TEXACO STATION#63-232.0037 LUST# 2298 KING/Seattle (ust: 4440)

RECEIVED
JUN 1 0 1997
DEPT. OF ECOLOGY

#### **EXCAVATION AND SOIL SAMPLING**

AT

FORMER TEXACO FACILITY 63-232-0037 8701 GREENWOOD AVENUE NORTH SEATTLE, WASHINGTON

ECOLOGY TCP IDENTIFICATION NO. 2868 ERI JOB 31001.R08 May 30, 1997

Prepared for

TEXACO REFINING AND MARKETING INC. ENVIRONMENT, HEALTH & SAFETY 3400 188TH STREET SW, SUITE 630 LYNNWOOD, WASHINGTON 98037

Prepared by

ENVIRONMENTAL RESOLUTIONS, INC.



DEPARTMENT OF ECOLOGY NWRO/TCP TANK UNIT	
INTERIM CLEANUP REPORT SITE CHARACTERIZATION FINAL CLEANUP REPORT OTHER POST JRAP WARE	0000
AFFECTED MEDIA: SOIL OTHER GW INSPECTOR (INIT.) DATE U/21	ا ا ا

#### **EXCAVATION AND SOIL SAMPLING**

at

Former Texaco Facility 63-232-0037 8701 Greenwood Avenue North Seattle, Washington

ERI Job 31001.R08

Prepared for

Texaco Refining and Marketing Inc. Environment, Health & Safety 3400 188th Street SW, Suite 630 Lynnwood, Washington 98037

by

Environmental Resolutions, Inc.

ohn K. Meyer, R.G. Branch Manager

Steve M. Zigan, R.G.

President

May 30, 1997

#### TABLE OF CONTENTS

1.0	INTRODU	CTION	1				
2.0	BACKGRO	DUND	1				
3.0	PURPOSE	AND SCOPE OF SERVICES	2				
4.0	4.1 Init 4.2 Exc 4.3 Air	TTIVITIES ial Soil Sampling cavation and Soil Sampling Monitoring ter Service Installation	2 3 4				
5.0	CHEMICA	L ANALYSES	4				
6.0	RESULTS		5				
7.0	WASTE D	ISPOSAL	6				
8.0 CONCLUSIONS							
9.0	LIMITATI	ONS	7				
10.0	REFERE	NCES	8				
		TABLES					
TAI	BLE T-1 BLE T-2 BLE T-3	SOIL ANALYTICAL RESULTS SOIL ANALYTICAL RESULTS - WDOE INTERIM TPH POLICY METHOD AIR MONITORING ANALYTICAL RESULTS					
		PLATES					
PLA	ATE P-1 ATE P-2 ATE P-3	SITE VICINITY MAP INITIAL SOIL SAMPLE ANALYSES MAP EXCAVATION SOIL SAMPLE ANALYSES MAP					
		APPENDICES					
API	ENDIX B	LABORATORY REPORTS AND CHAIN OF CUSTODY SOIL DISPOSAL MANIFESTS METRO DISCHARGE AUTHORIZATION					



Texaco Refining and Marketing Inc

3400 188th Street SW Suite 630 Lynnwood WA 98037

June 9, 1997

JUN 1 0 1997 DEPT. OF ECOLOGY

#### **ENV - SERVICE STATIONS**

**Excavation and Soil Sampling Report** Texaco Location # 63-232-0037 8701 Greenwood Avenue North Seattle, Washington

Mr. Roger Nye Department of Ecology Northwest Regional Office 3190 160th Avenue SE Bellevue, WA 98008-5452

Dear Mr. Nye:

Enclosed is the 'Excavation and Soil Sampling' report for referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) for Texaco Environment, Health & Safety. The report details sampling and removal of hydrocarbon-impacted soil, conducted in conjunction with ongoing retail facility construction activities at the site. Also documented in this report is additional excavation, sampling and monitoring activities conducted in the public right of way (along North 87th Street south of the site) to allow installation of the new water service.

If you have any questions please contact me at (206) 774-6090, extension 224.

Sincerely. V.A. Qajer

Theresa A. Geijer **Project Coordinator** 

Texaco Environment, Health & Safety

TAG:tag

p:\tag\greenw\ctyexrpt.doc

Enclosure

CC:

Mr. R. Isackson-Village Properties (w/enclosure)

Mr. M. Nesteroff-LPSL (w/enclosure)

Ms. Shab Zand-SPU (w/enclosure)

RLLane-File (w/enclosure)

#### **EXCAVATION AND SOIL SAMPLING**

at

Former Texaco Facility 63-232-0037 8701 Greenwood Avenue North Seattle, Washington For Texaco Refining and Marketing Inc. Environment, Health & Safety

#### 1.0 INTRODUCTION

As requested by Texaco Refining and Marketing Inc., Environment, Health & Safety (TRMI-EH&S), Environmental Resolutions, Inc. (ERI) has prepared this report documenting results of excavation, environmental monitoring, and soil sampling activities conducted during February and March 1997 at former Texaco Facility 63-232-0037, 8701 Greenwood Avenue North, Seattle, Washington (Plate P-1). Soil excavation and sampling activities were performed at the southeastern portion of the site and in the public right of way to the south and east to remove hydrocarbon-impacted soil identified during installation of new water service to the property. ERI coordinated with Bayley Construction, Inc. (Bayley), the building contractor, and Seattle Public Utilities (SPU) to provide environmental monitoring and soil assessment services during excavation and water service installation.

#### 2.0 BACKGROUND

Soil and groundwater assessment and remediation activities have been conducted at the site since 1991. Excavation activities were conducted in 1994 to remove hydrocarbon-impacted soil near the former fuel dispensing facilities and waste oil underground storage tank (UST) during station demolition activities. In addition, a combined air sparging/vapor extraction system operated between December 1994 and June 1995 to remove hydrocarbons from groundwater. The property was sold to Seattle/Village Partnership (Village) in June 1995.

Results of these and previous assessment and remediation activities were summarized in the *Independent Remedial Action Report* dated January 5, 1996 prepared by ERI and submitted to the Washington State Department of Ecology (Ecology) for review under the Independent Remedial Action Program (IRAP). Following review of the IRAP report, on July 31, 1996 Ecology issued a no further action determination for the site notifying TRMI-EH&S and the new site owner that no further cleanup action would be required. The determination required that a restrictive covenant be placed on the property deed identifying areas of remaining impacted soil, and that potential new areas of impacted soil identified during construction be removed as practicable. The covenant also required that groundwater samples be collected from downgradient monitoring well AGW-6 and submitted for hydrocarbon analyses on a twice-yearly basis to monitor groundwater conditions.

In September 1996, Village and Bayley began construction of an approximately 12,000-square-foot retail building with adjacent paved parking. During construction, additional areas of hydrocarbon-impacted soil were encountered. Impacted material in these areas was removed as practicable and transported off site for treatment and recycling. Soil excavation activities were observed by ERI and samples were collected and submitted for laboratory analysis. Excavation activities and laboratory results were presented in ERI's Excavation and Soil Sampling Report dated March 15, 1996, and Excavation, Soil Sampling, and Construction Coordination report dated February 4, 1997.

#### 3.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this investigation was to provide environmental monitoring and assessment services to the building contractor and SPU on behalf of TRMI-EH&S to assist in removal of impacted soil prior to installation of new water service.

To meet these objectives, ERI completed the following tasks:

- Discussed the site conditions and known environmental concerns at the site with the building contractor and representatives of SPU to identify areas of known and potentially impacted soil;
- Performed environmental monitoring activities during excavation and new water service installation;
- Observed site conditions, monitored vapor concentrations, and collected air, soil, and water samples for laboratory analysis;
- Observed excavation and removal of hydrocarbon-impacted soil and collected confirmation soil samples;
- Submitted soil, water, and air samples to be analyzed for hydrocarbon compounds and total lead;
- Coordinated waste profiling and transportation and disposal of hydrocarbon-impacted soil and water;
- Prepared this report summarizing investigative methods, laboratory analytical results, and findings.

#### 4.0 FIELD ACTIVITIES

4.1 Initial Soil Sampling

Based on a request by the building contractor, ERI visited the site on February 12, 1997 to observe stockpiled soil at the southeastern portion of the property that Bayley had excavated during construction. The stockpile consisted of approximately 1 to 2 cubic yards of soil. Soil sample SP-021297 was collected from excavated stockpiled soil, placed into a sealed glass jar, and submitted for 24-hour rush analyses. The soil sample location and laboratory results are shown on Plate P-2 and Table T-1.

On February 17, 1997, ERI returned to the site to observe additional stockpiled soil excavated by SPU personnel from beneath the sidewalk in the adjacent right of way immediately south of the property. Excavation had been undertaken to allow installation of new 8-inch-diameter water service to the new building. Based on the suspected presence of impacted materials, SPU crews halted further work and returned excavated material to the excavation. Prior to backfilling, a small quantity of suspected impacted material was set aside in a separate stockpile for sampling. Stockpile soil sample SP-0217 was subsequently collected from the excavated stockpiled soil by ERI, placed into a sealed glass jar, and submitted for 24-hour rush analyses (Plate P-2 and Table T-1).

Based on the soil sample laboratory results, ERI met with representatives of TRMI-EH&S, SPU, Village, and Bayley to discuss possible environmental concerns related soil excavation and installation of the new water service. A representative of ESE Corporation (ESE), a soil excavation contractor was also in attendance on behalf of TRMI-EH&S. Areas of known or potentially impacted soil were identified and plans for excavation and water service installation discussed. Based on results of the meetings, ERI was asked to provide environmental monitoring and soil sampling services on behalf of TRMI-EH&S during removal of impacted soil, and subsequent installation of new water service by SPU personnel.

