

Case #1

Shell

Mento Park

Gas Contaminated

Soil

INCOMING
RESULTS



gettler — ryan inc.

FACSIMILE COVER SHEET

TO: Forest Canutt

COMPANY: Bay Area Tank and Marine

FROM: John Zwierzycki

DATE: 7/24/91

RE: Analytical Data for Soil Disposal

COMMENTS: _____

6 pages including cover.

IF THERE ARE ANY PROBLEMS WITH THIS TRANSMISSION, PLEASE CALL (415) 783-7500.



SEQUOIA ANALYTICAL

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

Gottler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Warfal

Client Project ID: #7474.01, Shell, Menlo Park
Matrix Descript: Soll, composite
Analysis Method: EPA 5030/8015/8020
First Sample #: 105-2507 A-D

Sampled: May 17, 1991
Received: May 17, 1991
Analyzed: May 21, 1991
Reported: May 23, 1991

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

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Banzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
1052507 A-D	SS-5 A-D	400	N.D.	2.6	3.2	28
1052508 A-D	SS-6 A-D	860	N.D.	7.7	8.9	70
1052509 A-D	SS-7 A-D	1,100	N.D.	11	11	88
1052510 A-D	SS-8 A-D	900	0.50	11	11	84
1052511 A-D	SS-9 A-D	580	N.D.	6.2	6.3	45
1052512 A-D	SS-10 A-D	360	N.D.	4.2	4.0	27
1052513 A-D	SS-11 A-D	640	1.9	18	10	64
1052514 A-D	SS-12 A-D	300	N.D.	4.7	3.4	24

Detection Limits:	100	0.50	0.50	0.50	0.50
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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. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

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V. Tague
Vickie Tague
Project Manager



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RECEIVED

MAY 28 1991

GETTLER-RYAN INC.
GENERAL CONTRACTORS

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Project: #7474.01, Shell, Menlo Park

Enclosed are the results from 8 soil samples received at Sequoia Analytical on May 17, 1991. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
1052507 A-D	Soil, composite, SS-5 A-D	5/17/91	EPA 5030/8015/8020
1052508 A-D	Soil, composite, SS-6 A-D	5/17/91	EPA 5030/8015/8020
1052509 A-D	Soil, composite, SS-7 A-D	5/17/91	EPA 5030/8015/8020
1052510 A-D	Soil, composite, SS-8 A-D	5/17/91	EPA 5030/8015/8020
1052511 A-D	Soil, composite, SS-9 A-D	5/17/91	EPA 5030/8015/8020
1052512 A-D	Soil, composite, SS-10 A-D	5/17/91	EPA 5030/8015/8020
1052513 A-D	Soil, composite, SS-11 A-D	5/17/91	EPA 5030/8015/8020
1052514 A-D	Soil, composite, SS-12 A-D	5/17/91	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



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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: #7474.01, Shell, Menlo Park

Q C Sample Group: 1052507-14

Reported: May 23, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	S. Hoffmann	S. Hoffmann	S. Hoffmann	S. Hoffmann
Reporting Units:	ng	ng	ng	ng
Date Analyzed:	May 21, 1991	May 21, 1991	May 21, 1991	May 21, 1991
QC Sample #:	GBLK052191	GBLK052191	GBLK052191	GBLK052191
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	100	100	100	300
Conc. Matrix Spike:	110	110	110	320
Matrix Spike % Recovery:	110	110	110	107
Conc. Matrix Spike Dup.:	110	110	110	340
Matrix Spike Duplicate % Recovery:	110	110	110	113
Relative % Difference:	0	0	0	6.1

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V. Tague
Vickie Tague
Project Manager

$$\% \text{ Recovery} = \frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference} = \frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$$

- Ryan Inc.

ENVIRONMENTAL DIVISION

2926 CLAIM OF CUSTODY

JOB NO. 7474.01

PANY Shell Oil - Gettler Ryan

JOB LOCATION 125 Sharon Park Dr

CITY Menlo Park

PHONE NO. 352-4800

AUTHORIZED John Worfal

DATE 5-17-91

P.O. NO.

