



**APPLIED
GEOSCIENCES
INC.**

Environmental Consultants

ENVIRONMENTAL
PROTECTION
93 JAN 33 AM 9:16

1641 North First Street
Suite 235
San Jose, CA 95112
TEL: 408/452-0262
FAX: 408/452-0265

1 June 1993
A932558A

Prentiss Properties
4675 MacArthur Boulevard, Suite 320
Newport Beach, California 92660

Attention: Mr. Bill Shubin

**SUBJECT: RESULTS OF GEOPHYSICAL SURVEY AND SUBSURFACE
INVESTIGATION AT A PARCEL LOCATED ON THE EAST SIDE OF
WEBSTER STREET BETWEEN 19TH STREET AND 17TH STREET,
OAKLAND, CALIFORNIA**

Dear Mr. Shubin:

This letter has been prepared to present the results of the geophysical survey and subsurface investigation conducted at a parcel located on the east side of Webster Street between 19TH Street and 17TH Street (site) in the city of Oakland, California (Figure 1). The work was performed by Applied Geosciences Inc. in May 1993 in general accordance with Revised Attachment 2, dated 22 April 1993, to the contract between Prentiss Properties and Applied Geosciences Inc. dated 12 February 1993. The work was conducted at the request and authorization of Mr. Bill Shubin of Prentiss Properties.

Applied Geosciences Inc. has previously conducted an environmental assessment for three parcels of land that included the site (Applied Geosciences Inc., 1993a). The environmental assessment concluded that there was a moderate likelihood that hazardous materials reported to have been released at an upgradient property were present in the subsurface of the site. Based on the results of the environmental assessment, Applied Geosciences Inc. conducted a groundwater investigation using Hydropunch groundwater sampling equipment to assess the presence of gasoline in the subsurface of the site from releases at the upgradient property (Applied Geosciences Inc., 1993b). Elevated concentrations of gasoline were reported in the groundwater samples collected. Based on the location of the groundwater samples and concentrations of gasoline reported in the groundwater samples, it was concluded that there was a moderate likelihood that the source for the gasoline was located on-site. It was recommended that further subsurface investigation be performed at the site to investigate the source and extent of the gasoline within the subsurface of the site (Applied Geosciences Inc., 1993b).

OBJECTIVES

The objectives of the scope of work was to (1) assess the likelihood that a source for petroleum hydrocarbons is present at the site, and (2) assess the extent of the petroleum hydrocarbons, if present, within the soil.

Other Offices:

298 Technology Drive • Suite 100 • Irvine, CA 92718 • TEL: 714/453-8545 • FAX: 714/453-0510
San Diego Area: 5375 Mira Sorrento Place • Suite 150 • San Diego, CA 92121 • TEL: 619/558-0600 • FAX: 619/558-7180

*Soil
invest -
no tabulated
data, no pore logs,
no PID readings*

1 June 1993
A932558A

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WEBSTER STREET BETWEEN 19TH STREET AND 17TH STREET,
OAKLAND, CALIFORNIA *1750 Webster St.*

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SCOPE OF WORK

In order to meet the objective, the following scope of work was performed:

- Geophysical Survey
- Subsurface Investigation
- Data Evaluation

GEOPHYSICAL SURVEY

A geophysical survey utilizing a metal detector was performed to evaluate geophysical anomalies on the site that may indicate the presence of underground tanks at the site. Anomalies interpreted to indicate the presence of steel underground tanks were not encountered. The site is reported to have historically been used as a residence prior to use for a parking lot. Permits for the installation of underground tanks at the site were not present in materials reviewed at the Oakland Fire Department (Applied Geosciences Inc., 1993). Based on this information and interpretations from the geophysical survey, it is the judgment of Applied Geosciences Inc. that there is a low likelihood that underground storage tanks are present at the site.

