

Analytical Testing Results
from Drum Sampling Activities
at the
Tutu Texaco Service Station
St. Thomas
U.S. Virgin Islands

February 3, 1995

INTRODUCTION

This report presents analytical testing results of materials contained in drums located at the Tutu Texaco Service Station in St. Thomas, U.S. Virgin Islands. The drums contain either: 1) drilling "spoils" related to environmental field investigations or, 2) wastes from the service station daily operations (e.g., waste oil from vehicle oil changes). The purpose of this sampling effort was to classify investigation derived wastes to determine their disposition. Therefore, those drums containing wastes generated by the daily service station operations were not sampled as part of this effort as they will be sampled by the service station operator, or his consultant, for classification at a later date. The drilling spoil waste drums were sampled by Erler & Kalinowski, Inc. ("EKI") on December 12, 1994. The analyses performed by Sequoia Analytical Laboratory in Redwood City, California are consistent with these parameters specified by DPNR.

FIELD PROCEDURES

Sampling equipment was assembled by Paul Ryan (Texaco) and Carey Peabody (EKI) at the Tutu Texaco Service Station on December 12, 1994 for the collection of materials from 73 drums currently stored on site. Of the 73 drums, 27 contain solid drilling spoils and 15 contain water generated during the GCL field investigation of December 1993. The remaining 31 drums contain waste oil from daily operations and sludges removed from the three (3) service bay sumps by GCL during December 1993; as indicated these drums were not sampled. Field notes are included in Appendix A.

Samples were placed in laboratory-supplied containers, chilled on ice and sent via Federal Express to Sequoia Analytical Laboratory in Redwood City, California on December 13, 1994. Liquid (aqueous) samples from each drum were collected in three (3) 40 ml VOA vials that contained hydrochloric acid as a preservative. Solid samples were collected in one (1) 1 liter glass jar per composite sample. As specified by DPNR a solid composite sample consisted of "grab" samples from a maximum of twelve (12) drums. As such, a total of three (3) composite samples were submitted for analysis. Chain of Custody forms were initiated in the field and subsequently completed by the receiving analytical laboratory. All certified analytical reports from this sampling event are included in Appendix B together with a copy of the completed Chain of Custodies.

Mr. Adrian Schotroff and Mr. David Rosoff of the Department of Planning and Natural Resources ("DPNR"), visited the site at the start of the drum sampling process at approximately 4:00 p.m.; Mr. Rosoff returned to the site at the end of the process at approximately 7:30 p.m.

ANALYTICAL RESULTS

The drum samples were analyzed for a variety of analytes to allow for proper disposal. Analytical protocols were performed pursuant to the direction of DPNR.

Laboratory results from the drum sampling are summarized in Table 1.

Liquid Sample Results

Seventeen (17) liquid drum samples were analyzed for aromatic volatile organics using EPA Method 8020. All sample results were non detect except for DW-13, DW-14, and DW-16 in which toluene was detected at 1.1 ug/L, 3.7 ug/L, and 1.7 ug/L, respectively (see Table 1).

Solid Sample Results

Three (3) semi-solid drum samples were analyzed for the following parameters:

- volatile organics using EPA Method 8260,
- semivolatile organics using EPA Method 8270,
- priority metals using EPA Method 6010,
- total extractable petroleum hydrocarbons ("TEPH") as diesel using modified EPA Method 8015,
- total purgeable petroleum hydrocarbons ("TPPH") as gasoline using EPA Method 8015 (modified) and EPA Method 8020, and
- characterization: reactivity, corrosivity, and ignitability.

Concentrations of semivolatile organics were below detection limits in all samples. Concentrations of volatile organics were below detection limits for all analytes except methylene chloride and 1,2,4-trimethylbenzene. Methylene chloride was detected in DS-1 (310 ug/kg) and DS-2 (270 ug/kg). Methylene chloride was also detected in the method blank for EPA Method 8260 at 160 ug/kg and is most likely a laboratory contaminant. 1,2,4-trimethylbenzene was detected in sample DS-3 at 120 ug/kg.

Priority metals, reactivity, corrosivity, and ignitability are included in the summary in Table 2. Flash point of all samples was above 100 degrees Celsius.

TEPH as diesel was detected in all three samples at 140 mg/kg (DS-1), 650 mg/kg (DS-2), and 870 mg/kg (DS-3). TPPH as gasoline was detected in DS-1 (12 mg/kg) and DS-3 (7.3 mg/kg).

CONCLUSIONS

Based upon the analytical results of samples obtained from the referenced drums, the 27 drums which contain solid drilling spoils should be permitted to be disposed at the Bavoni Landfill on St. Thomas.

The 17 liquid samples indicated constituents of concern below actionable limits and should be permitted to be disposed through a local sanitary sewer.

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TABLES

TABLE 1
Summary of Results of Drum Analyses - Liquids
Texaco, Tutu
St. Thomas, U.S. Virgin Islands
(EKI 940058.00)

Sample ID	benzene (ug/L)	chloro-benzene (ug/L)	1,2-dichloro-benzene (ug/L)	1,3-dichloro-benzene (ug/L)	1,4-dichloro-benzene (ug/L)	ethyl benzene (ug/L)	toluene (ug/L)	total xylenes (ug/L)
DW-1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-8	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-11	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-12	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-13	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	<0.50
DW-14	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3.7	<0.50
DW-15	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DW-16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	<0.50
DW-17	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTE:

- 1) Results for analytes not detected are listed as less than the detection limit (ie. <0.5).
- 2) Sample DW-13 and DW-17 are duplicate samples.

TABLE 2
Summary of Results of Drum Analyses - Solids
Texaco, Tutu
St. Thomas, U.S. Virgin Islands
(EKI 940058.00)

Analyte	Units	Sample ID		
		DS-1	DS-2	DS-3
Aluminum	(mg/kg)	22000	31000	27000
Calcium	(mg/kg)	36000	32000	24000
Flash point	Celsius	>100	>100	>100
Iron	(mg/kg)	30000	37000	42000
Magnesium	(mg/kg)	15000	18000	16000
Manganese	(mg/kg)	550	590	770
Mercury	(mg/kg)	0.012	0.013	0.018
pH	pH units	9	9.5	8.8
Potassium	(mg/kg)	640	460	450
Sodium	(mg/kg)	1300	1900	1600
Antimony	(mg/kg)	14	<50	<5
Arsenic	(mg/kg)	<5	6.4	<5
Barium	(mg/kg)	69	36	41
Beryllium	(mg/kg)	<0.5	<0.5	<0.5
Cadmium	(mg/kg)	0.91	1.5	1.4
Chromium	(mg/kg)	23	24	29
Cobalt	(mg/kg)	17	21	23
Copper	(mg/kg)	47	85	120
Lead	(mg/kg)	<5	19	9.6
Nickel	(mg/kg)	13	16	22
Selenium	(mg/kg)	20	28	34
Silver	(mg/kg)	<0.5	<0.5	<0.5
Thallium	(mg/kg)	<5	<5	<5
Vanadium	(mg/kg)	79	100	2.5
Zinc	(mg/kg)	45	76	62
TEPH as diesel	(mg/kg)	140	650	870
non diesel mix (1)	-	C9-C24	C16-C24	C10-C24
TPPH as gas	(mg/kg)	<1	12	7.3
toluene	(mg/kg)	<0.005	<0.025	0.0088
total xylenes	(mg/kg)	<0.005	0.03	0.029
non gas mix (2)	-	-	-	C6-C12
weathered gas (3)	-	-	C7-C12	C6-C12
1,2,4-trimethylbenzene	(ug/kg)	<100	<100	120
methylene chloride (4)	(ug/kg)	310	270	<250

NOTES:

- (1) Chromatogram pattern indicating carbon range of non diesel mix present in sample.
- (2) Chromatogram pattern indicating carbon range of non gas mix present in sample.
- (3) Chromatogram pattern indicating carbon range of weathered gas present in sample.
- (4) Methylene chloride was also present in the method blank at 160 ug/kg.