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
S-5A-D	4 → 1	Soil Comp	5-17-91 12:55	BTEX TPH-Gas	Cold 105251
S-6A-D	4 → 1		13:10		251
S-7A-D	4 → 1		13:25		251
S-8A-D	4 → 1		13:40		251
S-9A-D	4 → 1		15:30		251
S-10A-D	4 → 1		15:40		251
S-11A-D	4 → 1		15:50		251
S-12A-D	4 → 1		16:00		251

RELINQUISHED BY: Clyde Salantone 5-17-91 17:00

RECEIVED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB: [Signature] 5/17/91 1700

DESIGNATED LABORATORY: 3 day Turn around

DHS #:

REMARKS:

DATE COMPLETED FOREMAN



gettler — ryan inc.

FACSIMILE COVER SHEET

TO: Forest Canutt

COMPANY: Bay Area Tank and Marine

FROM: John Zwierzycki

DATE: 7/24/91

RE: Analytical Data for Soil Disposal

COMMENTS: _____

13 pages including cover.



SEQUOIA ANALYTICAL
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Gettler Ryan	Client Project ID: #7474.01, Shell, Menlo Park	Sampled: Jul 15, 1991
2150 W. Winton Avenue	Sample Descript: Soil composite SS-22 A-D	Received: Jul 15, 1991
Hayward, CA 94545	Analysis Method: EPA 8030/8015/8020	Analyzed: Jul 15, 1991
Attention: John Werfal	Lab Number: 107-2113 A-D	Reported: Jul 22, 1991

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:	6.0	N.D.
Benzene.....	0.025	N.D.
Toluene.....	0.025	N.D.
Ethyl Benzene.....	0.025	N.D.
Xylenes.....	0.025	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. Because matrix effects and/or other factors
required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

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Gettler Ryan
 2150 W. Winton Avenue
 Hayward, CA 94545
 Attention: John Werfal

Client Project ID: #7474.01, Shell, Menlo Park
 Sample Descript: Soil composite SS-21 A-D
 Lab Number: 107-2107 A-D

Sampled: Jul 15, 1991
 Received: Jul 15, 1991
 Extracted: Jul 15, 1991
 Reported: Jul 22, 1991

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
 Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Asbestos	5	0.0050	-	50	5.0	5.0
Arsenic	5.0	0.0050	-	300	0.25	2.1
Barium	100	0.10	-	10,000	5.0	150
Beryllium	0.75	0.010	-	75	0.50	N.D.
Cadmium	1.0	0.010	-	100	0.50	1.5
Chromium (VI)	5	0.0050	-	500	0.050	N.D.
Chromium (III)	80	0.0050	-	2,500	0.50	120
Cobalt	30	0.0050	-	5,000	2.5	10
Copper	25	0.010	-	2,500	0.50	6.7
Lead	5.0	0.0050	-	1,000	0.25	4.1
Mercury	0.2	0.0020	-	30	0.010	0.047
Molybdenum	350	0.050	-	3,500	2.5	2.3
Nickel	20	0.050	-	2,000	2.5	5
Selenium	1.0	0.0050	-	100	0.25	N.D.
Silver	5	0.050	-	500	0.50	4.5
Thallium	5	0.0050	-	700	0.25	1.64
Vanadium	7.0	0.050	-	2,500	2.5	3.7
Zinc	250	0.010	-	6,000	0.50	41

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
 Analytes reported as N.D. were not present above the stated limit of detection.

