



**ENVIRONMENTAL CONSULTING
AND MANAGEMENT**

Number of pages including cover sheet: 6

ROUX ASSOCIATES

1855 Gateway Boulevard
Suite 770
Concord, California 94520

FAX TRANSMITTAL

Date: 12/15/92

To: SUSAN HUGO

Company: ALAMEDA COUNTY DEPT. OF ENVIRONMENTAL HEALTH

FAX No: 569-4757

From: TOBB RAMSDEN

Project No. A154W01

Roux Associates, Inc.
Fax No: (510) 687-1258
Phone No: (510) 602-2333

Comments: ATTACHED ARE ANALYTICAL DATA AND A SAMPLE LOCATION MAP FOR ARCO #6113, AT 785 E. STANLEY BLVD, LIVERMORE. WE WILL CALL TO DISCUSS THESE RESULTS.

102/16/92

On Site 9 - 10:30

over excavated hot area (L9) TPHg 210 ppm.
appears that contaminated area have been removed
one sample collected at 6 ft deep for lab analysis
at normal turn around - (Beverly)

**TABLE 1: Summary of Soil Analyses: Product Line Trenches
ARCO Facility No. 6113, Livermore, California**

| Sample Designation | Date | Depth (feet bgs) | TPH-G (1) | BTEX Distinction (1) | | | | Lead (1) |
|-----------------------|----------|---------------------|-----------|----------------------|---------|--------------|---------|----------|
| | | | | Benzene | Toluene | Ethylbenzene | Xylenes | |
| L1 | 12/11/92 | 4.0 | ND | 0.01 | 0.019 | 0.0081 | 0.059 | 2.5 |
| L2 | 12/11/92 | 4.0 | 14 | 0.063 | 0.42 | 0.28 | 2 | 5.7 |
| L3 | 12/11/92 | 4.0 | ND | ND | 0.0057 | ND | 0.033 | 2.7 |
| L4 | 12/11/92 | 4.0 | ND | 0.0095 | 0.011 | 0.0052 | 0.031 | 12 |
| L5 | 12/11/92 | 4.0 | ND | 0.0069 | 0.01 | ND | 0.028 | 5.4 |
| L6 | 12/11/92 | 4.0 | ND | 0.064 | 0.13 | ND | 0.13 | 7.9 |
| L7 | 12/11/92 | 3.5 | 7 | 0.59 | 1.6 | 0.15 | 1.1 | 6.9 |
| L8 | 12/11/92 | 3.5 | 13 | 0.035 | 0.019 | 0.0054 | 0.052 | 4.4 |
| L9 | 12/11/92 | 4.0 | 210 | ND | 3.5 | 3.6 | 23 | 11 |
| L10 | 12/11/92 | 3.5 | 1 | ND | 0.0079 | ND | 0.017 | 15 |

FOOTNOTES

(1) = Concentrations reported in mg/kg (ppm)

