HydroSolutions of California, Inc.

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January 18, 1994

Maryann Leshin
Project Coordinator
City of Emeryville Redevelopment Agency
2200 Powell Street, Suite 1200
Emeryville, California 94608

94 FEB 17 PM 3:56
ALCO
HAZMAT

SUBJECT: PRELIMINARY SITE ASSESSMENT
4800 SAN PABLO AVENUE (SUBJECT PROPERTY)
EMERYVILLE, CALIFORNIA

RRSP: 93286-01-06

Dear Maryann:

HydroSolutions of California, Inc. (HSCI) is pleased to submit this letter report summarizing the results of a limited exploratory drilling program and geophysical survey at the subject property.

The purpose of field activities is two-fold: 1) evaluate the likelihood of an underground storage tank (UGST) existing beneath the subject property and 2) evaluate the presence of total petroleum hydrocarbons (TPH) and benzene, toluene, xylene, and ethylbenzene (BTXE) and soluble lead existing in sediment beneath the subject property.

Reporting will be discussed in five sections:

Geophysical Survey;
Drilling Program;
Site Specific;
Data Interpretation; and
Conclusions & Recommendations.

GEOPHYSICAL SURVEY

The intent for completing a geophysical survey was to evaluate the possible presence of an UGST(s) beneath the subject property. Two geophysical tools were utilized for surveying the site; 1) Schonstadt MAC 51-B Magnetic and Cable Locator and 2) Metrotech Model 810 Radio Frequency Line Tracer.

The Radio Frequency Line Tracer is a tool used for blind searching and inductive locating as well as for tracing water and gas distribution line and cables. Since the radio frequency (83 KHz) travels easily through soil, this tool is used for inductive

locating. The floodlight quality of the radio frequency signal will induce signal onto the conductors 8-10 feet on either side of the transmitter, allowing for blind searches for buried pipes and tanks. This instrument has a depth range of 13 feet and a directional meter built onto the receiver.

The Magnetic and Cable Locator tool can detect residual magnetic fields which exist around ferrous materials such as steel or iron. The tool detects the magnetic field of any ferrous object even when covered by ground, pavement, snow or shallow water.

The geophysical survey was conducted on December 22, 1993. The enclosed map (see attached) identifies areas which potential UGST locations and/or unidentified objects are suspected. Mark Ayala, tool operator for Artesian Environmental Consultants, stated in a telephone conversation on December 23, 1993 that tool measurements at the subject property did not depict the typical signature of a buried UGST. Large metal objects are suspected in the center area however their appearance is discontinuous. The most significant anomaly was noted between soil-probe locations 4 and 8 (figure 2).

DRILLING PROGRAM

The drilling program consisted of five (5) exploratory borings (figure 2). The objective of each exploratory boring was to probe for possible UGSTs remaining in the subsurface and evaluate the possible existence of TPH, BTXE and soluble lead within the depth of exploration. Criteria for choosing each boring location was based on; 1) results of the geophysical survey, 2) observations made during the soil-gas survey, 3) aerial photo review and 4) field observations of the subject property.

Borings, B-1 and B-2, are located at the center portion of the concrete pads. These pads appear to be remnants of old dispenser islands. Placement of these borings was based on geophysical survey results (indications of discontinuous buried objects) and the similarity of the concrete pads as dispenser islands. Boring, B-3, is located near the southernmost concrete pad and in an area which the geophysical survey identified magnetic anomalies. Boring, B-4, is located at the center point of a concrete pad positioned at the east side of the property. Boring, B-5, is located immediately west of the existing building and in the area of a larger concrete pad. Lastly, boring, B-6, is located on the south central portion of the property (near soil-gas probe

location #3). This location was chosen due to limited penetration (refusal) of soil-probe #3. Sampling depth ranged from 10.5 to 15 feet in depth.

Penetration of sediment was completed utilizing a Geoprobe continuous coring system. This system utilizes a stainless steel coring tool which is driven into the ground using an impact rotary hammer. After the probe is driven into the selected sampling depth, the tool point is retracted and the probe is driven down to obtain a discrete sample.

Coring tools were thoroughly cleaned with a steam cleaner prior to completing each boring. Soil samples were collected from each boring with a 1 7/8 inch outside diameter coring device. Soil samples were collected in 0.75 inch diameter nonreactive PETG plastic liners.

In addition to sample collection, portions of samples were transferred from the sample tip to labeled zip-lock plastic bags and characterized for logging purposes. Accompanying each soil sample description is a field organic vapor (OV) headspace reading and notes as to odors observed by the geologist. Organic vapor headspace readings and odors were recorded immediately after samples were removed from the boring.

One sample was collected from each depth interval, wrapped on the ends with teflon foil, capped with PVC caps, taped, and labeled. All samples were then stored at reduced temperature in an ice chest and delivered to the laboratory. Standard chain-of-custody forms accompanied all soil samples. The samplers and brass tubes were decontaminated prior to each sampling event. This was accomplished by a soap and water wash and a tap-water rinse, followed by a distilled water rinse.

Soil samples were selected in the field for laboratory analysis. Analysis criteria was based on; 1) organic vapors exceeding apparent background concentrations, 2) petroleum-like or gasoline-like odors in soil samples and 3) depth interval.

No drill cuttings were generated from field activities.

SITE SPECIFIC

All collected soil samples were measured (in the field) for the presence of organic vapors. Significant organic vapor levels (greater than 2 ppm) were noted at the 5-10 foot depth interval in borings, B-2, B-3 and B-6. Gasoline-like odors were also

noted at these depth intervals. Boring, B-6, contained sediment which appeared discolored at the ten foot depth (green and black). Typical color of sediment is brown and yellow-brown.

Generally, the geologic profile consists of a silty clay/clay to a fifteen foot depth. Boring, B-6, however, encountered a poorly sorted very fine to fine grained sand throughout the topmost twelve feet of sediment.

A 3.5 foot thick saturated sediment condition was encountered at the 8.5 foot depth interval in boring, B-6. Borings, B-1 through B-4 did not encounter groundwater. Depth of exploration for these borings were 10.5, 15, 15 and 15, respectively.