Drum Sampling - CEP and Paul Ryan

TEXACO TUST
EXL 94005800

Adrian Schottruff, DPNR Arrives on site ~ 4:00 PM
Dave Rosoff, Arrives on site ~ 4:15 PM

- Drums contain ① solid debris and cuttings
② aqueous liquid w/± settled mud at bottom
③ waste oil

Paul Ryan discusses with Schottruff analytical protocol:

- ① Solids - as in DPNR comments on G+M R1
- ② aqueous liquid - 8010
- ③ waste oil will be disposed along with service station waste

Start sampling water 4:30 PM

	BVM Reading	Time
DW-1	0.0	4:30 PM
DW-2	0.0	4:35 PM
DW-3	0.0	4:38 PM
DW-4	0.0	4:42 PM
DW-5	0.0	4:45 PM

Start taking soil composites 5:15 PM

		OVA Reading
DS1-1	plastic sheeting; some drilling mud	0.0
DS1-2	cuttings	1.0
DS1-3	soil cuttings	0.0
DS1-4	"	0.0
DS1-5	waste sludge from service bay cuttings	0.0
DS1-6	drilling mud	0.0
DS1-7	waste sludge from service bay cuttings	0.0
DS1-8	drilling mud	0.0
DS1-9	cuttings	0.0
DS1-10	cuttings / mud	0.0
DS1-11	" "	0.0
DS1-12	tarpaulin and mud	0.0

Finish taking soil composite DS-1 at 5:35 PM

DW-6	0.0	5:40 PM
DW-7	0.0	5:55 PM
DW-8	0.0	6:10 PM
DW-9	0.0	6:15 PM
DW-10	0.0	6:20 PM
DW-11	0.0	6:25 PM
DW-12	0.0	6:30 PM
DW-13	0.0	7:25 PM
DW-14	1.0	7:30 PM
DW-15	0.0	7:35 PM
DW-16	3.0	7:40 PM

DS2-1 Soil cuttings 0.0
 DS2-2 "
 DS2-3 "
 DS2-4 "
 DS2-5 drilling mud
 DS2-6 "
 DS2-7 cuttings
 DS2-8 "
 DS2-9 drilling mud
 DS2-10 drilling mud
 DS2-11 cuttings
 DS2-12 "



End 5:55 PM

Color Concentrations - put on tops and sides of drums

3 colors

~~Red~~ Pink - Soil
 Green - Water
 Yellow - Sludge

Start 7:45 PM end 8:15 PM

DS3-1 mud + plastic sheeting
 DS3-2 "
 DS3-3 cuttings
 DS3-4 "

DW-17 : OVA Time
 0.0 7:55 PM

27 soil drums

DW-8 and DS1-2 = same drum
 + 15 other drums of water

31 ~~sludge~~ sludge drums

73 drums

B



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er & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu

Lab Proj. ID: 9412916

Sampled: 12/12/94

Received: 12/15/94

Analyzed: see below

Attention: Carey Peabody

Reported: 01/06/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9412916-18 Sample Desc: SOLID,DS-1				
Aluminum	mg/Kg	12/22/94	5.0	22000
Calcium	mg/Kg	12/22/94	25	36000
Flash Point	Celsius	12/20/94	25	> 100
Iron	mg/Kg	12/22/94	0.50	30000
Magnesium	mg/Kg	12/22/94	5.0	15000
Manganese	mg/Kg	12/22/94	0.50	550
Mercury	mg/Kg	01/05/95	0.010	0.012
pH	pH Units	12/22/94	N/A	9.0
Potassium	mg/Kg	12/22/94	50	640
Sodium	mg/Kg	12/22/94	25	1300

Lab No: 9412916-19
Sample Desc: SOLID,DS-2

Aluminum	mg/Kg	12/29/94	50	31000
Calcium	mg/Kg	12/29/94	250	32000
Flash Point	Celsius	12/20/94	25	> 100
Iron	mg/Kg	12/29/94	5.0	37000
Magnesium	mg/Kg	12/29/94	50	18000
Manganese	mg/Kg	12/29/94	5.0	590
Mercury	mg/Kg	01/05/95	0.010	0.013
pH	pH Units	12/22/94	N/A	9.5
Potassium	mg/Kg	12/22/94	50	460
Sodium	mg/Kg	12/29/94	250	1900

Lab No: 9412916-20
Sample Desc: SOLID,DS-3

Aluminum	mg/Kg	12/22/94	5.0	27000
Calcium	mg/Kg	12/22/94	25	24000
Flash Point	Celsius	12/20/94	25	> 100
Iron	mg/Kg	12/22/94	0.50	42000

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

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Client Proj. ID: 940058.00, Texaco Tutu

Lab Proj. ID: 9412916

Sampled: 12/12/94

Received: 12/15/94

Analyzed: see below

Attention: Carey Peabody

Reported: 01/06/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Magnesium	mg/Kg	12/22/94	5.0	16000
Manganese	mg/Kg	12/22/94	0.50	770
Mercury	mg/Kg	01/05/95	0.010	0.018
pH	pH Units	12/22/94	N/A	8.8
Potassium	mg/Kg	12/22/94	50	450
Sodium	mg/Kg	12/22/94	25	1600

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

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Client Proj. ID: 940058.00, Texaco Tutu

Lab Proj. ID: 9412916

Sampled:
Received: 12/15/94
Analyzed: see below

Attention: Carey Peabody

Reported: 01/06/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9412916-22				
Sample Desc: SOLID, Method Blank				
Aluminum	mg/Kg	12/29/94	5.0	8.0
Calcium	mg/Kg	12/29/94	25	N.D.
Flash Point	Celsius	12/20/94	25	> 100
Iron	mg/Kg	12/29/94	0.50	0.50
Magnesium	mg/Kg	12/29/94	5.0	N.D.
Manganese	mg/Kg	12/29/94	0.50	N.D.
Mercury	mg/Kg	01/05/95	0.010	N.D.
pH	pH Units	12/22/94	N/A	6.2
Potassium	mg/Kg	12/29/94	50	N.D.
Sodium	mg/Kg	12/29/94	25	26

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

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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-1
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-01

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates	Control Limits %	% Recovery
1-Chloro-2-fluorobenzene	70 130	100

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

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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-2
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-02

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
100

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

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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-3
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-03

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

Attention: Carey Peabody

GC Batch Number: GC122194802015A

Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %

70 130

% Recovery

100

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

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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-4
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-04

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
100

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

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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-5
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-05

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
110

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

SEQUOIA ANALYTICAL - ELAP #1210

Erleen Manning
Project Manager

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TUT 007 2366



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Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-6
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-06

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
100

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

SEQUOIA ANALYTICAL - ELAP #1210

Don Manning
Project Manager

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TUT 007 2367





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Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-7
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-07

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
110

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

SEQUOIA ANALYTICAL - ELAP #1210

Erin Manning
Project Manager

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er & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-8
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-08

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %

70 130

% Recovery

100

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

EQUOIA ANALYTICAL - ELAP #1210

Erleen Manning
Project Manager

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TUT 007 2369



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rier & Kalinowski, Inc.
730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-9
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-09

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.
Surrogates	Control Limits %	% Recovery
1-Chloro-2-fluorobenzene	70 130	110

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

SEQUOIA ANALYTICAL - ELAP #1210

Erin Manning
Project Manager

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TUT 007 2370



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er & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 94005800, Texaco Tutu
Sample Descript: DW-10
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-10

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122294802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
96

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

SEQUOIA ANALYTICAL - ELAP #1210

Erin Manning
Project Manager

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TUT 007 2371



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ter & Kalinowski, Inc.
1730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-11
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-11

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122294802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
95

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

SEQUOIA ANALYTICAL - ELAP #1210

Ernest Manning
Project Manager

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TUT 007 2372



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Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
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Attention: Carey Peabody

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-12
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-12

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122294802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
96

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

SEQUOIA ANALYTICAL - ELAP #1210

Ken Manning
Project Manager

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TUT 007 2373





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er & Kalinowski, Inc.
1730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-1
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-13

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122294802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	1.1
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
97

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

SEQUOIA ANALYTICAL - ELAP #1210

Luken Manning
Project Manager

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TUT 007 2374



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ler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-14
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-14

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122294802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
2-Dichlorobenzene	0.50	N.D.
3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
ethyl benzene	0.50	N.D.
oluene	0.50	3.7
total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
96

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

EQUOIA ANALYTICAL - ELAP #1210

Linsen Manning
Project Manager

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TUT 007 2375





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ler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-15
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-15

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/23/94
Analyzed: 12/23/94
Reported: 01/06/95

tention: Carey Peabody

QC Batch Number: GC122294802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
2-Dichlorobenzene	0.50	N.D.
3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Styrene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
95

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

EQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

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TUT 007 2376



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ler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-16
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-16

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/23/94
Analyzed: 12/23/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122294802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	1.7
Methyl Xylenes	0.50	N.D.