#### 4.2 Excavation and Soil Sampling

During February 17 through 19, 1997, ERI visited to the site to observe removal of impacted soil at the southeastern portion of the property. The area of excavation is bounded by a concrete foundation footing to the north, east, and south. The area of excavation is shown on Plate P-3 (Excavation 1A). Soil excavation activities were performed by ESE on behalf of TRMI-EH&S. Soil was removed from the surface to approximately 5 feet below ground surface (bgs) where peat was encountered. Seepages of water were observed entering through pea gravel encountered at the northeastern portion of the excavation. Excavation to the northeast was halted to avoid flooding the excavation with water from the backfilled former gasoline and diesel UST basin. Impacted soil in remaining directions was then removed to within approximately one foot of the building structures, or until photoionization detector (PID) readings indicated a reduction in hydrocarbon levels. Approximately 100 gallons of water were removed from the excavation and discharged to the sanitary sewer under an authorization from the King County Water Pollution Control Division (Metro). Soil samples were then collected at the limits of the excavation, placed into laboratory-supplied glass containers, and submitted for 24-hour rush analyses. The excavation was subsequently backfilled with clean imported fill material and the site restored to original grade. Laboratory results are shown on Plate P-3 and Tables T-1 and T-2.

On March 10, 1997, ERI and ESE returned to the site to remove impacted soil from a separate excavation in the public right of way along North 87th Street south of the site to allow installation of the new water service (Plate P-3; Excavation 1B). Traffic control was provided by National Barricade according to a plan approved by Seattle Engineering. Excavation activities were performed by ESE and observed by ERI and representatives from SPU. Soil was removed from the surface to depths ranging between approximately 5 and 6 feet bgs where peat was encountered. Water observed accumulating in the bottom of the excavation was removed and temporarily stored on-site in DOT-approved 55-gallon drums. Soil samples were then collected at the limits of the excavation, placed into laboratory-supplied glass containers, and submitted for 24-hour rush analyses. One sample (EXWATER) collected from the water removed from the excavation was also submitted for laboratory analysis. Excavation water was subsequently transported off site for treatment and recycling.

#### 4.3 Air Monitoring

During excavation activities on March 10, 1997, ERI performed air monitoring and sampling activities to evaluate site conditions. During site activities, air in and around the work area was continuously monitored with a direct-reading Gastech GT 200 gas indicator calibrated to hexane and equipped with an oxygen meter. Hydrocarbon readings collected in and around the immediate work area during site activities generally ranged between 0 and 20 parts per million (ppm). Oxygen readings remained constant at background levels. During and after excavation activities, air samples were collected according to National Institute for Occupational Safety and Health (NIOSH) Method 1501 for hydrocarbons by using a Gilian Gil-Air personal air sampling pump equipped with a constant flow, low flow module, and charcoal sample tube. Prior to sampling, the instrument was calibrated using a Buck Calibrator Model M-4. Two air samples, A1 and A2, were collected from the air within the northern and southern portions of the excavation, respectively, and the samples submitted for hydrocarbon analyses. Air sampling flow rates, sampling intervals, and laboratory results are shown on Table T-3.

#### 4.4 Water Service Installation

Laboratory results of air and soil samples were reported by the laboratories on March 11, 1997 and the information immediately relayed to SPU for review. Based on their review of the information, on March 12, 1997, SPU work crews began installing the proposed 8-inch diameter water service. Hydrocarbon concentrations in the air immediately surrounding and within the excavation were monitored throughout the day by ERI using a PID calibrated to hexane. Readings collected in and around the immediate work area generally ranged between 0 and 20 ppm. Vapor concentrations were also monitored by SPU personnel using direct-reading instruments. On March 14, 1997, water service installation work was completed. The newly installed piping was then wrapped with several layers of protective plastic sheeting by SPU personnel, and the excavation backfilled with controlled density fill according to SPU requirements.

Between March 10 and 13, 1997, three smaller areas (Excavations 2, 3, and 4) were excavated to depths of approximately 3 feet bgs in the public right of way along Greenwood Avenue North to the east of the site (Plate P-3). The excavations were required to retire older water lines and install new service. PID readings collected in and around the immediate work areas generally ranged between 0 and 20 ppm. Prior to abandonment and installation activities, soil samples were collected from the excavations and submitted for laboratory analysis. Following the completion of work, the excavations were backfilled with controlled density fill according to SPU requirements.

#### 5.0 CHEMICAL ANALYSES

Soil samples collected between February 18 and March 10, 1997, were submitted to the North Creek Analytical Inc. laboratory in Bothell, Washington, for analysis. The samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using Ecology Method WTPH-G/EPA Method 8020A, and for total petroleum hydrocarbons as diesel (TPH-D) and as oil (TPH-O) using Ecology Method WTPH-D (extended). The stockpiled soil sample collected on February 12, 1997 was also analyzed for total lead using EPA Method 7420. Copies of laboratory reports are provided in Appendix A.

On March 25, 1997, selected soil samples were submitted for additional analyses. Sample EX-BN-5 collected on March 10, 1997 was additionally analyzed for volatile petroleum hydrocarbons (VPH), methyl tertiary butyl ether (MTBE), BTEX, and naphthalene using the Ecology WDOE Interim TPH Policy

Method. Sample EX-BS-6 collected on March 10, 1997 and sample EX4-E-3 collected on March 13, 1997 were additionally analyzed for extractable petroleum hydrocarbons (EPH) and polynuclear aromatic hydrocarbons (PAH) using the Ecology WDOE Interim TPH Policy Method. Copies of laboratory reports are provided in Appendix A.

Air samples collected on March 10, 1997 were submitted to OMS Laboratories, Inc. in Seattle, Washington, for analysis. The samples were analyzed for benzene, gasoline, diesel, and total hydrocarbons using NIOSH Method 1501 using gas chromatography. Copies of laboratory reports are provided in Appendix A.

Soil samples collected on March 13, 1997 and the excavation water sample collected on March 14, 1997 were submitted to Columbia Analytical Services, Inc. in Bothell, Washington, for analysis. The soil samples were analyzed for TPH-G and BTEX using Ecology Method WTPH-G/EPA Method 5030A/8020, and for TPH-D and TPH-O using Ecology Method WTPH-D (extended). The water sample was analyzed for total oil and grease using EPA Method 413.1, and for benzene, toluene, and ethylbenzene using EPA Method 5030A/8020. Copies of laboratory reports are provided in Appendix A.

#### 6.0 RESULTS

Laboratory results indicate that initial soil samples SP-021297 and SP-0217 collected from stockpiled soil contained concentrations of TPH-G, TPH-D, TPH-O, benzene, ethylbenzene, or total xylenes exceeding Model Toxics Control Act (MTCA) Method A Cleanup Levels. Laboratory results are shown on Plate P-2 and Table T-1.

Laboratory results indicate that soil samples EXS3-5 and EXE-5 collected from the southern and eastern portions of the on-site excavation (Excavation 1A) contained TPH-O concentrations of 985 and 402 ppm, respectively, exceeding the MTCA Method A Cleanup Level of 200 ppm. Sample EXE-5 also contained 147 ppm TPH-G and 459 ppm TPH-D, exceeding the MTCA Method A Cleanup Levels of 100 ppm and 200 ppm, respectively. Remaining samples collected from Excavation 1A contained analyte concentrations below MTCA Method A Cleanup Levels (Plate P-3 and Table T-1).

Laboratory results indicate that three of the four soil samples (EX-N-4, EX-WN-4, and EX-BN-5) collected from the northern portion of the new water service excavation (Excavation 1B) contained TPH-G concentrations ranging between 120 and 170 ppm, exceeding the MTCA Method A Cleanup Level of 100 ppm. Results of additional analyses using the WDOE Interim TPH Policy Method indicate that hydrocarbons detected in sample EX-BN-5 consist primarily of C8-C12 aliphatic and C8-C12 aromatic fractions; MTBE, BTEX, and naphthalene were not detected. Remaining analyte concentrations in soil samples collected from the northern portion of the excavation were below MTCA Method A Cleanup Levels (Plate P-3; Tables T-1 and T-2).

Laboratory results indicate that the four soil samples collected from the southern portion of Excavation 1B (EX-BS-6, EX-WS-5, EX-S-5, and EX-ES-5) contained TPH-D concentrations ranging between 354 and 1,610 ppm, and TPH-O concentrations ranging between 712 and 2,270 ppm, exceeding the MTCA Method A Cleanup Level of 200 ppm. Results of additional analyses using the WDOE Interim TPH Policy Method indicate that the hydrocarbons detected in EX-BS-6 consist primarily of C21-C34 aliphatic and C21-C34 aromatic fractions. PAH concentrations ranged from below the method reporting limit (MRL) to

0.623 ppm, with the sum of the carcinogenic PAH concentrations exceeding the MTCA Method A Cleanup Level of 1.0 ppm. Concentrations of four compounds also exceeded their respective MTCA Method B Cleanup Levels. Remaining analyte concentrations in soil samples collected from the southern portion of the excavation were below MTCA Method A Cleanup Levels (Plate P-3; Tables T-1 and T-2).

