



AEGIS ENVIRONMENTAL, INC.

801 Riverside Avenue, Suite C, Roseville, CA 95678

916 • 782-2110 / 916 • 969-2110 / FAX 916 • 786-7830

January 31, 1991

Ms. Penny Silzer
Regional Water Quality Control Board
San Francisco Region
1800 Harrison Street
Oakland, California 94612

NO WELL SAMPLE
DATA
EVIDENCE OF
SPILLAGE

Subject: Request for Site Closure
Shell Service Station (WIC #204-4380-0303)
318 S. Livermore Avenue and Third Street
Livermore, California
Aegis Project No. 89-041

Dear Ms. Silzer:

Aegis Environmental, Inc. (Aegis) requests site closure and approval for abandonment of the four on-site ground water monitoring wells at the above subject site.

SITE HISTORY

A prior consultant drilled and sampled four soil borings to an approximate depth of 15 feet, adjacent to the previous existing/current replacement tank basin on February 27, 1989. Samples were obtained every 5 feet and screened with an organic vapor analyzer. All results were zero ppm. One sample from each boring at 15 feet of depth was submitted for chemical analysis. The chemical analysis did not indicate detectable levels of gasoline constituents.

On March 14, 1989, the same consultant obtained a grab sample of backfill material near the fill riser pipe of the regular leaded underground gasoline tank and submitted the sample for chemical analysis. The chemical analysis indicated 37.000 ppm TPH as gasoline, total lead of 550 ppm and soluble threshold limit concentration (STLC) for lead of 42 ppm.

37000

A tank closure permit was obtained by Aegis in November 1989. All underground gasoline storage tanks were removed and legally disposed on December 5, 1989. Ground water was not encountered in the excavation.

89-041A.LTR

Subsequent to the tank closure, backfill and native soil containing gasoline were removed from the tank basin, sampled and stockpiled on-site. Disposal of approximately 300 cubic yards of soil containing less than 100 ppm TPH as gasoline was permitted and accomplished at the West Contra Costa County Sanitary landfill.

Approximately 40 cubic yards of soil containing 180 ppm TPH as gasoline was thin spread on-site for aeration. Sampling in the bottom of the excavation indicated predominately non-detectable and trace (less than 10 ppm TPH as gasoline) levels of gasoline in native soils left in place. Analytical results of the samples taken during the tank closure are attached.

A meeting with Lowell Miller of Alameda County, Clarke Owen of Aegis and George Johnston of R.W. Johnston took place on December 20, 1989. It was agreed to proceed with the new tank installation with a provision to assess ground water quality beneath the site. The tank closure/replacement was permitted through Alameda County and the City of Livermore Fire Department. The tank closure was completed on December 5, 1989. The aerated 40 cubic yards of soil that contained greater than 100 ppm TPH as gasoline was permitted and disposed of at West Contra Costa County landfill. The new tank installation has been completed. Product line trench sampling occurred as existing piping was removed. Preparation and submission of the tank closure results report in February 1990, presented the results of soil remediation that occurred during the tank closure/replacement. A monitoring well installation work plan was concurrently prepared and submitted with the tank closure results report. The monitoring well installation and investigative soil boring assessment was conducted in May 1990. The analytical ground water and soil sample results are attached. The results obtained during the well installation indicate non-detectable levels of TPH as gasoline in native soils. The analytical results from the two consecutive quarterly water sampling events to assess water quality and quantity of gasoline constituents present there in indicate non-detectable levels of TPH as gasoline constituents.

The results of the site investigation, tank closure/replacement and ground water assessment indicate petroleum hydrocarbon levels that are remaining within the soil matrix do not present a threat to the ground water beneath the site. Closure is requested by Aegis Environmental, Inc. for the Shell Service Station located at 318 S. Livermore Avenue, Livermore, California.

Ms. Penny Silzer
RWQCB San Francisco Region
January 30, 1991
Page 3

If you have any questions or require further clarification regarding the investigation or closure request, please contact me or Mr. Pat Wright at (916) 782-2110.

Sincerely,

AEGIS ENVIRONMENTAL, INC.

Tracy L. Schilling
Tracy L. Schilling
Project Engineer

Pat Wright
Pat Wright
Registered Geologist
No. 529

TS/PW/vj

cc: Kurt Miller - Shell Oil Company
Lowell Miller - Alameda County Health Department



SUMMARY
KNOWN ANALYTICAL DATA AND FIGURES SHOWING SAMPLE LOCATIONS

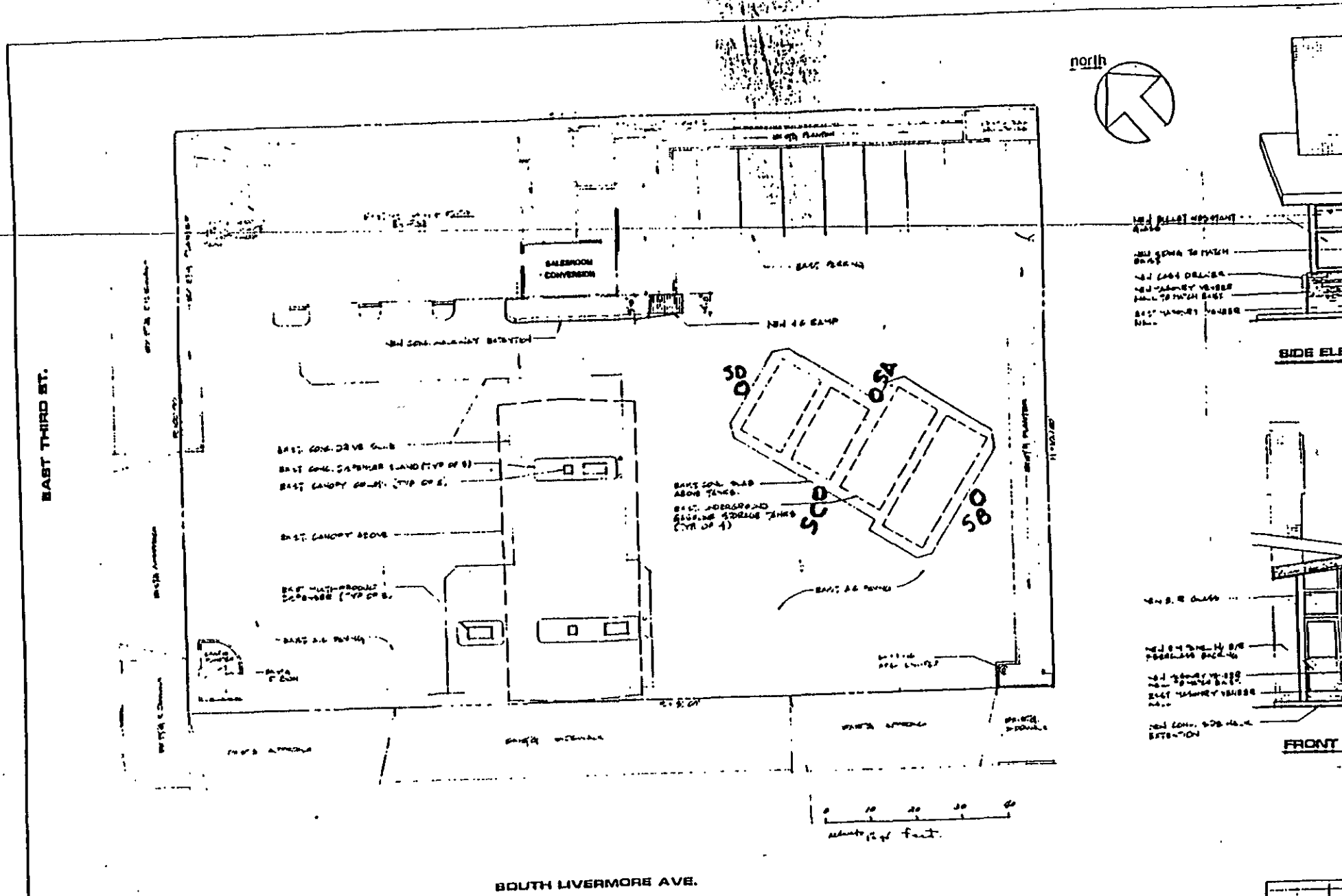


FIGURE 1
MODIFIED AFTER SITE PLAN
 PROVIDED BY GETTLER RYAN, INC.