Surrogates

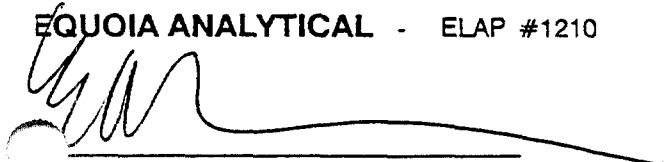
1-Chloro-2-fluorobenzene

Control Limits %
70 130

% Recovery
95

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

SEQUOIA ANALYTICAL - ELAP #1210


Eileen Manning
Project Manager

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TUT 007 2377



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rier & Kalinowski, Inc.
1730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DW-17
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-17

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/23/94
Analyzed: 12/23/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122294802015A

Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates

1-Chloro-2-fluorobenzene

Control Limits %

70 130

% Recovery

96

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

SEQUOIA ANALYTICAL - ELAP #1210

Erleen Manning
Project Manager

Page:

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TUT 007 2378



er & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Attention: Carey Peabody

Client Proj. ID: 940052.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA

Instrument ID: F3

Volatile Organics (EPA 8260)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Benzene	100	N.D.
Bromobenzene	100	N.D.
Bromochloromethane	100	N.D.
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
n-Butylbenzene	100	N.D.
sec-Butylbenzene	100	N.D.
tert-Butylbenzene	100	N.D.
Carbon tetrachloride	100	N.D.
Chloroethane	100	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Chlorotoluene	100	N.D.
Chlorotoluene	100	N.D.
Dibromochloromethane	100	N.D.
1,2-Dibromoethane	100	N.D.
Dibromomethane	100	N.D.
1,2-Dibromo-3-chloropropane	250	N.D.
1,2-Dichlorobenzene	100	N.D.
1,3-Dichlorobenzene	100	N.D.
1,4-Dichlorobenzene	100	N.D.
Dichlorodifluoromethane	100	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethylene	100	N.D.
cis-1,2-Dichloroethylene	100	N.D.
trans-1,2-Dichloroethylene	100	N.D.
Monochlorobenzene	100	N.D.
1,2-Dichloropropane	100	N.D.
1,3-Dichloropropane	100	N.D.
2,2-Dichloropropane	100	N.D.
1,1-Dichloropropene	100	N.D.
Ethylbenzene	100	N.D.
Hexachlorobutadiene	100	N.D.



Sequoia Analytical

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Miller & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Attention: Carey Peabody

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA
Instrument ID: F3

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Isopropylbenzene	100	N.D.
p-Isopropyltoluene	100	N.D.
Methylene chloride	250	310
Naphthalene	100	N.D.
n-Propylbenzene	100	N.D.
Styrene	100	N.D.
1,1,1,2-Tetrachloroethane	100	N.D.
1,1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethylene	100	N.D.
Toluene	100	N.D.
1,2,3-Trichlorobenzene	100	N.D.
1,2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
1,1-Dichloroethylene	100	N.D.
1,1-Dichlorofluoromethane	100	N.D.
1,2,3-Trichloropropane	100	N.D.
1,2,4-Trimethylbenzene	100	N.D.
1,3,5-Trimethylbenzene	100	N.D.
Vinyl chloride	100	N.D.
Total Xylenes	100	N.D.
Surrogates	Control Limits %	% Recovery
1,2-Dichlorobenzene-d4	70 121	101
Toluene-d8	81 117	104
4-Bromofluorobenzene	74 121	102

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

SEQUOIA ANALYTICAL - ELAP #1210

Green Manning
Project Manager

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TUT 007 2380



Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Attention: Carey Peabody

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/28/94
Reported: 01/06/95

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	500	N.D.
Acenaphthylene	500	N.D.
Anthracene	500	N.D.
Benzoic Acid	1000	N.D.
Benzo(a)anthracene	500	N.D.
Benzo(b)fluoranthene	500	N.D.
Benzo(k)fluoranthene	500	N.D.
Benzo(g,h,i)perylene	500	N.D.
Benzo(a)pyrene	500	N.D.
Benzyl alcohol	500	N.D.
Bis(2-chloroethoxy)methane	500	N.D.
Bis(2-chloroethyl) ether	500	N.D.
Bis(2-chloroisopropyl) ether	500	N.D.
(2-ethylhexyl)phthalate	1000	N.D.
Bromophenyl phenyl ether	500	N.D.
Butyl benzyl phthalate	500	N.D.
4-Chloroaniline	1000	N.D.
2-Chloronaphthalene	500	N.D.
4-Chloro-3-methylphenol	500	N.D.
2-Chlorophenol	500	N.D.
4-Chlorophenyl phenyl ether	500	N.D.
Chrysene	500	N.D.
Dibenzo(a,h)anthracene	500	N.D.
Dibenzofuran	500	N.D.
Di-n-butyl phthalate	1000	N.D.
1,2-Dichlorobenzene	500	N.D.
1,3-Dichlorobenzene	500	N.D.
1,4-Dichlorobenzene	500	N.D.
3,3-Dichlorobenzidine	1000	N.D.
2,4-Dichlorophenol	500	N.D.
Diethyl phthalate	500	N.D.
2,4-Dimethylphenol	500	N.D.
Dimethyl phthalate	500	N.D.
4,6-Dinitro-2-methylphenol	1000	N.D.
2,4-Dinitrophenol	1000	N.D.





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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/28/94
Reported: 01/06/95

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
4-Dinitrotoluene	500	N.D.
2,6-Dinitrotoluene	500	N.D.
Di-n-octyl phthalate	500	N.D.
fluoranthene	500	N.D.
fluorene	500	N.D.
Hexachlorobenzene	500	N.D.
Hexachlorobutadiene	500	N.D.
hexachlorocyclopentadiene	1000	N.D.
hexachloroethane	500	N.D.
Indeno(1,2,3-cd)pyrene	500	N.D.
Isophorone	500	N.D.
1-Methylnaphthalene	500	N.D.
1-Methylphenol	500	N.D.
4-Methylphenol	500	N.D.
2-methylphenol	500	N.D.
2-nitroaniline	1000	N.D.
3-nitroaniline	1000	N.D.
4-Nitroaniline	1000	N.D.
Nitrobenzene	500	N.D.
2-Nitrophenol	500	N.D.
3-Nitrophenol	1000	N.D.
N-Nitrosodiphenylamine	500	N.D.
N-Nitroso-di-n-propylamine	500	N.D.
2,4,6-Trichlorophenol	1000	N.D.
Phenanthrene	500	N.D.
Phenol	500	N.D.
Pyrene	500	N.D.
1,2,4-Trichlorobenzene	500	N.D.
1,4,5-Trichlorophenol	1000	N.D.
2,4,6-Trichlorophenol	500	N.D.