SUBSURFACE INVESTIGATION

Four soil borings were drilled on the site to evaluate the presence of elevated concentrations of petroleum hydrocarbons within the soil. Boring SB-1 was located in the area where elevated concentrations of gasoline were reported in a groundwater samples collected using a Hydropunch groundwater sampling devise and boring SB-2 was located in the vicinity of a rectangular patch of asphalt that was interpreted to have been a potential location for an underground tank (Figure 2). These borings were located to evaluate the presence of a source for potentially hazardous materials on the site. The remaining borings were located laterally away from borings SB-1 and SB-2 to evaluate the lateral extent of potentially hazardous materials in the subsurface, if present.

The borings were advanced to a depth of approximately 20 feet below the ground surface. The borings were drilled using a truck-mounted drill rig equipped with 6-inch diameter hollow-stem auger. Soil samples were collected on 5-foot sample intervals beginning at 5 feet below the ground surface to evaluate soil materials and for chemical analyses. Two soil samples per boring were submitted for analysis for total petroleum hydrocarbons as gasoline (TPHg) with quantification of benzene, toluene, xylene, and ethylbenzene (BTXE) and total petroleum hydrocarbons as diesel (TPHd) in general accordance with modified Environmental Protection Agency (EPA) Method No. 8015. One sample per boring will be analyzed for total lead in general accordance with EPA Method No. 6010. The samples were analyzed by Superior Precision Analytical, Inc., of San Francisco, California, a State-certified hazardous waste laboratory. The borings were backfilled with cement grout. Wastes generated during the

investigation were placed into labeled 55-gallon drums and stored in the southeast corner of the site. A permit to drill the borings was obtained from Zone 7 Water Agency.

In **general**, the soils encountered consisted of silty and clayey sand with lesser amounts of sandy clay. No materials interpreted to be imported fill were observed in the materials encountered during drilling. The soil was observed to become wet below approximately 20 feet below the ground surface. Staining, odors, or other evidence for the presence of petroleum hydrocarbons were not observed during drilling, except for some yellowish gray soil encountered at the bottom of boring SB-4 (Figure 2). This was the only location that a grayish color was observed in the soil. The grayish color may have resulted from chemical reduction caused by biodegradation of petroleum hydrocarbons within the groundwater. Based on the observations made during the drilling, soil samples collected from approximately 10 and 20 feet below the ground surface were selected for analysis.

Lead, TPHg, TPHD, benzene, toluene, and ethylbenzene were not reported in the soil samples analyzed in concentrations exceeding the method detection limit for the analytical methods used. Xylene was reported in three of the soil samples analyzed (Attachment). The concentrations are presented below.

<u>Boring No.</u>	<u>Approximate Sample Depth</u>	<u>Reported Xylene Concentration</u>
SB-3	20 feet ✓	0.057 milligrams per kilogram (mg/kg)
SB-4	10 feet ✓	0.020 mg/kg
SB-4	20 feet	0.022 mg/kg

The reported concentrations are judged by Applied Geosciences Inc. to be low and not indicative of a source for this constituent in the soil. Based on the lack of fill material and the absence of metallic anomalies that may have indicated the former presence of underground tanks, and the laboratory analytical data, it is the judgment of Applied Geosciences Inc. that there is a low likelihood that a source for the gasoline previously reported in the groundwater is present at the site.

CONCLUSIONS

Based on the material presented in this letter, current regulatory guidelines, and the professional judgment of Applied Geosciences Inc., the following conclusions have been made:

- There is a low likelihood that underground storage tanks are present at the site; and
- There is a low likelihood that a source for the gasoline previously reported in the groundwater is present at the site.

RECOMMENDATION

Based on the conclusions presented in this letter and the professional judgment of Applied Geosciences Inc., the following recommendation is presented:

- Legal counsel familiar with environmental issues should review this letter to evaluate regulatory agency reporting requirements and the issue of on-site migration of hazardous materials onto the site from a potential off-site source.

If you have any questions concerning the material presented in this letter, please feel free to contact either of us at your convenience.

Very truly yours,
APPLIED GEOSCIENCES INC.