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 Project Manager



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Gettler Ryan
 2150 W. Winton Avenue
 Hayward, CA 94545
 Attention: John Warfal

Client Project ID: #7474.01, Shell, Menlo Park
 Sample Descript: Soil composite SS-23 A-D
 Lab Number: 107-2108 A-D

Sampled: Jul 15, 1991
 Received: Jul 15, 1991
 Extracted: Jul 15, 1991
 Reported: Jul 22, 1991

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
 Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.0050	-	250	5.0	24
Arsenic	5.0	0.0050	-	200	0.25	2
Beryllium	100	0.10	-	10,000	5.0	100
Cadmium	0.75	0.010	-	75	0.50	N.D.
Chromium (VI)	10	0.050	-	100	0.50	0.85
Chromium (III)	5	0.0050	-	500	0.050	N.D.
Cobalt	50	0.050	-	5,000	2.5	0.2
Copper	25	0.010	-	2,500	0.50	N.D.
Lead	100	0.0050	-	100	0.25	3.2
Mercury	0.2	0.0020	-	20	0.010	0.071
Molybdenum	350	0.050	-	3,500	2.5	N.D.
Nickel	20	0.0050	-	100	0.25	5.2
Selenium	1.0	0.010	-	500	0.50	0.73
Silver	5	0.010	-	500	0.25	0.83
Thallium	7.8	0.0050	-	780	2.7	36
Vanadium	23	0.050	-	2,300	0.50	36
Zinc	250	0.010	-	5,000	0.50	36

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
 Analytes reported as N.D. were not present above the stated limit of detection.

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V. Tague
 Vickie Tague
 Project Manager



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Gettler Ryan
 2150 W. Winton Avenue
 Hayward, CA 94545
 Attention: John Warfal

Client Project ID: #7474.01, Shell, Menlo Park
 Sample Descript: Soil composite SS-24 A-D
 Lab Number: 107-2109 A-D

Sampled: Jul 15, 1991
 Received: Jul 15, 1991
 Extracted: Jul 15, 1991
 Reported: Jul 22, 1991

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
 Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTLCL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	10	0.0050	-	500	5.0	N.D.
Arsenic	5.0	0.0050	-	500	5.0	N.D.
BARIUM	100	0.10	-	0.000	0.0	0.0
Beryllium	0.75	0.010	-	75	0.50	N.D.
Cadmium	1.0	0.010	-	100	0.50	N.D.
Chromium (VI)	5	0.0050	-	500	0.050	N.D.
Chromium (III)	580	0.0050	-	2,500	0.50	N.D.
Cobalt	80	0.050	-	8,000	2.5	0.1
Copper	25	0.010	-	2,500	0.50	2.8
Lead	5.0	0.0050	-	1,000	0.25	2.8
Mercury	0.2	0.00020	-	25	0.010	0.15
Molybdenum	350	0.050	-	3,500	2.5	N.D.
NICKEL	20	0.002	-	2,000	2.5	N.D.
Selenium	1.0	0.0050	-	100	0.25	N.D.
Silver	5	0.010	-	500	0.50	0.3
Thallium	7.0	0.0050	-	700	0.25	0.36
Vanadium	25	0.050	-	2,400	2.5	3.1
Zinc	250	0.010	-	3,000	0.50	3.1

TTLCL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
 Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

 Vickie Tague
 Project Manager



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 (415) 384-9600 • FAX (415) 384-9233

Gettler Ryan 2160 W. Winton Avenue Hayward, CA 94545 Attention: John Werfal	Client Project ID: #7474.01, Shell, Menlo Park Sample Descript: Soil composite SS-25 A-D Lab Number: 107-2110 A-D	Sampled: Jul 15, 1991 Received: Jul 15, 1991 Extracted: Jul 15, 1991 Reported: Jul 22, 1991
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INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
 Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.0050	-	500	0.50	26
Asbestos	5.0	0.0050	-	500	0.25	2.7
Barium	100	0.10	-	10,000	1.0	160
Beryllium	0.75	0.010	-	75	0.50	N.D.
Cadmium	1.0	0.010	-	100	0.50	1.3
Cadmium	1.0	0.0050	-	500	0.050	N.D.
Chromium (VI)	5	0.0050	-	500	0.10	51
Chromium (VI)	500	0.0050	-	5,000	2.5	5.5
Cobalt	30	0.040	-	2,500	0.50	0.77
Copper	25	0.010	-	1,000	0.25	21
Lead	6.0	0.0050	-	20	0.010	0.18
Mercury	0.2	0.00010	-	3,500	2.5	N.D.
Molybdenum	350	0.050	-	2,000	2.5	36
Nickel	30	0.050	-	100	0.25	N.D.
Selenium	1.0	0.0050	-	200	0.50	2.1
Silver	5	0.010	-	700	0.25	0.55
Thallium	7.0	0.0050	-	2,400	2.5	25
Vanadium	24	0.050	-	5,000	0.50	27
Zinc	250	0.010	-	-	-	-