Surrogates

	Control Limits %	
2-Fluorophenol	25	121
Phenol-d5	24	113
Nitrobenzene-d5	23	120
2-Fluorobiphenyl	30	115
2,4,6-Tribromophenol	19	122
3-Terphenyl-d14	18	137

% Recovery

69
73
66
67
51
60

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

EQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

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1730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: EPA 6010
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: ME1222946010MDC
Instrument ID: MTJA2

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	5.0	14
Arsenic, As	5.0	N.D.
Barium, Ba	5.0	69
Beryllium, Be	0.50	N.D.
Cadmium, Cd	0.50	0.91
Chromium, Cr	0.50	23
Cobalt, Co	2.5	17
Copper, Cu	0.50	47
Lead, Pb	5.0	N.D.
Nickel, Ni	2.5	13
Selenium, Se	5.0	20
Silver, Ag	0.50	N.D.
Thallium, Tl	5.0	N.D.
Uranium, U	2.5	79
Zinc, Zn	0.50	45

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

SEQUOIA ANALYTICAL - ELAP #1210

Lozen Manning
Project Manager

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TUT 007 2383



Sequoia
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rier & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: Comb
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Analyzed: 12/20/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: IN122094084600A

Reactivity

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Reactivity:		
Sulfide	13	N.D.
Cyanide	0.50	N.D.
Reaction with Water	N.A.	None

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

SEQUOIA ANALYTICAL - ELAP #1210

Green Manning
Project Manager

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TUT 007 2384



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ler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/27/94
Analyzed: 12/30/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC1227940HBPEXA
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	10	140
Chromatogram Pattern: on Diesel Mix		C9-C24

Surrogates	Control Limits %	% Recovery
Pentacosane (C25)	50 150	Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-1
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9412916-18

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/23/94
Reported: 01/06/95

QC Batch Number: GC122294BTEXEXB
Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
o-Xyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates
Trifluorotoluene

Control Limits %
70 130

% Recovery
95

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

SEQUOIA ANALYTICAL - ELAP #1210

Ben Manning
Project Manager

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TUT 007 2386





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1730 South Amphlett, Ste 320
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Client Proj. ID: 94005000, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA
Instrument ID: F3

Volatile Organics (EPA 8260)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Benzene	100	N.D.
Bromobenzene	100	N.D.
Bromochloromethane	100	N.D.
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
n-Butylbenzene	100	N.D.
sec-Butylbenzene	100	N.D.
tert-Butylbenzene	100	N.D.
Carbon tetrachloride	100	N.D.
Chloroethane	100	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Chlorotoluene	100	N.D.
o-Chlorotoluene	100	N.D.
Dibromochloromethane	100	N.D.
1,2-Dibromoethane	100	N.D.
Dibromomethane	100	N.D.
1,2-Dibromo-3-chloropropane	250	N.D.
1,2-Dichlorobenzene	100	N.D.
1,3-Dichlorobenzene	100	N.D.
1,4-Dichlorobenzene	100	N.D.
Dichlorodifluoromethane	100	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethylene	100	N.D.
cis-1,2-Dichloroethylene	100	N.D.
trans-1,2-Dichloroethylene	100	N.D.
Monochlorobenzene	100	N.D.
1,2-Dichloropropane	100	N.D.
1,3-Dichloropropane	100	N.D.
2,2-Dichloropropane	100	N.D.
1,1-Dichloropropene	100	N.D.
Ethylbenzene	100	N.D.
Hexachlorobutadiene	100	N.D.



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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA
Instrument ID: F3

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Isopropylbenzene	100	N.D.
p-Isopropyltoluene	100	N.D.
Methylene chloride	250	270
Naphthalene	100	N.D.
n-Propylbenzene	100	N.D.
Styrene	100	N.D.
1,1,1,2-Tetrachloroethane	100	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethylene	100	N.D.
Toluene	100	N.D.
1,2,3-Trichlorobenzene	100	N.D.
1,2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
Chloroethylene	100	N.D.
Chlorofluoromethane	100	N.D.
1,2,3-Trichloropropane	100	N.D.
1,2,4-Trimethylbenzene	100	N.D.
1,3,5-Trimethylbenzene	100	N.D.
Vinyl chloride	100	N.D.
Total Xylenes	100	N.D.
Surrogates	Control Limits %	% Recovery
1,2-Dichlorobenzene-d4	70 121	88
Toluene-d8	81 117	102
4-Bromofluorobenzene	74 121	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Ellen Manning
Project Manager

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TUT 007 2388





Sequoia
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er & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/28/94
Reported: 01/06/95

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	2500	N.D.
Acenaphthylene	2500	N.D.
Anthracene	2500	N.D.
Benzoic Acid	5000	N.D.
Benzo(a)anthracene	2500	N.D.
Benzo(b)fluoranthene	2500	N.D.
Benzo(k)fluoranthene	2500	N.D.
Benzo(g,h,i)perylene	2500	N.D.
Benzo(a)pyrene	2500	N.D.
Benzyl alcohol	2500	N.D.
Bis(2-chloroethoxy)methane	2500	N.D.
Bis(2-chloroethyl)ether	2500	N.D.
Bis(2-chloroisopropyl)ether	2500	N.D.
Bis(2-ethylhexyl)phthalate	5000	N.D.
Bromophenyl phenyl ether	2500	N.D.
Butyl benzyl phthalate	2500	N.D.
4-Chloroaniline	5000	N.D.
2-Chloronaphthalene	2500	N.D.
2-Chloro-3-methylphenol	2500	N.D.
2-Chlorophenol	2500	N.D.
4-Chlorophenyl phenyl ether	2500	N.D.
Chrysene	2500	N.D.
Dibenzo(a,h)anthracene	2500	N.D.
Dibenzofuran	2500	N.D.
Di-n-butyl phthalate	5000	N.D.
1,2-Dichlorobenzene	2500	N.D.
1,3-Dichlorobenzene	2500	N.D.
1,4-Dichlorobenzene	2500	N.D.
3,3-Dichlorobenzidine	5000	N.D.
2,4-Dichlorophenol	2500	N.D.
Diethyl phthalate	2500	N.D.
2,4-Dimethylphenol	2500	N.D.
Dimethyl phthalate	2500	N.D.
4,6-Dinitro-2-methylphenol	5000	N.D.
2,4-Dinitrophenol	5000	N.D.



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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/28/94
Reported: 01/06/95

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
4-Dinitrotoluene	2500	N.D.
2,6-Dinitrotoluene	2500	N.D.
Di-n-octyl phthalate	2500	N.D.
Fluoranthene	2500	N.D.
Fluorene	2500	N.D.
Hexachlorobenzene	2500	N.D.
Hexachlorobutadiene	2500	N.D.
Hexachlorocyclopentadiene	5000	N.D.
Hexachloroethane	2500	N.D.
Indeno(1,2,3-cd)pyrene	2500	N.D.
Isophorone	2500	N.D.
2-Methylnaphthalene	2500	N.D.
2-Methylphenol	2500	N.D.
4-Methylphenol	2500	N.D.
nthalene	2500	N.D.
nitroaniline	5000	N.D.
3-Nitroaniline	5000	N.D.
4-Nitroaniline	5000	N.D.
Nitrobenzene	2500	N.D.
2-Nitrophenol	2500	N.D.
4-Nitrophenol	5000	N.D.
N-Nitrosodiphenylamine	2500	N.D.
N-Nitroso-di-n-propylamine	2500	N.D.
Pentachlorophenol	5000	N.D.
Phenanthrene	2500	N.D.
Phenol	2500	N.D.
Pyrene	2500	N.D.
1,2,4-Trichlorobenzene	2500	N.D.
2,4,5-Trichlorophenol	5000	N.D.
2,4,6-Trichlorophenol	2500	N.D.