DONALD P. BRANSFORD, R.G.
Project Manager



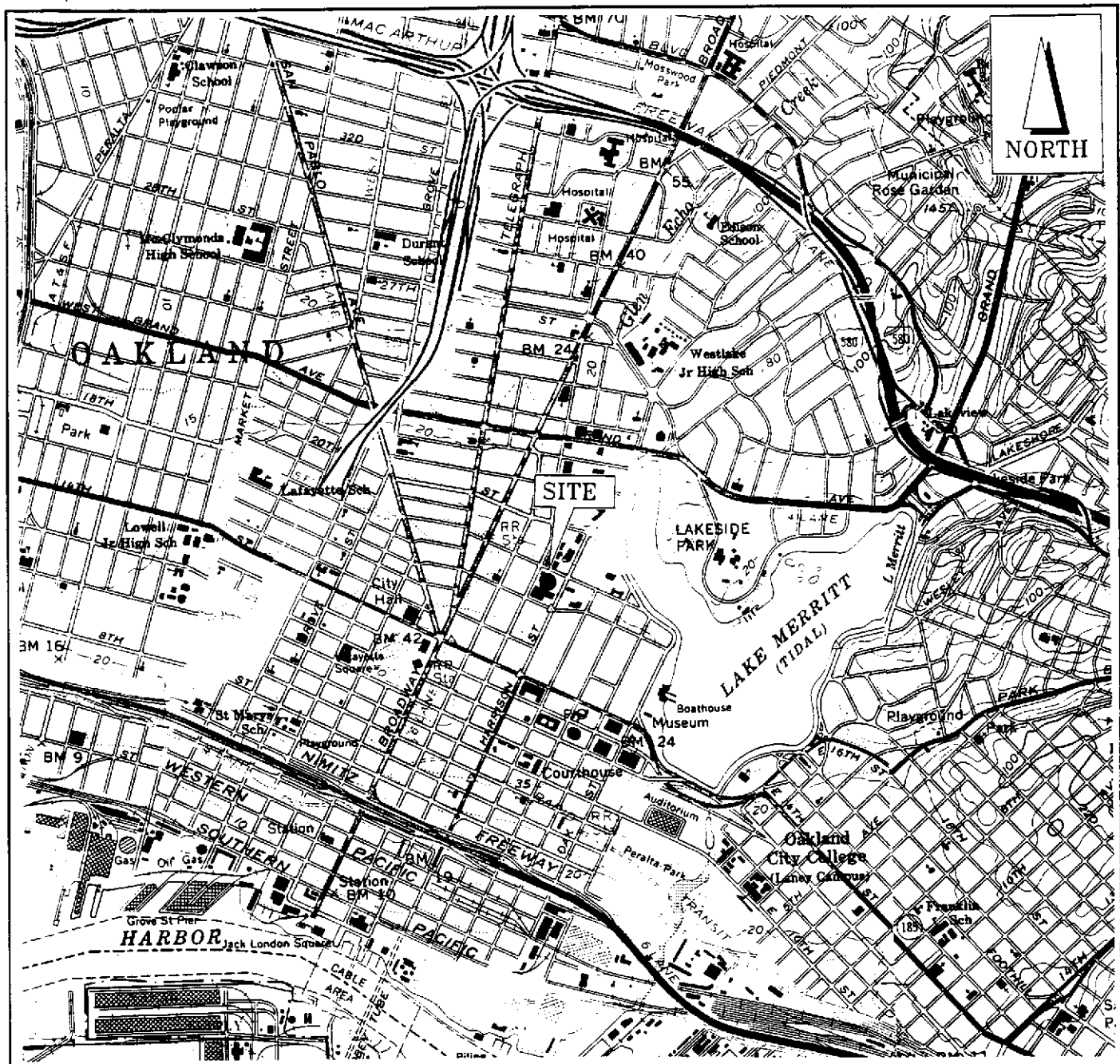
FRED R. CONWELL, C.E.G.
Associate

Attachments

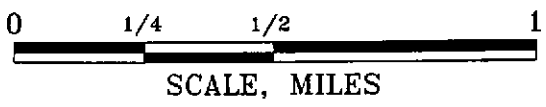
REFERENCES

Applied Geosciences Inc., 1993a, Environmental assessment for three parcels located in Oakland, California; dated 6 January 1993, 18 p.

