8-1 (5.0-5.5) OVM = 0.0 ppm	:
	5.0-7.0 ft. Mediam stiff, dark brown (7.5YR 3/2), CLAYEY SILT, some organics/wood, (ML), moist.		ML		:				
	7.0-9.5 ft. Compact, clive (5Y 4/3), SILTY SAND, some oxidized material [RED (2.5YR 4/5)], (SM), wet.	ego ego ego ego ego ego ego	SM					OVM = 0.0 ppm	
	9.5-10.0 ft. Stiff, gray (2.5YR N4), SILTY CLAY, (CL), moist.		CL					Sample B1 (9.5-10.0) OVM = 0.0 ppm	
	Total depth = 10.0 ft.]						Borehole grouted to surface with neat cement on 1/6/97.	
				į					

STA. PROJ		OFFSET L R NO. JQA/ABRAMS ESA/CA					ATION NA LING DATE	1/6		OF 1
		ON 90" AZIMUTH NA		<u> </u>					DRILL RIG XD-1	
(FEET)	BORING METHOD	SOIL PROFILE	GRAPHIC LOG	USCS	BER	TYPE*	BLOWS/	RECOVERY	SAMPLE DESCRIPTION	NOTES PIEZOMETER
i	90	DESCRIPTION	<u>R</u>		NUMBER	Ţ.	6 TM.	REC		STANDPIPE INSTALLATION
Bo					┝		_			
ľ		0-0.30 ft. Asphalt. 0.3-3.0 ft.		FILL.					·	
-		Loose, light brown (7.6YR 6/4), sand and gravel, damp (FILL).								
							<u> </u>			ł
2										1
		2.8-3.0 ft. Oxided to yellow brown.	***					\mathbb{Z}		
		3.0-4.0 ft. Compact, gray brown (5Y 5/2), sand and gravel, damp (FILL).	₩			ł			Sample 8-2 (2.0-2.5) OVM = 0.0 ppm	7
- 4										
		4.0-4.8 ft. Compact, clive (5Y 5/4), SILTY SAND, some GRAVEL, (SM),		SM				2	Samula R-2 /5 (L5 R)	
		demp. 4.6-7.0 ft.		ML	1				Sample B-2 (6.0-5.5) CVM = 0.0 ppm	-
		4.8-7.0 ft. Medium stiff, dark brown (7.5YR 3/2), CLAYEY SILT, some organics/wood, (ML), moist.		""-						
٠					Ì		1		!	_
_	ļ				İ				OVM = 0.0 ppm	
		Total depth ≈ 7.0 ft.		┞	╁	\dagger	· · · · · -	弋	Borehole grouted to surface with neat cement on 1/6/97.	1
] •									cement on 1/6/97.	
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- Nedtu	9041	E As Indicated							LOGGED BY K.Kislel	

RECORD OF BOREHOLE # B-2



•	JECT	OFFSET L R NO. JQA/ABRAMS ESA/CA ON 90' AZIMUTH NA					ATION NA LING DATE		SHEET 1 297 DATUM MSL DRILL RIG XD-1	OF 1
	COHE	SOIL PROFILE	90			. 8	AMPLES			NOTES
(FEET)	BOSENG METHOD	80% PROFILE	GRAPHIC LOG	USCS	ĕ	ů	BLOWS/	VERV	SAMPLE DESCRIPTION	PIEZOMETER
	BOB	DESCRIPTION	GRA		NEWBER	TYPE*	6 INL	RECOVERY		STANDPIPE INSTALLATION
°		0-0.40 ft. Concrete.	XX							-
-		0.4-5.0 ft. Loose, light brown (7.5YR 6/4), sand and gravel, damp (FILL).		FILL.						_
5 2									OVM = 0.0 ppm	-[
Ì							į			-
- 4							į			· _
•			▓						Sample B-3 (4.5-5.0) CVM ≈ 0.0 ppm	
2		5.0-7.5 ft. Medium stiff, dark brown (7.5YR 3/2), CLAYEY SILT, some organics/wood, (ML), moist.		ML	-				Сум = 0.0 руш	-
		organics/wood, (ML), moist.							y.	_
•										
							<u> </u>		OVM = 0.0 ppm	-
- *		7.5-10.0 ft. Compact, olive (5Y 4/3), SILTY SAND, some oxidized material [RED (2.5YR 4/6)], (SM), wet.	27 12 12 12 12 12	SM	1					
			747							
•									Sample B-3 (9.6-10.0) OVM = 0.0 ppm	
-10		Total depth = 10.0 ft.	3 2		╀	+		-		-
-									Borshole grouted to surface with next cement on 1/6/97.	
12										-
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14										-
-										
16										
- 10										
ŀ										-
- 18										
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L										