Surrogates

2-Fluorophenol
Phenol-d5

Nitrobenzene-d5
2-Fluorobiphenyl

2,4,6-Tribromophenol
p-Terphenyl-d14

Control Limits %

25	121
24	113
23	120
30	115
19	122
18	137

% Recovery

94
95
81
87
57
73

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

SEQUOIA ANALYTICAL - ELAP #1210

Jileen Manning
Project Manager

TUT 007 2390



Sequoia Analytical

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Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: EPA 6010
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/29/94
Reported: 01/06/95

OC Batch Number: ME1222946010MDC
Instrument ID: MTJA2

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	50	N.D.
Arsenic, As	5.0	6.4
Barium, Ba	5.0	36
Beryllium, Be	0.50	N.D.
Cadmium, Cd	0.50	1.5
Chromium, Cr	5.0	24
Cobalt, Co	2.5	21
Copper, Cu	5.0	85
Lead, Pb	5.0	19
Nickel, Ni	2.5	16
Selenium, Se	5.0	28
Silver, Ag	0.50	N.D.
Thallium, Tl	5.0	N.D.
Vanadium, V	25	100
Zinc, Zn	5.0	76

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

SEQUOIA ANALYTICAL - ELAP #1210

Green Manning
Project Manager

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TUT 007 2391



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1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: Comb
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Analyzed: 12/20/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: IN122094084600A

Reactivity

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Reactivity:		
Sulfide	13	N.D.
Cyanide	0.50	N.D.
Reaction with Water	N.A.	None

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

SEQUOIA ANALYTICAL - ELAP #1210

Ken Manning
Project Manager

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er & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/27/94
Analyzed: 12/29/94
Reported: 01/06/95

QC Batch Number: GC1227940HBPEXA
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	100	650
Chromatogram Pattern:		
Ion Diesel Mix		C16-C24

Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Len Manning
Project Manager

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Er & Kalinowski, Inc.
130 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-2
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9412916-19

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/23/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122294BTEXEXB
Instrument ID: GCHP6

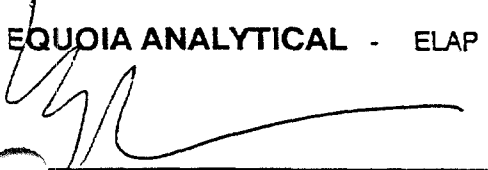
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	5.0	12
Benzene	0.025	N.D.
luene	0.025	N.D.
hyl Benzene	0.025	N.D.
Xylenes (Total)	0.025	0.030
Chromatogram Pattern:		
eathered Gas		C7-C12

Surrogates	Control Limits %	% Recovery
trifluorotoluene	70 130	85

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

EQUOIA ANALYTICAL - ELAP #1210


E. Manning
Project Manager

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TUT 007 2394





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Miller & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Attention: Carey Peabody

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA

Instrument ID: F3

Volatile Organics (EPA 8260)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Benzene	100	N.D.
Bromobenzene	100	N.D.
Bromochloromethane	100	N.D.
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
n-Butylbenzene	100	N.D.
sec-Butylbenzene	100	N.D.
tert-Butylbenzene	100	N.D.
Carbon tetrachloride	100	N.D.
Chloroethane	100	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Chlorotoluene	100	N.D.
Chlorotoluene	100	N.D.
Dibromochloromethane	100	N.D.
1,2-Dibromoethane	100	N.D.
Dibromomethane	100	N.D.
1,2-Dibromo-3-chloropropane	250	N.D.
1,2-Dichlorobenzene	100	N.D.
1,3-Dichlorobenzene	100	N.D.
1,4-Dichlorobenzene	100	N.D.
Dichlorodifluoromethane	100	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethylene	100	N.D.
cis-1,2-Dichloroethylene	100	N.D.
trans-1,2-Dichloroethylene	100	N.D.
Monochlorobenzene	100	N.D.
1,2-Dichloropropane	100	N.D.
1,3-Dichloropropane	100	N.D.
2,2-Dichloropropane	100	N.D.
1,1-Dichloropropene	100	N.D.
Ethylbenzene	100	N.D.
Hexachlorobutadiene	100	N.D.





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erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA
Instrument ID: F3

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Isopropylbenzene	100	N.D.
p-Isopropyltoluene	100	N.D.
Methylene chloride	250	N.D.
1,2-Naphthalene	100	N.D.
m-Propylbenzene	100	N.D.
Styrene	100	N.D.
1,1,1,2-Tetrachloroethane	100	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
1,2-Dichloroethylene	100	N.D.
Toluene	100	N.D.
1,2,3-Trichlorobenzene	100	N.D.
1,2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
1,2-Dichloroethylene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,2,3-Trichloropropane	100	N.D.
1,2,4-Trimethylbenzene	100	120
1,3,5-Trimethylbenzene	100	N.D.
Vinyl chloride	100	N.D.
Total Xylenes	100	N.D.

Surrogates

1,2-Dichlorobenzene-d4
Toluene-d8
1-Bromofluorobenzene

Control Limits %

70 121
81 117
74 121

% Recovery

94
99
93

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

SEQUOIA ANALYTICAL - ELAP #1210

Lucien Manning
Project Manager

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1730 South Amphlett, Ste 320
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Client Proj. ID: 94005000, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/28/94
Reported: 01/06/95

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	500	N.D.
Acenaphthylene	500	N.D.
Anthracene	500	N.D.
Benzoic Acid	1000	N.D.
Benzo(a)anthracene	500	N.D.
Benzo(b)fluoranthene	500	N.D.
Benzo(k)fluoranthene	500	N.D.
Benzo(g,h,i)perylene	500	N.D.
Benzo(a)pyrene	500	N.D.
Benzyl alcohol	500	N.D.
Bis(2-chloroethoxy)methane	500	N.D.
Bis(2-chloroethyl)ether	500	N.D.
Bis(2-chloroisopropyl)ether	500	N.D.
Bis(2-ethylhexyl)phthalate	1000	N.D.
1-Bromophenyl phenyl ether	500	N.D.
Butyl benzyl phthalate	500	N.D.
4-Chloroaniline	1000	N.D.
2-Chloronaphthalene	500	N.D.
1-Chloro-3-methylphenol	500	N.D.
2-Chlorophenol	500	N.D.
4-Chlorophenyl phenyl ether	500	N.D.
Chrysene	500	N.D.
Dibenzo(a,h)anthracene	500	N.D.
Dibenzofuran	500	N.D.
Di-n-butyl phthalate	1000	N.D.
1,2-Dichlorobenzene	500	N.D.
1,3-Dichlorobenzene	500	N.D.
1,4-Dichlorobenzene	500	N.D.
3,3-Dichlorobenzidine	1000	N.D.
2,4-Dichlorophenol	500	N.D.
Diethyl phthalate	500	N.D.
2,4-Dimethylphenol	500	N.D.
Dimethyl phthalate	500	N.D.
4,6-Dinitro-2-methylphenol	1000	N.D.
2,4-Dinitrophenol	1000	N.D.

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ler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/28/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
4-Dinitrotoluene	500	N.D.
2,6-Dinitrotoluene	500	N.D.
Di-n-octyl phthalate	500	N.D.
fluoranthene	500	N.D.
fluorene	500	N.D.
Hexachlorobenzene	500	N.D.
Hexachlorobutadiene	500	N.D.
hexachlorocyclopentadiene	1000	N.D.
hexachloroethane	500	N.D.
Indeno(1,2,3-cd)pyrene	500	N.D.
Isophorone	500	N.D.
1-Methylnaphthalene	500	N.D.
1-Methylphenol	500	N.D.
4-Methylphenol	500	N.D.
1-naphthalene	500	N.D.
o-aniline	1000	N.D.
o-Nitroaniline	1000	N.D.
4-Nitroaniline	1000	N.D.
Nitrobenzene	500	N.D.
1-Nitrophenol	500	N.D.
2-Nitrophenol	1000	N.D.
N-Nitrosodiphenylamine	500	N.D.
N-Nitroso-di-n-propylamine	500	N.D.
pentachlorophenol	1000	N.D.
phenanthrene	500	N.D.
Phenol	500	N.D.
Pyrene	500	N.D.
1,2,4-Trichlorobenzene	500	N.D.
1,4,5-Trichlorophenol	1000	N.D.
2,4,6-Trichlorophenol	500	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	72
Phenol-d5	24	113	77
Nitrobenzene-d5	23	120	69
2-Fluorobiphenyl	30	115	67
2,4,6-Tribromophenol	19	122	49
3-Terphenyl-d14	18	137	58