_____, 1993b, Results of a geophysical survey and groundwater investigation at three parcels located on the block bounded by 19TH Street, Harrison Street, 17TH Street, and Webster Street, Oakland, California; dated 1 April 1993, 6 p.



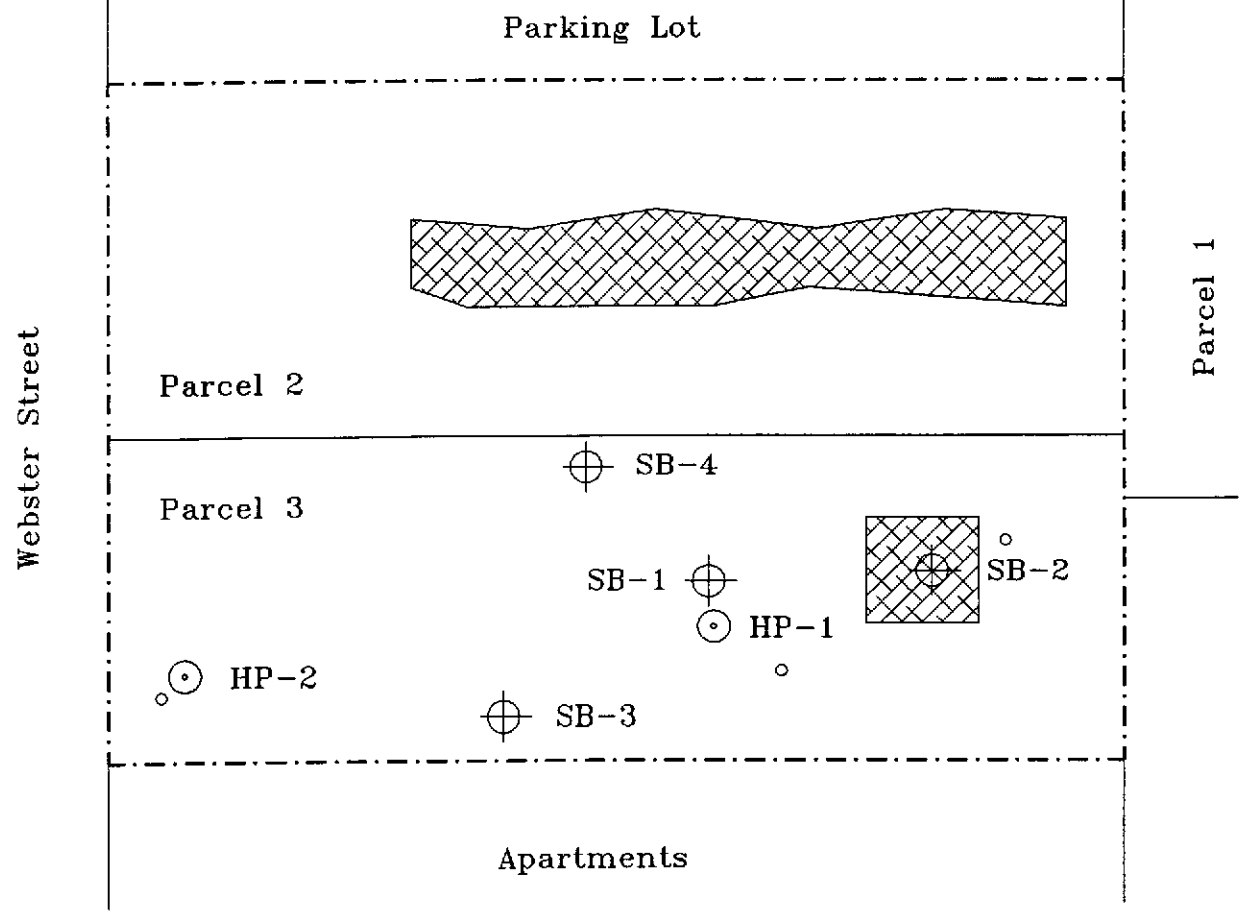
Quadrangle Location



Notes: 1. Base map from U.S.G.S. Oakland East and Oakland West, California Quadrangles, 7.5-Minute Series (Topographic), 1959, Photorevised 1980.

2. All locations and dimensions are approximate.

APPLIED GEOSCIENCES INC. Environmental Consultants		
SITE LOCATION MAP		
PROJECT NO. A932558A	FIGURE 1	



EXPLANATION

- | | | | | |
|------|--|--|-----------|------------------------|
| SB-1 | | Boring Location and Designation | o | Circular Asphalt Patch |
| HP-1 | | Previous Hydropunch Location and Designation | - - - - - | Site Boundary |
| | | Area of Patched Asphalt | ————— | Parcel Boundary |

Notes:

1. All locations and dimensions are approximate.
2. Base map modified from map provided by Terracorp Properties, Inc.
3. No scale.

APPLIED GEOSCIENCES INC. Environmental Consultants		
BORING LOCATION MAP		
PROJECT NO. A932558A	FIGURE 2	



Superior Precision Analytical, Inc.

1555 Burke Unit 1 • San Francisco, California 94124 • (415) 647-2061 / fax (415) 821-7122

APPLIED GEOSCIENCES
Attn: DON BRANSFORD

Project A932558A
Reported 05/26/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
56476- 2	SB1-2 10'	05/18/93	05/25/93 Soil
56476- 4	SB1-4 20'	05/18/93	05/25/93 Soil