Laboratory results indicate that soil sample EX2-E-3 collected from Excavation 2 contained analyte concentrations below MTCA Method A Cleanup Levels. Soil samples collected from Excavation 3 (EX3-E-3) and Excavation 4 (EX4-E-3) contained TPH-O concentrations of 252 ppm and 348 ppm, respectively, exceeding the MTCA Method A Cleanup Level of 200 ppm. Remaining analyte concentrations were below MTCA Method A Cleanup Levels. Results of additional analyses using the WDOE Interim TPH Policy Method indicate that the hydrocarbons detected in EX4-E-3 consist primarily of C21-C34 aliphatic and C21-C34 aromatic fractions. PAH concentrations ranged from below the MRL to 0.616 ppm, with the sum of the carcinogenic PAH concentrations exceeding the MTCA Method A Cleanup Level of 1.0 ppm. Concentrations of five compounds also exceeded their respective MTCA Method B Cleanup Levels (Plate P-3; Tables T-1 and T-2).

Laboratory results indicate that air samples A1 and A2 collected from within Excavation 1B contained gasoline, diesel, and total hydrocarbons concentrations up to 3.8, 1.4, and 5.0 mg/m³, respectively. Samples A1 and A2 also contained benzene concentrations of 0.05 mg/m³ (0.02 ppm) and 0.15 mg/m³ (0.05 ppm), respectively (Table T-3).

Laboratory results indicate that water sample EXWATER collected from water accumulated in Excavation 1B on March 14, 1997 contained 287 ppm total oil and grease, 37 parts per billion (ppb) benzene, 340 ppb toluene, and 290 ppb ethylbenzene.

#### 7.0 WASTE DISPOSAL

Between February 18 and March 10, 1997, approximately 85 cubic yards (130 tons) of soil were excavated and transported to the TPS Technologies, Inc. facility in Tacoma, Washington, for treatment and recycling. Approximately 50 cubic yards (75 tons) of clean fill was imported and backfilled into Excavation 1A to restore the site to original grade. Excavations 1B, 2, 3, and 4 were backfilled with controlled density fill in accordance with SPU requirements. Soil disposal manifests and weigh tickets are provided in Appendix B.

Approximately 100 gallons of water removed from Excavation 1A were discharged to the sanitary sewer under an authorization from Metro. A copy of the Metro authorization letter is provided in Appendix C. Approximately 60 gallons of water removed from Excavation 1B were transported to the Spencer Environmental, Inc. facility in Portland, Oregon, for treatment and recycling.

#### 8.0 CONCLUSIONS

During February and March 1997, ERI visited the site to monitor site conditions, collect soil, water, and air samples, and observe removal of hydrocarbon-impacted soil from separate excavations on site (Excavation 1A) and off site (Excavations 1B, 2, 3, and 4). Hydrocarbon-impacted soil was removed as practicable based on the locations of buildings, easements, and utilities. Following removal of impacted soil, samples were collected at the limits of the excavations and submitted for laboratory analysis.

Two soil samples collected from the southern and eastern portions of Excavation 1A following removal of impacted soil contained TPH-O concentrations exceeding MTCA Method A Cleanup Levels. One sample also contained 147 ppm TPH-G and 459 ppm TPH-D, exceeding MTCA Method A Cleanup Levels. Remaining samples contained analyte concentrations below MTCA Method A Cleanup Levels. The excavation was subsequently backfilled with clean imported fill and restored to grade.

Three of four soil samples collected from the northern portion of Excavation 1B contained TPH-G concentrations ranging between 120 ppm and 170 ppm, exceeding the MTCA Method A Cleanup Level of 100 ppm. Remaining analyte concentrations were below MTCA Method A Cleanup Levels. Results of additional analyses indicate that hydrocarbons detected in sample EX-BN-5 consist primarily of C8-C12 aliphatic and C8-C12 aromatic fractions.

All four soil samples collected from the southern portion of Excavation 1B contained TPH-D and TPH-O concentrations exceeding MTCA Method A Cleanup Levels. Concentrations of TPH-G were below MTCA Method A Cleanup Levels in the same four samples. Results of additional analyses indicate that hydrocarbons detected in sample EX-BS-6 consist primarily of C21-C34 aliphatic and C21-C34 aromatic fractions. Concentrations of four PAH compounds exceeded their respective MTCA Method B Cleanup Levels. The sum of the carcinogenic PAH concentrations also exceeded the MTCA Method A Cleanup Level of 1.0 ppm.

The soil sample collected from Excavation 2 contained analyte concentrations below MTCA Method A Cleanup Levels. Soil samples collected from Excavations 3 and 4 contained concentrations of TPH-O exceeding MTCA Method A Cleanup Levels. Remaining analyte concentrations were below MTCA Method A Cleanup Levels in the same two samples. Results of additional analyses indicate that hydrocarbons detected in sample EX4-E-3 consist primarily of C21-C34 aliphatic and C21-C34 aromatic fractions. Concentrations of five PAH compounds exceeded their respective MTCA Method B Cleanup Levels. The sum of the carcinogenic PAH concentrations also exceeded the MTCA Method A Cleanup Level of 1.0 ppm. Following the completion of site activities, Excavations 1B, 2, 3, and 4 were backfilled with controlled density fill in accordance with SPU requirements.

Sample EXWATER collected from water accumulated in Excavation 1B contained 287 ppm total oil and grease, 37 ppb benzene, 340 ppb toluene, and 290 ppb ethylbenzene. Water removed from the excavation was transported to the Spencer Environmental, Inc. facility in Portland, Oregon for treatment and recycling.

#### 9.0 LIMITATIONS

The site assessment investigation was conducted in accordance with generally accepted standards of environmental geological practice at the time performed. This investigation was conducted solely for the purpose of evaluating environmental conditions of the soil with respect to hydrocarbons at the subject site. No soil engineering or geotechnical implications are stated or should be inferred. The evaluation of the geologic conditions at the site for the purpose of this investigation is made from a limited number of observation points. Subsurface conditions may vary away from the data points available.

#### 10.0 REFERENCES

Environmental Resolutions, Inc., Independent Remedial Action Report dated January 5, 1996.

Environmental Resolutions, Inc., Excavation and Soil Sampling Report dated March 15, 1996.

Environmental Resolutions, Inc., Excavation, Soil Sampling, and Construction Coordination report dated February 4, 1997.

Washington State Department of Ecology, Toxics Cleanup Program, Ecology Publication No. ECY97-600, Interim Interpretive and Policy Statement, Cleanup of Total Petroleum Hydrocarbons (TPH), January, 1997 (Revised 1/30/97).

#### TABLE T-1 SOIL ANALYTICAL RESULTS

Former Texaco Facility 63-232-0037 8701 Greenwood Avenue North Seattle, Washington Page 1 of 1

Sample Name	Date Sampled	Depth	TPH-G	TPH-D	TPH-O	В	Т	E	Х	Pb
Initial Soil San	nnles		-							
SP-021297	<u>2/12/97</u>	NA	4890	739	705	6.62	<1.0	45.6	38.6	
SP-0217	2/17/97	NA	351	<110	389	0.243	3.25	3.08	21.2	21.5
Excavation 1A	<u>.</u>									
EXN1-5	2/18/97	5	<5.0	<10.0	<25.0	<0.05	<0.05	<0.05	<0.10	
EXN2-5	2/18/97	5	<5.0	<10.0	<25.0	<0.05	<0.05	<0.05	<0.10	
EXS1-5	2/18/97	5	<5.0	<10.0	<25.0	<0.05	<0.05	<0.05	<0.10	
EXS2-5	2/18/97	5	7.02	15.5	66.7	<0.05	<0.05	0.0865	0.330	-
EXW-5	2/18/97	5	<5.0	<10.0	<25.0	<0.05	<0.05	<0.05	<0.10	_
EXN3-5	2/19/97	5	83.8	14.1	49.3	<0.05	<0.05	0.589	0.359	
EXS3-5	2/19/97	5	19.0	174	985	<0.05	<0.05	0.0767	0.291	
EXE-5	2/19/97	5	147	459	402	0.0752	<0.05	0.268	0.393	
Excavation 1B										
EX-N-4	3/10/97	4	120	38.4	132	<0.20	<0.20	0.212	0.679	
EX-WN-4	3/10/97	4	130	28.2	136	0.218	0.124	0.197	0.686	-
EX-EN-4	3/10/97	4	<5.0	<10.0	44.2	<0.05	<0.05	<0.05	<0.10	
EX-BN-5 <sup>1</sup>	3/10/97	5	170	51.9	165	<0.10	0.125	0.456	0.863	
EX-BS-6 <sup>1</sup>	3/10/97	6	10.6	374	2270	<0.05	0.113	0.0600	0.357	
EX-WS-5	3/10/97	5	<5.0	520	788	<0.05	<0.05	<0.05	<0.10	
EX-S-5	3/10/97	5	<5.0	354	712	<0.05	0.130	<0.05	0.268	
EX-ES-5	3/10/97	5	<5.0	1610	799	<0.05	<0.05	<0.05	<0.10	-
Excavation 2										
EX2-E-3	3/10/97	3	<5.0	16.0	75.5	<0.05	<0.05	<0.05	<0.10	-
Excavation 3										
EX3-E-3	3/13/97	3	7	68	252	<0.05	<0.1	<0.1	<0.1	-
Excavation 4										
EX4-E-3 <sup>1</sup>	3/13/97	3	6	85	348	<0.05	<0.1	<0.1	<0.1	_
TCA Method A (	Cleanup Level		100	200	200	0.5	40	20	20	250

EXPLANATION:

EXPLANATION:

Depths are in feet below grade.