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

SEQUOIA ANALYTICAL - ELAP #1210

Cileen Manning
Project Manager

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TUT 007 2398



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er & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: EPA 6010
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: ME1222946010MDC
Instrument ID: MTJA2

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	5.0	N.D.
Arsenic, As	5.0	N.D.
Barium, Ba	5.0	41
Beryllium, Be	0.50	N.D.
Cadmium, Cd	0.50	1.4
Chromium, Cr	0.50	29
Cobalt, Co	2.5	23
Copper, Cu	0.50	120
Lead, Pb	5.0	9.6
Nickel, Ni	2.5	22
Selenium, Se	5.0	34
Silver, Ag	0.50	N.D.
Thallium, Tl	5.0	N.D.
Vanadium, V	2.5	110
Zinc, Zn	0.50	62

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

SEQUOIA ANALYTICAL - ELAP #1210

Erin Manning
Project Manager

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TUT 007 2399



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rier & Kalinowski, Inc.
1730 South Amphlett, Ste 320
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Attention: Carey Peabody

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: Comb
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Analyzed: 12/20/94
Reported: 01/06/95

QC Batch Number: IN122094084600A

Reactivity

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Reactivity:		
Sulfide	13	N.D.
Cyanide	0.50	N.D.
Reaction with Water	N.A.	None

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

SEQUOIA ANALYTICAL - ELAP #1210

Len Manning
Project Manager

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er & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/27/94
Analyzed: 12/28/94
Reported: 01/06/95

QC Batch Number: GC1227940HBPEXA
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	100	870
Chromatogram Pattern:		
Ion Diesel Mix		C10-C24

Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Len Manning
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TUT 007 2401





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1730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: DS-3
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9412916-20

Sampled: 12/12/94
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC1222948TEXEXB

Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	7.3
Benzene	0.0050	N.D.
Toluene	0.0050	0.0088
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	0.029
Chromatogram Pattern:		
on Gas Mix		C6-C12
Weathered Gas		C6-C12

Surrogates
Trifluorotoluene

Control Limits %
70 130

% Recovery
87

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

SEQUOIA ANALYTICAL - ELAP #1210

Erin Manning
Project Manager

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TUT 007 2402



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er & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Attention: Carey Peabody

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: LIQUID
Analysis Method: EPA 8020
Lab Number: 9412916-21

Sampled:
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: GC122194802015A
Instrument ID: GCHP15

Aromatic Volatile Organics (EPA 8020)

Analyte	Detection Limit ug/L	Sample Results ug/L
Benzene	0.50	N.D.
Chlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
Ethyl benzene	0.50	N.D.
Toluene	0.50	N.D.
Total Xylenes	0.50	N.D.

Surrogates	Control Limits %	% Recovery
1-Chloro-2-fluorobenzene	70 130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

Ernest Manning
Project Manager

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TUT 007 2403



rier & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA
Instrument ID: F3

Volatile Organics (EPA 8260)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Benzene	100	N.D.
Bromobenzene	100	N.D.
Bromochloromethane	100	N.D.
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
n-Butylbenzene	100	N.D.
sec-Butylbenzene	100	N.D.
tert-Butylbenzene	100	N.D.
Carbon tetrachloride	100	N.D.
Chloroethane	100	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Chlorotoluene	100	N.D.
o-Chlorotoluene	100	N.D.
Dibromochloromethane	100	N.D.
1,2-Dibromoethane	100	N.D.
Dibromomethane	100	N.D.
1,2-Dibromo-3-chloropropane	250	N.D.
1,2-Dichlorobenzene	100	N.D.
1,3-Dichlorobenzene	100	N.D.
1,4-Dichlorobenzene	100	N.D.
Dichlorodifluoromethane	100	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethylene	100	N.D.
cis-1,2-Dichloroethylene	100	N.D.
trans-1,2-Dichloroethylene	100	N.D.
Monochlorobenzene	100	N.D.
1,2-Dichloropropane	100	N.D.
1,3-Dichloropropane	100	N.D.
2,2-Dichloropropane	100	N.D.
1,1-Dichloropropene	100	N.D.
Ethylbenzene	100	N.D.
Hexachlorobutadiene	100	N.D.



Sequoia Analytical

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ler & Kalinowski, Inc.
1730 South Amphlett, Ste 220
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: EPA 8260
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Extracted: 12/21/94
Analyzed: 12/21/94
Reported: 01/06/95

QC Batch Number: MS1221948260EXA
Instrument ID: F3

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
opropylbenzene	100	N.D.
p-Isopropyltoluene	100	N.D.
Methylene chloride	250	N.D.**
naphthalene	100	N.D.
Propylbenzene	100	N.D.
Styrene	100	N.D.
1,1,1,2-Tetrachloroethane	100	N.D.
1,2,2-Tetrachloroethane	100	N.D.
trachloroethylene	100	N.D.
Toluene	100	N.D.
1,2,3-Trichlorobenzene	100	N.D.
2,4-Trichlorobenzene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
oroethylene	100	N.D.
orofluoromethane	100	N.D.
2,3-Trichloropropane	100	N.D.
1,2,4-Trimethylbenzene	100	N.D.
1,3,5-Trimethylbenzene	100	N.D.
inyl chloride	100	N.D.
otal Xylenes	100	N.D.
urrogates	Control Limits %	% Recovery
1,2-Dichlorobenzene-d4	70 121	102
Toluene-d8	81 117	105
-Bromofluorobenzene	74 121	99

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

EQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager

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TUT 007 2405



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Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/27/94
Reported: 01/06/95

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
Bis(4-nonylphenyl)phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
1,2-Dichlorobenzene	250	N.D.
1,3-Dichlorobenzene	250	N.D.
1,4-Dichlorobenzene	250	N.D.
3,3-Dichlorobenzidine	500	N.D.
2,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
2,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
4,6-Dinitro-2-methylphenol	500	N.D.
2,4-Dinitrophenol	500	N.D.





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1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: EPA 8270
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/27/94
Reported: 01/06/95

QC Batch Number: MS1222948270EXA
Instrument ID: H5

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
4-Dinitrotoluene	250	N.D.
2,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
fluoranthene	250	N.D.
luorene	250	N.D.
Hexachlorobenzene	250	N.D.
Hexachlorobutadiene	250	N.D.
hexachlorocyclopentadiene	500	N.D.
hexachloroethane	250	N.D.
Indeno(1,2,3-cd)pyrene	250	N.D.
Isophorone	250	N.D.
-Methylnaphthalene	250	N.D.
-Methylphenol	250	N.D.
4-Methylphenol	250	N.D.
nthalene	250	N.D.
roaniline	500	N.D.
-Nitroaniline	500	N.D.
4-Nitroaniline	500	N.D.
Nitrobenzene	250	N.D.
-Nitrophenol	250	N.D.
-Nitrophenol	500	N.D.
N-Nitrosodiphenylamine	250	N.D.
N-Nitroso-di-n-propylamine	250	N.D.
pentachlorophenol	500	N.D.
phenanthrene	250	N.D.
Phenol	250	N.D.
Pyrene	250	N.D.
2,4-Trichlorobenzene	250	N.D.
2,4,5-Trichlorophenol	500	N.D.
2,4,6-Trichlorophenol	250	N.D.