56476- 6	SB2-2 10'	05/18/93	05/25/93 Soil
56476- 8	SB2-4 20'	05/18/93	05/25/93 Soil
56476-10	SB3-2 10'	05/18/93	05/25/93 Soil
56476-12	SB3-4 20'	05/18/93	05/25/93 Soil
56476-15	SB4-2 10'	05/18/93	05/25/93 Soil
56476-17	SB4-4 20'	05/18/93	05/25/93 Soil

RESULTS OF ANALYSIS

SB2-10'

SB2-20'

Laboratory Number: 56476- 2 56476- 4 56476- 6 56476- 8 56476-10

Gasoline:	ND<1	ND<1	ND<1	ND<1	ND<1
Benzene:	ND<.003	ND<.003	ND<.003	ND<.003	ND<.003
Toluene:	ND<.003	ND<.003	ND<.003	ND<.003	ND<.003
Ethyl Benzene:	ND<.003	ND<.003	ND<.003	ND<.003	ND<.003
Xylenes:	ND<.009	ND<.009	ND<.009	ND<.009	ND<.009
Diesel:	ND<10	ND<10	ND<10	ND<10	ND<10

Concentration: mg/kg mg/kg mg/kg mg/kg mg/kg

Laboratory Number: 56476-12 56476-15 56476-17

Gasoline:	ND<1	ND<1	ND<1
Benzene:	ND<.003	ND<.003	ND<.003
Toluene:	ND<.003	ND<.003	ND<.003
Ethyl Benzene:	ND<.003	ND<.003	ND<.003
Xylenes:	0.057	0.020	0.022
Diesel:	ND<10	ND<10	ND<10

Concentration: mg/kg mg/kg mg/kg



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2031 / fax (415) 621-7123

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2
QA/QC INFORMATION
SET: 56476

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 10mg/kg

EPA SW-846 Method 8015/8030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.003mg/kg

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	104/94	10%	75-111
Benzene:	96/97	1%	75-114
Toluene:	102/103	1%	78-114
Ethyl Benzene:	107/105	2%	76-120
Xylenes:	96/95	1%	71-117
Diesel:	76/77	1%	46-121