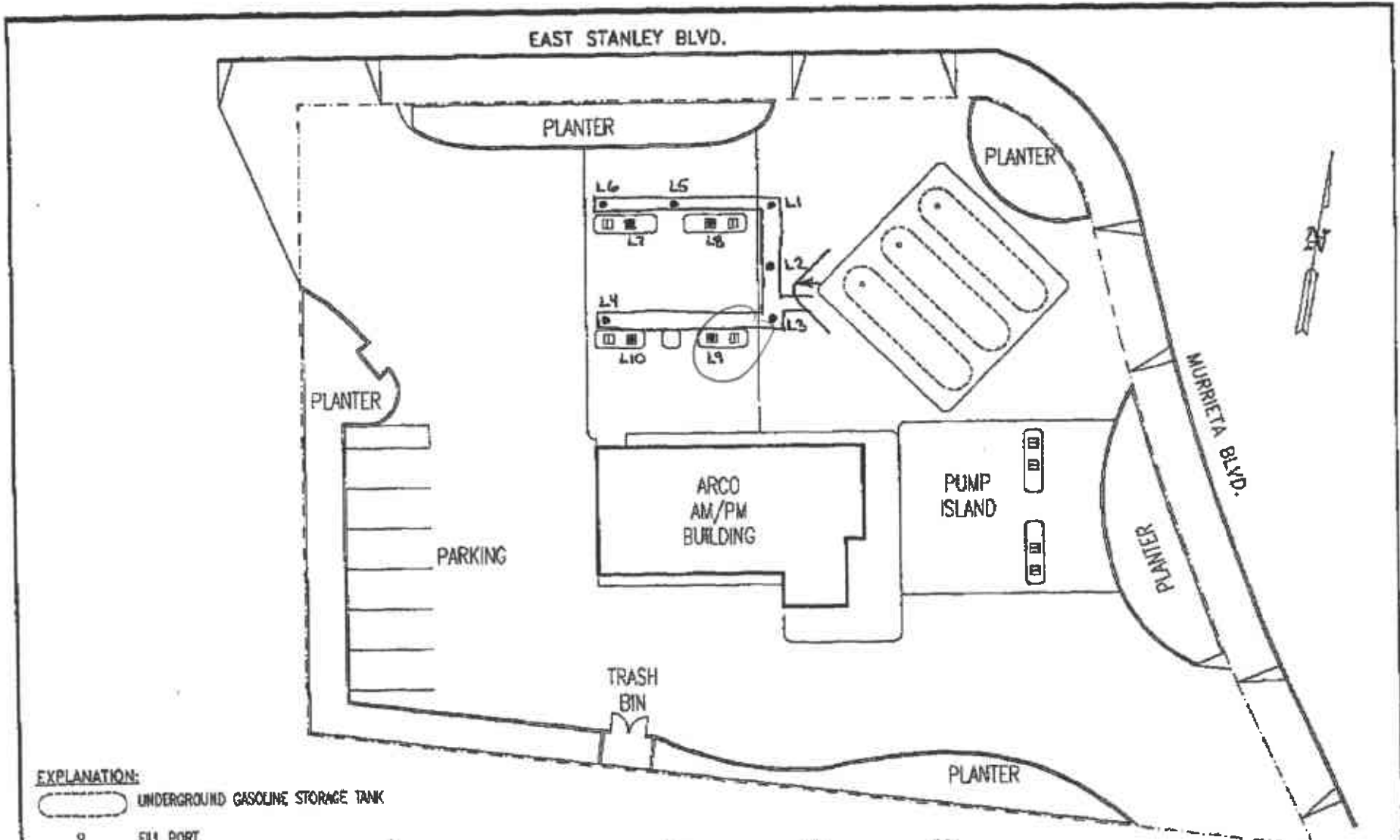
TPH-G = Total Petroleum Fuel Hydrocarbons As Low/Medium Boiling Point Hydrocarbons (USEPA Method 8015)

BTEX Distinction (USEPA Method 8020)



Lead = Total Lead (USEPA Method 6010)

ND = None Detected (for detection limits see laboratory reports in Appendix B)

bgs = Below ground surface



EXPLANATION:

-  UNDERGROUND GASOLINE STORAGE TANK
-  FILL PORT

SOURCE:

MAP MODIFIED FROM BLUEPRINT PROVIDED BY WATSON WEST, INC. SEPTEMBER 1992.



APPROXIMATE SCALE



| | | | |
|--------------|----------|---------------|------------------------|
| COMPILED BY: | T.R. | PREPARED FOR: | ARCO Products Company |
| PREPARED BY: | R.P. | TITLE: | SITE PLAN |
| PROJECT MGR: | P.S. | | ARCO FACILITY NO. 6113 |
| DATE: | 12/92 | | |
| SCALE: | AS SHOWN | | |
| PROJECT NO.: | A154WQ1 | | |
| FILE NAME: | ARB113XX | | |

FIGURE 1

2

SENT BY: SEQUOIA-Concord.

112-15-92 8:25AM

5100000000

5100022333# 2



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 886-9600 • FAX (510) 886-9669

| | | |
|--|--|---|
| ROUX Associates 1855 Gateway Blvd. Suite 770 Concord, CA 94520 Attention: Paul Supple | Client Project ID: Area #6113-02-1A/ Livermore Sample Matrix: Soil Analysis Method: EPA 8030/8015/8020 First Sample #: 212-0518 | Sampled: Dec 11, 1992 Received: Dec 11, 1992 Reported: Dec 15, 1992 |
|--|--|---|

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte | Reporting Limit mg/kg | Sample I.D. 212-0518 L1 | Sample I.D. 212-0519 L2 | Sample I.D. 212-0520 L3 | Sample I.D. 212-0521 L4 | Sample I.D. 212-0522 L5 | Sample I.D. 212-0523 L5 |
|------------------------|--------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Purgeable Hydrocarbons | 1.0 | N.D. | 14 | N.D. | N.D. | N.D. | N.D. |
| Benzene | 0.005 | 0.010 | 0.088 | N.D. | 0.0085 | 0.0069 | 0.084 |
| Toluene | 0.005 | 0.019 | 0.42 | 0.0057 | 0.011 | 0.010 | 0.13 |
| Ethyl Benzene | 0.005 | 0.0081 | 0.28 | N.D. | 0.0062 | N.D. | N.D. |
| Total Xylenes | 0.005 | 0.089 | 2.0 | 0.029 | 0.031 | 0.028 | 0.19 |
| Chromatogram Pattern: | | -- | Gasoline | -- | -- | -- | -- |