RECORD OF BOREHOLE # B-3



	-		REC	COI	RD	0	F BORE	EHC)LE # B-4	
	ECT :	OFFSET L R NO. JQA/ABRAMS ESA/CA DN 90° AZIMUTH NA					ATION NA LING DATE	1/6/	SHEET 1 DATUM MSL DRILL RIG XD-1	OF 1
-	$\overline{}$	SOIL PROFILE					SAMPLES			NOTES
(FEET)			3	NSC8		-	 -	īŧ	SAMPLE DESCRIPTION	PIEZOMETER
	BORING METHOD	SOIL PROFILE DESCRIPTION	GRAPHIC LOG	Să	NUMBER	TYPE.	6 INL	RECOVERY		STANDPIPE INSTALLATION
P		0-0.40 ft. Concrete.	X	-	-			Н		_
		0.4-5.0 ft. Loose, light brown (7.5YR 6/4), sand and gravel, damp (FILL).		FILL	1		ļ	N		
								10	OVM = 0.0 ppm	
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-								10		
								1		} _
				ğ			ļ	10		!
4				ŽŽ						
							i		Sample B-4 (4.5-5.0) OVM = 0.0 ppm	_
		6.0-7.5 it. Medium stiff, dark brown (7.5YR 3/2), CLAYEY SILT, some organics/wood, (ML), moist.		ML			1			
		organicowood, (w.c.), molac.	11	l						
•										
									OVM = 0.0 ppm	-
		7.5-10.0 ft.	10.1	SN		ļ				
- 8 -		7.5-10.0 ft. Compact, olive (5Y 4/3), SILTY SAND, some oxidized material [RED (2.5YR 4/6)], (SM), wet.	47.42.4							_
										_
_								2	Sample B-4 (9.5-10.0) OVM = 0.0 ppm	
- 10		Table to the second		-	1	1	<u> </u>			4 -
		Total depth ≈ 10.0 ft.							Borehole grouted to surface with neat cement on 1/6/97.	
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						1				1
_ 12 _										
										_
14										_
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			RE	COI	RD	0	F BORE	EHC)LE # B-5	
	IECT	OFFSET L R NO. JQA/ABRAMS ESA/CA ON 90° AZIMUTH NA					'ATION NA LING DATE	1/6/	SHEET 1 DATUM MSL DRILL RIG XD-1	OF 1
		SOIL PROFILE	6			8	AMPLES			NOTES
	ORING MET	SOIL PROFILE DESCRIPTION	GRAPHIC LO	828A	IUNIBER	TYPE*	BLOWS/ 6 INL	ECOVERY	BAMPLE DESCRIPTION	PIEZOMETER STANDPIPE
O 10 12	BORING METHOD	SOIL PROFILE	GRAPHIC LOG	FILL SM	N		BLOWS/	RECOVERY	Sample B-5 (2.0-2.5) OVM = 0.0 ppm Sample B-5 (5.0-5.5) OVM = 0.0 ppm OVM = 0.0 ppm Borshole grouted to surface with next cernent on 1/6/97.	
18										