All concentrations in mg/kg (ppm).

Pb = Total Lead by EPA Method 7420.

BTEX = Aromatic compounds by EPA Method 8020.

B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes.

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Ecology Method WTPH-G.

TPH-D and TPH-O = Total Petroleum Hydrocarbons as Diesel and Oil, respectively, by Ecology Method WTPH-D (extended).

1 Sample additionally applying Ecology MAYOE Interim TPH Policy Method; see Table T-2

< = Less than the stated laboratory reporting limit.</p>
Shaded values exceed MTCA Method A Cleanup Levels.

<sup>&</sup>lt;sup>1</sup> Sample additionally analyzed using Ecology WDOE Interim TPH Policy Method; see Table T-2.

## TABLE T-2 SOIL ANALYTICAL RESULTS

WDOE INTERIM TPH POLICY METHOD
Former Texaco Facility 63-232-0037
8701 Greenwood Avenue North
Seattle, Washington
Page 1 of 1

	EX-BN-5	EX-BS-6	EX4-E-3
Date Collected	3/10/97	3/10/97	3/13/97
Depth	5	6	3
VOLATILE PETROLEUM HYDROCARBONS	(VPH)		
Aliphatics	. (0.1.)		
C5-C6	<5.0		
C6-C8	<5.0	_	
C8-C10	10.6		 
C10-C12	18.9		
Aromatics			
C8-C10	5.34	<del></del>	
C10-12	14.6	-	_
C12-13	<5.0	_	-
EXTRACTABLE PETROLEUM HYDROCARI	BONS (EPH)		
Aliphatics			
C8-C10	_	10.5	<5.0
C10-C12		16.9	<5.0
C12-C16	<del></del>	55,5	<5.0
C16-C21	_	44.2	6.98
C21-C34		426	119
A			
Aromatics		-40.0	-CO
C10-C12	<del>-</del>	<10.0	<5.0
C12-C16		26.8	<5.0
C16-C21	<del>-</del>	69.5	10.5
C21-C34		602	136
МТВЕ	<1.0		
Benzene*	<0.2	_	_
Toluene	<0.2		
Ethylbenzene	<0.2	_	
n,p-Xylene	<0.4		
-Xylene	<0.2		_
Acenaphthene		<0.04	<0.02
Acenaphthylene	<del></del>	<0.04	<0.02
Anthracene	_	0.0456	0.0363
Benzo(a)anthracene*		0.208 (0.137)	0,202 (0.1
Benzo(a)pyrene*	_	<0.04	0.264 (0.1
Benzo(b)fluoranthene*		0.324 (0.137)	0.279 (0.1
Benzo(ghi)perylene		0.225	0.225
Benzo(k)fluoranthene*		0.113	0.111
Chrysene*	<del>_</del>	0.273 (0.137)	0.253 (0.1
Dibenzo(a,h)anthracene*		0.0487	0.0419
Fluoranthene	_	0.0467	0.0419
-luoraninene Fluorene	_	<0.04	v.338 <0.02
ndeno(1,2,3-cd)pyrene*		0:163 (0.137)	Section of Section in the Principle on Principles
	_	0.0726	<b>0.218</b> (0.1 <0.02
2-Methylnaphthalene			
Naphthalene	<0.2	<0.04	<0.02
Phenanthrene	-	0.279	0.201
Pyrene	_	0.623	0.616

EXPLANATION:

Depths are in feet below grade.

All concentrations in mg/kg (ppm).

MTBE = Methyl Tertiary Butyl Ether

Shaded values exceed MTCA Method B Cleanup Levels. Method B Cleanup Levels shown in parentheses where applicable.

Analyses by Ecology WDOE Interim TPH Policy Method; samples analyzed past the recommended maximum holding time.

#### TABLE T-3

#### AIR MONITORING ANALYTICAL RESULTS

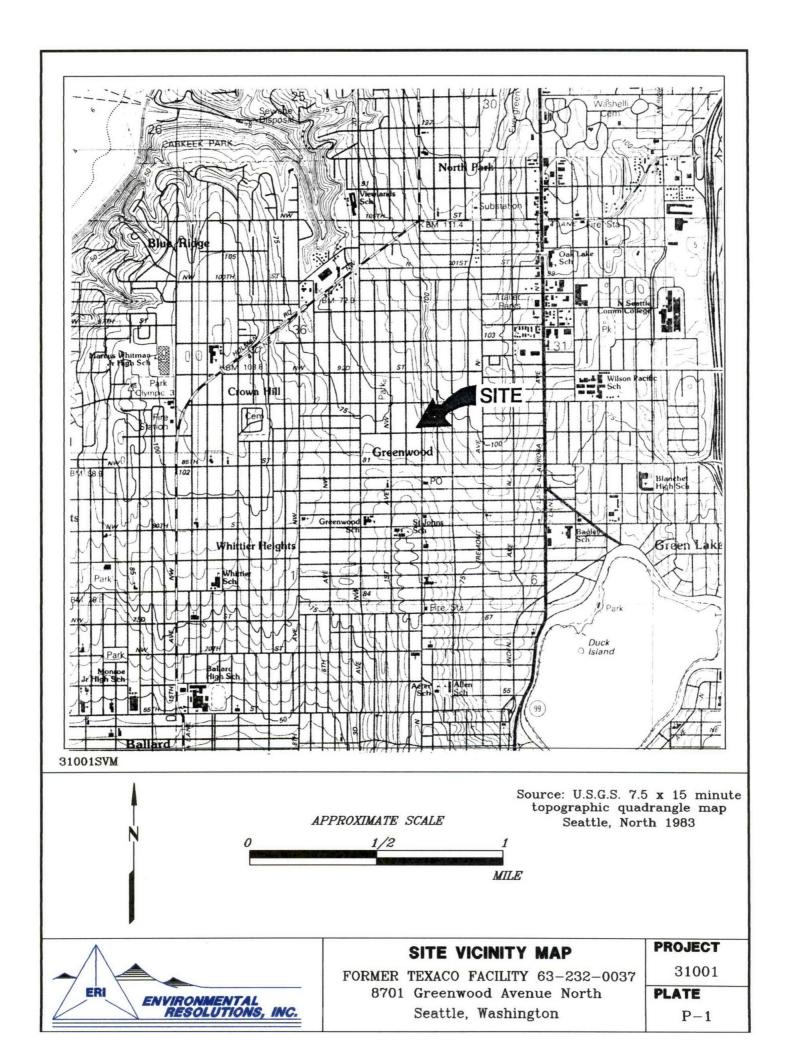
Former Texaco Facility 63-232-0037 8701 Greenwood Avenue North Seattle, Washington March 10, 1997 Page 1 of 1

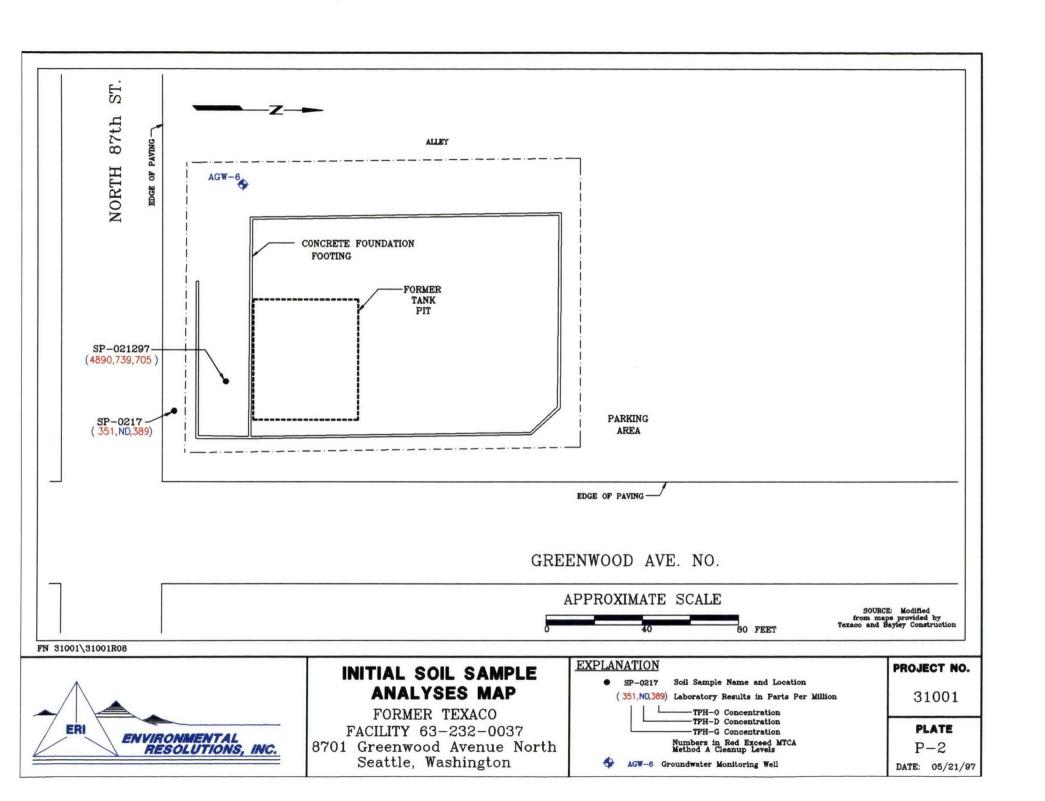
Sample	Location	Flow	Time	Volume	Gasoline	Diesel	Total HC	Benz	ene
Name		(cc/min)	(min)	(liters)	(mg/m <sup>3</sup> )	(mg/m³)	(mg/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ppm) <sup>1</sup>
Al	North End Excav. 1B	57	321	18.3	3.8	1.2	5.0	0.05	0.02
A2	South End Excav. 1B	177	76	13.5	3.8	1.4	4.5	0.15	0.05