Surrogates

	Control Limits %	
2-Fluorophenol	25	121
Phenol-d5	24	113
Nitrobenzene-d5	23	120
2-Fluorobiphenyl	30	115
2,4,6-Tribromophenol	19	122
5-Terphenyl-d14	18	137

% Recovery

65
67
62
64
57
62

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

SEQUOIA ANALYTICAL - ELAP #1210

Eileen Manning
Project Manager





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San Mateo, CA 94402

Client Proj. ID: 940058.00. Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: Comb
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Analyzed: 12/20/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: IN122094084600A

Reactivity

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Reactivity:		
Sulfide	13	N.D.
Cyanide	0.50	N.D.
Reaction with Water	N.A.	None

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

SEQUOIA ANALYTICAL - ELAP #1210


Eileen Manning
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er & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Extracted: 12/27/94
Analyzed: 12/28/94
Reported: 01/06/95

QC Batch Number: GC1227940HBPEXA
Instrument ID: GCHP4B

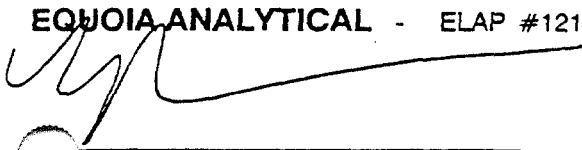
Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.

Surrogates	Control Limits %	% Recovery
-Pentacosane (C25)	50 150	86

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

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EQUOIA ANALYTICAL - ELAP #1210


E. Manning
Project Manager

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ler & Kalinowski, Inc.
30 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

Attention: Carey Peabody

QC Batch Number: GC122294BTEXEXB
Instrument ID: GCHP7

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
toluene	0.0050	N.D.
ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates
Trifluorotoluene

Control Limits %
70 130

% Recovery
87

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

SEQUOIA ANALYTICAL - ELAP #1210

E. J. Manning
Project Manager

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730 South Amphlett, Ste 320
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Client Proj. ID: 940058.00, Texaco Tutu
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: EPA 6010
Lab Number: 9412916-22

Sampled:
Received: 12/15/94
Extracted: 12/22/94
Analyzed: 12/22/94
Reported: 01/06/95

QC Batch Number: ME1222946010MDC
Instrument ID: MTJA2

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	5.0	N.D.
Arsenic, As	5.0	N.D.
Barium, Ba	5.0	N.D.
Beryllium, Be	0.50	N.D.
Cadmium, Cd	0.50	N.D.
Chromium, Cr	0.50	N.D.
Cobalt, Co	2.5	N.D.
Copper, Cu	0.50	N.D.
Lead, Pb	5.0	N.D.
Nickel, Ni	2.5	N.D.
Selenium, Se	5.0	N.D.
Silver, Ag	0.50	N.D.
Thallium, Tl	5.0	N.D.
Vanadium, V	2.5	N.D.
Zn	0.50	0.85

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

EQUOIA ANALYTICAL - ELAP #1210

E. Manning
Project Manager

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TUT 007 2411





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ler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402
Attention: Carey Peabody

Client Proj. ID: 940058.00, Texaco Tutu

Received: 12/15/94

Lab Proj. ID: 9412916

Reported: 01/06/95

LABORATORY NARRATIVE

Q - Surrogate recovery was lost due to sample dilution.

** Please Note:

The Method Blank for EPA 8260 has methylene chloride at 160 ug/Kg.

Methyl-tert-butyl ether was not detected above a detection limit of 250 ug/Kg in the EPA 8260 analysis of samples DS-1, DS-2 and DS-3.

Carbazole was not detected above a detection limit of 250 ug/Kg in the EPA 8270 analysis of samples DS-1, DS-2 and DS-3.

Samples 9412916-01, -02, and -03 were diluted for EPA 8270 analysis due to the presence of high non-Hazardous Substance List compounds.

SEQUOIA ANALYTICAL

Eileen Manning
Project Manager

TUT 007 2412

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Erler & Kalinowski, Inc.
1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: LIQUID
Sample Descript: XSD
Work Order #: 9412916 01-09, 21

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Chloro- benzene
QC Batch#:	GC122194802015A	GC122194802015A	GC122194802015A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030

Analyst:	T. Costello	T. Costello	T. Costello
MS/MSD #:	9412948-01-XSD	9412948-01-XSD	9412948-01-XSD
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	12/21/94	12/21/94	12/21/94
Analyzed Date:	12/21/94	12/21/94	12/21/94
Instrument I.D.#:	GCHP15	GCHP15	GCHP15
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L

Result:	25	24	23
MS % Recovery:	100	96	92
Dup. Result:	26	25	24
MSD % Recov.:	104	100	96
RPD:	3.9	4.1	4.3
RPD Limit:	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	39-150	46-148	55-135
---------------------------------	--------	--------	--------

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Page 1 of 2

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SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager



TUT 007 2413



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Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: LIQUID
Sample Descript: DW-ⁿ
Work Order #: 9412916 10-17

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Chloro- benzene
QC Batch#:	GC122294802015A	GC122294802015A	GC122294802015A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Nelson	D. Nelson	D. Nelson
MS/MSD #:	9412916-09-MSD	9412916-09-MSD	9412916-09-MSD
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	12/22/94	12/22/94	12/22/94
Analyzed Date:	12/22/94	12/22/94	12/22/94
Instrument I.D.#:	GCHP15	GCHP15	GCHP15
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L

Result:	26	25	24
MS % Recovery:	104	100	96

Dup. Result:	6.3	5.6	4.6
MSD % Recov.:	25	22	18

RPD:	122	127	136
RPD Limit:	0-50	0-50	0-50

LCS #:	LCS122294-LCS	LCS122294-LCS	LCS122294-LCS
Prepared Date:	12/22/94	12/22/94	12/22/94
Analyzed Date:	12/22/94	12/22/94	12/22/94
Instrument I.D.#:	GCHP15	GCHP15	GCHP15
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
LCS Result:	24	24	23
LCS % Recov.:	96	96	92

MS/MSD LCS Control Limits	39-150	46-148	55-135
---------------------------------	--------	--------	--------

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager



TUT 007 2414



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Erler & Kalinowski, Inc.
1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: SOLID
Sample Descript: DS-1
Work Order #: 9412916 18-20, 22

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1222946010MDC	ME1222946010MDC	ME1222946010MDC	ME1222946010MDC
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	9412916-18-MSD	9412916-18-MSD	9412916-18-MSD	9412916-18-MSD
Sample Conc.:	N.D.	0.91	23	13
Prepared Date:	12/22/94	12/22/94	12/22/94	12/22/94
Analyzed Date:	12/22/94	12/22/94	12/22/94	12/22/94
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	99	100	120	110
MS % Recovery:	99	99	97	97
Dup. Result:	97	100	120	110
MSD % Recov.:	97	99	97	97
RPD:	2.0	0.0	0.0	0.0
RPD Limit:	0-30	0-30	0-30	0-30

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD				
LCS	75-125	75-125	75-125	75-125
Control Limits				

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

Please Note:

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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9412916.ERL <3>



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Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: SOLID
Sample Descript: DS-1
Work Order #: 9412916 18-20, 22

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte: Mercury

QC Batch#: ME0105957471M4A

Analy. Method: EPA 7471

Prep. Method: EPA 7471

Analyst: N. Rocklein

MS/MSD #: 9412916-18-MSD

Sample Conc.: 0.012

Prepared Date: 01/05/95

Analyzed Date: 01/05/95

Instrument I.D.#: MV1

Conc. Spiked: 0.20 mg/Kg

Result: 0.19

MS % Recovery: 89

Dup. Result: 0.19

MSD % Recov.: 89

RPD: 0.0

RPD Limit: 0-30

LCS #:

Prepared Date:

Analyzed Date:

Instrument I.D.#:

Conc. Spiked:

LCS Result:

LCS % Recov.:

MS/MSD

LCS

75-125

Control Limits

Please Note:

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SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9412916.ERL <4>



TUT 007 2416



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San Mateo, CA 94402
Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: SOLID
Sample Descript: DS-1
Work Order #: 9412916 18-20, 22

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Reactive Cyanide	Reactive Sulfide
QC Batch#:	IN122094084600A	IN122094084600A
Analy. Method:	SW 846	SW 846
Prep. Method:	N.A.	N.A.