			REC	COI	RD	0	F BORE	EHC)LE# B-6	l
PRO:		OFFSET L R 'NO. JQA/ABRAMS ESA/CA ION 90' AZIMUTH NA					VATION NA LING DATE	1/6/1	SHEET 1 DATUM MSL DRILL RIG XD-1	OF 1
	-	SOIL PROFILE	_			8	BAMPLES			NOTES
} }			97	uscs	-		<u> </u>	E	SAMPLE DESCRIPTION	PIEZOMETER
DEPTH SCALE (FEET)	BORING METHOD	BOIL PROFILE DESCRIPTION	GRAPHIC LOG	ŝ	NUMBER	TYPE	BLOWS/ 6 PL	RECOVERY		STANDPIPE INSTALLATION
•		0-0.30 ft. Asphalt.	30000					\forall		-
		0.9-3.2 ft. Loose, light brown (7.5YR 6/4), sand and gravel, damp (FILL).		FILL				0		
-				PILL	1			1		-
					Ì				Sample B-6 (2.0-2.5) OVM = 0.0 ppm	
- 2								$\overline{\mathcal{Q}}$	- 0.5 рр.п.	_
					ļ	Ì				
•		3.2-4.2 ft.		8				0		
		Compact, gray brown (5Y 5/2), sand and gravel, damp (FILL).	****	3				0		
- 4	l	4.2-5.1 R.		SM	1		ļ			
_		Compact, olive (5Y 5/4), SILTY SAND, some GRAVEL, (SM), damp	200200200	1	}					
		5.1-6.9 ft. Medium stiff, dark brown (7.5YR 3/2), CLAYEY SILT, some organics/wood, (ML), moist.		MIL	1			1		1
- 6	ĺ	organics/wood, (ML), moist.		1				10		_
					1		1			[
-		□ 6970ft		SM	‡_			12	OVM = 0.0 ppm	_ _
		6.9-7.0 ft. Medium stiff, olive (5Y 4/3), SILTY SAND, some oxidized material [RED (2.5YR 4/6)], (SM), wet.							Borehole grouted to surface with neat cement on 1/6/97.	
- 8		Total depth = 7.0 ft.	1							-
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APPENDIX B

Laboratory Analytical Reports

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Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

J. QUARLE & ASSOCIATES P.O BOX 22515 SAN LEANDRO. CA 94577-0340

ATTN: MR. JACK QUARLE

CLIENT PROJ. ID: SERV MANUFACTR CLIENT PROJ. NAME: SAN LORENZO REPORT DATE: 01/27/97

DATE(S) SAMPLED: 01/06/97

DATE RECEIVED: 01/09/97

AEN WORK ORDER: 9701080

PROJECT SUMMARY:

On January 9, 1997, this laboratory received 7 (6 soil & 1 paint chip) sample(s).

Client requested sample(s) be analyzed for chemical parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Lar**c** Klein

Laboratory Director

SAMPLE ID: B1-5-5.5 AEN LAB NO: 9701080-01 AEN WORK ORDER: 9701080 CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 **REPORT DATE: 01/27/97**

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZEI
#Extraction for TPH	EPA 3550	-		Extrn Date	01/15/9
TPH as Oil	GC-FID	690	* 20	mg/kg	01/20/9
Volatile Organics 8260	EPA 8260		_	44	01 (10 (0)
Benzene	71-43-2	ND	5	ug/kg	01/13/9
Bromobenzene	108 - 86-1	ND	5	ug/kg	01/13/9
Bromochloromethane	74-97-5	ND		ug/kg	01/13/9
Bromodichloromethane	75-27-4	ND	10	ug/kg	01/13/9
Bromoform	75-25-2	ND		ug/kg	01/13/9
Bromomethane	74-83-9	ND		ug/kg	01/13/9
n-Butylbenzene	104-51-8	ND	5	ug/kg	01/13/9
sec-Butylbenzene	135-98-8	МD	5	ug/kg	01/13/9
tert-Butylbenzene	98-06-6	ND	5	ug/kg	01/13/9
Carbon Tetrachloride	56-23-5	ND	5 5	ug/kg	01/13/9
Chlorobenzene	108-90-7	ND	5	ug/kg	01/13/9
Chloroethane	75-00-3	ND		ug/kg	01/13/9
Chloroform	67-66-3	ND	5	ug/kg	01/13/9
Chloromethane	74-87-3	ND		ug/kg	01/13/9
2-Chlorotoluene	95-49-8	ND	5	ug/kg	01/13/9
4-Chlorotoluene	106-43-4	ND	5	ug/kg	01/13/9
Dibromochloromethane	124-48-1	ND	5	ug/kg	01/13/9
1,2-Dibromo-3-chloropropane	96-12-8	ND	20		01/13/9
1,2-Dibromoethane	106-93-4	ND	_ <u>5</u>	ug/kg	01/13/9
Dibromomethane	74-95-3	ND	5	ug/kg	01/13/9
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	01/13/9
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	01/13/9
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	01/13/9
Dichlorodifluoromethane	75-71-8	ND	10		01/13/9
1.1-Dichloroethane	75-34-3	ND	- 5	ug/kg	01/13/9
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	01/13/9
1,1-Dichloroethene	75-35-4	ND		ug/kg	01/13/
cis-1,2-Dichloroethene	156-59-2	ND		ug/kg	01/13/9
	156-60-5	ND			01/13/
trans-1,2-Dichloroethene		ND	5		01/13/9
1,2-Dichloropropane	78-87-5 142-28-9	ND ND	5		01/13/
1,3-Dichloropropane		ND ND	5		01/13/9
2,2-Dichloropropane	594-20-7	ND ND	5		01/13/9
1,1-Dichloropropene	563-58-6	ND ND	5		01/13/
Ethylbenzene	100-41-4	ND		ug/kg	01/13/9
Hexachlorobutadiene	87-68-3				01/13/9
Isopropylbenzene	98-82 - 8	ND		ug/kg	01/13/
p-Isopropyltoluene	99-87-6	ND	5	ug/kg	01/13/