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
 Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

VM Tague

Vivika Tague
 Project Manager

1072113.GET <5>



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880 Chesapeake Drive • Redwood City, CA 94083
 (415) 364-8600 • FAX (415) 364-9233

Gettler Ryan
 2150 W. Winton Avenue
 Hayward, CA 94545
 Attention: John Werfal

Client Project ID: #7474.01, Shell, Menlo Park
 Sample Descript: Soil composite 88-26 A-D

Lab Number: 107-2111 A-D

Sampled: Jul 15, 1991
 Received: Jul 15, 1991
 Extracted: Jul 15, 1991
 Reported: Jul 22, 1991

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
 Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Asbestos	7	0.0050	-	500	0.25	17
Asbestos	5.0	0.0050	-	500	0.25	27
Barium	100	0.30	-	10,000	5.0	150
Beryllium	0.75	0.010	-	75	0.50	N.D.
Cadmium	1.0	0.010	-	500	0.50	1.0
Chromium (VI)	5	0.0050	-	500	0.050	N.D.
Chromium (III)	550	0.0050	-	5,000	0.80	1.0
Cobalt	50	0.050	-	5,000	2.5	1.0
Copper	25	0.010	-	2,500	0.50	N.D.
Lead	5.0	0.0050	-	1,000	0.25	2.0
Mercury	2.0	0.0020	-	20	0.010	0.10
Molybdenum	350	0.050	-	3,500	2.5	N.D.
Nickel	20	0.050	-	2,000	2.5	1.0
Nickel	1.0	0.0050	-	100	0.25	N.D.
Selenium	5	0.010	-	500	0.50	1.0
Silver	5	0.010	-	500	0.25	1.0
Thallium	2.0	0.0050	-	2,000	2.5	2.5
Vanadium	24	0.010	-	2,400	0.50	2.5
Zinc	250	0.010	-	25,000	0.50	2.5

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/c.
 Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
 Vickie Tague
 Project Manager



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Gettler Ryan 2150 W. Winton Avenue Hayward, CA 94545 Attention: John Warfal	Client Project ID: #7474.01, Shell, Menlo Park	Sampled: Jul 15, 1991
	Sample Descript: Soil composite SS-27 A-D	Received: Jul 16, 1991
	Lab Number: 107-2112 A-D	Extracted: Jul 15, 1991
		Reported: Jul 22, 1991

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
 Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTLIC Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	5	0.0050	-	500	0.50	26
Arsenic	5.0	0.0050	-	500	0.50	2.3
Barium	100	0.10	-	10,000	1.0	179
Beryllium	0.75	0.010	-	75	0.60	N.D.
Cadmium	5.0	0.0050	-	500	0.050	N.D.
Chromium (VI)	5	0.0050	-	500	0.50	518
Chromium (III)	100	0.050	-	1,000	2.5	2.3
Cobalt	20	0.010	-	2,500	0.50	N.D.
Copper	25	0.010	-	2,000	0.25	3.0
Lead	5.0	0.0020	-	20	0.010	0.13
Mercury	0.2	0.00020	-	3,500	2.5	N.D.
Molybdenum	350	0.050	-	2,000	2.0	39
Nickel	20	0.050	-	100	0.25	N.D.
Selenium	1.0	0.0050	-	500	0.50	1.0
Silver	5	0.010	-	700	0.25	0.37
Thallium	7.0	0.0050	-	2,400	2.5	20
Vanadium	24	0.050	-	5,000	0.50	27
Zinc	250	0.010	-	-	-	-

TTLIC results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
 Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