1" = 30'

RECEIVED



MAR 14 1989

GETTLER-RYAN INC
March 6, 1989 CONTRACTOR

Gettler-Ryan
1992 National Avenue
Hayward, CA 94545

ATTN: John Werfal

Following are the results of analyses on the samples described below.

Project: GR #9657, WCC #8820011A/0117, Shell,
318 S. Livermore Avenue, Livermore
Lab Numbers: S9-02-329-03, S9-02-329-06,
S9-02-329-09, S9-02-329-12
Number of Samples: 4
Sample Type: Soil
Date Received: 2/27/89
Analyses Requested: Low Boiling Hydrocarbons

The method of analysis for low boiling hydrocarbons is taken from EPA Methods 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector as well as a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline and includes benzene, toluene, ethyl benzene and xylenes.

ITAS/San Jose Lab Number	Client Sample Identification	Sample Date	Extraction Date	Date Analysis Completed	Sample Condition on receipt
S9-02-329-03	SA-3-4	2/27/89	3/1/89	3/2/89	cool
S9-02-329-06	SB-3-4	2/27/89	3/1/89	3/2/89	cool
S9-02-329-09	SC-3-4	2/27/89	3/1/89	3/2/89	cool
S9-02-329-12	SD-3-4	2/27/89	3/1/89	3/2/89	cool


Fred Rouse

FR/an

1 Page Following - Table of Results

ITAS/San Jose to Gettler-Ryan
ATTN: John Werfal

March 6, 1989
Page 1 of 1

Project: GR #9657, WCC #8820011A/0117, Shell, 318 S. Livermore, Livermore

Summary of Results

ND = None Detected

Milligrams per Kilogram - (Dry Soil Basis)

Lab Number	Sample Identification	Low Boiling Hydrocarbons (calculated as gasoline)				
		Benzene	Toluene	Ethyl Benzene	Xylenes	
S9-02-229-03	SA-3-4	ND	ND	ND	ND	ND
S9-02-229-06	SB-3-4	ND	ND	ND	ND	ND
S9-02-229-09	SC-3-4	ND	ND	ND	ND	ND
S9-02-229-12	SD-3-4	ND	ND	ND	ND	ND
Detection Limit		5.	0.05	0.1	0.1	0.3



INTERNATIONAL
TECHNOLOGY
CORPORATION

RECEIVED
MARCH 28, 1989
CITY OF LIVERMORE

Gettler-Ryan
1992 National Avenue
Hayward, CA 94545

March 28, 1989

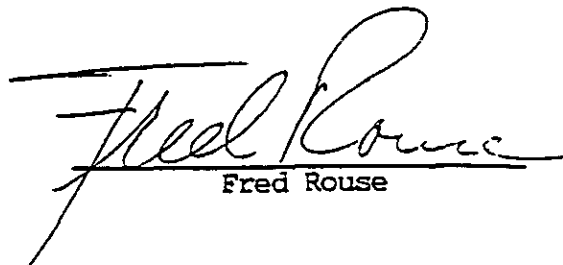
ATTN: John Werfal

Following are the results of analyses on the samples described below.

Project: GR #9657, Shell, 318 S. Livermore Ave.,
Livermore
Lab Number: S9-03-176-01
Sample Type: 1 Soil
Date Received: 3/14/89
Analyses Requested: Low Boiling Hydrocarbons,
Total Lead, W.E.T. Lead

The method of analysis for low boiling hydrocarbons is taken from EPA Methods 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector as well as a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline and includes benzene, toluene, ethyl benzene and xylenes.

The samples were analyzed for inorganic parameters following E.P.A. Protocol, using methods from SW846 3rd Edition or methods for chemical analysis of water and wastes 600/4-79-020. The method employed is listed adjacent to the parameter in the table.


Fred Rouse

FR/an

3 Pages Following - Tables of Results

ITAS/San Jose to Gettler-Ryan
ATTN: John Werfal

March 28, 1989
Page 1 of 3

Project: GR #9657, Shell, 318 S. Livermore Avenue, Livermore

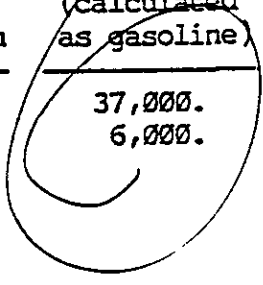
ITAS/San Jose Lab Number	Client Sample Identification	Sample Date	Extraction Date	Date Analysis Completed	Sample Condition on receipt
S9-03-176-01	A	3/14/89	3/15/89	3/15/89	cool

Summary of Results

ND = None Detected

Milligrams per Kilogram - (Dry Soil Basis)

Lab Number	Sample Identification	Low Boiling Hydrocarbons (Calculated as gasoline)	Ethyl			
			Benzene	Toluene	Benzene	Xylenes
S9-03-176-01	A	37,000.	320.	2,300.	700.	5,400.
Detection Limit		6,000.	60.	100.	100.	300.



ITAS/San Jose to Gettler-Ryan
ATTN: John Werfal

March 28, 1989
Page 2 of 3

Project: GR #9657, Shell, 318 S. Livermore Avenue, Livermore

ND = None Detected

Summary of Results - Milligrams per Kilogram

<u>Lab Number</u>	<u>Sample Identification</u>	<u>E.P.A. Method</u>	<u>Total Lead Detected</u>	<u>Detection Limit</u>
S9-03-176-01	A	6010	550.	3.0

ITAS/San Jose to Gettler-Ryan
ATTN: John Werfal

March 28, 1989
Page 3 of 3

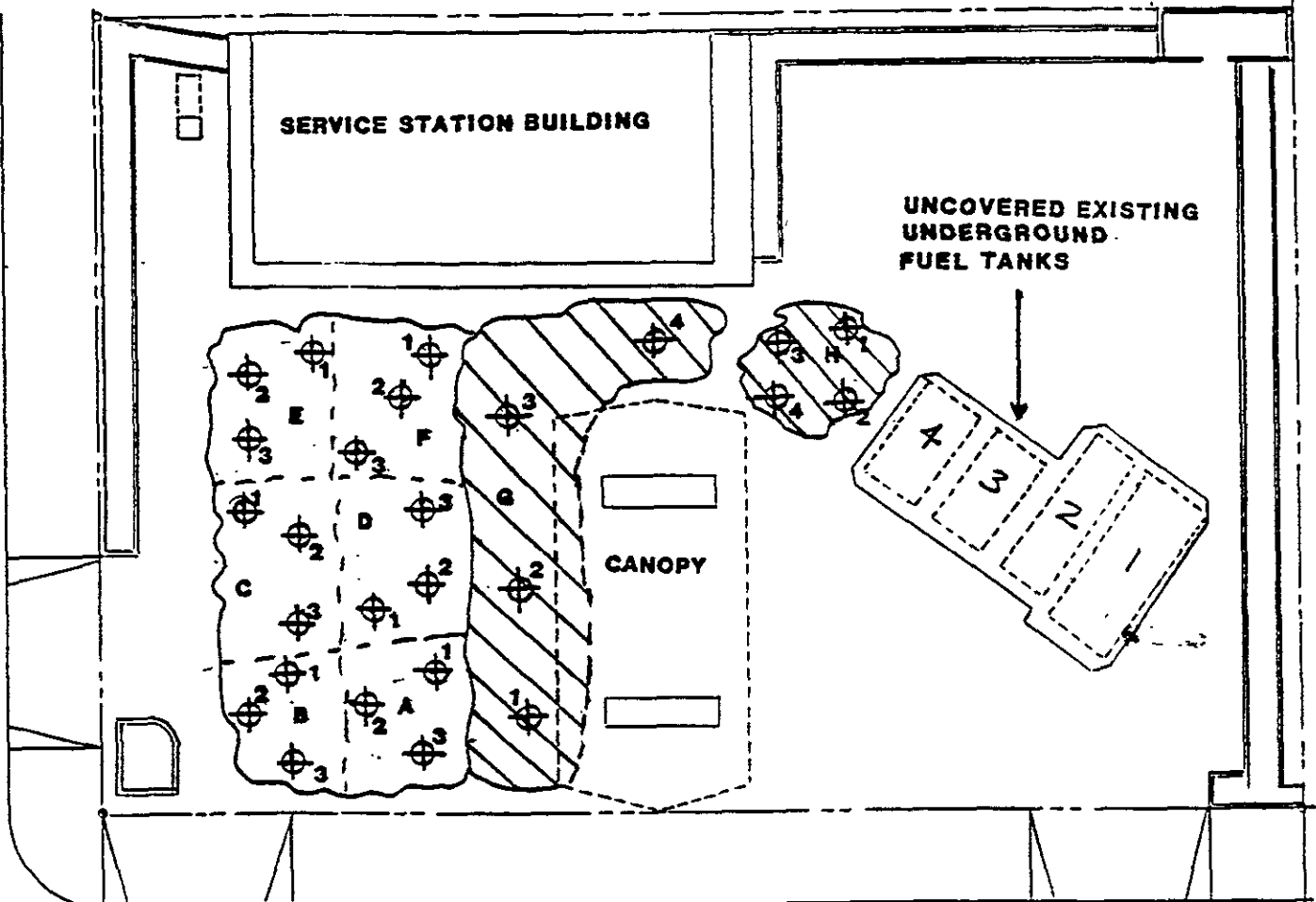
Project: GR #9657, Shell, 318 S. Livermore Avenue, Livermore