Quality Control Data

| | | | | | | |
|---|----------|----------|----------|----------|----------|----------|
| Report Limit Multiplication Factor: | 1.0 | 10 | 1.0 | 1.0 | 1.0 | 1.0 |
| Date Analyzed: | 12/13/92 | 12/11/92 | 12/11/92 | 12/13/92 | 12/13/92 | 12/13/92 |
| Instrument Identification: | HP-4 | HP-5 | HP-5 | HP-4 | HP-4 | HP-4 |
| Surrogate Recovery, %: (QC Limits = 70-130%) | 100 | 105 | 104 | 102 | 107 | 102 |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Kenneth K.F. Lee
Laboratory Director

2120518.R01 <1>

SENT BY: SEQUOIA-Concord.

112-15-92 : 8:27AM :

5106022333

5106022333:8



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| | | |
|--|--|---|
| Roux Associates 1655 Gateway Blvd. Suite 770 Concord, CA 94520 Attention: Paul Supple | Client Project ID: Arco #6113-83-1A/ Livermore Sample Matrix: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 212-0524 | Sampled: Dec 11, 1992 Received: Dec 11, 1992 Reported: Dec 15, 1992 |
|--|--|---|

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

| Analyte | Reporting Limit mg/kg | Sample I.D. 212-0524 L7 | Sample I.D. 212-0525 L8 | Sample I.D. 212-0526 L9 | Sample I.D. 212-0527 L10 | Sample I.D. 212-0528 CS1 (A-D) |
|------------------------|--------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------------|
| Purgeable Hydrocarbons | 1.0 | 7.0 | 1.3 | 210 | 1.0 | 88 |
| Benzene | 0.005 | 0.59 | 0.035 | N.D. | N.D. | 0.069 |
| Toluene | 0.005 | 1.8 | 0.019 | 3.5 | 0.0079 | 0.92 |
| Ethyl Benzene | 0.005 | 0.18 | 0.0054 | 3.6 | N.D. | 0.69 |
| Total Xylenes | 0.005 | 1.1 | 0.052 | 23 | 0.017 | 3.9 |
| Chromatogram Pattern: | | Gasoline | Gasoline | Gasoline | Gasoline | Gasoline |

Quality Control Data

| | | | | | |
|---|----------|----------|----------|----------|----------|
| Report Limit Multiplication Factor: | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 |
| Date Analyzed: | 12/11/92 | 12/13/92 | 12/11/92 | 12/13/92 | 12/13/92 |
| Instrument Identification: | HP-3 | HP-4 | HP-3 | HP-4 | HP-4 |
| Surrogate Recovery, %: (QC Limits = 70-130%) | 105 | 101 | 105 | 101 | 96 |

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
 Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

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 Laboratory Director

2120518.RCU <2>



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| | | |
|--|---|--|
| ROUX Associates 1855 Gateway Blvd. Suite 770 Concord, CA 94520 Attention: Paul Supple | Client Project ID: Aroo #6113-92-1AY Livermore Sample Descript: Soil Analysis for: Lead First Sample #: 212-0518 | Sampled: Dec 11, 1992 Received: Dec 11, 1992 Extracted: Dec 14, 1992 Analyzed: Dec 14, 1992 Reported: Dec 15, 1992 |
|--|---|--|

LABORATORY ANALYSIS FOR: Lead

| Sample Number | Sample Description | Detection Limit mg/kg | Sample Result mg/kg |
|---------------|--------------------|-----------------------|---------------------|
| 212-0518 | L1 | 0.25 | 2.5 |
| 212-0519 | L2 | 0.25 | 5.7 |
| 212-0520 | L3 | 0.25 | 2.7 |
| 212-0521 | L4 | 0.25 | 12 |
| 212-0522 | L5 | 0.25 | 5.4 |
| 212-0523 | L6 | 0.25 | 7.9 |
| 212-0524 | L7 | 0.25 | 6.9 |
| 212-0525 | L8 | 0.25 | 4.4 |
| 212-0526 | L9 | 0.25 | 11 |
| 212-0527 | L10 | 0.25 | 15 |
| 212-0528 | CS1 (A-D) | 0.25 | 49 |

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

SEQUOIA ANALYTICAL

Kenneth K.F. Lee
 Laboratory Director

2120518.ROU <3>