



Geological Audit Services, Inc.

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31 March 1993
(GeoAudit 663-S)

Juliet Shin
Hazardous Materials Specialist
Alameda County Department
Environmental Health
Division of Hazardous Materials
80 Swan Way, Room 350
Oakland, Ca. 94621

**Subject: Soil and Water Sampling - Jardin Pipeline Company
2315 Dunn Road, Hayward, California**

Dear Ms. Shin:

In accordance with a request from Mr. Michael Jardin of Jardin Pipeline, Inc., Geological Audit Services, Inc. (GeoAudit) has prepared this report for soil and water sampling conducted at 2315 Dunn Road, Hayward, California.

BACKGROUND

On 14 August 1991, one 2,000-gallon underground diesel storage tank was removed from the property at 2315 Dunn Road, Hayward, California (the site). Two soil samples were collected from beneath the diesel tank; samples N1-12 and S1-12 were collected from the north and south ends of the tank, respectively. The soil samples were analyzed for total petroleum hydrocarbons (TPH) as diesel, volatile aromatics (BTE&X) and total oil and grease (Table 1).

TPH as diesel was detected at levels as high as 16 parts per million (ppm), and total oil and grease was detected as high as 80 ppm. Toluene, ethylbenzene and xylene were detected at levels of 8.0 parts per billion (ppb), 9.0 ppb and 62 ppb respectively.

Groundwater was encountered in the excavation. Therefore, a water sample was collected from the excavation. Sample W1 was analyzed for TPH as diesel, BTE&X and total oil and grease. No contamination was detected in the water sample.

The excavated soil was stockpiled on-site adjacent to the tank pit. Samples G1 and G2 were collected from the excavated soil pile. The soil samples were analyzed for TPH as diesel, BTE&X and total oil and grease. Total oil and grease was found at levels as high as 80 ppm and toluene was found at 18 ppb. No TPH as diesel, benzene, ethylbenzene or xylenes were detected in the stockpiled soil.

Table 1
Analytical Results for Soil Samples

'91 West closure

soil sample
soil sample
soil sample

Sample ID	TPH as diesel	Total O & G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
S1-12	.16	80	N/D	0.008	0.009	0.062
N1-12	N/D	N/D	N/D	N/D	N/D	N/D
G1	N/D	N/D	N/D	N/D	N/D	0.027
G2	N/D	80	N/D	0.018	N/D	N/D

Measurements in parts per million (ppm)
N/D Not Detected

PROCEDURES

SAMPLE COLLECTION - 12 February 1993

On 12 February 1993, representatives of GeoAudit visited the site and collected two soil samples. Sample T1-1 was collected from the floor of the excavation at a depth of approximately 11 feet and sample SP-1 was collected from approximately 2 feet below the surface of the soil pile. A backhoe was provided by Jardin Pipeline to assist in sample collection. Sample T1-1 was collected from the backhoe bucket while sample SP-1 was collected directly from the soil pile.

A metric soil sampler pre-loaded with two clean, 2 X 3-inch brass tubes was used to collect the samples. The ends of the lead tubes were covered with aluminum sheets, capped and sealed with tape. The samples were stored on ice and transported to a state-certified laboratory.

After the soil samples were collected, water was allowed to accumulate in the bottom of the excavation. A water sample was collected from the excavation using a disposable bailer. The sample was placed in two 1-liter amber bottles, labelled and logged on a chain of custody form. Both the soil and water samples were transported to Western Environmental Science and Technology (WEST) under chain-of-custody.

All three samples were analyzed for TPH as diesel, TPH as motor oil and BTE&X in accordance to EPA methods 8015m, 8020 and 602. The laboratory results are summarized on Tables 2 and 3.

SAMPLE COLLECTION - 5 March 1993

TPH as diesel and motor oil were detected in the water sample collected on 12 February 1993, Mr. Michael Jardin requested that the groundwater from the tank pit be resampled. On 5 March 1993, a representative of Geological Audit returned to the site to collect a groundwater sample. Juliet Shin of the Alameda County Health Agency was on site to observe operations.