Richard Srna, Ph.D.
(Signature)
Laboratory Director



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 111 • Marina, California 94953 • (510) 279-1512 / fax (510) 229-1525

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 88670
CLIENT: APPLIED GEOSCIENCES INC.
CLIENT JOB NO.: AG32558A

DATE RECEIVED: 05/19/93
DATE REPORTED: 05/26/93
DATE SAMPLED: 05/18/93

ANALYSIS FOR TOTAL LEAD by SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/Kg) Total Lead
1	SB1-2	ND
2	SB2-4	ND
3	SB3-2	ND
4	SB4-4	ND

mg/kg - parts per million (ppm)

Method Detection Limit for Lead in Soil: 5 mg/kg

QAQC Summary: MS/MSD Spike Recovery : 90/90%
Duplicate RPD : 0%

Richard Srna, Ph.D.

Steph Carroll For
Laboratory Manager

APPLIED GEOSCIENCES INC.

CHAIN-OF-CUSTODY RECORD

Project Number		Project Name			No. of Cntrs	Type of Cntrs	Preservative	Type of Analysis								Condition of Samples	Initial
Send Report Attention of:		Analytical Laboratory:						TPH	TPH	Total	Met						
Sample Number	Date	Time	Matrix	Location													
SB1-1	5/18	824	soil		1	55 tube	—						X				
SB1-2		830						X	X	X							
SB1-3		838											X				
SB1-4		843						X	X								
SB2-1		904											X				
SB2-2		910						X	X								
SB2-3		916											X				
SB2-4		923						X	X	X							
SB3-1		1000											X				
SB3-2		1004						X	X	X							
SB3-3		1012											X				
SB3-4		1021						X	X								
SB3-5		1034											X				
SB4-1		1055						X	X				X				
SB4-2		1100						X	X								
Relinquished by:		Date/Time		Received by:		Date/Time		Remarks:									
[Signature]		5/18/93 1300		NIN		5/18/93 1300		Return cooler and sample tubes									
Relinquished by:		Date/Time		Received by:		Date/Time											
NIN		5/19/93 0830		[Signature]		5/19/93 8:30A											
Relinquished by:		Date/Time		Received by:		Date/Time		Company: Applied Geosciences Inc. Address: 1641 N. First St., #235, San Jose, CA 95112 Phone: (408) 452-0262 Fax: (408) 452-0265									

Helophan call of Joanne of Superior on 19M, 93 @ 2:40pm

APPLIED GEOSCIENCES INC.

CHAIN-OF-CUSTODY RECORD

Project Number		Project Name			No. of Cntrs	Type of Cntrs	Preservative	Type of Analysis										Condition of Samples	Initial
Send Report Attention of:		Analytical Laboratory:						PH ₂ S	PH ₄ S	Total Lead	As	Cd	Cu	Fe	Mn	Ni	Pb		
Sample Number	Date	Time	Matrix	Location	Cntrs	Type of Cntrs	Preservative	PH ₂ S	PH ₄ S	Total Lead	As	Cd	Cu	Fe	Mn	Ni	Pb	Se	Zn
SB4-3	5/13	1107	soil	SB4	1	SS tabs	—										X		
SB4-4	5/13	1115	soil	SB4	1	SS tabs	—	X	X	X									
Relinquished by:	Date/Time	Received by:	Date/Time	Remarks:															
<i>W.L.</i>	5/14/93 1300	<i>W.L.</i>	5/14/93 1500	Ret in cooler and sample 1 lbs															
Relinquished by:	Date/Time	Received by:	Date/Time																
<i>W.L.</i>	5/14/93 0830	<i>W.L.</i>	5/14/93 8:30A																
Relinquished by:	Date/Time	Received by:	Date/Time	Company: Applied Geosciences Inc. Address: 1641 N. First St., #235, San Jose, CA 95112 Phone: (408) 452-0262 Fax: (408) 452-0265															