LABORATORY ANALYSES AND METHODS

Soil samples from each boring were sent to Matrix Environmental Laboratory for analysis of total petroleum hydrocarbons as gasoline (EPA Method 5030) and benzene, toluene, xylene, and ethylbenzene (EPA Method 8020), Oil & Grease (EPA Method 418.1) and soluble lead (STLC Lead). Table 1 illustrates the tabulated results of these analyses. Analysis methods and detectable limits are also listed in Table 1. The laboratory report is included in the back of this report.

Samples were analyzed within the holding times dictated by the required EPA methods and satisfied QA/QC protocol with respect to blanks, surrogate recovery, control spikes, control spike duplicate and relative percent difference.

DATA INTERPRETATION

Nine (9) soil samples were analyzed by the laboratory for detectable levels of gasoline, diesel, oil and soluble lead. No diesel or soluble lead were detected in these samples. Oil and grease was detected in two of the nine samples analyzed and ranged in concentration from 990 to 3,900 mg/kg. Proximity to the backfilled drainage channel (B-1) and 48th Street (B-6), high levels of oil and grease may be associated with the fill material used to create present topography. Gasoline (TPH-G) was detected in four of the nine samples at concentrations ranging from 7.1 mg/kg to 350 mg/kg. Presence of TPH-G was primarily between the eight and ten foot depth interval at B-1, B-2, B-3 and B-6. The vertical limit of significant TPH appears to be 15 feet below groundsurface. This is based on laboratory analysis of samples collected from the fifteen foot depth interval of B-2 and B-3 and observations of no soil discoloration, no significant organic vapors, and no petroleum-like odors in the B-4A sample (15 feet).

Although characterization of lateral dimensions of the TPH contaminated plume is not possible, the volume of contamination can be delimited, in part, by evaluation of a north-south cross section. Boring, B-1, appears to be adjacent the northern limit of TPH contamination. The southern limit is not known however extends at least 57 feet. It is possible that TPH in sediment may be present beneath 48th Street.

Perched groundwater was encountered in boring B-6, at 8.5 feet below groundsurface. Saturated fine grained sands in this area are significantly more permeable than the silty clays noted at similar depths in the other borings. Due to the apparent limited extent of this saturated zone and proximity to the city sewer system (located in the street), it is likely that this zone is artificially recharged from leaking sewer lines. Analysis of the saturated zone (B-6-(8.5'-10')) sediment detected 0.063 mg/kg benzene, 0.75 mg/kg xylene, 0.32 mg/kg ethylbenzene and 40 mg/kg TPH-G.

Alameda County Environmental Health, stated that sediment which contains detectable TPH as high as 350 mg/kg and is located within close proximity of the bay can be an environmental concern for the County. Furthermore, Susan Hugo stated that 1) characterization of the lateral extent, 2) a feasibility study of corrective actions and two alternatives and 3) cleanup standards for the subject property are needed. It is likely that this case will be handled by the LOP section of Alameda County Environmental Health. The subject property will be processed into this program upon receipt of the unauthorized release form.

The Regional Water Quality Control Board stated in a telephone conversation on January 11, 1994 that levels of BTXE detected in sediment samples suggest remedial action. Richard Hiett stated that a likely alternative response to the subject property is the following:

Submit a unauthorized release form;

✓ Install 1-3 groundwater monitoring wells in areas known to contain high levels of TPH/BTXE; ✓

✓ Evaluate long-term threat to groundwater by maintaining verification monitoring through a one year period and completing a TCLP test.

CONCLUSIONS AND RECOMMENDATIONS

Based on data provided by the aerial photo/map review, soil-gas survey, geophysical survey and drilling program, there is no information suggesting that an UGST exists beneath the subject property. Peripheral UGST system pipelines and other conduits are highly likely to exist in the subsurface (see figure 3).

Generally, the geologic profile of the topmost fifteen feet is a silty clay/clay. Boring, B-6, however penetrated a very fine grained sand. Maximum depth of exploration was fifteen feet. Groundwater was encountered in boring, B-6, at an 8.5 foot depth, approximately.

The subject property has previously operated as a service station which sold gasoline. Gasoline is a mixture of over 200 petroleum-derived chemicals plus a few synthetic ones. Analysis of gasoline components in site assessments (in general) are usually limited to the detection of BTXE. Benzene is a carcinogen therefore must not be present in groundwater (drinking water) at very small concentrations (1 ppb). The following paragraphs reference benzene due to its adverse human health effects.

Field measured organic vapors ranged from 0 to 40 ppm and were noted primarily between the five and ten foot depth. Olifactory observations included old petroleum-like and gasoline-like odors.

Based on current enforcement of environmental regulations in Alameda County and the Regional Water Quality Control Board, the TPH/BTXE concentrations detected in subsurface sediment are significant enough to require additional action. The soil sample collected from the saturated zone (B-6) contained 63 ug/kg benzene. This concentration is a measure of benzene dissolved in groundwater and absorbed onto the soil matrix. Although 63 ug/kg can not be compared with the maximum contaminant level for drinking water, it does suggest a potential adverse effect to groundwater.

The lateral extent of TPH/BTXE in sediment and groundwater may extend beyond the southern property boundary. Additional borings will be necessary in the street (48th Street) to define these limits.

Based on conversations with the regulating agencies, the most cost-effective remedial action is to demonstrate if adverse groundwater quality is likely to occur. This can be accomplished by defining the extent of contamination more completely,

initiating a one year groundwater monitoring program of 1-3 wells and completing a TCLP test. A TCLP test measures the leachability of the contaminant from a sediment sample. Completing the above actions will require over one year to expedite.

The time efficient decision, although very costly, is excavation and treatment or disposal. Due to the limited depth of petroleum present in the subsurface, it is the opinion of HSCI that excavation and disposal would be the most expedient method of corrective action. Cleanup companies are available which can treat TPH contaminated sediment by incineration or soil washing at the subject property.