SAMPLE ID: B1-5-5.5 AEN LAB NO: 9701080-01

AEN WORK ORDER: 9701080 CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 REPORT DATE: 01/27/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT UNITS	DATE ANALYZED
Methylene Chloride	75-09-2	ND	20 ug/kg	01/13/97
Naphthalene	91-20-3	ND	5 ug/kg	01/13/97
n-Propylbenzene	103-65-1	ND	5 ug/kg	01/13/97
Styrene	100-42-5	ND	5 ug/kg	01/13/97
1,1,1,2-Tetrachloroethane	630-20-6	ND	5 ug/kg	01/13/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	5 ug/kg	01/13/97
Tetrachloroethene	127-18-4	ND	5 ug/kg	01/13/97
√ Toluene	108-88-3	ND	5 ug/kg	01/13/97
1,2,3-Trichlorobenzene	87-61-6	ND	5 ug/kg	01/13/97
1,2,4-Trichlorobenzene	120-82-1	ND	5 ug/kg	01/13/97
1.1.1-Trichloroethane	71-55-6	ND	5 ug/kg 5 ug/kg 5 ug/kg 5 ug/kg 5 ug/kg 5 ug/kg 5 ug/kg 5 ug/kg	01/13/97
1,1,2-Trichloroethane	79-00-5	ND	5 ug/kg	01/13/97
Trichloroethene	79-01-6	ND	5 ug/kg	01/13/97
Trichlorofluoromethane	75-69-4	ND	5 ug/kg	01/13/97
1,2,3-Trichloropropane	96-18-4	ND	5 ug/kg	01/13/97
1,2,4-Trimethylbenzene	95-63-6	ND	5 ug/kg	01/13/97
1,3,5-Trimethylbenzene	108-67-8	ND		01/13/97
Vinyl Chloride	75-01-4	ND	10 ug/kg	01/13/97
Xylenes, Total	1330-20-7	ND	10 ug/kg	01/13/97
Acetone	67-64-1	ND	100 ug/kg	01/13/97
2-Butanone	78-93-3	ND	100 ug/kg	01/13/97
Carbon Disulfide	75-15-0	ND	1 <u>0</u> ug/kg	01/13/97
cis-1,3-Dichloropropene	10061-01-5	ND	5 ug∕kg	01/13/97
trans-1,3-Dichloropropene	10061-02-6	ND	5 ug/kg	01/13/97
2-Hexanone	591-78-6	ND	50 ug/kg	01/13/97
4-Methy1-2-pentanone	108-10-1	ND	50 ug/kg	01/13/97
Vinyl Acetate	108-05-4	ND	50 ug/kg	01/13/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	10 ug/kg	01/13/97

Reporting limit elevated for oil due to high level of target compound. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