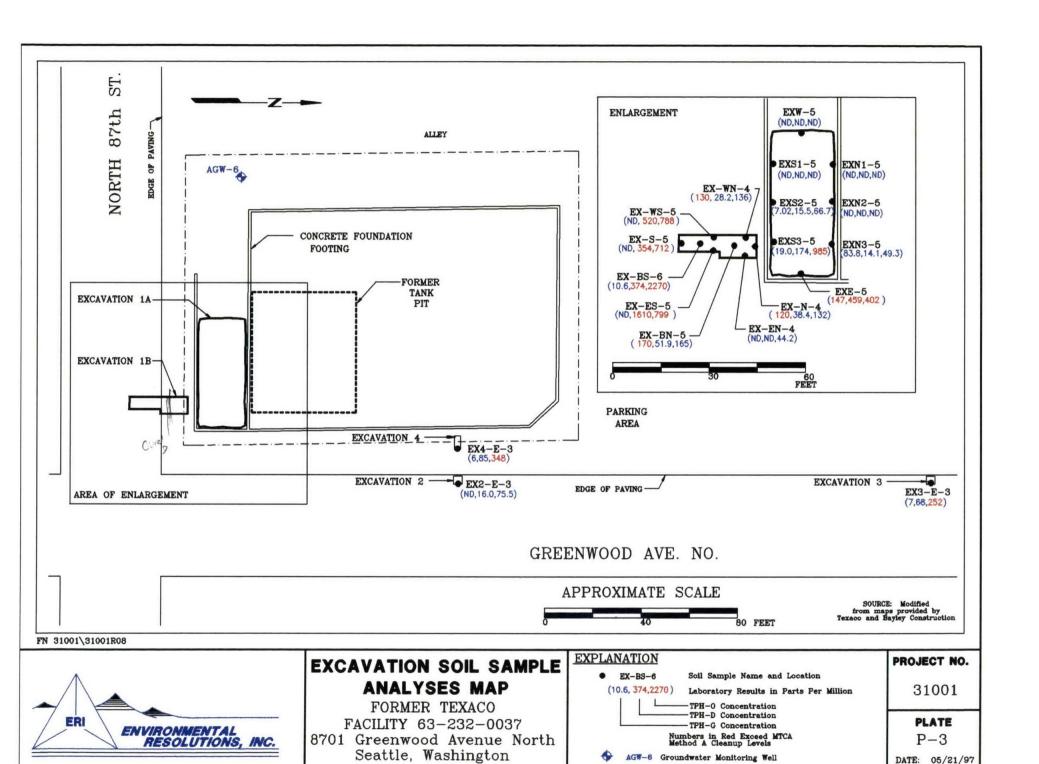
#### EXPLANATION:

Total HC = Total Hydrocarbons

Based on a conversion factor of 3.19 per NIOSH Manual of Analytical Methods, Fourth Edition. Samples collected in charcoal tubes and analyzed using NIOSH Method 1501.







# APPENDIX A LABORATORY REPORTS AND CHAIN OF CUSTODY



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco Greenwood

Sampled: 2/12/97 Received: 2/13/97

Renton, WA 98055

Project Number: 31008
Project Manager: John Meyer

Reported: 2/14/97 14:07

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
SP-021297	B702166-01	Soil	2/12/97

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI Project: Texaco Greenwood Sampled: 2/12/97
1921 Edmonds Drive SE Project Number: 31008 Received: 2/13/97
Renton, WA 98055 Project Manager: John Meyer Reported: 2/14/97 14:07

#### Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SP-021297			B7021	66- <u>01</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0270239	2/14/97	2/14/97		100	4890	mg/kg dry	
Benzene	H	n	H		1.00	6.62	11	
Toluene	**	0	11		1.00	ND	II .	
	H	*1	D		1.00	45.6	11*	
Ethylbenzene Xylenes (total)	11	11	н		2.00	38.6	II	
Surrogate: 4-BFB (FID)	- "	"	"	50.0-150		NR	%	1
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		146	n	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055 Project: Texaco Greenwood
Project Number: 31008

Sampled: 2/12/97 Received: 2/13/97

Project Manager: John Meyer

Reported: 2/14/97 14:07

#### Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SP-021297			B7021	66-01			Soil	<u>2</u>
Diesel Range Hydrocarbons	0270222	2/13/97	2/14/97	<del></del>	10.0	739	mg/kg dry	3
Heavy Oil Range Hydrocarbons	H	u	tt .		25.0	705	<u>.</u>	
Surrogate: 2-FBP	"	n	"	50.0-150		85.9	%	

North Creek Analytical Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND - (503) 643-9200 - FAX 644-2202

ERI

Project: Texaco Greenwood

Sampled: 2/12/97 Received: 2/13/97

1921 Edmonds Drive SE Renton, WA 98055 Project Number: 31008
Project Manager: John Meyer

Reported: 2/14/97 14:07

#### Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
SP-021297	B702166-01	Soil	21.9	%

North Creek Analytical, Inc.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE • (509) 924-9200 • FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055

Texaco Greenwood Project:

Sampled: 2/12/97 Received: 2/13/97

Project Number: 31008 Project Manager:

John Meyer

Reported: 2/14/97 14:07

#### Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/Quality Control North Creek Analytical Bothell

Reporting Limit Recov. RPD **RPD** Sample  $\overline{\mathsf{oc}}$ Date Spike Recov. Limits Limit % Notes\* Units % Level Result Result Analyzed Analyte Extraction Method: MeOH Extraction Date Prepared: 2/14/97 Batch: 0270239 0270239-BLK1 Blank mg/kg dry 5.00 2/14/97 ND Gasoline Range Hydrocarbons 0.0500 ND Benzene 0.0500 ND Toluene 0.0500 ND Ethylbenzene 0.100 ND Xylenes (total) 50.0-150 100 4.00 4.00 Surrogate: 4-BFB (FID) 50.0-150 107 4.28 Surrogate: 4-BFB (PID) 4.00 0270239-BS1 LCS 75.0-125 84.8 21.2 mg/kg dry 2/14/97 25.0 Gasoline Range Hydrocarbons 50.0-150 103 4.13 4.00 Surrogate: 4-BFB (FID) 0270239-DUP1 B702157-08 Duplicate 50.0 2/14/97 ND ND mg/kg dry Gasoline Range Hydrocarbons 50.0-150 90.7 4.00 Surrogate: 4-BFB (FID) 4.41 0270239-MS1 Matrix Spike B702143-03 mg/kg dry 86.4 0.500 60.0-140 2/14/97 0.579 ND Benzene 60.0-140 86.2 0.579 ND 0.499 Toluene 0.579 ND 0.505 60.0-140 87.2 Ethylbenzene 60.0-140 87.4 1.74 ND 1.52 Xylenes (total) 50.0-150 101 4.68 4.63 Surrogate: 4-BFB (PID) 0270239-MSD1 B702143-03 Matrix Spike Dup 85.8 20.0 0.697 2/14/97 0.579 ND 0.497 mg/kg dry 60.0-140 Benzene 0.579 ND 0.491 60.0-140 84.8 20.0 1.64 Toluene 0.485 60.0-140 83.8 20.0 3.98 0.579 ND Ethylbenzene 60.0-140 83.9 20.0 4.09 ND 1.46 1.74 Xylenes (total) 50.0-150 92.4 4.28 Surrogate: 4-BFB (PID) 4.63

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE ■ (509) 924-9200 ■ FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055

Texaco Greenwood Project:

Sampled: 2/12/97 Received: 2/13/97

Project Number: 31008

Project Manager: John Meyer

2/14/97 14:07 Reported:

# Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	<u>%</u>	Limit	<u>%</u>	Notes*
Batch: 0270222	Date Prepa		<u>97</u>		Extraction	on Method: EPA	3550			
Blank Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	0270222-BI 2/13/97	<u>JK1</u>		ND ND	mg/kg dr	y 10.0 25.0				
Surrogate: 2-FBP	"	11.5		9.42	"	50.0-150	81.9			
LCS	<u>0270222-BS</u>					50.0.125	98.4			
Diesel Range Hydrocarbons  Surrogate: 2-FBP	2/13/97	68.0		9.66	mg/kg dr	59.0-135 50.0-150	84.0			
<u>Duplicate</u> Diesel Range Hydrocarbons	<u>0270222-D</u> 2/14/97	UP2 B	702143-30 827	971	mg/kg dr	y		50.0	16.0	
Surrogate: Octacosane	"	12.3		13.4	"	50.0-150	109			5

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



ERI

1921 Edmonds Drive SE

Renton, WA 98055

BOTHELL **(206)** 481-9200 **FAX** 485-2992 SPOKANE **(509)** 924-9200 **FAX** 924-9290 PORTLAND **(503)** 643-9200 **FAX** 644-2202

Sampled: 2/12/97

Project: Texaco Greenwood

Project Number: 31008 Received: 2/13/97

Project Manager: John Meyer Reported: 2/14/97 14:07

#### Notes and Definitions

#	Note
1	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
2	This sample appears to contain volatile range organics.
3	The diesel range organics present are due to hydrocarbons eluting primarily in the gasoline range.
4	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
5	Due to problems encountered with the use of the primary surrogate the results of the back-up surrogate have been used to control the analysis.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical, Inc.