The original excavation had been backfilled with the stockpiled soil shortly after the 12 February 1993 visit. A backhoe was used to reexcavate a hole at the former tank excavation to a depth of approximately 11 feet, and groundwater was allowed to fill the bottom. A submersible pump, supplied by Jardin Pipeline, was used to try to purge the groundwater from the excavated. Approximately 50 gallons of water were removed from the excavation and stored on site in a 55 gallon DOT approved drum.

Samples were collected from the bottom of the excavation using a disposable bailer and placed in two 1-liter amber bottles and three VOA's. The samples were labelled, logged on a chain of custody form and stored on ice pending transport to a state-certified laboratory. The samples were analyzed for TPH as diesel, TPH as motor oil and BTE&X in accordance to EPA methods 8015m and 602.

TPH as diesel was detected at a level of 150 ppb, while ethylbenzene and xylene were detected at 1.0 ppb and 5.9 ppb respectively. No TPH as motor oil, benzene or toluene were detected in the water sample. The results of this sample are summarized on Table 3.

Table 2 Analytical Results for Soil Samples						
Sample ID	TPH as diesel	TPH as motor oil	Benzene	Toluene	Ethylbenzene	Xylene
T1-1	15	27	N/D	N/D	N/D	N/D
SP-1	N/D	16	N/D	N/D	N/D	N/D

*Soil from
 Flood
 of Excavation*
~~Soil from~~
Stockpile

Measurements in parts per million (ppm)
 N/D Not Detected



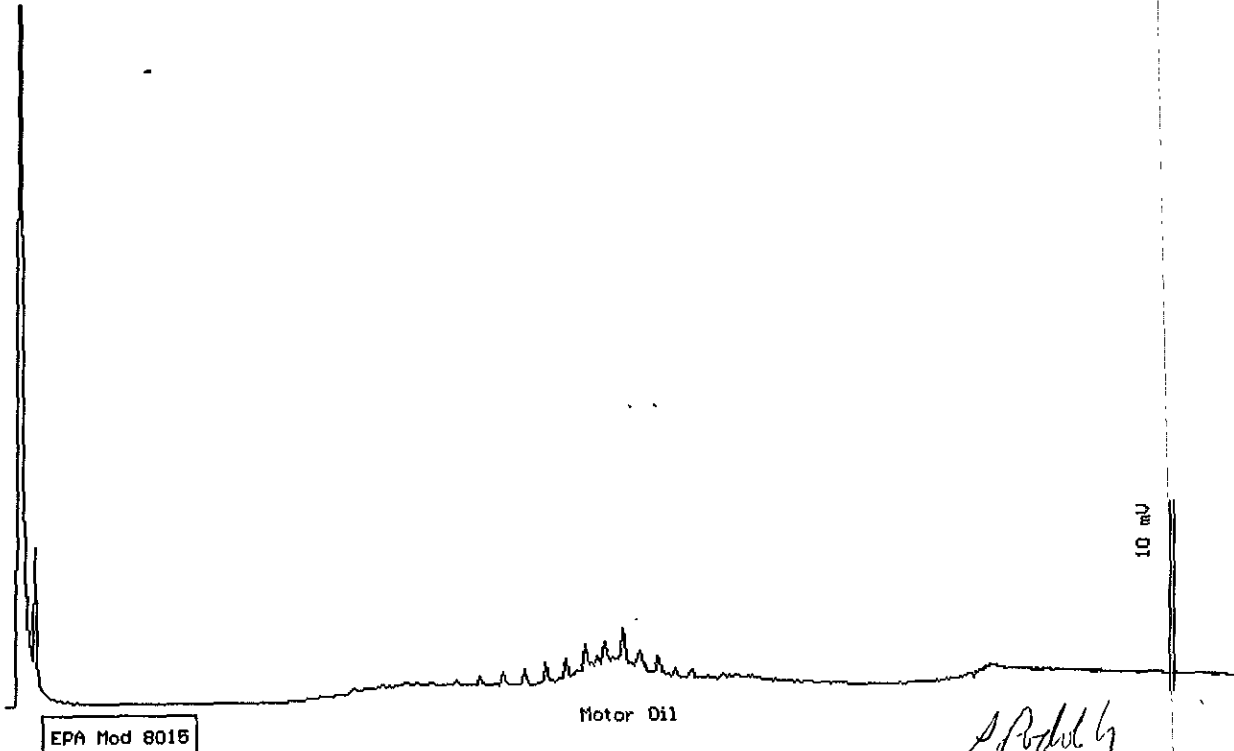
Sample Log 5857
5857-2

Sample: SP-1

From : Jardin Pipeline
Sampled : 02/12/93
Extracted: 02/23/93
Dilution : 1:1
Matrix : Soil