SAMPLE ID: 83-4.5-5 AEN LAB NO: 9701080-02 AEN WORK ORDER: 9701080

CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 REPORT DATE: 01/27/97

DATE REPORTING METHOD/ **ANALYZED** UNITS LIMIT CAS# RESULT **ANALYTE** 01/15/97 Extrn Date #Extraction for TPH EPA 3550 01/19/97 6 * 5(mg/kg GC-FID TPH as 0il **EPA 8260** Volatile Organics 8260 5 ug/kg 5 ùg/kg 5 ug/kg 01/11/97 ND 71-43-2 Benzene 01/11/97 ND 108-86-1 Bromobenzene 01/11/97 ND Bromochloromethane 74-97-5 01/11/97 10 ug/kg 75-27-4 ND Bromodichloromethane 01/11/97 5 ug/kg 75-25-2 ND Bromoform 01/11/97 ND 10 ug/kg 74-83-9 Bromomethane 5 ug/kg 5 ug/kg 5 ug/kg 01/11/97 ND n-Butylbenzene 104-51-8 01/11/97 135-98-8 ND sec-Butylbenzene 01/11/97 98-06-6 ND tert-Butylbenzene 5 ug/kg 01/11/97 56-23-5 ND Carbon Tetrachloride 5 ug/kg 01/11/97 108-90-7 ND Chlorobenzene 01/11/97 10 ug/kg ND **Chloroethane** 75-00-3 01/11/97 ND 5 ug/kg 67-66-3 Chloroform 10 ug/kg 01/11/97 74-87-3 ND **Chloromethane** 5 ug/kg 5 ug/kg 01/11/97 ND 95-49-8 2-Chlorotoluene 01/11/97 ND 4-Chlorotoluene 106-43-4 01/11/97 5 ug/kg 124-48-1 ND Dibromochloromethane 01/11/97 20 ug/kg 96-12-8 ND 1.2-Dibromo-3-chloropropane 5 ug/kg 01/11/97 106-93-4 ND 1,2-Dibromoethane 01/11/97 5 ug/kg 74-95-3 ND Dibromomethane 01/11/97 5 ug/kg ND 95-50-1 1,2-Dichlorobenzene 01/11/97 5 ug/kg 541-73-1 ND 1.3-Dichlorobenzene 01/11/97 5 ug/kg 106-46-7 ND 1.4-Dichlorobenzene 01/11/97 75-71-8 ND 10 ug/kg Dichlorodifluoromethane 5 ug/kg 5 ug/kg 01/11/97 ND 75-34-3 1.1-Dichloroethane 01/11/97 107-06-2 ND 1.2-Dichloroethane 5 ug/kg 01/11/97 ND 75-35-4 1.1-Dichloroethene 01/11/97 5 ug/kg ND cis-1,2-Dichloroethene 156-59-2 01/11/97 5 ug/kg trans-1,2-Dichloroethene 156-60-5 ND 01/11/97 5 ug/kg ND 78-87-5 1,2-Dichloropropane 5 ug/kg 01/11/97 ND 142-28-9 1.3-Dichloropropane 5 ug/kg 01/11/97 ND 594-20-7 2,2-Dichloropropane 5 ug/kg 01/11/97 ND 563-58-6 1,1-Dichloropropene 5 ug/kg 01/11/97 100-41-4 ND Ethylbenzene 5 ug/kg 01/11/97 ND Hexachlorobutadiene 87-68-3 01/11/97 5 ug/kg ND 98-82-8 Isopropylbenzene 5 ug/kg 01/11/97 99-87-6 ND p-Isopropyltoluene

J. QUARLE & ASSOCIATES

SAMPLE ID: B3-4.5-5 AEN LAB NO: 9701080-02

AEN WORK ORDER: 9701080 CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 REPORT DATE: 01/27/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT UNITS	DATE ANALYZED
Methylene Chloride Naphthalene n-Propylbenzene Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichloroethane 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Trichlorofluoromethane 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl Chloride Xylenes, Total		RESULT ND ND ND ND ND ND ND ND ND ND ND ND ND		
Acetone 2-Butanone 2-Butanone Carbon Disulfide cis-1,3-Dichloropropene trans-1,3-Dichloropropene 2-Hexanone 4-Methyl-2-pentanone Vinyl Acetate 2-Chloroethyl Vinyl Ether	78-93-3 75-15-0 10061-01-5 10061-02-6 591-78-6 108-10-1 108-05-4 110-75-8	ND ND ND ND ND ND ND	100 ug/kg 10 ug/kg 5 ug/kg 5 ug/kg 50 ug/kg 50 ug/kg 50 ug/kg 10 ug/kg	01/11/97 01/11/97 01/11/97 01/11/97 01/11/97 01/11/97 01/11/97