The current property owner is required to submit an unauthorized release form to the office of the Alameda County Environmental Health. Copies of this form may be obtained by contacting Susan Hugo, (510) 286-1255.

If you have any questions or desire information regarding on-site treatment companies, please contact me.

Respectfully submitted,

Stephen J. Baker
Project Manager

Attachment:

- Figure 1. Site Map
- Figure 2. Exploratory Boring Program
- Figure 3. Geophysical Survey Results
- Table 1. Laboratory Analysis
- Geologic Logs for B-1, B-2, B-3, B-4, B-5 and B-6
- Laboratory Report
- Chain-of-Custody

TABLE 1. LABORATORY ANALYSIS

Sample Location	B	T	X	E	TPH-G	418.1
B-1- (6-7)	ND	ND	ND	ND	ND	ND
B-1- (10-10.5)	ND	0.019	0.36	0.044	7.1	3900
B-2- (8-10)	0.13	0.4	1.8	0.63	220	ND
B-2- (13-15)	ND	ND	ND	ND	ND	ND
B-3- (8-10)	0.96	ND	1.6	0.64	350	ND
B-3- (13-15)	ND	ND	ND	ND	ND	ND
B-4A- (8-10)	ND	ND	ND	ND	ND	ND
B-6- (4-5)	ND	ND	ND	ND	ND	990
B-6- (8.5-10)	0.063	ND	0.75	0.32	40	ND

Results reported in mg/kg (ppm).
No detectable levels of TPH-D and STLC Lead were detected in the above samples.
BTXE is benzene, toluene, xylene, and ethylbenzene.
BTXE analysis by EPA Method 8020. Reporting limit is 0.005 mg/kg.
TPH-Gasoline analysis by EPA Method 5030 Purge-and-trap, Reporting limit is 1 mg/kg.
TPH-Diesel analysis by modified EPA Method 8015. Reporting limit is 1 mg/kg.
Oil & Grease analysis by EPA Method 418.1 (IR Spectrophotometer). Reporting limit is 50 mg/kg.
Soluble Lead analysis by Lead STLC. Reporting limit is 0.05 mg/kg.
Lowest reporting limits are listed above. If sample extraction is diluted, reported limit increases accordingly (see laboratory reports).

SUBJECT PROPERTY

Reproduced from USGS 7.5 Minute Series V895 (topographic)

Title: SUBJECT PROPERTY LOCATION MAP	Project No.: 93286-01	FIGURE 1
HydroSolutions of California, Inc. 11470 Sunrise Gold Circle, Suite 4 Rancho Cordova, California 95742 (916) 852-0188	Site: 4800 San Pablo Avenue Emeryville, California	
	Scale: 1 inch=2,000 feet	Date: 11-16-93

NOTES:

Exploratory drilling completed on December 23, 1993.

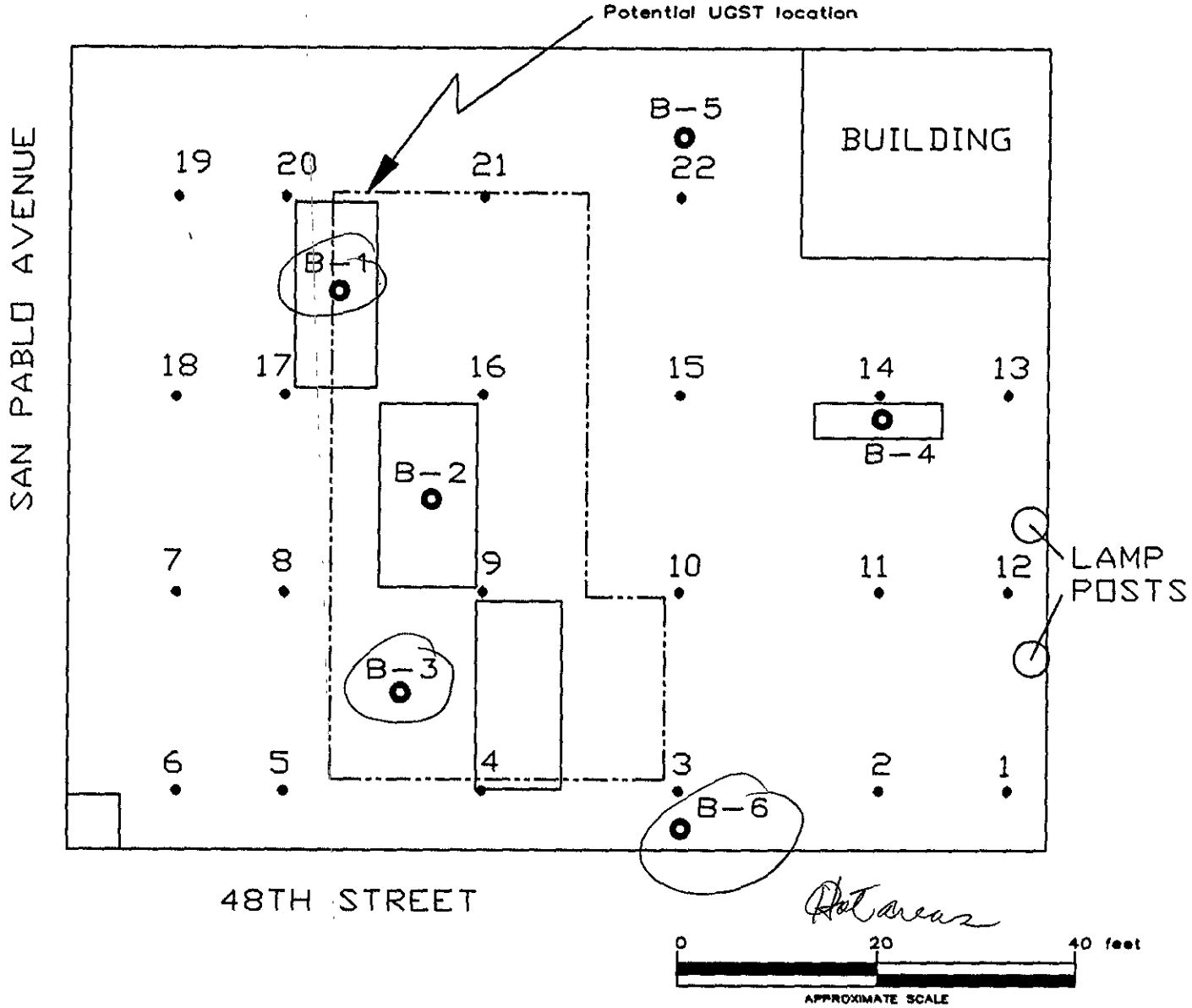
A Geoprobe system was used as the coring device.