QC Batch : 8078C

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	16



Date: 02-25-93 Time: 23:08:56
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

S. Podolsky
Stewart Podolsky
Senior Chemist



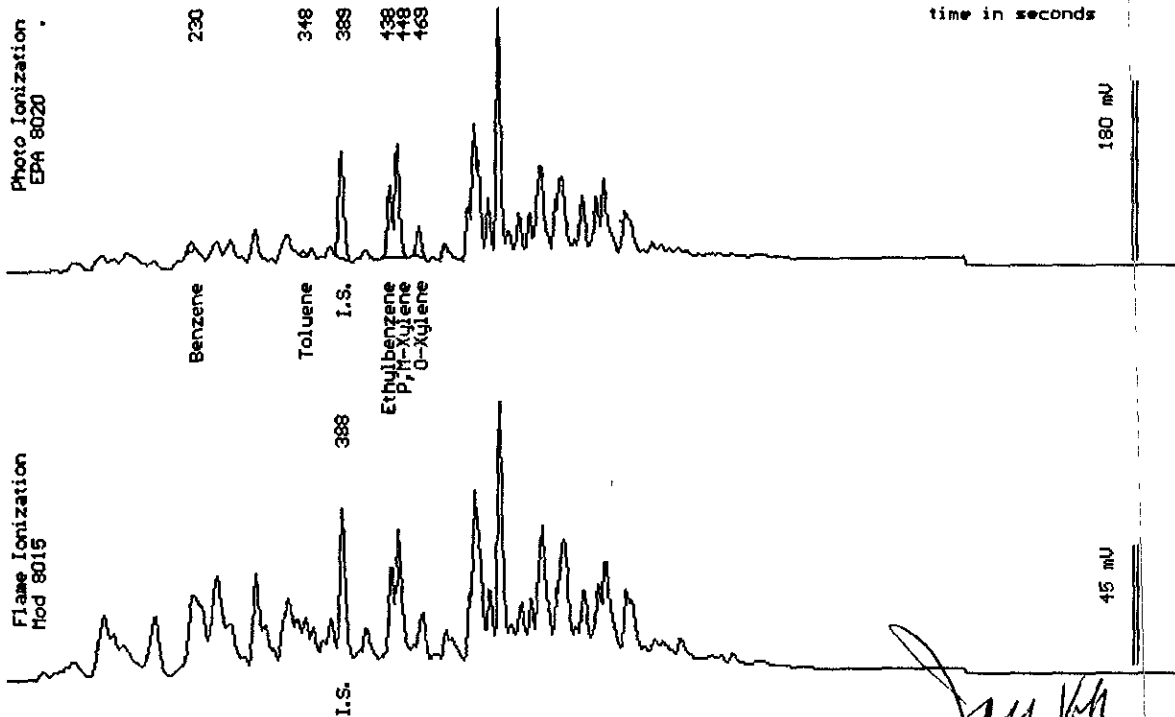
Sample Log 5857
5857-3

Sample: T1-W

From : Jardin Pipeline
Sampled : 02/12/93
Dilution : 1:1
Matrix : Water

QC Batch : 6098d

Parameter	(MDL) ug/L	Measured Value ug/L
Benzene	(.30)	1.7
Toluene	(.30)	.74
Ethylbenzene	(.30)	15
Total Xylenes	(.50)	27



Date Analyzed: 02-19-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Joe Kiff
Senior Chemist