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

SAMPLE ID: B4-4.5-5 AEN LAB NO: 9701080-03 AEN WORK ORDER: 9701080 CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 REPORT DATE: 01/27/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZEI
#Extraction for TPH	EPA 3550	-		Extrn Date	01/15/9
TPH as Oil	GC-FID	8 *	* 5	mg/kg	01/20/9
Volatile Organics 8260	EPA 8260	MD	E	ua/ka	01/11/9
Benzene	71-43-2	ND	ב	ug/kg	01/11/9
Bromobenzene	108-86-1	ND	ā	ug/kg	01/11/9
Bromochloromethane	74-97-5	ND	5	ug/kg	01/11/9
Bromodichloromethane	75-27-4	ND	10	ug/kg	01/11/9
Bromoform	75-25-2	ND	5	ug/kg	01/11/9
Bromomethane	74-83-9	ND	īδ	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	01/11/9
n-Butylbenzene	104-51-8	ND	ž	ug/kg	01/11/9
sec-Butylbenzene	135-98-8	ND	ž	ug/kg	01/11/9
tert-Butylbenzene	98-06-6	ND	þ	ug/kg	01/11/9
Carbon Tetrachloride	56-23-5	ND	5	ug/kg	01/11/9
Chlorobenzene	108-90-7	ND	. 5	ug/kg	01/11/9
Chloroethane	75-00-3	ND	10	ug/kg	01/11/9
Chloroform	67-66-3	ND	5	ug/kg	01/11/9
Chloromethane	74-87-3	ND	10	ug/kg	01/11/9
2-Chlorotoluene	95-49-8	ND	5	ug/kg	01/11/9
4-Chlorotoluene	106-43-4	ND	5	ug/kg ug/kg ug/kg	01/11/9
Dibromochloromethane	124-48-1	ND	5	ug/kg	01/11/9
1,2-Dibromo-3-chloropropane	96-12 - 8	ND	20	ug/kg	01/11/9
1,2-Dibromoethane	106-93-4	ND	5	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	01/11/9
Dibromomethane	74-95-3	ND	5	ug/kg	01/11/9
1,2-Dichlorobenzene	95-50-1	ND	5	ug/kg	01/11/9
1,3-Dichlorobenzene	541-73-1	ND	5	ug/kg	01/11/9
1,4-Dichlorobenzene	106-46-7	ND	5	ug/kg	01/11/9
Dichlorodifluoromethane	75-71-8	ND	10	ug/kg	01/11/9
1,1-Dichloroethane	75-34-3	ND	5	ug/kg	01/11/9
1,2-Dichloroethane	107-06-2	ND	5	ug/kg	01/11/9
1,1-Dichloroethene	75-35-4	ND	5	ug/kg	01/11/9
cis-1,2-Dichloroethene	156-59-2	ND		ug/kg	01/11/9
trans-1,2-Dichloroethene	156-60-5	ND		ug/kg	01/11/9
1,2-Dichloropropane	78-87-5	ND	5		01/11/9
1,3-Dichloropropane	142-28-9	ND	5		01/11/9
2,2-Dichloropropane	594-20-7	ND	5		01/11/9
1,1-Dichloropropene	563-58-6	ND	5		01/11/9
Ethylbenzene	100-41-4	ND	5		01/11/9
Havachlorobutadione	87-68-3	ND	Š		01/11/
Hexachlorobutadiene	98-82-8	ND	5		01/11/
Isopropylbenzene p-Isopropyltoluene	90-02-0 99-87-6	ND ND		ug/kg	01/11/