 Vickie Tague
 Project Manager



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Gettler Ryan 2150 W. Winton Avenue Hayward, CA 94548 Attention: John Werfal	Client Project ID: #7474.01, Shell, Menlo Park Sample Descript: Soil composite SS-22 A-D Lab Number: 107-2113 A-D	Sampled: Jul 16, 1991 Received: Jul 15, 1991 Extracted: Jul 15, 1991 Reported: Jul 22, 1991
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INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

Soluble Threshold Limit Concentration
 Waste Extraction Test

Total Threshold Limit Concentration

Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTL Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	5	0.0050	-	500	0.25	N.D.
Arsenic	5.0	0.0050	-	10,000	0.50	N.D.
Barium	100	0.010	-	75	0.50	N.D.
Beryllium	0.75	0.010	-	100	0.050	N.D.
Cadmium	0.5	0.0050	-	500	0.050	N.D.
Chromium (VI)	5	0.0050	-	2,000	0.50	N.D.
Chromium (III)	25	0.0050	-	5,000	2.5	N.D.
Cobalt	80	0.010	-	2,500	0.50	N.D.
Copper	25	0.010	-	1,000	0.25	N.D.
Lead	5.0	0.0050	-	80	0.010	0.033
Mercury	0.2	0.0020	-	3,500	2.5	2.5
Molybdenum	360	0.050	-	2,000	2.5	3.0
Nickel	20	0.050	-	100	0.25	N.D.
Selenium	1.0	0.0050	-	500	0.50	N.D.
Silver	5	0.010	-	200	0.25	1.0
Thallium	0.5	0.0050	-	2,000	2.5	3.0
Vanadium	25	0.050	-	2,000	0.50	3.0
Zinc	250	0.010	-	-	-	-

TTL results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
 Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

V. Taguer
 Vickie Taguer
 Project Manager



SEQUOIA ANALYTICAL

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

Gettler Ryan
 2150 W. Winton Avenue
 Hayward, CA 94545
 Attention: John Werfal

Client Project ID: #7474.01, Shell, Menlo Park

Q C Sample Group: 107-2113

Reported: Jul 22, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	S. Gill	S. Gill	S. Gill	S. Gill
Reporting Units:	ng	ng	ng	ng
Date Analyzed:	Jul 15, 1991	Jul 15, 1991	Jul 15, 1991	Jul 15, 1991
QC Sample #:	GBLK071591	GBLK071591	GBLK071591	GBLK071591
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	100	100	100	300
Conc. Matrix Spike:	94	93	93	270
Matrix Spike % Recovery:	94	93	93	90
Conc. Matrix Spike Dup.:	93	92	92	270
Matrix Spike Duplicate % Recovery:	93	92	92	90
Relative % Difference:	1.1	1.1	1.1	0

SEQUOIA ANALYTICAL

V. Tague
 Viokle Tague
 Project Manager

$$\% \text{ Recovery} = \frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference} = \frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$$



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Client Project ID: #7474.01, Shell, Menlo Park

QC Sample Group: 1072107-113

Reported: Jul 22, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Hexavalent Chromium	Arsenic	Selenium	Mercury	Barium	Beryllium
Method:	EPA 7421	EPA 7195	EPA 7080	EPA 7740	EPA 7471	EPA 6010	EPA 6010
Analyst:	R. Sharma	D. Marcus	F. Contreras	F. Contreras	Y. Arreaga	C. Madefasser	C. Madefasser
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jul 18, 1991	Jul 16, 1991	Jul 16, 1991	Jul 16, 1991	Jul 17, 1991	Jul 18, 1991	Jul 18, 1991
QC Sample #:	107-2112	107-2113	107-2108	107-2108	107-1840	107-2397	107-2397
Sample Conc.:	3.0	N.D.	2.2	N.D.	0.075	62	1.0
Spike Conc. Added:	10	5.0	50	50	0.10	250	250
Conc. Matrix Spike:	13	4.8	51	42	0.17	320	240
Matrix Spike % Recovery:	100	98	98	84	95	95	98
Conc. Matrix Spike Dup.:	13	5.0	51	43	0.18	320	230
Matrix Spike Duplicate % Recovery:	100	100	98	88	105	95	92
Relative % Difference:	0	4.1	0	2.4	5.7	0	4.3