Groundwater was encountered in boring, B-6, at 8.5 feet. Borings, B-1 through B-5 did not penetrate groundwater.

Soil-gas probes are illustrated as solid dots. Twenty two probes were inserted to a 4.5-10.5 foot depth.

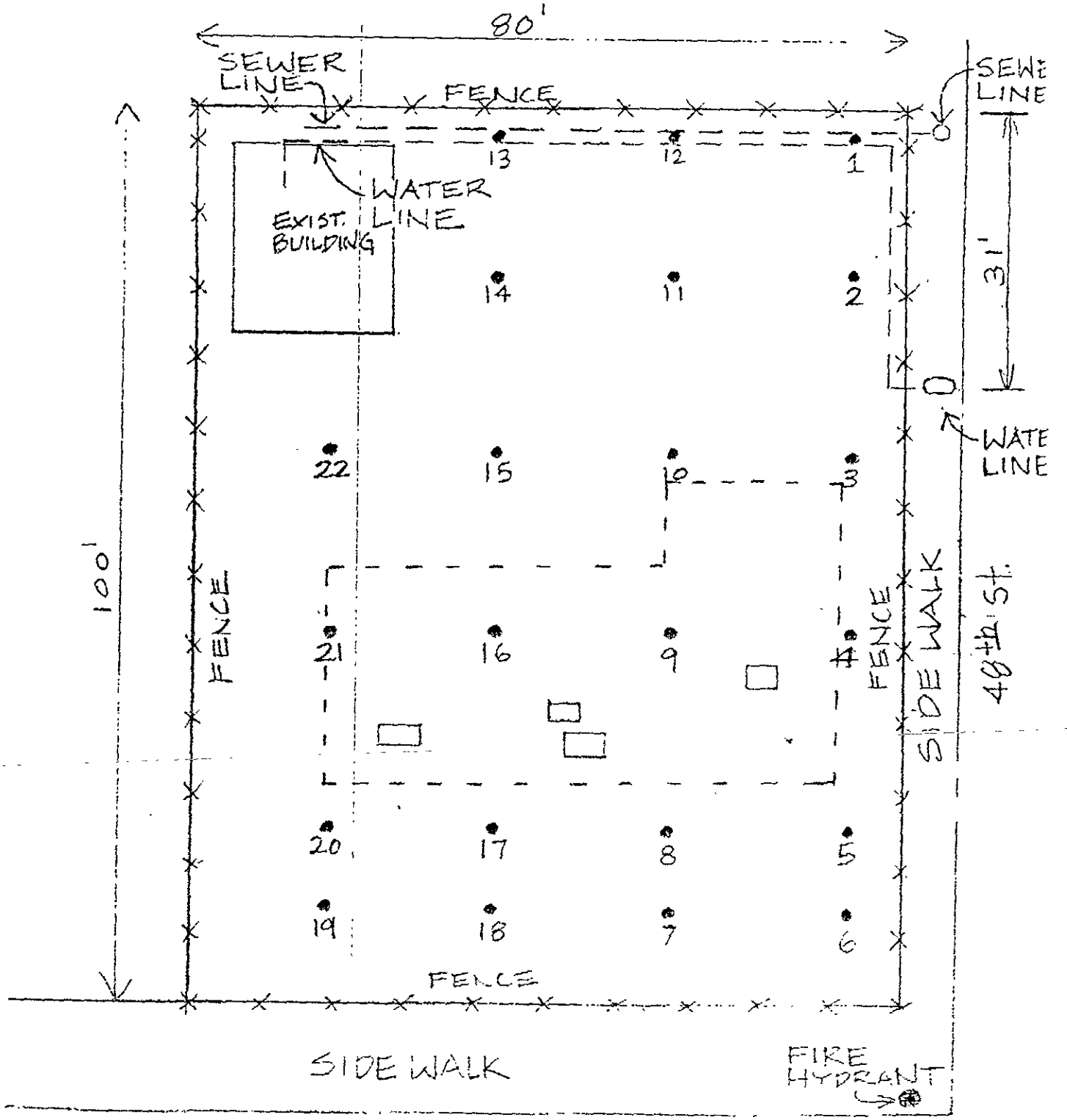
Soil samples analyzed for total petroleum hydrocarbons, benzene, toluene, xylene, ethylbenzene, oil & grease, and soluble lead.

Dashed line illustrates area which magnetic anomalies were measured with a Metrotech Model 810 Radio Frequency Line Tracer and Schonstadt MAC 51-B Magnetic and Cable Locator tool.