Analyst: J. Heider
MS/MSD #: 9412916-18-MSD
Sample Conc.: N.D.
Prepared Date: 12/20/94
Analyzed Date: 12/20/94
Instrument I.D.#: MANUAL
Conc. Spiked: 5.0 mg/Kg

K. Newberry

Result: 0.53
MS % Recovery: 11

Dup. Result: 0.57
MSD % Recov.: 11

RPD: 7.3
RPD Limit: 0-40

LCS #: LCS121994-LCS
Prepared Date: 12/19/94
Analyzed Date: 12/19/94
Instrument I.D.#: MANUAL
Conc. Spiked: 10 mg/L
LCS Result: 9.7
LCS % Recov.: 97

MS/MSD	6.5-40	80-120
LCS		
Control Limits		

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

Please Note:

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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9412916.ERL <5>



TUT 007 2417



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Erlar & Kalinowski, Inc.
1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: SOLID
Sample Descript: DS-1
Work Order #: 9412916 18-20, 22

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	pH	Flashpoint
QC Batch:	IN122294904500A	IN122094101000A
Analy. Method:	EPA 9045	EPA 1010
Prep Method:	N.A.	N.A.

Analyst: Y. Arteaga K. Newberry

Duplicate
Sample #: 9412916-18-MSD 9412916-18-MSD

Prepared Date: 12/22/94 12/20/94
Analyzed Date: 12/22/94 12/20/94
Instrument I.D.#: MANUAL MANUAL

Sample
Concentration: 9.0 > 100 °C

Dup. Sample
Concentration: 9.1 > 100 °C

RPD: 1.1 0.0
RPD Limit: 0-30 0-5 °C

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

** RPD = Relative % Difference

9412916.ERL <6>



TUT 007 2418



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1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: SOLID
Sample Descript: DS-1
Work Order #: 9412916 18-20, 22

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro- benzene
QC Batch#:	MS1221948260EXA	MS1221948260EXA	MS1221948260EXA	MS1221948260EXA	MS1221948260EXA
Analy. Method:	EPA 8260	EPA 8260	EPA 8260	EPA 8260	EPA 8260
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	S. Hoffmann	S. Hoffmann	S. Hoffmann	S. Hoffmann	S. Hoffmann
MS/MSD #:	9412916-18-MSD	9412916-18-MSD	9412916-18-MSD	9412916-18-MSD	9412916-18-MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/21/94	12/21/94	12/21/94	12/21/94	12/21/94
Analyzed Date:	12/21/94	12/21/94	12/21/94	12/21/94	12/21/94
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	2500 µg/Kg	2500 µg/Kg	2500 µg/Kg	2500 µg/Kg	2500 µg/Kg
Result:	1600	2000	2100	2100	2300
MS % Recovery:	64	80	84	84	92
Dup. Result:	1400	2000	1900	2100	2200
MSD % Recov.:	56	80	76	84	88
RPD:	13	0.0	10	0.0	4.4
RPD Limit:	0-50	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS	DL-234	71-157	37-151	47-150	37-160
Control Limits					

SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9412916.ERL <7>



TUT 007 2419



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Erler & Kalinowski, Inc.
1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: SOLID
Sample Descript: DS-3
Work Order #: 9412916 18-20, 22

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte: Diesel

QC Batch#: GC1227940HBPEXA

Analy. Method: EPA 8015M

Prep. Method: EPA 3550

Analyst: N. Herrera

MS/MSD #: 9412916-20-MSD

Sample Conc.: 870

Prepared Date: 12/27/94

Analyzed Date: 12/28/94

Instrument I.D.#: GCHP4B

Conc. Spiked: 15 mg/Kg

Result: *

MS % Recovery: -

Dup. Result: *

MSD % Recov.: -

RPD: *

RPD Limit: 0-50

LCS #: LCS122794-LCS

Prepared Date: 12/27/94

Analyzed Date: 12/27/94

Instrument I.D.#: GCHP4B

Conc. Spiked: 15 mg/Kg

LCS Result: 9.8

LCS % Recov.: 65

MS/MSD

LCS

38-122

Control Limits

*Matrix spike recovery was indeterminable due to interferences in the matrix.

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SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9412916.ERL <8>



TUT 007 2420



Sequoia
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Erler & Kalinowski, Inc.
1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Carey Peabody

Client Project ID: 940058.00, Texaco Tutu
Matrix: SOLID
Sample Descript: DS-1
Work Order #: 9412916 18-20, 22

Reported: Jan 9, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC1222948TEXEXB	GC1222948TEXEXB	GC1222948TEXEXB	GC1222948TEXEXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
MS/MSD #:	9412916-18-MSD	9412916-18-MSD	9412916-18-MSD	9412916-18-MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/22/94	12/22/94	12/22/94	12/22/94
Analyzed Date:	12/22/94	12/22/94	12/22/94	12/22/94
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.15	0.15	0.16	0.48
MS % Recovery:	75	75	80	80
Dup. Result:	0.16	0.16	0.16	0.48
MSD % Recov.:	80	80	80	80
RPD:	6.5	6.5	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
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SEQUOIA ANALYTICAL

Eileen A. Manning
Project Manager

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9412916.ERL <9>



TUT 007 2421

CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

Erler & Kalinowski, Inc.

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 940058.00

Page 1 of 3

Date Sampled: 12/12/94

Project Name: Texaco, Tutu

Sampled By: C. Peabody

Source of Samples: Drums

Report Results To: Carey Peabody

Location: Tutu Wells Site, St. Thomas, USVI

Phone Number: 415) 578-1172

Lab Sample I D	Field Sample I D	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
1 A.C	DW-1	Aqueous	3 40ml VOA's	4:32 pm	EPA 8015 mod TPH diesel	
2	DW-2	Aqueous	" "	4:35 pm	EPA 8015/8020 TPH gas & BTEX	Std. Turn
3	DW-3	Aqueous	" "	4:38 pm	EPA 8240 TCL Volatile Organics	
4	DW-4	Aqueous	" "	4:42 pm	EPA 8270 TCL Semi Vol org. by RCI panel	
5	DW-5	Aqueous	" "	4:45 pm	EPA 8010 Halogenated Vol. Orga	
6	DW-6	Aqueous	" "	5:40 pm	TAL Metals	
7	DW-7	Aqueous	" "	5:55 pm	EPA 8020 on each sample	
8	DW-8	Aqueous	" "	6:10 pm		
9	DW-9	Aqueous	" "	6:15 pm		
10	DW-10	Aqueous	" "	6:20 pm		

Special Instructions: See attached TAL and TCL's.

8°C

Relinquished By:

Name / Signature / Affiliation

Date Time

Received By:

Name / Signature / Affiliation

Carey Peabody / C. ER. (S)	/EKI	12/13/94	11:00 AM	
		12/14/94	11:00	OBUSUN / SQ. RWC
		12/15/94		

CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

Erler & Kalinowski, Inc.

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 940058.00

Page 3 of 3

Date Sampled: 12 / 12 / 94

Project Name: Texaco, Tutu

Sampled By: C. Peabody, Paul Ryan

Source of Samples: Drums, Texaco Station

Report Results To: Carey Peabody

Location: Tutu Wells Site, St. Thomas, USVI

Phone Number: 415) 578-1172

Lab Sample I D	Field Sample I D	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
18 A	DS-1	soil	1 each-1 L. glass	5:30 PM	EPA 8015 mod TPH-diesel	STD. TURN
19	DS-2	soil	" "	5:55 PM	EPA 8015/8020 TPH-gas w/ BTEX	"
20	DS-3	soil	"	7:45 PM	EPA 8240 TCL Volatile Organics	"
					EPA 8270 TCL Semi-Vol org. by RCI panel	
					EPA 8010 Halogenated Vol. Orga-	
					TAL Metals	
					- All analyses on each sample	

Special Instructions: See attached TAL and TCL's.

Relinquished By:

Name / Signature / Affiliation

Received By:

Name / Signature / Affiliation

Carey Peabody / C. E. Peabody / EKI	12/13/94	11:00 AM	
	12/15/94	11:00	Bruce / C. Bruce / Seq. PMS