ND = None Detected

Summary of Results - Milligrams per Liter

(W.E.T. Method)

<u>Lab Number</u>	<u>Sample Identification</u>	<u>E.P.A. Method</u>	<u>WET Lead Detected</u>	<u>Detection Limit</u>
S9-03-176-01	A	6010	42.	0.06



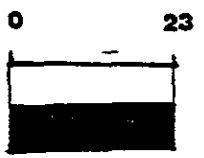
⊕ - EXCAVATED SOILS
 ○ - SOIL SAMPLE LOCATIONS

SAMPLE DATE
 NOVEMBER 30, 1989

□ - TYPICAL NON-DETECTED SOILS

▨ - TYPICAL DETECTED SOILS

SCALE
 1" = 23'



SITE MAP
 Shell Service Station
 318 South Livermore Ave.
 Livermore, Ca.

AEGIS JOB NO. 89-041

DRAWN BY: Ed Bernard DATE: Dec. 18, 1989
 REVIEWED BY: DATE:



CERTIFICATE OF ANALYSIS

Aegis Environmental Consultants
801 Riverside Avenue, Suite C
Roseville, CA 95678
ATTN: Tracy Schilling

Date: December 7, 1989

Work Order Number: S9-11-370

P.O. Number: MOH 890501A

This is the Certificate of Analysis for the following samples:

Client Project ID: Aegis #89-041, Shell, 318 S. Livermore
Avenue/3rd Street, Livermore, CA
Date Received by Lab: 11/30/89
Number of Samples: 26
Sample Type: Soil

The methods of analysis for metals and general chemistry are taken from E.P.A. protocol, using methods from SW-846, 3rd Edition or Methods for Chemical Analysis of Water and Wastes, 600/4-79-020. The method used is listed adjacent to the parameter in the table.

The samples were prepared by extracting with 0.2M sodium citrate for 48 hours. The resulting values are the soluble threshold limit limit concentrations for the requested parameters.

The method of analysis for low boiling hydrocarbons is taken from EPA Methods 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector as well as a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline and includes benzene, toluene, ethyl benzene and xylenes.

Reviewed and Approved

Michael E. Dean
Project Manager

MED/an
16 Pages Following - Tables of Results

Page: 2 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: A-1, A-2, A-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-01, S9-11-370-02, S9-11-370-03 [composite]

Receipt Condition: Cool

Extraction Date: 12/1/89

Analysis Date: 12/1/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	2.5	None
Benzene	0.025	None
Toluene	0.025	None
Ethyl Benzene	0.025	None
Xylenes (total)	0.05	None

Page: 4 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: B-1, B-2, B-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-04, S9-11-370-05, S9-11-370-06 [composite]

Receipt Condition: Cool

Extraction Date: 12/1/89

Analysis Date: 12/1/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	2.5	None
Benzene	0.025	None
Toluene	0.025	None
Ethyl Benzene	0.025	None
Xylenes (total)	0.05	None

Page: 6 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: C-1, C-2, C-3 [composite]

Sample Date: 11/30/89
Lab Sample ID: S9-11-370-07, S9-11-370-08, S9-11-370-09 [composite]
Receipt Condition: Cool
Extraction Date: 12/1/89
Analysis Date: 12/1/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	2.5	None
Benzene	0.025	None
Toluene	0.025	None
Ethyl Benzene	0.025	None
Xylenes (total)	0.05	None

Page: 8 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: D-1, D-2, D-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-10, S9-11-370-11, S9-11-370-12 [composite]

Receipt Condition: Cool

Extraction Date: 12/1/89

Analysis Date: 12/4/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	2.5	None
Benzene	0.025	None
Toluene	0.025	None
Ethyl Benzene	0.025	None
Xylenes (total)	0.05	None

Page: 10 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: E-1, E-2, E-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-13, S9-11-370-14, S9-11-370-15 [composite]

Receipt Condition: Cool

Extraction Date: 12/1/89

Analysis Date: 12/1/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	2.5	None
Benzene	0.025	None
Toluene	0.025	None
Ethyl Benzene	0.025	None
Xylenes (total)	0.05	None

Page: 12 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: F-1, F-2, F-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-16, S9-11-370-17, S9-11-370-18 [composite]

Receipt Condition: Cool

Extraction Date: 12/1/89

Analysis Date: 12/5/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	2.5	None
Benzene	0.025	None
Toluene	0.025	None
Ethyl Benzene	0.025	None
Xylenes (total)	0.05	None

Page: 1 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: A-1, A-2, A-3 [composite]
Sample Date: 11/30/89
Lab Sample ID: S9-11-370-01, S9-11-370-02, S9-11-370-03 [composite]
Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	25.

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.98

Page: 3 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: B-1, B-2, B-3 [composite]
Sample Date: 11/30/89
Lab Sample ID: S9-11-370-04, S9-11-370-05, S9-11-370-06 [composite]
Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	9.3

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.22

Page: 5 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: C-1, C-2, C-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-07, S9-11-370-08, S9-11-370-09 [composite]

Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	9.9

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.11

Page: 7 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: D-1, D-2, D-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-10, S9-11-370-11, S9-11-370-12 [composite]

Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	8.2

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.13

Page: 9 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: E-1, E-2, E-3 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-13, S9-11-370-14, S9-11-370-15 [composite]

Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	15.

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.28

Page: 11 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: F-1, F-2, F-3 [composite]
Sample Date: 11/30/89
Lab Sample ID: S9-11-370-16, S9-11-370-17, S9-11-370-18 [composite]
Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	11.

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.69

Page: 14 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: G-1, G-2, G-3, G-4 [composite]

Sample Date: 11/30/89

Lab Sample ID: S9-11-370-19, S9-11-370-20, S9-11-370-21,
S9-11-370-22 [composite]

Receipt Condition: Cool

Extraction Date: 12/1/89

Analysis Date: 12/5/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	34.	190.
Benzene	0.025	0.38
Toluene	0.025	3.0
Ethyl Benzene	0.025	1.4
Xylenes (total)	0.05	11.

Page: 13 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: G-1, G-2, G-3, G-4 [composite]
Sample Date: 11/30/89
Lab Sample ID: S9-11-370-19, S9-11-370-20, S9-11-370-21
S9-11-370-22 [composite]
Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	21.