HydroSolutions of California, Inc. 11470 Sunrise Gold Circle, Suite 4 Rancho Cordova, California 95742 (916) 852-0188	Title: EXPLORATORY BORING PROGRAM Site: 4800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA	Project Number: 93286-02 Date: 01-10-94 Scale: AS SHOWN	FIGURE 2

- - - = POTENTIAL U.S.G.T. LOCATIONS
• = SOIL VAPOR BORING LOCATION
□ = UNIDENTIFIED OBJECTS LOCATION



SITE PLAN

BY: J. TAYLOR

SCALE: 1/2" = 1'-0

SITE LOCATION	4800 San Pablo Avenue, Emeryville, California	PROJECT NO	93286-02
DRILL COMPANY	Artesian Environmental Consultants	DATE STARTED	12-23-93
DRILL EQUIPMENT	Geoprobe System, 1 7/8 inch dia	DATE FINISHED	12-23-93
GEOLGIST	Steve Baker	FIRST WATER, FT	NONE
ORGANIC VAPOR(OV) DEVICE USED	Hnu Meter	TOTAL DEPTH, FT	10 5

HYDROSOLUTIONS OF CALIFORNIA, INC - GEOLOGIC LOG

BORING B-1

DEPTH BGS	C	W	BLOWS PER 6"	S	OV (PPM)	LOG	DESCRIPTION
0							CLAY (CL), moist, brown, dark brown, some fine grained sand, some gravel (1/8-1/4" dia), no petroleum-like odor
							fast penetration (soft)
10							REFUSAL (encountered concrete)
20							
							Samples collected with a 1 88" dia geoprobe core
							Collection tubes were covered with teflon wrap, capped with PVC caps, taped and labeled
30							
							S means sample locations
							W means well seal log
							C means well casing log
							Information is not to be used for any engineering purposes
							Samples collected at specified intervals
40							

SITE LOCATION	4800 San Pablo Avenue, Emeryville, California	PROJECT NO	93286-02
DRILL COMPANY	Artesian Environmental Consultants	DATE STARTED	12-23-93
DRILL EQUIPMENT	Geoprobe System, 1 7/8 inch dia	DATE FINISHED	12-23-93
GEOLGIST	Steve Baker	FIRST WATER, FT	NONE
ORGANIC VAPOR(OV) DEVICE USED	Hnu Meter	TOTAL DEPTH, FT	15

HYDROSOLUTIONS OF CALIFORNIA, INC - GEOLOGIC LOG

BORING B-2

DEPTH BGS	C	W	BLOWS PER 6"	S	OV (PPM)	LOG	DESCRIPTION
0							
							SILTY CLAY (CL), moist, brown, yellow-brown, grey-brown, old petroleum-like odor
10					40 ppm		
							CLAY (CL), moist, brown, yellow-brown, silty, no petroleum-like odor
20							
30							
0							

Samples collected with a 1 88" dia geoprobe core

Collection tubes were covered with teflon wrap, capped with PVC caps, taped and labeled

S means sample locations

W means well seal log

C means well casing log

Information is not to be used for any engineering purposes

Samples collected at specified intervals

SITE LOCATION	4800 San Pablo Avenue, Emeryville, California	PROJECT NO	93286-02
DRILL COMPANY	Artesian Environmental Consultants	DATE STARTED	12-23-93
DRILL EQUIPMENT	Geoprobe System, 1 7/8 inch dia	DATE FINISHED	12-23-93
GEOLGIST	Steve Baker	FIRST WATER, FT	NONE
ORGANIC VAPOR(OV) DEVICE USED	Hnu Meter	TOTAL DEPTH, FT	15

HYDROSOLUTIONS OF CALIFORNIA, INC - GEOLOGIC LOG

BORING B-3

DEPTH BGS

C | W | BLOWS PER 6" | S | OV (PPM) | LOG

DESCRIPTION

0

9 ppm, old petroleum-like odor

SILTY CLAY (CL), moist, green, brown nodules, silty, some very fine grained sand, petroleum-like odor

10

25 ppm, gasoline-like odor

SILTY CLAY (CL), moist, brown, yellow-brown, silty

0 ppm, no petroleum-like odor

20

Samples collected with a 1 88" dia geoprobe core

Collection tubes were covered with teflon wrap, capped with PVC caps, taped and labeled

30

S means sample locations

W means well seal log

C means well casing log

Information is not to be used for any engineering purposes

Samples collected at specified intervals

40

SITE LOCATION	4800 San Pablo Avenue, Emeryville, California	PROJECT NO	93286-02
DRILL COMPANY	Artesian Environmental Consultants	DATE STARTED	12-23-93
DRILL EQUIPMENT	Geoprobe System, 1 7/8 inch dia	DATE FINISHED	12-23-93
GEOLGIST	Steve Baker	FIRST WATER, FT	NONE
ORGANIC VAPOR(OV) DEVICE USED	Hnu Meter	TOTAL DEPTH, FT	15

HYDROSOLUTIONS OF CALIFORNIA, INC - GEOLOGIC LOG

BORING B-4A

DEPTH BGS	C	W	BLOWS PER 6"	S	OV (PPM)	LOG	DESCRIPTION
0							SILTY CLAY (CL), moist, brown, yellow-brown, silty, no petroleum-like odor
					2 ppm, no petroleum-like odor		
10					0 ppm, no petroleum-like odor		
					1 ppm, no petroleum-like odor		
					First attempt resulted in refusal at 5 ft Very easy drilling Moved to new location 2 5 ft away and redrilled as WB-4A		
20					Boring located in middle of concrete patch		
					Samples collected with a 1 88" dia geoprobe core		
					Collection tubes were covered with teflon wrap, capped with PVC caps, taped and labeled		
30							
					S means sample locations		
					W means well seal log		
					C means well casing log		
					Information is not to be used for any engineering purposes		
					Samples collected at specified intervals		
40							

SITE LOCATION	4800 San Pablo Avenue, Emeryville, California	PROJECT NO	93286-02
DRILL COMPANY	Artesian Environmental Consultants	DATE STARTED	12-23-93
DRILL EQUIPMENT	Geoprobe System, 1 7/8 inch dia	DATE FINISHED	12-23-93
GEOLGIST	Steve Baker	FIRST WATER, FT	NONE
ORGANIC VAPOR(OV) DEVICE USED	Hnu Meter	TOTAL DEPTH, FT	2

HYDROSOLUTIONS OF CALIFORNIA, INC - GEOLOGIC LOG

BORING B-5

PAGE 1 OF 1

DEPTH BGS	C	W	BLOWS PER 6"	S	OV (PPM)	LOG	DESCRIPTION
0							REFUSAL (encountered concrete)
							Moved 2 ft and redrilled
							REFUSAL at 1 Foot
							ABORTED B-5 LOCATION
10							
20							
30							
40							

S means sample locations
W means well seal log
C means well casing log
Information is not to be used for any engineering purposes
Samples collected at specified intervals