18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992 East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

IEXACO CHA	IN OF CUSTODY REPORT	Vork Order #: B + 62 66
CONSULTANT: ER /	TEXACO INFORMATION	TURNAROUND REQUEST in Business Days
PROJECT MANAGER: JOHN MOJEN  ADDRESS: 1921 Edmonds Dr 5E  Renton, und 98055  PHONE: 227-0280  FAX: 227-02:	TEXACO PROJECT MANAGER: T. COLJET  TEXACO FACILITY NUMBER: 63-232-003  SITE ADDRESS: 8701 Greenwool	
PROJECT NAME: TEXACO GACCINIO 2  PROJECT NUMBER: 31008  SAMPLED BY:  Meyer	State Hydrocarbon Methods (please circle): WA OR A  Analysis  Request: An	Specify:  Standard Turnaround for Organic & Inorganic Analyses is 10 Trays  Standard Turnaround for Air Analyses is 3 Days
NCA SAMPLE CLIENT SAMPLE SAMPLE  NUMBER IDENTIFICATION DATE /	LING TIME  Request: FA   FA   FA   FA   FA   FA   FA   FA	MATRIX # OF COMMENTS &  (W, S, O) CONTAINERS PRESERVATIVES USED
B702166-01 15P-021297  2. 3. 4. 5. 6. 7. 8. 9.		5 / Rus/4
RELINQUISHED BY: A PRINT NAME:	DATE: /-/3-97 RECEIVED BY:	DATE: 2-13-97  FIRM: NATIONAL TIME: 947  DATE: 13/97  TIME: 10:43
ADDITIONAL REMARKS:		PAGE WOLVE



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

Project: Texaco #63-232-0037

Sampled: 2/18/97

1921 Edmonds Drive SE Renton, WA 98055 Project Number: Not Provided Project Manager: John Meyer

Received: 2/19/97 Reported: 2/20/97 08:56

Summary Report\*
(Please refer to the Analytical Report for a thorough review of the complete data set.)

Method	Analyte	Units	EXN1-5	Soil	2/18/97	B702244-01	EXN2-5	Soil	2/18/97	B702244-02	EXS1-5	Soil	2/18/97	B702244-03	EXS2-5	Soil	2/18/97	B702244-04	EXW-5	Soil	2/18/97	B702244-05
WTPH-G/8020	Gasoline Range Hydrocarbons Benzene Toluene Ethylbenzene Xylenes (total)	mg/kg dry " " "			<0.0 <0.0 <0.0	500			<0.0 <0.0 <0.0	25.00 0500 0500 0500 0500			<0.0 <0.0 <0.0	500			<0.0 <0.0 <b>0.0</b>				<0.0 <0.0 <0.0	5.00 0500 0500 0500 0.100
WTPH-Dext	Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	mg/kg dry "				10.0 25.0				10.0 25.0				10.0 25.0				15.5 66.7				:10.0 :25.0

North Creek Analytical, Inc.

Matthew Essig, Project Manager

\*The Summary Report is a subset of the final Analytical Report and does not include substantial supportive information such as quality control data; this report accurately summarizes sample results for your convenience only.



BOTHELL (206) 481-9200 FAX 485-2992 SPOKANE (509) 924-9200 FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 2/18/97 Received: 2/19/97

Renton, WA 98055 Project Manag

Project Number: Not Provided Project Manager: John Meyer

Reported: 2/20/97 10:59

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EXN1-5	B702244-01	Soil	2/18/97
EXN2-5	B702244-02	Soil	2/18/97
EXS1-5	B702244-03	Soil	2/18/97
EXS2-5	B702244-04	Soil	2/18/97
EXW-5	B702244-05	Soil	2/18/97

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE - (509) 924-9200 - FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project:

Texaco #63-232-0037

Received: 2/19/97

Sampled: 2/18/97

Renton, WA 98055

Not Provided Project Number: Project Manager: John Meyer

Reported: 2/20/97 10:59

#### Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

<u> </u>	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
	_						C-11	
EXN1-5			B70224	<u>14-01</u>	5.00	ND	Soil	
Gasoline Range Hydrocarbons	0270343	2/19/97	2/19/97		5.00	ND	mg/kg dry "	
Benzene	**	*1	11		0.0500	ND		
Toluene	H	11	11		0.0500	ND		
Ethylbenzene	н	n	н		0.0500	ND		
Xylenes (total)	n	н	n	•	0.100	ND		
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		75.8	%	
Surrogate: 4-BFB (PID)		"	er e	50.0-150		81.4	"	
EVNO E			B70224	14-02			Soil	
EXN2-5	0270343	2/19/97	2/19/97	<u> </u>	5.00	ND	mg/kg dry	
Gasoline Range Hydrocarbons	UZ/U343 "	<i>2117171</i> II	<i>2113131</i> II		0.0500	ND	"	
Benzene	**	11			0.0500	ND	п	
Toluene			0		0.0500	ND	ti	
Ethylbenzene	"	"			0.100	ND	н	
Xylenes (total)		<del></del>	<u>"</u>	50.0-150	0.100	89.2	%	<del></del>
Surrogate: 4-BFB (FID)	"	"	"				70 "I	
Surrogate: 4-BFB (PID)	"	,,	<b>"</b>	50.0-150		100		
EXS1-5			B70224	<u>14-03</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0270343	2/19/97	2/19/97		5.00	ND	mg/kg dry	
Benzene	**	n	H		0.0500	ND	11	
Toluene	**	n	n		0.0500	ND	11	
Ethylbenzene	n	н	n		0.0500	ND	II .	
Xylenes (total)	ч и	н	n		0.100	ND	II .	
Surrogate: 4-BFB (FID)	····	"		50.0-150		77.7	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		82.5	"	
			B7022	44 04			Soil	
EXS2-5	0050242	2/10/07	2/19/97	<del>-4-04</del>	5.00	7.02	mg/kg dry	
Gasoline Range Hydrocarbons	0270343	2/19/9 <b>7</b> "	<i>2/19/97</i> II		0.0500	ND	mg/kg dry	
Benzene	 0	 H	"		0.0500	ND	11	
Toluene		"	"		0.0500	0.0865	11	
Ethylbenzene	n						n	
Xylenes (total)			***		0.100	0.330		
Surrogate: 4-BFB (FID)	"	"	11	50.0-150		90.5	%	
Surrogate: 4-BFB (PID)	n	"	"	50.0-150	•	93.7	"	
EXW-5			B7022	<del>14-05</del>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0270343	2/19/97	2/19/97	<del></del>	5.00	ND	mg/kg dry	
CHANGE ROUSE LEVILLED BUILD							"	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE ■ (509) 924-9200 ■ FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055

Texaco #63-232-0037 Project:

2/18/97 Sampled: Received: 2/19/97

Project Number: Not Provided Project Manager: John Meyer

2/20/97 10:59 Reported:

#### Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EXW-5 (continued)			B7022	<b>1</b> 4-05			<u>Soil</u>	
Toluene	0270343	2/19/97	2/19/97	<del></del>	0.0500	ND	mg/kg dry	
Ethylbenzene	11	n	17		0.0500	ND	11	
Xylenes (total)	•	n	11		0.100	ND	H	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		89.1	%	
Surrogate: 4-BFB (PID)	"	"	#	50.0-150		91.3	"	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL **=** (206) 481-9200 **=** FAX 485-2992 SPOKANE **=** (509) 924-9200 **=** FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055 Project: Texaco #63-232-0037
Project Number: Not Provided

#63-232-0037 Sampled: 2/18/97 vided Received: 2/19/97

Project Manager: John Meyer

Reported: 2/20/97 10:59

#### Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting	_		_
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
							G-11	
EXN1-5			B70224	<u> 44-01</u>			<u>Soil</u>	
Diesel Range Hydrocarbons	0270329	2/19/97	2/19/97		10.0	ND	mg/kg dry	
Heavy Oil Range Hydrocarbons	н	11	17		25.0	ND		
Surrogate: 2-FBP	"	"	"	50.0-150		75.3	%	
EXN2-5			B70224	14-02			<u>Soil</u>	
Diesel Range Hydrocarbons	0270329	2/19/97	2/19/97		10.0	ND	mg/kg dry	
Heavy Oil Range Hydrocarbons	"	11	"		25.0	ND	11	
Surrogate: 2-FBP	"	"	"	50.0-150		72.8	%	<u> </u>
EXS1-5			B70224	44-03			<u>Soil</u>	
Diesel Range Hydrocarbons	0270329	2/19/97	2/19/97		10.0	ND	mg/kg dry	
Heavy Oil Range Hydrocarbons	"	11	н		25.0	ND	н	
Surrogate: 2-FBP	<del>"</del>	ii .	"	50.0-150		66.4	%	
EXS2-5			B7022	14-04			Soil	
Diesel Range Hydrocarbons	0270329	2/19/97	2/19/97	<u></u>	10.0	15.5	mg/kg dry	1
<u> </u>	UZ/QJZ/	11	11		25.0	66.7	"	
Heavy Oil Range Hydrocarbons Surrogate: 2-FBP	<i>n</i>	· · · · · · · · · · · · · · · · · · ·	<del>. ,,</del>	50.0-150		75.3	%	
793/33) #			B7022				Soil	
EXW-5	0270220	2/19/97	<u>57022</u> 2/19/97	17-00	10.0	ND	mg/kg dry	
Diesel Range Hydrocarbons	0270329	<i>2/13/97</i> "	<i>2113131</i> 11		25.0	ND	11.67.1.6 GL)	
Heavy Oil Range Hydrocarbons Surrogate: 2-FBP	"	<i>"</i>	<i>"</i>	50.0-150		73.5	%	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND • (503) 643-9200 • FAX 644-2202

ERI

Project:

Project: Texaco #63-232-0037

Sampled: 2/18/97 Received: 2/19/97

1921 Edmonds Drive SE Renton, WA 98055 Project Number: Not Provided Project Manager: John Meyer

Reported: 2/20/97 10:59

#### Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EXNI-5	B702244-01	Soil	88.6	%
EXN2-5	B702244-02	Soil	90.0	<b>%</b>
EXS1-5	B702244-03	Soil	82.6	%
EXS2-5	B702244-04	Soil	90.8	%
EXW-5	B702244-05	Soil	89.3	%

North Creek Analytical, Inc.