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.49

Page: 16 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: H-1, H-2, H-3, H-4 [composite]
Sample Date: 11/30/89
Lab Sample ID: S9-11-370-23, S9-11-370-24, S9-11-370-25,
S9-11-370-26 [composite]
Receipt Condition: Cool
Extraction Date: 12/1/89
Analysis Date: 12/5/89

Total Petroleum Hydrocarbons - Modified E.P.A. Methods 8015, 8020

Results - Milligrams per Kilogram

Parameter	Detection Limit	Detected
Low Boiling Hydrocarbons, calculated as Gasoline	16.	100.
Benzene	0.2	0.3
Toluene	0.2	3.2
Ethyl Benzene	0.2	1.6
Xylenes (total)	0.3	14.

Page: 15 of 16
Date: December 7, 1989
Client Project ID: Aegis #89-041, Shell,
318 S. Livermore Ave./3rd St., Livermore, CA

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order Number: S9-11-370

Client Sample ID: H-1, H-2, H-3, H-4 [composite]
Sample Date: 11/30/89
Lab Sample ID: S9-11-370-23, S9-11-370-24, S9-11-370-25
S9-11-370-26 [composite]
Receipt Condition: Cool

Results - Milligrams per Kilogram

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	1.5	11.

Wet Results - Milligrams per Liter

Parameter	E.P.A. Method	Detection Limit	Detected
Lead	6010	0.06	0.35

RECEIVED
12-9-89



INTERNATIONAL
TECHNOLOGY
CORPORATION

December 02, 1989

AEGIS Enviromental Cons.
801 Riverside Avae. Suite C
Roseville, CA. 95678

RE:Project #: 204-4380-0303 986683 5441 M60
89041

ATTENTION: Tracy Schilling

On November 30, 1989, the following samples were received at the
ITAS San Jose Laboratory:
Your Sample ID's :

- | | |
|-----|-----|
| A-1 | G-4 |
| A-2 | H-1 |
| A-3 | H-2 |
| B-1 | H-3 |
| B-2 | H-4 |
| B-3 | |
| C-1 | |
| C-2 | |
| C-3 | |
| D-1 | |
| D-2 | |
| D-3 | |
| E-1 | |
| E-2 | |
| E-3 | |
| F-1 | |
| F-2 | |
| F-3 | |
| G-1 | |
| G-2 | |
| G-3 | |

The samples were checked into our sample tracking system as order
number S9-11-370 and assigned testing for the following parameters:

Waste Extraction Test Soil
EPA 6010
Modified 8015/8020

When the above analyses are completed, your report will be issued
to the address or addresses stated on the request for analysis form.
If you need to arrange for other reporting, please contact me.

Sincerely,

Josephine DeCarli

Josephine Decarli

AEGIS

59-11-370



CHAIN-OF-CUSTODY RECORD

R/A Control No. _____

C/C Control No. A 80836

PROJECT NAME/NUMBER LIVERMORE SHELL; 89-041

LAB DESTINATION It 2055 Junction Ave, San Jose

SAMPLE TEAM MEMBERS TRACY SCHILLING, Pat Weight

CARRIER/WAYBILL NO. _____

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.	
A1,2,3	↓ 318 So Livermore Ave ("Sandy") Livermore, CA	11/30/89 10:45 AM	Soil	Brass Tube	cool/ok		
B1,2,3							
C1,2,3							
D1,2,3							
E1,2,3							
F1,2,3							
G1,2,3,4							
H1,2,3,4			12:15			A/C 264 4380 0303 AFE 986683 EXP CODE 5441 CROSS STREET → 3rd St. STAN Roller SHELL Eng.	

Special Instructions: 24 hr turn around; Modified 8015 EPA METHOD

Possible Sample Hazards: (TPH G w/ BTX+E SERIES)

Call if any questions (916) 782-2110.

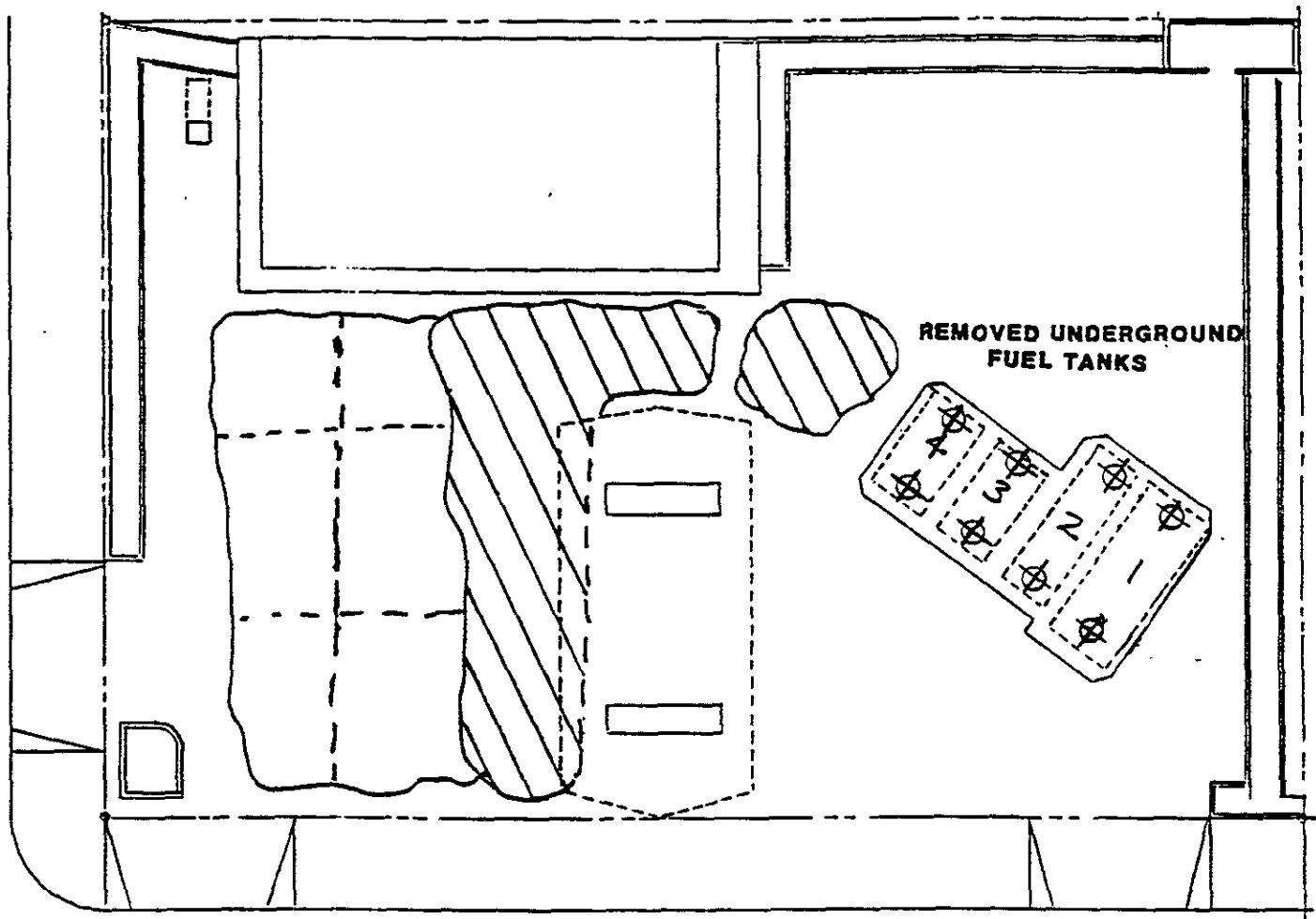
SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Tracy Schilling 11/30/89 (12:30pm) 3. Relinquished By: _____

Received By: [Signature] 11/30/89 16:50 Received by: _____

2. Relinquished By: _____ 4. Relinquished By: _____

Received By: _____ Received By: _____



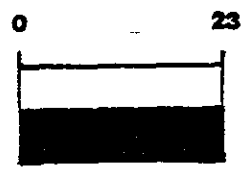
REMOVED UNDERGROUND
FUEL TANKS



SOIL SAMPLE LOCATIONS

SAMPLE DATE
DECEMBER 5, 1989

SCALE
1" = 23'



SITE MAP Shell Service Station 318 South Livermore Ave. Livermore, Ca.	
AEGIS JOB NO. 89-041	
DRAWN BY: Ed Bernard REVIEWED BY:	DATE: Dec. 18, 1989 DATE:



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RECEIVED
12-17

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Tracy Schilling

Project: #89-041, Shell, Livermore

Enclosed are the results from 8 soil samples received at Sequoia Analytical on December 6, 1989. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9120384	Soil, 1A	12/5/89	EPA 5030/8015/8020 Lead
9120385	Soil, 2A	12/5/89	EPA 5030/8015/8020 Lead
9120386	Soil, 3A	12/5/89	EPA 5030/8015/8020 Lead
9120387	Soil, 4A	12/5/89	EPA 5030/8015/8020 Lead
9120388	Soil, 1B	12/5/89	EPA 5030/8015/8020 Lead
9120389	Soil, 2B	12/5/89	EPA 5030/8015/8020 Lead
9120390	Soil, 3B	12/5/89	EPA 5030/8015/8020 Lead
9120391	Soil, 4B	12/5/89	EPA 5030/8015/8020 Lead

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL


Vickie Tague
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Tracy Schilling

Client Project ID: #89-041, Shell, Livermore
Matrix Descript: Soil
Analysis Method: EPA 5030/8015/8020
First Sample #: 912-0384

Sampled: Dec 5, 1988
Received: Dec 6, 1988
Analyzed: Dec 7, 1988
Reported: Dec 8, 1988

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
912-0384	1A	870	N.D.	0.17	0.87	16
912-0385	2A	3.8	N.D.	N.D.	N.D.	N.D.
912-0386	3A	1.6	N.D.	N.D.	N.D.	N.D.
912-0387	4A	N.D.	N.D.	N.D.	N.D.	N.D.
912-0388	1B	N.D.	N.D.	N.D.	N.D.	N.D.
912-0389	2B	1.6	N.D.	N.D.	N.D.	N.D.
912-0390	3B	N.D.	N.D.	N.D.	N.D.	N.D.
912-0391	4B	1.3	N.D.	N.D.	N.D.	N.D.

Detection Limits:

1.0

0.05

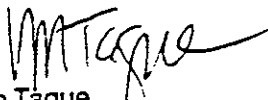
0.1

0.1

0.1

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Vickie Tague
Project Manager

9120384.AAA <2>



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Tracy Schilling

Client Project ID: #89-041, Shell, Livermore
Sample Descript: Soil
Analysis for: Lead
First Sample #: 912-0384

Sampled: Dec 5, 1988
Received: Dec 6, 1988
Extracted: Dec 7, 1988
Analyzed: Dec 7, 1988
Reported: Dec 8, 1988

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
912-0384	1A	0.25	4.8
912-0385	2A	0.25	31
912-0386	3A	0.25	5.4
912-0387	4A	0.25	3.0
912-0388	1B	0.25	3.4
912-0389	2B	0.25	6.6
912-0390	3B	0.25	2.6
912-0391	4B	0.25	2.2

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

SEQUOIA ANALYTICAL


Vickie Tague
Project Manager

PROJECT NAME/NUMBER LIVERMORE SWELL; 89-041

LAB DESTINATION IT 2055 Junction Ave, San

SAMPLE TEAM MEMBERS Tracy Schilling

CARRIER/WAYBILL NO. _____

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1A	Below Tank Bottom	12/5/89 2:30 pm	Soil	Brass		
2A	↓ Soil-	↓	↓	↓		
3A	↓	↓	↓	↓		
4A	↓	↓	↓	↓		
1B	↓	↓	↓	↓		
2B	↓	↓	↓	↓		
3B	↓	↓	↓	↓		
4B	↓	↓	↓	↓		
	Shell Eng: STAN ROLLER Diane Lundquist	3:30 PM				

Special Instructions: 24 hr Turn around Mod EPA 8015 (TPH G w/ BTX #E in series) + Total P

Possible Sample Hazards: Freeze for further Analysis EPA 7420

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Tracy Schilling 12/5/89 3:45 pm
Received By: Brendan [Signature] 12/6 11:00 am

3. Relinquished By: _____
Received by: _____

2. Relinquished By: _____
Received By: _____

4. Relinquished By: _____
Received By: _____



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RECEIVED
12-18-89

Aegis Environmental Consultants
801 Riserside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Project: #89-041, Shell Livermore

Enclosed are the results from 1 soil sample received at Sequoia Analytical on Relogged 12/13. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9120385	Soil, 2A	12/5/89	California LUFT Manual, 12/

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Aegis Environmental Consultants
801 Riserside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Client Project ID: #89-041, Shell, Livermore
Sample Descript: Soil
Analysis Method: California LUFT Manual, 12/87
First Sample #: 912-0385

Sampled: Dec 5, 1988
Received: Relogged 12/13/88

Analyzed: Dec 13, 1988
Reported: Dec 14, 1988

ORGANIC LEAD

Sample Number	Sample Description	Sample Results mg/kg (ppm)
912-0385	2A	0.061

Detection Limits:

0.05

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

SEQUOIA ANALYTICAL

Vickie Tagle
Project Manager

Please Note:

318 So. Livermore Ave., Livermore



Shell Eng. Stan Roller

REQUEST FOR ANALYSIS

SEAGUIA
Riverside City

R/A Control No. _____
C/C Control No. _____
12/5/89
12/7/89
PAT WRIGHT
(916) 782-2110

PROJECT NAME SHELL LIVERMORE
PROJECT NUMBER 89-041
PROJECT MANAGER PAT WRIGHT
BILL TO SHELL

DATE SAMPLES SHIPPED _____
LAB DESTINATION _____
LABORATORY CONTACT _____
SEND LAB REPORT TO _____

PURCHASE ORDER NO. _____

DATE REPORT REQUIRED _____

Address: 318 So. Livermore Ave / Cross St.: 3rd
Livermore CA
WIC 204 4380 0303 AFE 981683 Exp Code 5441

PROJECT CONTACT _____

PROJECT CONTACT PHONE NO. _____

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1A	Soil	BRASS Cyl.	N/A	Mod 8015	24 hr
2A	↓	↓	↓	(TPH G w/ BIX & E)	TURN AROUND
3A	↓	↓	↓	+ Total Pb	Mod 8015
4A	↓	↓	↓	EPA 7420	(TPH G w/
1B	↓	↓	↓		(BIX & E in series
2B	↓	↓	↓		Total Pb
3B	↓	↓	↓		
4B	↓	↓	↓		
Add organic lead for 2A per Tracy				all samples	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____

Rush _____

(Subject to rush surcharge)

* PLEASE FREEZE FOR FURTHER ANALYSIS.

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazardous _____

Flammable _____

Skin Irritant _____

Highly Toxic _____

Other _____

(Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____

Disposal by Lab _____

ANY QUESTIONS PLEASE Call.