SITE LOCATION	4800 San Pablo Avenue, Emeryville, California	PROJECT NO	93286-02
DRILL COMPANY	Artesian Environmental Consultants	DATE STARTED	12-23-93
DRILL EQUIPMENT	Geoprobe System, 1 7/8 inch dia	DATE FINISHED	12-23-93
GEOLGIST	Steve Baker	FIRST WATER, FT	8 5 Feet
ORGANIC VAPOR(OV) DEVICE USED	Hnu Meter	TOTAL DEPTH, FT	12 Feet

HYDROSOLUTIONS OF CALIFORNIA, INC - GEOLOGIC LOG

BORING B-6

DEPTH BGS	C	W	BLOWS PER 6"	S	OV (PPM)	LOG	DESCRIPTION
0							SAND (SW), moist to very saturated, dark brown, very fine to fine grained, some gravel (1/4"), no petroleum-like odor
10							green, black color petroleum-like odor sampled water with bailer after drilled to 12 feet attempted to collect a groundwater sample by redrilling to 12 ft and opened the hydropunch- like tool approx 2 ft
20							Limited recovery
							Samples collected with a 1 88" dia geoprobe core Collection tubes were covered with teflon wrap, capped with PVC caps, taped and labeled
30							
							S means sample locations W means well seal log C means well casing log Information is not to be used for any engineering purposes Samples collected at specified intervals
40							

MATRIX
ENVIRONMENTAL LABORATORIES INC.

Hydro Solutions
5917 Moss Creek Circle
Suite No.2
Fair Oaks, Ca 95628-2714

1/10/94

ATTN: Steven Baker

Re: Project: **No. 93286.02**
Lab Reference Number: **4272**
Date Samples Received: **12/27/93**
No. Samples Received: **15**

The samples were received by Matrix Environmental Laboratories intact and in good condition. Samples conformed to required sampling protocols for the requested analyses and were accompanied by required documentation.

Please call if we can be of further assistance.

Sincerely,

Charles R. Todd,
Laboratory Director

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: N/A
Lab ID: Method Blank

Date Sampled: N/A
Date Received: N/A
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	ND	0.005
TOLUENE	ND	0.005
ETHYLBENZENE	ND	0.005
XYLENES	ND	0.015

SURROGATE RECOVERY		ACCEPTABLE RANGE
	109%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: **Hydro Solutions**
CONTACT: **S. Baker**
COC No: **4272**
Project No: **93286 - 02**
Sample ID: **N/A**
Lab ID: **Method Blank**

Date Sampled: **N/A**
Date Received: **N/A**
Date Extracted: **12/28/93**
Date of Analysis: **12/28/93**
Matrix: **SOIL**

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	ND	1.

SURROGATE RECOVERY		ACCEPTABLE RANGE
	105%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: **Hydro Solutions**
CONTACT: **S. Baker**
COC No: **4272**
Project No: **93286 - 02**
Sample ID: **B - 1 (10 - 10.5')**
Lab ID: **934924**

Date Sampled: **12/23/93**
Date Received: **12/27/93**
Date Extracted: **12/28/93**
Date of Analysis: **1/3/94**
Matrix: **SOIL**

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	ND	0.005
TOLUENE	0.019	0.005
ETHYLBENZENE	0.044	0.005
XYLENES	0.36	0.015
SURROGATE RECOVERY		ACCEPTABLE RANGE
	85%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 1 (10 - 10.5')
Lab ID: 934924

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 1/3/94
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	7.1	1.

SURROGATE RECOVERY		ACCEPTABLE RANGE
	116%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 2 (8 - 10')
Lab ID: 934929

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 1/3/94
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	0.13	0.025
TOLUENE	0.4	0.025
ETHYLBENZENE	0.63	0.025
XYLENES	1.8	0.075

SURROGATE RECOVERY		ACCEPTABLE RANGE
	95%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1 5 ratio and the reporting limits adjusted accordingly

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPII-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 2 (8 - 10')
Lab ID: 934929

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 1/3/94
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	220.	5.
SURROGATE RECOVERY		ACCEPTABLE RANGE
	104%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1: 5 ratio and the reporting limits adjusted accordingly.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 2 (13 - 15')
Lab ID: 934930

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/29/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	ND	0.005
TOLUENE	ND	0.005
ETHYLBENZENE	ND	0.005
XYLENES	ND	0.015
SURROGATE RECOVERY		ACCEPTABLE RANGE
	115%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 2 (13 - 15')
Lab ID: 934930

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/29/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	ND	1.

SURROGATE RECOVERY		ACCEPTABLE RANGE
	95%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 3 (8 - 10')
Lab ID: 934932

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 1/3/94
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	0.96	0.05
TOLUENE	ND	0.05
ETHYLBENZENE	0.64	0.05
XYLENES	1.6	0.15
SURROGATE RECOVERY		ACCEPTABLE RANGE
	96%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1 10 ratio and the reporting limits adjusted accordingly

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPII-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 3 (8 - 10')
Lab ID: 934932

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 1/3/94
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	350.	10.

SURROGATE RECOVERY		ACCEPTABLE RANGE
	128%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1: 10 ratio and the reporting limits adjusted accordingly

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 3 (13 - 15')
Lab ID: 934933

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/29/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	ND	0.005
TOLUENE	ND	0.005
ETHYLBENZENE	ND	0.005
XYLENES	ND	0.015

SURROGATE RECOVERY		ACCEPTABLE RANGE
	109%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 3 (13 - 15')
Lab ID: 934933

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/29/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	ND	1.
SURROGATE RECOVERY		ACCEPTABLE RANGE
	91%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 6 (4 - 5')
Lab ID: 934934

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	ND	0.005
TOLUENE	ND	0.005
ETHYLBENZENE	ND	0.005
XYLENES	ND	0.015
SURROGATE RECOVERY		ACCEPTABLE RANGE
	99%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 6 (4 - 5')
Lab ID: 934934

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	ND	1.