BOTHELL **(206)** 481-9200 **FAX** 485-2992 SPOKANE **(509)** 924-9200 **FAX** 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055 Project: Texaco #63-232-0037

Project Number: Not Provided
Project Manager: John Meyer

Sampled: 2/18/97 Received: 2/19/97 Reported: 2/20/97 10:59

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/Quality Control
North Greek Analytical - Bothell

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
		-		<u>.</u>		•		_		
Batch: 0270343	Date Prepa		<u>97</u>		<u>Extraction</u>	n Method: Me	OH Extr	action		
<u>Blank</u>	<u>0270343-BI</u>	<u>_K1</u>								
Gasoline Range Hydrocarbons	2/19/97			ND	mg/kg dr					
Benzene	h			ND	n	0.0500			•	
Toluene	11			ND	H	0.0500				
Ethylbenzene	"			ND	"	0.0500				
Xylenes (total)	**		_	ND	11	0.100				
Surrogate: 4-BFB (FID)	"	4.00		3.88	"	50.0-150	97.0			
Surrogate: 4-BFB (PID)	"	4.00		4.12	"	50.0-150	103			
LCS	0270343-BS	<u>81</u>								
Gasoline Range Hydrocarbons	2/19/97	25.0		18.9	mg/kg dr	75.0-125	75.6			
Surrogate: 4-BFB (FID)	"	4.00		3.95	"	50.0-150	98.8			
,					,					
Duplicate	0270343-DI	UP1 B	702244-05							
Gasoline Range Hydrocarbons	2/19/97		ND	ND	mg/kg dr	/		50.0		2
Surrogate: 4-BFB (FID)	"	4.48		3.80	"	50.0-150	84.8			
Matrix Spike	0270343-M	<u>S1</u> <u>B</u>	<u>702244-01</u>							
Benzene	2/19/97	0.564	ND	0.471	mg/kg dr	60.0-140	83.5			
Toluene	n	0.564	ND	0.468	11	60.0-140	83.0			
Ethylbenzene	n	0.564	ND	0.473	11	60.0-140	83.9			
Xylenes (total)	н	1.69	ND	1.43	н	60.0-140	84.6			
Surrogate: 4-BFB (PID)	"	4.51		4.35	11	50.0-150	96.5		-	
Matrix Spike Dup	0270343-M	SD1 B	702244-01							
Benzene	2/19/97	0.564	ND	0.480	mg/kg dr	60.0-140	85.1	20.0	1.90	
Toluene	н	0.564	ND	0.476	11	60.0-140	84.4	20.0	1.67	
Ethylbenzene	n	0.564	ND	0.483	11	60.0-140	85.6	20.0	2.01	
Xylenes (total)	n	1.69	ND	1.44	N	60.0-140	85.2	20.0	0.707	
Surrogate: 4-BFB (PID)	"	4.51		4.24	"	50.0-150	94.0			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE ■ (509) 924-9200 ■ FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project:

Texaco #63-232-0037

Sampled: 2/18/97

Renton, WA 98055

Project Number: Not Provided

Received: 2/19/97

Project Manager:

John Meyer

2/20/97 10:59 Reported:

### Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	<u>%</u>	Notes*
Batch: 0270329	Date Prepa	red: 2/19/9	<u>97</u>		Extractio	n Method: EPA	<u>3550</u>			
Blank	0270329-B	L <u>K1</u>								
Diesel Range Hydrocarbons	2/19/97			ND	mg/kg dry	/ 10.0				
Heavy Oil Range Hydrocarbons	н			ND	H	25.0				
Surrogate: 2-FBP	"	11.5		7.79	"	50.0-150	67.7			
LCS	0270329-B	<u>81</u>								
Diesel Range Hydrocarbons	2/19/97	68.0		63.1	mg/kg dry	59.0-135	92.8			
Surrogate: 2-FBP	"	11.5		8.63	"	50.0-150	75.0			-
Duplicate	0270329-D	<u>UP1 B</u>	702244-04							
Diesel Range Hydrocarbons	2/19/97		15.5	14.4	mg/kg dry	<i>'</i>		50.0	7.36	2
Surrogate: 2-FBP	11	12.6		8.88	"	50.0-150	70.5			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE

Renton, WA 98055

Project: Texaco #63-232-0037

Project Number: Not Provided Project Manager: John Meyer

Sampled: 2/18/97 Received: 2/19/97

Reported: 2/20/97 10:59

#### **Notes and Definitions**

#	Note
1	The diesel range organics present are due to hydrocarbons eluting primarily in the heavy oil range.
2	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical, Inc.

# TEXACO CHAIN OF CUSTODY REPORT

Work Order #: 8702244

CONGULTANT	-p 1										TURN	AROUND REQUE	ST in Business Day	/s
CONSULTANT:	7-14 11/2 1		TT	no proc		ACO INFO		ion Soisa		$\dashv$		Organic & Inorgan	nic Analyses *	<del>-</del>
PROJECT MANAGER:  ADDRESS: 192	Dohn Major Edmondo Prob = Ntor WA 98 20280 FAX: 2		TEXAC					32- a			10	5	3 1	
ADDRESS: 1/2/	- Lemones III	255	TEXAC									Air Analys		
120 har 200	= N + O T T		SITE A	DDRESS:	4/0	a the	er co	nuor	. See h	4		3	1	
PHONE: (2)22	20280 FAX: 1	27020	State U	ydrocarbor	Methods (			WA OR	AV I	D		3	<u> </u>	
The section of the se	ne con act				7 7	7	/	/ /	/	7	OTHE	R Specify:		
	3-232-0037		Analysi	s /		/	/ /	/	/ /	١.		around for Organic &	Inorpania Analysas	is 10 Dc
SAMPLED BY:	10/2		Request		Y Cen	/ -/	a/~	§ / /	/ /			dard Turnaround for A		
NCA SAMPLE	CLIENT SAMPLE	SAMPLING	١.	IPH.D. HAT	IPH.D.Extenden	17418.1 174.45	Town iss.	/ /		-	MATRIX	# OF	COMMEN	
NUMBER	IDENTIFICATION	DATE / TIME	E		E/E	1/8	12/				(W, S, O)	CONTAINERS	PRESERVATIV	
B702244-01		2/18/17	X		X						3	/	Ru	
, -02	2. EXN2-5	1	1		1									
	3. EX51-5										Δ	1		
-04	1 EX 42 - 5		$\Pi$							1				
-05	4. EX92-5 5. EXW-5		1/			+	-	-		-			<i> </i>	3
03	s. 6x0-5	)	1		V			-			$-\!$		<del></del>	
	7		1							-	/			
		1			-		1			-	/	1 1	<del></del>	
	8.		-		-		4	-		-	$\mathcal{V}$		//	
	9.		-			-		-			(	γ	d	
	10.			Ι,		$\perp$		Dall						
RELINQUISHED BY:	mr m		DATE:	3/1	9/00	RECEIV	ED BY:	Pally	land				DATE: 4	197
PRINT NAME: JOHN	May FIRM:	TY .	TIME:				NAME:		lunes	lt.	FIRM	1: NCS	TIME: O	7/7
RELINQUISHED BY:	, Yly land		DATE:	2/19/	97	RECEIV	ED BY:	RO X	Lella	1		1: NCS	DATE: 02	119/97
PRINT NAME:	thylund FIRM: 1	105	TIME:	1113		PRINT	NAME:	RG	Kelle	3		1: NCA	TIME: //	
ADDITIONAL REMARKS:		/							6	)				
														PAGE
TEXCOCREV2,11/95														OF



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

1921 Edmonds Drive SE

Renton, WA 98055

Texaco #63-232-0037 Project:

Project Number: Not Provided

Project Manager: John Meyer Sampled: 2/19/97

Received: 2/20/97

Reported: 2/25/97 14:20

Summary Report\* (Please refer to the Analytical Report for a thorough review of the complete data set.)

Method	Analyte	Units	EXN3-5	Soil	2/19/97	B702286-01	EXS3-5	Soil	2/19/97	B702286-02	EXE-5	Soil	2/19/97	B702286-03	SP-0217	Soil	2/19/97	B702286-04		
WTPH-G/8020	Gasoline Range Hydrocarbons Benzene Toluene Ethylbenzene Xylenes (total)	mg/kg dry " " "			0.0> 0.0> 0	83.8 )500 )500 ,589 ,359			<0.0 <0.0	19.0 0500 0500 0767 0.291	٠.		<0.0 0	147 0752 0500 0.268 0.393	; ! !			351 0.243 3.25 3.08 21.2		
WTPH-Dext	Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	mg/kg dry "				14.1 49.3				174 985				459 402			•	<110 <b>38</b> 9		
EPA 7420	Lead	mg/kg dry				-				-				•				21.5		

North Creek Analytical, Inc.