SEQUOIA ANALYTICAL

V. Tague
 Vickie Tague
 Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$



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 Attention: John Werfal

Client Project ID: #7474.01, Shell, Menlo Park

Q C Sample Group: 1072107-113

Reported: Jul 22, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Cadmium	Chromium	Cobalt	Copper	Molybdenum	Antimony	Nickel
Method:	EPA 8010	EPA 8010	EPA 6010	EPA 6010	EPA 8010	EPA 8010	EPA 8010
Analyst:	C. Medefasser	C. Medefasser	C. Medefasser	C. Medefasser	C. Medefasser	C. Medefasser	C. Medefasser
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jul 18, 1991	Jul 18, 1991	Jul 18, 1991	Jul 18, 1991	Jul 18, 1991	Jul 18, 1991	Jul 18, 1991
QC Sample #:	107-2397	107-2397	107-2397	107-2397	107-2397	107-2397	107-2397
Sample Conc.:	1.1	31	8.3	29	N.D.	24	26
Spike Conc. Added:	250	250	250	250	250	250	250
Conc. Matrix Spike:	250	280	250	270	250	270	270
Matrix Spike % Recovery:	100	100	97	98	100	98	98
Conc. Matrix Spike Dup.:	250	280	250	270	250	270	270
Matrix Spike Duplicate % Recovery:	100	100	97	98	100	98	98
Relative % Difference:	0	0	0	0	0	0	0

SEQUOIA ANALYTICAL

MTague

Vickie Tague
 Project Manager

$$\% \text{ Recovery} = \frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference} = \frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$$



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94083
 (415) 384-9800 • FAX (415) 384-9233

Gettler Ryan
 2150 W. Winton Avenue
 Hayward, CA 94545
 Attention: John Werfal

Client Project ID: #7474.01, Shell, Menlo Park

Q C Sample Group: 1072107-113

Reported: Jul 22, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Silver	Vanadium	Zinc	Thallium
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 7841
Analyst:	C. Madefassar	C. Madefassar	C. Madefassar	R. Sharma
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jul 18, 1991	Jul 18, 1991	Jul 18, 1991	Jul 18, 1991
QC Sample #:	107-2397	107-2397	107-2397	107-2112
Sample Conc.:	1.4	26	38	0.37
Spike Conc. Added:	250	250	250	5.0
Conc. Matrix Spike:	250	270	280	3.6
Matrix Spike % Recovery:	99	98	97	65
Conc. Matrix Spike Dup.:	250	270	280	3.7
Matrix Spike Duplicate % Recovery:	99	98	97	67
Relative % Difference:	0	0	0	2.7

SEQUOIA ANALYTICAL

V. Tague
 Vickie Tague
 Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Completed
Results

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

11-26-91

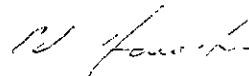
Dear Forrest:

Enclosed are:

- 1). the results of 8 samples from your Menlo Park Soil Pile project which were received here on 11-18-91,
- 2). a copy of the chain of custody, and
- 3). a bill for analytical services rendered.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Edward Hamilton

Lab Director of McCampbell Analytical

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
 Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT

Date: 11-18,11-20/91

Matrix: soil

Analyte	Concentration (mg/kg)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.00	1.87	1.84	2.03	92	90	1.7
Benzene	0.00	0.18	0.18	0.2	90	90	0.0
Toluene	0.00	0.178	0.178	0.2	89	89	0.0
Ethyl Benzene	0.00	0.178	0.18	0.2	89	90	1.1
Xylenes	0.00	0.536	0.538	0.6	89	90	0.4
% Rec.Surrogate	96	94	92	--	--	--	--
TPH (diesel)	0	22	20	30	74	67	9.3

BAY AREA TANK & MARINE, INC.
4851 SUNRISE DRIVE, SUITE 104
MARTINEZ, CA 94553

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: **FORREST CANUTT** Phone #: **372-4270**