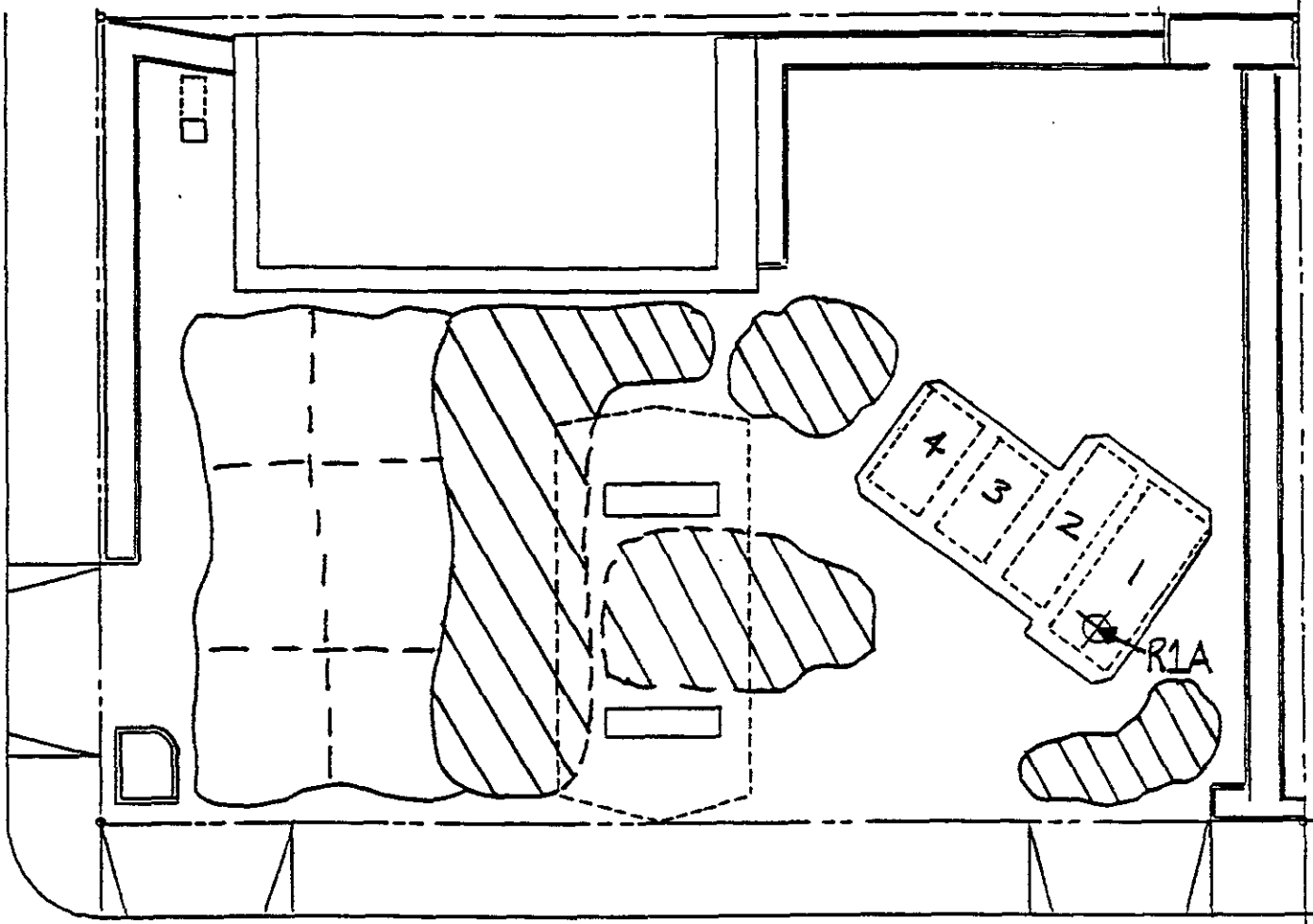
FOR LAB USE ONLY

Received By _____

Date/Time _____

WHITE - Original, to accompany samples

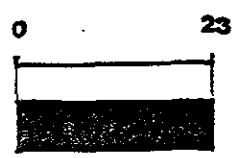
YELLOW - Field use



 - SOIL SAMPLE LOCATION

SAMPLE DATE
DECEMBER 11, 1989

SCALE
1" = 23'



SITE MAP
Shell Service Station
318 South Livermore Ave.
Livermore, Ca.

AEGIS JOB NO. 89-041

DRAWN BY: Ed Bernard **DATE: Dec. 18, 1989**
REVIEWED BY: **DATE:**



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RECEIVED
12-18-89

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Project: #89-041, Livermore Shell

Enclosed are the results from 1 soil sample received at Sequoia Analytical on December 12, 1989. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9121333 A	Soil, R1A	12/11/89	EPA 7421

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Client Project ID: #89-041, Shell, Livermore
Sample Descript: Soil, R1A
Lab Number: 912-1333 A

Sampled: Dec 11, 1989
Received: Dec 12, 1989
Extracted: Dec 13, 1989
Analyzed: Dec 13, 1989
Reported: Dec 14, 1989

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Total Lead	0.05	3.9

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

SEQUOIA ANALYTICAL

V. Tague
Vickie Tague
Project Manager

Please Note:
318 So. Livermore Ave., Livermore



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

RECEIVED
12-18-89

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Project: #89-041, Livermore Shell

Enclosed are the results from 1 soil sample received at Sequoia Analytical on December 12, 1989. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9121333 A-B	Soil	12/11/89	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Client Project ID: #89-041, Livermore Shell
Sample Descript: Soil
Analysis Method: EPA 5030/8015/8020
Lab Number: 912-1333 A-B

Sampled: Dec 11, 1989
Received: Dec 12, 1989
Analyzed: Dec 12, 1989
Reported: Dec 14, 1989

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

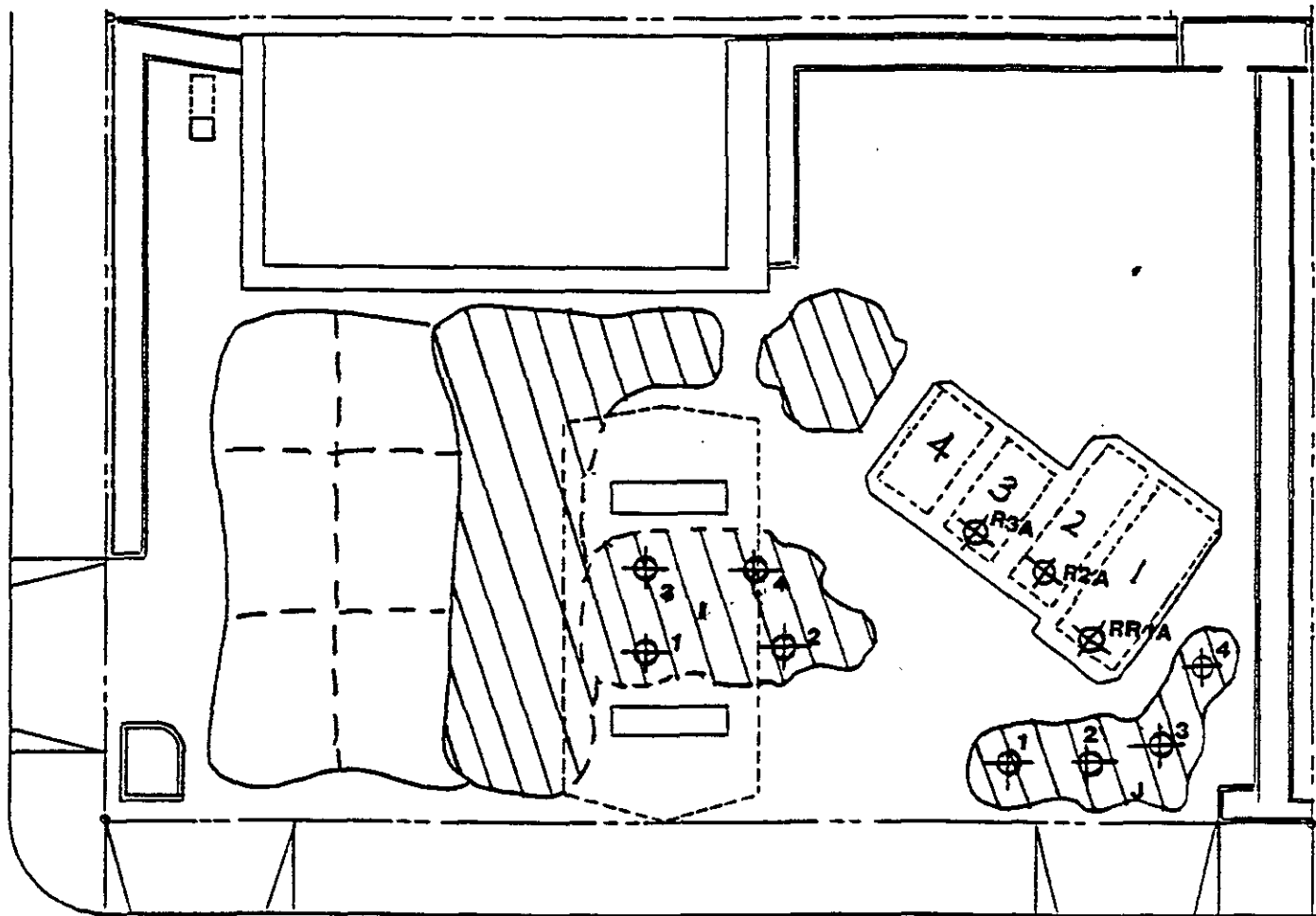
Analyte	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Low to Medium Boiling Point Hydrocarbons.....	1.0	N.D.
Benzene.....	0.05	N.D.
Toluene.....	0.1	N.D.
Ethyl Benzene.....	0.1	N.D.
Xylenes.....	0.1	N.D.