SURROGATE RECOVERY		ACCEPTABLE RANGE
	108%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 6 (8.5 - 10')
Lab ID: 934935

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 1/3/94
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	0.063	0.025
TOLUENE	ND	0.025
ETHYLBENZENE	0.32	0.025
XYLENES	0.75	0.075
SURROGATE RECOVERY		ACCEPTABLE RANGE
	98%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1 5 ratio and the reporting limits adjusted accordingly

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 6 (8.5 - 10')
Lab ID: 934935

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 1/3/94
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	40.	5.
SURROGATE RECOVERY		ACCEPTABLE RANGE
	106%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

This sample was diluted to a 1: 5 ratio and the reporting limits adjusted accordingly

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 4A (8 - 10')
Lab ID: 934937

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	ND	0.005
TOLUENE	ND	0.005
ETHYLBENZENE	ND	0.005
XYLENES	ND	0.015

SURROGATE RECOVERY		ACCEPTABLE RANGE
	100%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 4A (8 - 10')
Lab ID: 934937

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	ND	1.
SURROGATE RECOVERY		ACCEPTABLE RANGE
	107%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX, EPA 8020

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 1 (6 - 7')
Lab ID: 934938

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT (ppm)
BENZENE	ND	0.005
TOLUENE	ND	0.005
ETHYLBENZENE	ND	0.005
XYLENES	ND	0.015

SURROGATE RECOVERY		ACCEPTABLE RANGE
	100%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE by EPA 5030 PURGE-AND-TRAP

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: B - 1 (6 - 7')
Lab ID: 934938

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	mg/kg (ppm)	REPORTING LIMIT mg/kg (ppm)
GASOLINE	ND	1.
SURROGATE RECOVERY		ACCEPTABLE RANGE
	108%	70% TO 130%

NOTE: (ND) NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: BTEX SPIKE SUMMARY

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286 - 02
Sample ID: N/A
Lab ID: LCS/LCSD

Date Sampled: N/A
Date Received: N/A
Date Extracted: 12/28/93
Date of Analysis: 12/28/93
Matrix: SOIL

COMPOUND	CONC SPIKED mg/kg (ppm)	CONC MEASURED		PERCENT RECOVERY		
		LCS	LCSD	LCS	LCSD	RPD
BENZENE	1.	1.07	1.13	107%	113%	6%
TOLUENE	1.	1.09	1.16	109%	116%	6%
ETHYL BENZENE	1.	1.05	1.14	105%	114%	8%
TOTAL XYLENES	3.	3.18	3.39	106%	113%	7%

LCS= LABORATORY CONTROL SPIKE
LCSD= LABORATORY CONTROL SPIKE DUPLICATE
RPD= RELATIVE PERCENT DIFFERENCE
CONC= CONCENTRATION

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: TPH-GASOLINE SPIKE SUMMARY

CLIENT: **Hydro Solutions**
CONTACT: **S. Baker**
COC No: **4272**
Project No: **93286 - 02**
Sample ID: **N/A**
Lab ID: **LCS/LCSD**

Date Sampled: **N/A**
Date Received: **N/A**
Date Extracted: **12/28/93**
Date of Analysis: **12/28/93**
Matrix: **SOIL**

COMPOUND	CONC SPIKED mg/kg (ppm)	CONC MEASURED		PERCENT RECOVERY		
		LCS	LCSD	LCS	LCSD	RPD
GASOLINE	2.	2.04	2.18	102%	109%	6%

LCS= LABORATORY CONTROL SPIKE
LCSD= LABORATORY CONTROL SPIKE DUPLICATE
RPD= RELATIVE PERCENT DIFFERENCE
CONC= CONCENTRATION

MATRIX ENVIRONMENTAL LABORATORIES

3017 KILGORE ROAD #100 RANCHO CORDOVA, CA 95742 PHONE (916) 635-3962 FAX (916) 635-9331

ANALYSIS: TPH-D, EPA 8015 mod.

Client: **Hydro Solutions**
Contact: **S. Baker**
COC No: **4272**
Project No: **No. 93286.02**
Matrix: **SOIL**

Date Sampled: **12/23/93**
Date Received: **12/27/93**
Date Extracted: **12/28/93**
Date of Analysis: **12/28/93**

Lab ID	Sample ID	Diesel mg/Kg (ppm)	REPORTING LIMIT mg/Kg (ppm)
Method Blank	N/A	ND	1.
934924	B-1 (10-10.5)	ND	1.
934929	B-2 (8-10')	ND	1.
934930	B-2 (13-15')	ND	1.
934931	B-3 (3-5')	ND	1.
934932	B-3 (8-10')	ND	1.
934933	B-3 (13-15')	ND	1.
934934	B-6 (4-5')	ND	1.
934935	B-6 (8.5-10')	ND	1.
934936	B-4A (3-5')	ND	1.
934937	B-4A (8-10')	ND	1.
934938	B-1 (6-7)	ND	1.

NOTE: (ND) =NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

3017 KILGORE ROAD #100 RANCHO CORDOVA, CA 95742 *PHONE (916) 635-3962 FAX (916) 635-9331*

ANALYSIS: TPH MATRIX SPIKE SUMMARY

Client: **Hydro Solutions**
Contact: **S. Baker**
COC No: **4272**
Project No: **No. 93286.02**
Matrix: **SOIL**

Date Sampled: **N/A**
Date Received: **N/A**
Date Extracted: **12/28/93**
Date of Analysis: **12/28/93**

COMPOUND	CONC SPIKED (mg/L)	CONC MEASURED		PERCENT RECOVERY		RPD
		LCS	LCSD	LCS	LCSD	
DIESEL	100	83	88	83%	88%	6%

LCS= LABORATORY CONTROL SPIKE
LCSD= LABORATORY CONTROL SPIKE DUPLICATE
RPD= RELATIVE PERCENT DIFFERENCE
CONC= CONCENTRATION