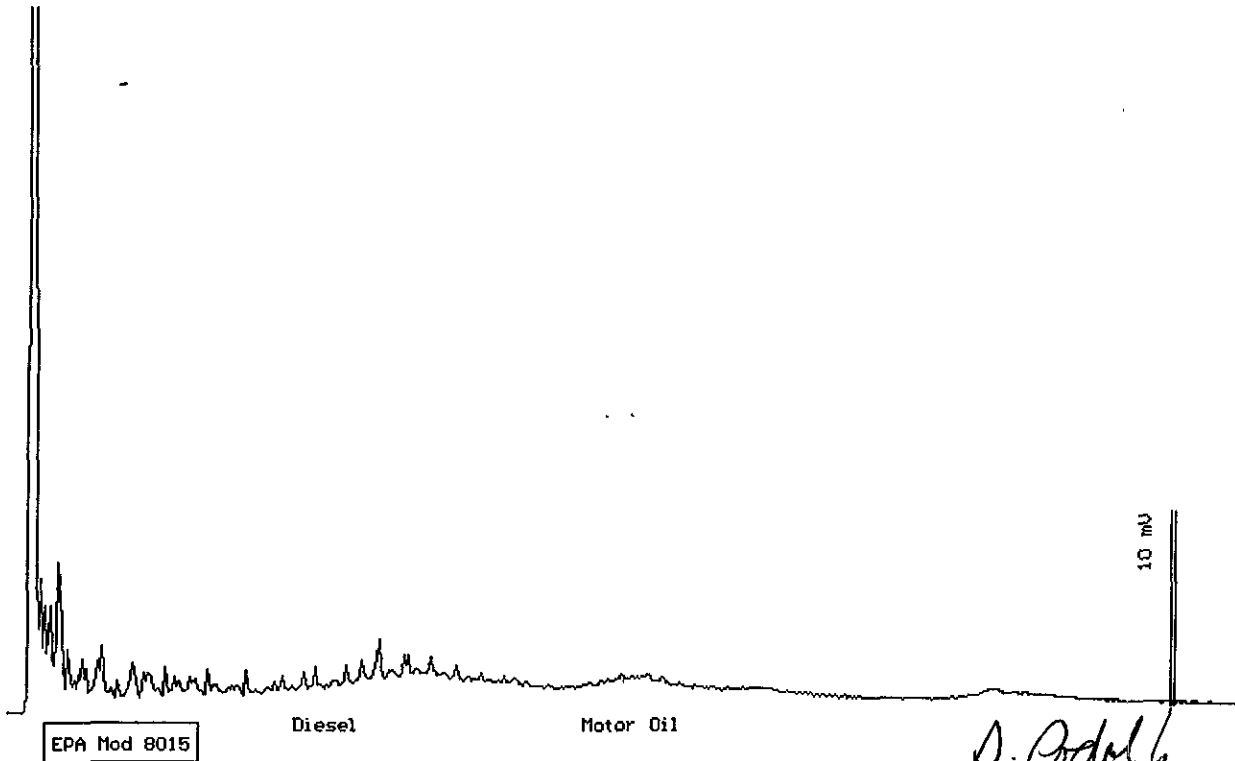
Sample Log 5857
5857-3

Sample: T1-W

From : Jardin Pipeline
Sampled : 02/12/93
Extracted: 02/17/93
Dilution : 1:1
Matrix : Water

QC Batch : 8076E

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	190
TPH as Motor Oil	(50)	110



Date: 02-18-93 Time: 15:50:09
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

S. Podolsky
Stewart Podolsky
Senior Chemist



March 26, 1993
Sample Log 6012

Bob Marty
Geological Audit Services
1803 W. March Lane, Suite A
Stockton, CA 95207

Subject: Analytical Results for 1 Water Sample
Identified as: Jardin Pipeline
Received: 03/11/93

Dear Mr. Marty:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on March 26, 1993 and describes procedures used to analyze the samples.


Water samples were received in 40-mL glass bottles sealed with TFE septae, and in 1-L glass bottles sealed with TFE-lined caps. Each sample was received under documented chain of custody and stored at 4 degrees C until analysis was performed.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 602/Purge-and-Trap)
"TPH as Diesel, Motor Oil, Jet/Kerosene" (Mod. 8015/Extraction)

Please refer to the following table(s) for summarized analytical results and contact us at 916-757-4650 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:


Stewart Podolsky
Senior Chemist



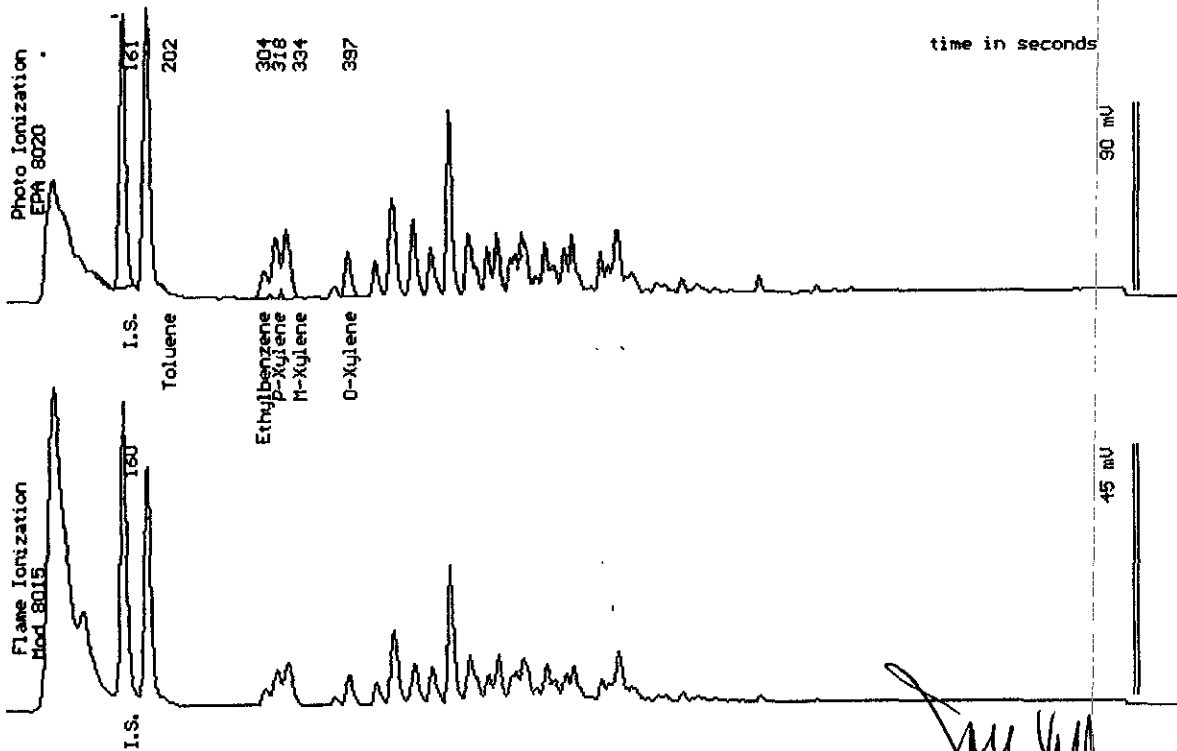
Sample Log 6012
6012-1

Sample: TP-1/3-11-93

From : Jardin Pipeline
Sampled : 03/11/93
Dilution : 1:1
Matrix : Water

QC Batch : 4091f

Parameter	(MDL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	1.0
Total Xylenes	(.50)	5.9



Date Analyzed: 03-25-93
Column : 0.83mm ID X 30m DBMEX (J&W Scientific)