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

V. Tague
Vickie Tague
Project Manager

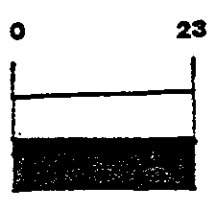
Please Note:
318 S. Livermore Ave., Livermore



 -SOIL SAMPLE LOCATIONS

SAMPLE DATE
DECEMBER 12, 1989

SCALE
1" = 23'



SITE MAP
Shell Service Station
318 South Livermore Ave.
Livermore, Ca.

AEGIS JOB NO. 89-041

DRAWN BY: Ed Bernard DATE: Dec. 18, 1989
REVIEWED BY: DATE:



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94083
(415) 364-9800 • FAX (415) 364-9233

FACSIMILE TRANSMISSION

TO

Name: PAT WRIGHT
Company: AEGIS
Fax #: 916/786-7830

FROM

VICKIE TAGUE

SEQUOIA ANALYTICAL LABORATORY

Fax (415) 364-9233

Date: 12/18

Number of Pages (Including this page): 3



SEQUOIA ANALYTICAL

880 Chesapeake Drive • Redwood City, CA 94063
(415) 384-9600 • FAX (415) 384-9233

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Client Project ID: #89-041, Shell, Livermore, 318 So. Livermore
Matrix Descript: Soil
Analysis Method: EPA 5030/8015/8020
First Sample #: 912-1487

Sampled: Dec 12, 1989
Received: Dec 13, 1989
Analyzed: Dec 13, 1989
Reported: Dec 18, 1989

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
912-1487	RR1A	180	N.D.	N.D.	N.D.	0.35
912-1488	R2A	N.D.	N.D.	N.D.	N.D.	N.D.
912-1489	R3A	N.D.	N.D.	N.D.	N.D.	N.D.
9121490 A-D	H,2,3,4, Composite	12	N.D.	N.D.	N.D.	N.D.
9121491 A-D	J1,2,3,4, Composite	70	N.D.	N.D.	0.11	0.72

Detection Limits:

1.0

0.05

0.1

0.1

0.1

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Vickie Tague
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Aegis Environmental Consultants
801 Riverside Ave., Suite C
Roseville, CA 95678
Attention: Pat Wright

Client Project ID: #89-041, Shell, Livermore, 318 So. Livermore
Sample Descript: Soil
Analysis for: Lead
First Sample #: 912-1487

Sampled: Dec 12, 1989
Received: Dec 13, 1989
Extracted: Dec 14, 1989
Analyzed: Dec 14, 1989
Reported: Dec 18, 1989

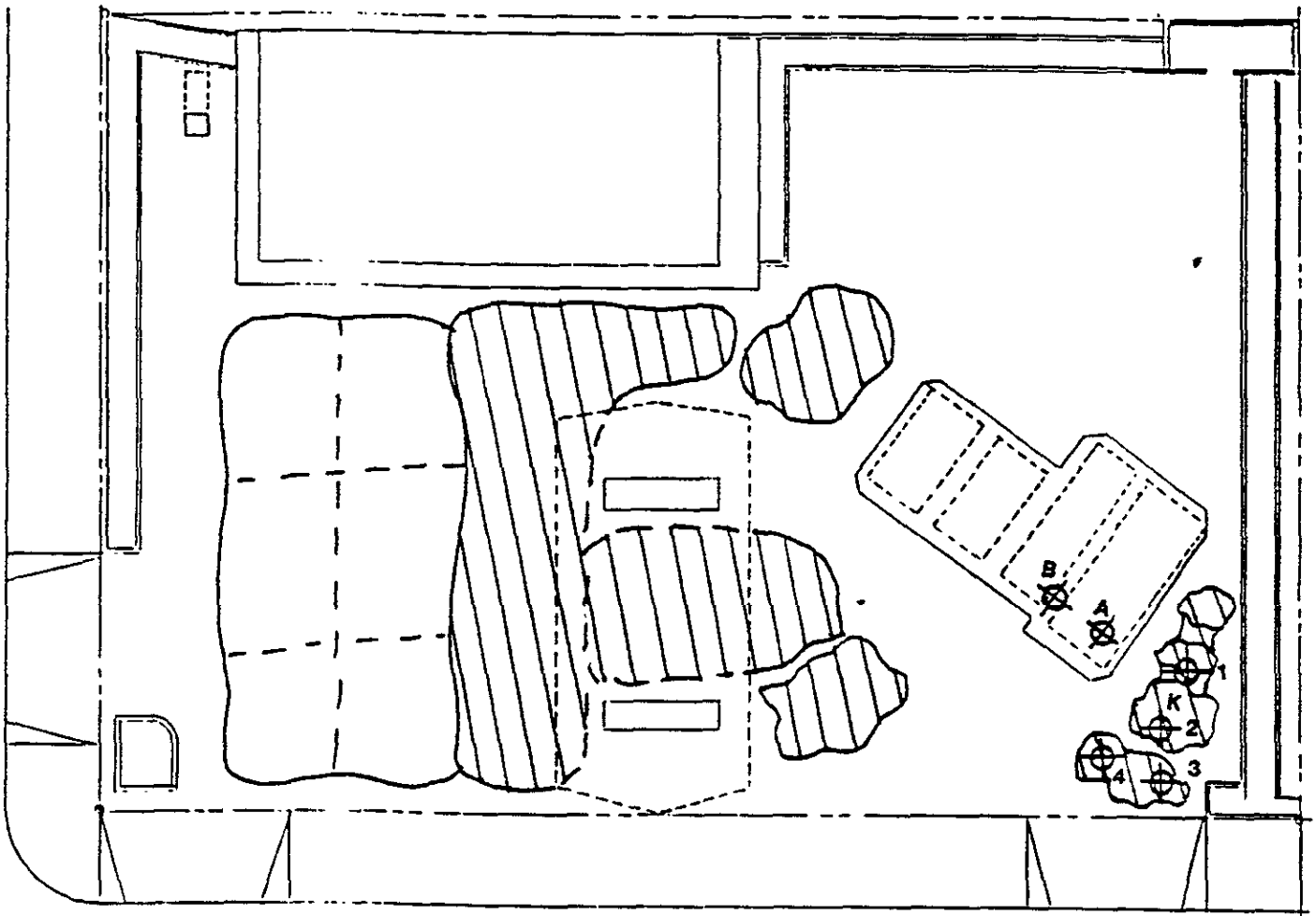
LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
912-1487	RR1A	0.05	8.1
912-1488	R2A	0.05	8.1
912-1489	R3A	0.05	8.1
9121490 A-D	I1,2,3,4, Composite	0.05	13
9121491 A-D	J1,2,3,4, Composite	0.05	7.2

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

SEQUOIA ANALYTICAL


Vickie Tague
Project Manager



 - SOIL SAMPLE LOCATIONS

SAMPLE DATE
DECEMBER 15, 1989

SCALE
1" = 23'



SITE MAP Shell Service Station 318 South Livermore Ave. Livermore, Ca.	
AEGIS JOB NO. 89-041	
DRAWN BY: Ed Bernard	DATE: Dec. 18, 1989
REVIEWED BY:	DATE:



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

FACSIMILE TRANSMISSION

TO

Name: CLARKE OWEN
Company: AEGIS
Fax #: 916/786-7830

FROM

VICKIE TABUE

SEQUOIA ANALYTICAL LABORATORY

Fax (415) 364-9233

Date: 12/19

Number of Pages (Including this page): 3



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Aegis Environmental Consultants 801 Riverside Ave., Suite C Roseville, CA 95678 Attention: Clarke Owen	Client Project ID: #89-041, Livermore, Shell Sample Descript: Soil Analysis for: Lead First Sample #: 912-2284 A-D	Sampled: Dec 15, 1989 Received: Dec 18, 1989 Extracted: Dec 18, 1989 Analyzed: Dec 18, 1989 Reported: Dec 19, 1989
---	---	--