J. QUARLE & ASSOCIATES

SAMPLE ID: B4-4.5-5 AEN LAB NO: 9701080-03 AEN WORK ORDER: 9701080

CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 REPORT DATE: 01/27/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT UNITS	DATE ANALYZED
Methylene Chloride	75-09-2	ND	20 ug/kg	01/11/97
Naphthalene	91-20-3	ND	5 ug/kg	01/11/97
n-Propylbenzene	103-65-1	ND	5 ug/kg	01/11/97
Styrene	100-42-5	ND	5 ug/kg	01/11/97
1,1,1,2-Tetrachloroethane	630-20-6	ND	5 ug/kg	01/11/97
1,1,2,2-Tetrachloroethane	79-34-5	ND	5 ug/kg	01/11/97
Tetrachloroethene	127-18-4	ND	5 ug/kg 5 ug/kg	01/11/97
Toluene	108-88-3	ND	5 ug/kg	01/11/97
1,2,3-Trichlorobenzene	87 - 61-6	ND	5 ug/kg 5 ug/kg	01/11/97
1,2,4-Trichlorobenzene	120-82-1	ND	5 ug/kg	01/11/97
1,1,1-Trichloroethane	71-55-6	ND	5 ug/kg	01/11/97
1,1,2-Trichloroethane	79-00-5	ND	5 uğ∕kg	01/11/97
Trichloroethene	79-01-6	ND	5 ug/kg 5 ug/kg 5 ug/kg 5 ug/kg 5 ug/kg	01/11/97
Trichlorofluoromethane	75-69-4	ND	5 ug/kg	01/11/97
1,2,3-Trichloropropane	96-18-4	ND	5 ug/kg	01/11/97
1,2,4-Trimethylbenzene	95-63-6	ND	5 ug/kg	01/11/97
1.3.5-Trimethylbenzene	108-67-8	ND		01/11/97
Vinyl Chloride	75-01-4	ND	10 ug/kg	01/11/97
Xylenes, Total	1330-20-7	ND	10 ug/kg	01/11/97
Acetone	67-64-1	ND	100 ug/kg	01/11/97
2-Butanone	78-93-3	ND	100 ug/kg	01/11/97
Carbon Disulfide	75-15-0	ND	10 ug/kg	01/11/97
cis-1,3-Dichloropropene	10061-01-5	ND	5 ug/kg	01/11/97
trans-1,3-Dichloropropene	10061-02-6	ND	5 ug/kg	01/11/97
2-Hexanone	591-78-6	ND	50 ug/kg	01/11/97
4-Methy1-2-pentanone	108-10-1	ND	50 ug/kg	01/11/97
Vinyl Acetate	108-05-4	ND	50 ug/kg	01/11/97
2-Chloroethyl Vinyl Ether	110-75-8	ND	10 ug/kg	01/11/97

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

J. QUARLE & ASSOCIATES

SAMPLE ID: B2-2-2.5 AEN LAB NO: 9701080-04 AEN WORK ORDER: 9701080

CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97

REPORT DATE: 01/27/97

ANALYTE	METHOD/ CAS# RESULT		REPORTING LIMIT	DATE ANALYZED	
#Extraction for TPH	EPA 3550	-		Extrn Date	01/15/97
TPH as Oil	GC-FID	410 *	20	mg/kg	01/20/97
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/14/97
Lead	EPA 6010	440 *	1	mg/kg	01/15/97

Reporting limit elevated for oil due to high level of target compound. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

J. QUARLE & ASSOCIATES

SAMPLE ID: B5-2-2.5 AEN LAB NO: 9701080-05 AEN WORK ORDER: 9701080

CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 REPORT DATE: 01/27/97

ANALYTE	METHOD/ CAS#	RESULT F	REPORTING LIMIT UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-	Extrn Date	01/15/97
TPH as Oil	GC-FID	27 *	5 mg/kg	01/19/97
#Digestion, Metals AA/ICP	EPA 3050	-	Prep Date	01/14/97
Lead	EPA 6010	7 *	1 mg/kg	01/15/97

ND = Not detected at or above the reporting limit
 * = Value at or above reporting limit

J. QUARLE & ASSOCIATES

SAMPLE ID: B6-2-2.5 AEN LAB NO: 9701080-06

AEN WORK ORDER: 9701080 CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97

REPORT DATE: 01/27/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-	1	Extrn Date	01/15/97
TPH as Oil	GC-FID	18 '	* 51	ng/kg	01/19/97
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/14/97
Lead	EPA 6010	9 ;	* 1:	mg/kg	01/14/97