Address: **BAY AREA TANK & MARINE, INC.** FAX #: (415) 372-0745
4851 SUNRISE DRIVE, SUITE 104
MARTINEZ, CA 94553

Project Number: Project Name: **MENLO PARK SOIL PILE**

Project Location: **BUG FARM, CARGO WAY SF, CA.** Sampler Signature: **ROBERT GI**

ANALYSIS REQUEST

OTHER

SPECIAL HANDLING

Sample ID SETS OF 4	Lab # (Lab use only)	# CONTAINERS Volume/Amount	Matrix					Method Preserved					Sampling		
			WATER	SOIL	AIR	SLUDGE	OTHER	HCl	HNO3	ICE	NONE	OTHER	DATE	TIME	
1A-1D			X										11-12-91	10 AM	X
2A-2D			X										11-12-91		X
3A-3D			X										11-12-91		X
4A-4D			X										11-12-91		X
5A-5D			X										11-12-91		X
6A-6D			X										11-12-91		X
7A-7D			X										11-12-91	✓	X
8A-8D			X										11-12-91	12 AM	X

- BTEX (602/8020)
- BTEX/TPH as Gasoline (602/8020/8015)
- TPH as Diesel (8015 or 8270)
- TPH as Jetfuel (8015 or 8270)
- Total Oil & Grease (413.1)
- Total Oil & Grease (413.2)
- Total Petroleum Hydrocarbons (418.1)
- EPA 601/8010
- EPA 602/8020
- EPA 608/8080
- EPA 608/8080 PCBs Only
- EPA 624/8240
- EPA 625/8270
- CAM - 17 Metals
- EPTOX - 8 Metals
- EPA - Priority Pollutant Metals
- LEAD(7420/7421/239.2)
- ORGANIC LEAD

- PRIORITY ONE SERVICE (24 hr)
- EXPEDITED SERVICE (2-4 days)
- VERBALS/FAX
- SPECIAL DETECTION LIMITS (SPECIFY)
- SPECIAL REPORTING REQUIREMENTS

No. 090016

No. 090017

No. 090018

No. 090019

No. 090020

No. 090021

No. 090022

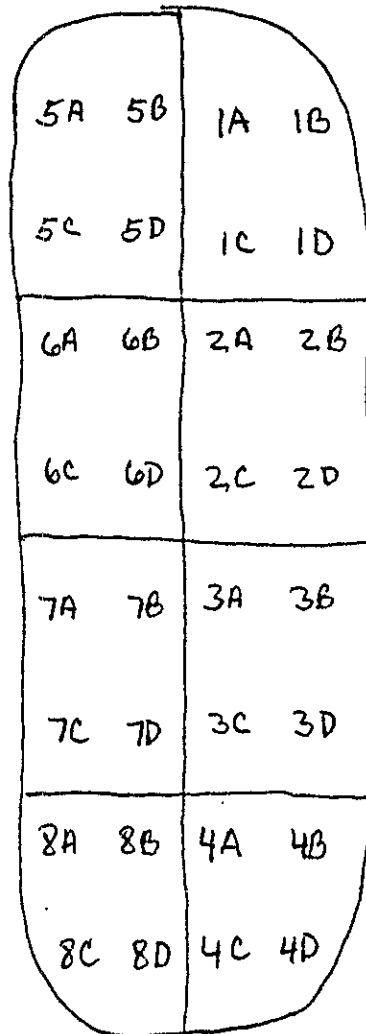
No. 090023

Relinquished by: <i>(E CANUTT)</i>	Date Time 11-18 12:45	Received by: <i>[Signature]</i>
Relinquished by:	Date Time:	Received by:
Relinquished by:	Date Time:	Received by Laboratory:

Remarks:
*Composted Soil
has vegetable bits in it.
Per Form on 5 day turnaround*

BUILDING

BUG FARM



MENLO PARK

SOIL PILE

32 SAMPLE TUBES

11-12-91

CARGO WAY