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
9122284 A-D	K1,2,3,4, Composite	0.05	14
912-2285	A	0.05	11
912-2286	B	0.05	12

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

SEQUOIA ANALYTICAL

VMTague
Vickie Tague
Project Manager

Please Note:
318 So. Livermore, Livermore



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 384-8600 • FAX (415) 384-9233

Aegis Environmental Consultants 801 Riverside Ave., Suite C Roseville, CA 95678 Attention: Clarke Owen	Client Project ID: #89-041, Livermore, Shell Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 912-2284 A-D	Sampled: Dec 15, 1989 Received: Dec 18, 1989 Analyzed: Dec 18, 1989 Reported: Dec 18, 1989
---	--	---

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
9122284 A-D	K1,2,3,4, Composite	530	0.32	0.84	4.2	24
912-2285	A	12	0.090	N.D.	N.D.	0.41
912-2286	B	13	0.11	N.D.	N.D.	0.13

Detection Limits:

1.0

0.05

0.1

0.1

0.1

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

V. Tague
Vickie Tague
Project Manager

Please Note:

318 So. Livermore, Livermore



Sequoia Analytical
Redwood City

REQUEST FOR ANALYSIS

R/A Control No. B 85084
C/C Control No. _____

PROJECT NAME LIVERMORE SHELL
PROJECT NUMBER 89-041
PROJECT MANAGER Pat WRIGHT
BILL TO SHELL

DATE SAMPLES SHIPPED 12/12/89
LAB DESTINATION Sequoia Analytical
LABORATORY CONTACT Vicki Tague
SEND LAB REPORT TO AEGIS ENVIRON. CONSULTANT
801 Riverdale Ave Suite C
Roseville, CA 95078

PURCHASE ORDER NO. _____
WIC: 204-4380-0303
AFE: 984683
Exp Code: 5441
318 So. Livermore Ave
Cross St: 3rd St.
Livermore, CA

DATE REPORT REQUIRED _____
PROJECT CONTACT Tracy Schilling
PROJECT CONTACT PHONE NO. 916/782-2110
Call if any questions

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
RRIA	Soil	2x6" Brass	N/A	Mod 8015 of BIX & E	
R2A	↓	↓	↓	in series	
R3A	↓	↓	↓	4 7421 (Total 16)	
E1,2,3,4	↓	↓	↓	↓	Composite
T1,2,3,4	↓	↓	↓	↓	Composite

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.) 24 hour turnaround
Normal _____ Rush X (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)
Nonhazardous _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____
(Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal)
Return to Client _____ Disposal by Lab X

FOR LAB USE ONLY
Received By _____ Date/Time _____

WHITE - Original, to accompany samples
YELLOW - Field copy



Client No: 18.1
 Client Name: Aegis Environmental Cons.
 NET Log No: 9363

Date: 01-24-90

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NET Pacific, Inc.

Descriptor, Lab No. and Results

Parameter	Reporting Limit	C1-4 comp	#2 ben.isl	#3 ben.add-on	Units
		01-19-90	disp. 01-19-90	disp. 01-19-90	
		44168	44169	44170	
Lead (EPA 7421)	0.2	50	3.3	3.3	mg/Kg
PETROLEUM HYDROCARBONS		---	---	---	
VOLATILE (SOIL)		---	---	---	
DILUTION FACTOR *		20	1	1	
DATE ANALYZED		01-23-90	01-23-90	01-22-90	
METHOD GC FID/5030		---	---	---	
as Gasoline	1	160	6.2	ND	mg/Kg
METHOD 8020		---	---	---	
Benzene	2.5	60	ND	ND	ug/Kg
Ethylbenzene	2.5	550	22	ND	ug/Kg
Toluene	2.5	920	21	3.9	ug/Kg
Xylenes, total	2.5	4,800	250	6.4	ug/Kg



Client No: 18.1
 Client Name: Aegis Environmental Cons.
 NET Log No: 9363

Date: 01-24-90

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NET Pacific, Inc.

Descriptor, Lab No. and Results

Parameter	Reporting Limit	#1B bin.	#1D piping	#1C	Units
		isl.disp. 01-19-90	tel 01-19-90	01-19-90	
Lead (EPA 7421)	0.2	16	38	6.4	mg/Kg
PETROLEUM HYDROCARBONS VOLATILE (SOIL)		--	--	--	
DILUTION FACTOR *		1	1	1	
DATE ANALYZED		01-22-90	01-22-90	01-22-90	
METHOD GC FID/5030 as Gasoline	1	ND	4.7	ND	mg/Kg
METHOD 8020		--	--	--	
Benzene	2.5	ND	2.6	ND	ug/Kg
Ethylbenzene	2.5	ND	3.7	ND	ug/Kg
Toluene	2.5	3.1	6.6	ND	ug/Kg
Xylenes, total	2.5	4.6	39	6.4	ug/Kg



Client No: 18.1
Client Name: Aegis Environmental Cons.
NET Log No: 9363

Date: 01-24-90

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NET Pacific, Inc

Descriptor, Lab No. and Results

Parameter	Reporting Limit	#1A	#2 piping	ventline	Units
		01-19-90	tel 01-19-90	tel 01-19-90	
Lead (EPA 7421)	0.2	1.7	28	90	mg/Kg
PETROLEUM HYDROCARBONS		--	--	--	
VOLATILE (SOIL)		--	--	--	
DILUTION FACTOR *		1	1	1	
DATE ANALYZED		01-22-90	01-22-90	01-22-90	
METHOD GC FID/5030		--	--	--	
as Gasoline	1	ND	16	ND	mg/Kg
METHOD 8020		--	--	--	
Benzene	2.5	ND	71	ND	ug/Kg
Ethylbenzene	2.5	ND	730	ND	ug/Kg
Toluene	2.5	ND	1,300	5.7	ug/Kg
Xylenes, total	2.5	3.7	3,000	17	ug/Kg

Phone (916) 782 2110
 FAX (916) 786-7830

AEGIS Environmental Consultants, Inc.

Sample Identification/Field Chain of Custody Record

Send results to:
 Aegis Environmental
 801 Riverside, Suite C
 Roseville, CA 95678

Site Address: 318 So. LIVERMORE AVENUE
 AEGIS Project #: 89-041
 Shipped By: AEGIS ENVIRONMENTAL CONSULTANTS, INC. - Tracy Schilling
 Shipped To: Squoa Analytical
 Project Manager: PAT WRIGHT

For Shell Projects Only
 WIC: 204-4380-0303
 AFE: 9806083
 CT/DL: EA41
 Shell Engineer: Diane Lundquist
 Hazardous Materials Suspected? (yes/no) (no)

Sampling Point	Location	Field ID#	Date	Sample Type	No. of Containers	Analysis Required
C1, C2, C3, C4-Composite	Stockpiled Soils beneath Island	C1, 2, 3, 4	1/19/90	Soil	1	TPHC w/ BTEX & ETC * Total PB
"	Dispenser	2	"	"	"	
"	Add-on dispenser	3	"	"	"	
"	Dispenser	1B	"	"	"	"
Piping Tee	Closer to Building Isl.	1D	"	"	"	"
Following the	Near Bldg Isl.	1C	"	"	"	"
Discoloration	Near Bldg Isl.	1A	"	"	"	"
Smell →	Piping Tee (Island Near)	2 piping Tee	"	"	"	"
18" below Grade	3 in 2 in 4 of canopy	Vent line Tee	"	"	"	"

Sampler(s) (signature) Tracy Schilling 24 HOUR TURN AROUND

Field ID	Relinquished By (signature)	Received By (signature)	Date/Time	Comments
007	<u>Tracy Schilling</u>	<u>Diane Kruger</u>	1/19/90 2:08pm	

Sealed for shipment by: (signature) Tracy Schilling Date/Time: 1/19/90 Shipment Method: COURIER to NET
 Received for Lab by: (signature) _____ Date/Time: _____ Comments: _____