MATRIX ENVIRONMENTAL LABORATORIES

3017 KILGORE ROAD #100 RANCHO CORDOVA, CA 95742 PHONE (916) 635-3962 FAX (916) 635-9331

ANALYSIS: LEAD STLC

CLIENT: **Hydro Solutions**
CONTACT: **S. Baker**
COC No: **4272**
Project No: **No. 93286.02**
Matrix: **LEACHATE**

Date Sampled: **12/23/93**
Date Received: **12/27/93**
Date Extracted: **1/10/94**
Date of Analysis: **1/10/94**

Lab ID	Sample ID	Lead mg/Kg (ppm)	REPORTING LIMIT mg/Kg (ppm)	Method
Method Blank	N/A	ND	.05	7420
934924	B-1 (10-10.5)	ND	.05	7420
934929	B-2 (8-10')	ND	.05	7420
934930	B-2 (13-15')	ND	.05	7420
934931	B-3 (3-5')	ND	.05	7420
934932	B-3 (8-10')	ND	.05	7420
934933	B-3 (13-15')	ND	.05	7420
934934	B-6 (4-5')	ND	.05	7420
934935	B-6 (8.5-10')	ND	.05	7420
934936	B-4A (3-5')	ND	.05	7420
934937	B-4A (8-10')	ND	.05	7420
934938	B-1 (6-7)	ND	.05	7420

NOTE: (ND) =NOT DETECTED AT OR ABOVE THE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

3017 KILGORE ROAD #100 RANCHO CORDOVA, CA 95742 *PHONE (916) 635-3962 FAX (916) 635-9331*

ANALYSIS: LEAD MATRIX SPIKE SUMMARY

CLIENT: **Hydro Solutions**
CONTACT: **S. Baker**
COC No: **4272**
Project No: **No. 93286.02**
Matrix: **LEACHATE**

Date Sampled: **N/A**
Date Received: **N/A**
Date Extracted: **1/10/94**
Date of Analysis: **1/10/94**

COMPOUND	CONC SPIKED (mg/L)	CONC MEASURED		PERCENT RECOVERY		RPD
		LCS	LCSD	LCS	LCSD	
LEAD	3.6	3.34	3.28	93%	91%	2%

LCS= LABORATORY CONTROL SPIKE
LCSD= LABORATORY CONTROL SPIKE DUPLICATE
RPD= RELATIVE PERCENT DIFFERENCE
CONC= CONCENTRATION

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT:	Hydro Solutions		
CONTACT:	S. Baker	Date Sampled:	N/A
COC No:	4272	Date Received:	N/A
Project No:	93286-02	Date Extracted:	1/11/94
Sample ID:	N/A	Date of Analysis:	1/11/94
Lab ID:	METHOD BLANK	Matrix:	SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-1 (10-10.5)
Lab ID: 934924

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	3,900.	2500

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

This sample was diluted to a 1:50 ratio and the reporting limits adjusted accordingly

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-2 (8-10')
Lab ID: 934929

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-2 (13-15')
Lab ID: 934930

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-3 (8-10)
Lab ID: 934932

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-3 (13-15')
Lab ID: 934933

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-6 (4-5')
Lab ID: 934934

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	990.	500

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

This sample was diluted to a 1:10 ratio and the reporting limits adjusted accordingly

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-6 (8.5-10')
Lab ID: 934935

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-4A (8-10')
Lab ID: 934937

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1, OIL & GREASE by IR SPECTROPHOTOMETER

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: B-1 (6-7')
Lab ID: 934938

Date Sampled: 12/23/93
Date Received: 12/27/93
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	(mg/Kg) (ppm)	REPORTING LIMIT (ppm)
OIL & GREASE	ND	50

NOTE: (ND) NOT DETECTED AT OR ABOVE REPORTING LIMITS.

MATRIX ENVIRONMENTAL LABORATORIES

ANALYSIS: EPA 418.1; OIL & GREASE SPIKE SUMMARY

CLIENT: Hydro Solutions
CONTACT: S. Baker
COC No: 4272
Project No: 93286-02
Sample ID: N/A
Lab ID: LCS/LCSD

Date Sampled: N/A
Date Received: N/A
Date Extracted: 1/11/94
Date of Analysis: 1/11/94
Matrix: SOIL

COMPOUND	CONC SPIKED	CONC MEASURED		PERCENT RECOVERY		
		LCS	LCSD	LCS	LCSD	RPD
OIL & GREASE	500	629.2	630	126%	126%	0%

LCS= LABORATORY CONTROL SPIKE
LCSD= LABORATORY CONTROL SPIKE DUPLICATE
RPD= RELATIVE PERCENT DIFFERENCE
CONC= CONCENTRATION

HydroSolutions Of California, Inc.

Chain of Custody Record

PROJECT NO.: 93286-02

SAMPLERS: (Signature) S. BAKER

DATE	TIME	SAMPLE NUMBER	General Mineral	Priority Pollutant Metals	EPA Method 624	EPA Method 625	EPA Method 608	8020	8015	418.1	Soluble Pb			NUMBER OF CONTAINERS	REMARKS (Sample preservation, handling procedures, etc.)
12/23		B-1-(10-10.5)						X	X	X	X			1	
↓		B-4A-15												2	VOAs Samples stored chilled in ice chest at reduced temperature
		B-4-(4.5-5)												1	
		B-2-(3-5)												1	
		B-2-(8-10)						X	X	X	X			1	
		B-2-(13-15)						X	X	X	X			1	Samples collected in acryl tubes, capped, taped + labeled except as indicated
		B-3-(3-5)												1	
		B-3-(8-10)						X	X	X	X			1	
		B-3-(13-15)						X	X	X	X			1	
		B-6-(4-5)						X	X	X	X			1	
		B-6-(8.5-10)						X	X	X	X			1	
		B-4A-(3-5)												1	
		B-4A-(8-10)						X	X	X	X			1	
		B-1-(6-7)						X	X	X	X			1	

Remarks: 2 week turnaround time

Please FAX (F) 916-967-1223

TOTAL NUMBER OF CONTAINERS: 15

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	12/27/93 12:48				

METHOD OF SHIPMENT:	SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
			M. Herter	12/27/93 1248