Joel Kiff
Joel Kiff
Senior Chemist



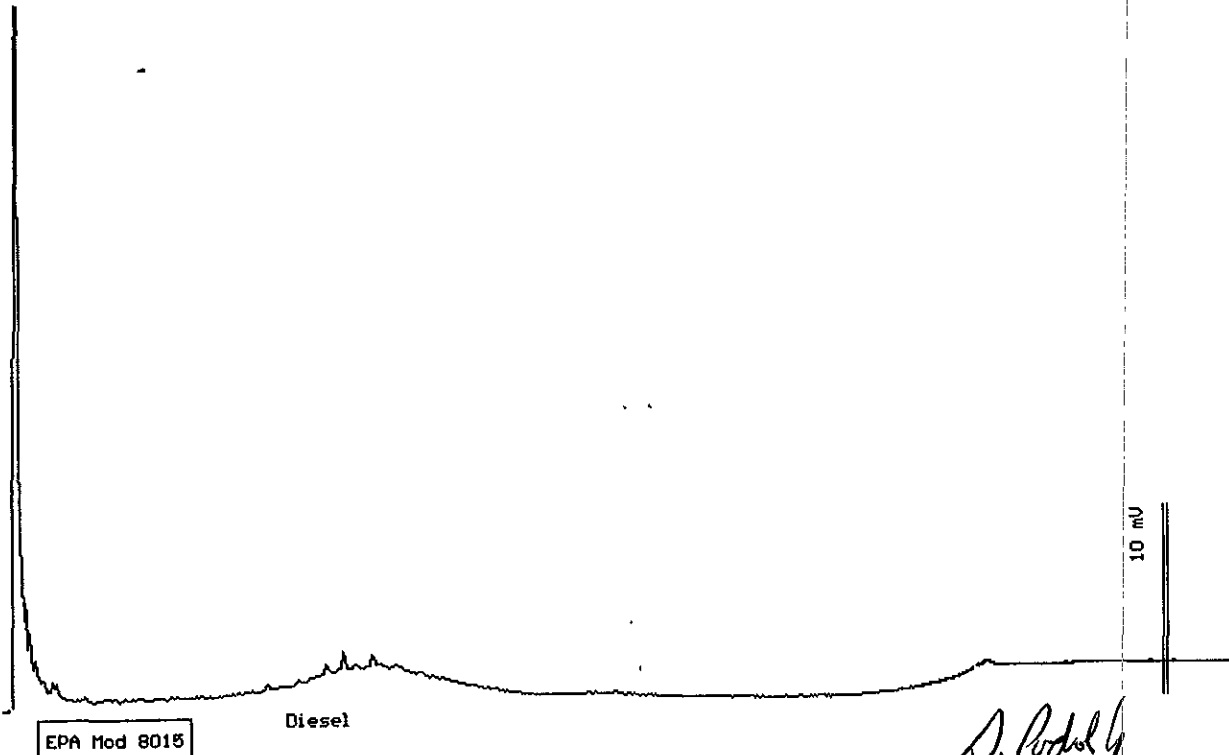
Sample Log 6012
6012-1

Sample: TP-1/3-11-93

From : Jardin Pipeline
Sampled : 03/11/93
Extracted: 03/16/93
Dilution : 1:1
Matrix : Water

QC Batch : 8081D

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	150
TPH as Motor Oil	(50)	<50



Date: 03-16-93 Time: 23:38:44
Column : 0.53mm ID X 15m DB1 (J&M Scientific)

Stewart Podolsky
Stewart Podolsky
Senior Chemist



April 2, 1993
Sample Log 6012

From : Jardin Pipeline
Received: 03/11/93

Water Spike and Spike Duplicate Results

Parameter	Matrix Spike (%Rec)	Matrix Spike Dup. (%Rec)	RPD %
Benzene	97	96	1
Ethylbenzene	90	97	7
TPH as Diesel	85 *	82 *	3

* No sample available to spike. Values represent duplicate method standards.

Method Blank Water

Parameter	MDL(ug/L)	Measured Value(ug/L)
Benzene	(.50)	<.50
Toluene	(.50)	<.50
Ethylbenzene	(.50)	<.50
Total Xylenes	(.50)	<.50
TPH as Diesel	(50)	<50
TPH as Motor Oil	(50)	<50



Geological Audit Services, Inc.

Environmental Professionals

1803 West March Lane, Suite A - Stockton, California - 95207 - (209) 956-0264

CHAIN OF CUSTODY RECORD

Date 3-11-93 Page 1 of 1

Client <u>Jardin Pipeline</u>	Project Manager <u>Kevin McHibben</u>	Tests Required
	Phone Number	
Project Name	Samplers: (Signature) <u>Kevin McHibben</u>	

TPH-d. BTEX

Invoice:
GeoAudit
Client

Sample Number	Location Description	Date	Time	Sample Type			Solid	No. of Conts.	Notes
				Water		Air			
				Comp.	Grab.				
TP-1/3-11-93	Tank PIT	3-11-93	11:20		X			5 X	

Relinquished by: (Signature) <u>Kevin McHibben</u>	Received by: (Signature)	Date/Time <u>3/11/93 - 17:05</u>
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by Mobile Laboratory for field analysis: (Signature)	Date/Time
Dispatched by: (Signature)	Date/Time	Received for Laboratory by: <u>[Signature]</u>
Method of Shipment:		Laboratory Name <u>WOST</u>
Special Instructions:	I hereby authorize the performance of the above indicated work.	

PL 1793