ND = Not detected at or above the reporting limit
 * = Value at or above reporting limit

J. QUARLE & ASSOCIATES

SAMPLE ID: PAINT-1 AEN LAB NO: 9701080-07 AEN WORK ORDER: 9701080 CLIENT PROJ. ID: SERV MANUFACTR

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/09/97 **REPORT DATE: 01/27/97**

ANALYTE	METHOD/ CAS#	RESULT	REPORTING RESULT LIMIT UNITS			
Lead	EPA 7420	84 *	3 п	g/kg	01/17/97	
#Digestion, Metals AA/ICP	EPA 3050	_	Р	rep Date	01/14/97	

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA) QUALITY CONTROL REPORT

AEN JOB NUMBER: 9701080

CLIENT PROJECT ID: SERV MANUFACTR

Quality Control Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

- D: Surrogates diluted out.
- #: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9701080 DATE EXTRACTED: 01/15/97

INSTRUMENT: A. MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
01/20/97 01/19/97 01/20/97 01/20/97 01/19/97 01/19/97	B1-5-5.5 B3-4.5-5 B4-4.5-5 B2-2-2.5 B5-2-2.5 B6-2-2.5	01 02 03 04 05 06	99 97 99 103 98 97
QC Limits:			55-115

DATE EXTRACTED: 01/10/97 DATE ANALYZED: 01/10/97 SAMPLE SPIKED: 9701072-09 INSTRUMENT: A

Matrix Spike Recovery Summary

		·		QC Lin	nits
Analyte	Spike Added (mg/kg)	Percent Recovery	RPD	Percent Recovery	RPD
Diesel	40.0	94	5	50-115	20

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8260

AEN JOB NO: 9701080 INSTRUMENT: 13

MATRIX: SOIL

Surrogate Standard Recovery Summary

			Р	Percent Recovery			
Date Analyzed	Client Id.	Lab Id.	1,2-Dichloro- ethane-d₄	Toluene-d ₈	p-Bromofluoro- benzene		
01/13/97 01/11/97 01/11/97	B1-5-5.5 B3-4.5-5 B4-4.5-5	01 02 03	106 118 116	96 103 107	95 94 91		
QC Limits:			70-121	81-117	74-121		

DATE ANALYZED: 01/10/97 SAMPLE SPIKED: 9701073-05

INSTRUMENT: 13

Matrix Spike Recovery Summary

				<u> </u>	
		-		QC Li	nits
Analyte	Spike Added (ug/kg)	Percent Recovery	RPD	Percent Recovery	RPD
1,1-Dichloroethene Trichloroethene Benzene Toluene Chlorobenzene	50 50 50 50 50 50	105 98 123 97 107	2 8 4 4 4	59-155 71-157 37-151 47-150 37-160	25 25 25 25 25

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

QUALITY CONTROL DATA

AEN JOB NO: 9701080 SAMPLE SPIKED: SAND DATE(S) ANALYZED: 01/15-17/97 MATRIX: SOIL

Method Blank and Spike Recovery Summary

		03l.	C-41			QC Lir	nits
Analyte	Inst./ Method	Blank Result (mg/kg)	Spike Added (mg/kg)	Percent Recovery	RPD	Percent Recovery	RPD
Pb, Lead	V12/7420	ND	50	115	4	80-119	10
Pb, Lead	ICP/6010	ND	50	103	5	90-120	10

J. QUARLE & ASSOCIATES

SAMPLE ID: B2 AEN LAB NO: 9701244-01 AEN WORK ORDER: 9701244 CLIENT PROJ. ID: SERVICE MANUF.

DATE SAMPLED: 01/06/97 DATE RECEIVED: 01/24/97 REPORT DATE: 02/04/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED	
#Extraction for TPH	EPA 3550	_		Extrn Date	01/27/97	
TPH as 011	GC-FID	270 *	5	mg/kg	01/29/97	
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	01/27/97	
Lead	EPA 6010	770 *	1	mg/kg	01/29/97	

ND = Not detected at or above the reporting limit * = Value at or above reporting limit

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FAX NO. 5109300256

AEN CALIFORNIA

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