\*The Summary Report is a subset of the final Analytical Report and does not include substantial supportive information such as quality control data; this report accurately summarizes sample results for your convenience only.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

Project: Texaco #63-232-0037

Sampled: 2/19/97

1921 Edmonds Drive SE Renton, WA 98055

Project Number: Not Provided Project Manager: John Meyer

Received: 2/20/97 Reported: 2/25/97 14:19

## ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EXN3-5	B702286-01	Soil	2/19/97
EXS3-5	B702286-02	Soil	2/19/97
EXE-5	B702286-03	Soil	2/19/97
SP-0217	B702286-04	Soil	2/19/97

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

Project: Texaco #63-232-0037

Sampled: 2/19/97

1921 Edmonds Drive SE Renton, WA 98055

Project Number: Not Provided Project Manager: John Meyer

Received: 2/20/97 Reported: 2/25/97 14:19

## Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u> </u>			<u>-</u>		_			•
EXN3-5			B70228	<u>86-01</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0270427	2/21/97	2/22/97		5.00	83.8	mg/kg dry	1
Benzene	11	н	11		0.0500	ND	H	
Toluene	11	n	H		0.0500	ND	**	
Ethylbenzene	II .	11	11		0.0500	0.589	п	
Xylenes (total)	н .	11	H		0.100	0.359	n	
Surrogate: 4-BFB (FID)	<i>"</i>	" .	"	50.0-150		101	%	
Surrogate: 4-BFB (PID)	n	"	"	<i>50.0-150</i>		91.5	"	
EXS3-5			B7022	<u>86-02</u>			<u>Soil</u>	_
Gasoline Range Hydrocarbons	0270427	2/21/97	2/22/97		5.00	19.0	mg/kg dry	1
Benzene	н	n	**		0.0500	ND	**	
Toluene	n	H	**		0.0500	ND	If	
Ethylbenzene	n	H	10		0.0500	0.0767	II .	
Xylenes (total)	er	н	11		0.100	0.291		
Surrogate: 4-BFB (FID)	"	11	"	50.0-150		82.3	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		87.8	"	
EXE-5			B7022	<u>86-03</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0270427	2/21/97	2/21/97		5.00	147	mg/kg dry	1
Benzene	11	**	ti		0.0500	0.0752	**	
Toluene	n	**	n		0.0500	ND	**	
Ethylbenzene	11	**	н	•	0.0500	0.268	*1	
Xylenes (total)	10	17	n		0.100	0.393	11 	
Surrogate: 4-BFB (FID)	it	"	"	50.0-150		91.3	%	
Surrogate: 4-BFB (PID)	#	"	"	50.0-150		81.7	"	
SP-0217			B7022	86-04			Soil	
Gasoline Range Hydrocarbons	0270427	2/21/97	2/21/97		10.0	351	mg/kg dry	1
Benzene	11	11	11		0.100	0.243	"	
Toluene	11	н	11	.•	0.100	3.25	*11	
Ethylbenzene	"	n	11		0.100	3.08	n	
Xylenes (total)	11	н	H		0.200	21.2	11	
Surrogate: 4-BFB (FID)		<del>"</del>	<i>n</i> ·	50.0-150		134	%	
	,,	"	n	50.0-150 50.0-150	•	102	"	
Surrogate: 4-BFB (PID)				20.0-120				

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL **(206)** 481-9200 **FAX** 485-2992 SPOKANE **(509)** 924-9200 **FAX** 924-9290 PORTLAND **(503)** 643-9200 **FAX** 644-2202

ERI Project: Texaco #63-232-0037 Sampled: 2/19/97
1921 Edmonds Drive SE Project Number: Not Provided Received: 2/20/97
Renton, WA 98055 Project Manager: John Meyer Reported: 2/25/97 14:19

## Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
							a 11	4.3
EXN3-5			B7022	<u>86-01</u>			<u>Soil</u>	<u>2,3</u>
Diesel Range Hydrocarbons	0270387	2/21/97	2/21/97		10.0	14.1	mg/kg dry	•
Heavy Oil Range Hydrocarbons	n	II .	U		25.0	49.3		
Surrogate: 2-FBP	"	11	tt .	50.0-150		84.5	%	
EXS3-5			B7022	86-02			<u>Soil</u>	<u>2</u>
Diesel Range Hydrocarbons	0270387	2/21/97	2/21/97		110	174	mg/kg dry	
Heavy Oil Range Hydrocarbons	"	11	n		275	985	"	
Surrogate: 2-FBP	" .	"	"	50.0-150		88.8	%	-
EXE-5			B7022	86-03	•		<u>Soil</u>	<u>2,3</u>
<del></del>	0270387	2/21/97	2/21/97	<del>50 55</del>	10.0	459	mg/kg dry	
Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	0270367	<i>2121191</i> II	11		25.0	402	"	
Surrogate: 2-FBP		- "	"	50.0-150		116	%	
CD 0217			B7022	86-04			<u>Soil</u>	<u>2,3</u>
SP-0217	0270387	2/21/97	<u>2/22/97</u>	<del>00 07</del>	110	ND	mg/kg dry	
Diesel Range Hydrocarbons	U27U367	<i>LIL1171</i>	<i>2122191</i> 11	•	275	389	"	
Heavy Oil Range Hydrocarbons				50.0-150	213	89.0	%	
Surrogate: 2-FBP	••	••	••	30.0-130		37.0	70	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 2/19/97 Received: 2/20/97

Renton, WA 98055

Project Number: Not Provided Project Manager: John Meyer

Reported: 2/25/97 14:19

## Metals by EPA 6010/7000 Series Methods North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<u>SP-0217</u> Lead	0270380	2/21/97	<u>B7022</u> 2/22/97	86-04 EPA 7420	10.0	21.5	Soil mg/kg dry	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

1921 Edmonds Drive SE Renton, WA 98055

Project: Texaco #63-232-0037

Project Number: Not Provided Project Manager: John Meyer

Sampled: 2/19/97

Received: 2/20/97

Reported: 2/25/97 14:19

### **Dry Weight Determination** North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EXN3-5	B702286-01	Soil	80.7	%
EXS3-5	B702286-02	Soil	85.4	%
EXE-5	B702286-03	Soil	80.5	%
SP-0217	B702286-04	Soil	90.5	<b>%</b> _

North Creek Analytical, Inc.



PORTLAND = (503) 643-9200 = FAX 644-2202

Sampled: 2/19/97 Project: Texaco #63-232-0037 ERI Received: 2/20/97 Project Number: Not Provided 1921 Edmonds Drive SE Renton, WA 98055

2/25/97 14:19 Reported: Project Manager: John Meyer

# Gasoline Hydrocarbons (Coluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	Re	porting Limit		RPD	RPD	1
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
							OYI TI	4		
Batch: 0270427	Date Prepa		<u>97</u>		Extraction	Method: Me	OH Extr	action		
Blank	<u>0270427-Bl</u>	<u>LK1</u>								
Gasoline Range Hydrocarbons	2/21/97			ND	mg/kg dry	5.00				
Benzene	10			, ND	Ħ	0.0500				
Toluene	Ħ			ND		0.0500				
Ethylbenzene	н			ND	"	0.0500				
Xylenes (total)	H			ND_	"	0.100				
Surrogate: 4-BFB (FID)	"	4.00		3.93		50.0-150	98.3			
Surrogate: 4-BFB (PID)	"	4.00		4.08	n	50.0-150	102			
LCS	0270427-BS			22.2		75.0.125	88.8			
Gasoline Range Hydrocarbons	2/21/97	25.0		22.2	mg/kg dry	75.0-125 50.0-150	107			
Surrogate: 4-BFB (FID)		4.00		4.28	"	30.0-130	107			
Duplicate	0270427-D	UP1 B	702286-01							
Gasoline Range Hydrocarbons	2/22/97		83.8	111	mg/kg dry			50.0	27.9	
Surrogate: 4-BFB (FID)	"	4.96		4.75	"	50.0-150	95.8			
N	0270427 M	C1 D	702286- <u>03</u>							
Matrix Spike	<u>0270427-M</u> 2/21/97	<u>эі</u> <u>в</u> 0.621	0.0752	0.523	mg/kg dry	60.0-140	72.1			
Benzene	2/21/9/	0.621	0.0752 ND	0.523	"	60.0-140				
Toluene	"	0.621	0.268	0.696	n.	60.0-140				
Ethylbenzene	ti	1.86	0.393	1.81	H	60.0-140				
Xylenes (total)		4.97	0.393	4.32	**	50.0-150	86.9			<del></del>
Surrogate: 4-BFB (PID)	•	4.97		4.32		50.0-150	00.7			
Matrix Spike Dup	0270427-M	SD1 B	702286-03							
Benzene	2/21/97	0.621	0.0752	0.524	mg/kg dry	60.0-140	72.3	20.0	0.277	
Toluene	11	0.621	ND	0.544	"	60.0-140	87.6	20.0	0.229	
Ethylbenzene	11	0.621	0.268	0.684	11	60.0-140	67.0	20.0	2.80	
Xylenes (total)	II .	1.86	0.393	1.79	11	60.0-140		20.0	1.45	
Surrogate: 4-BFB (PID)	"	4.97		4.28	<i>"</i>	50.0-150	86.1			
<del>-</del>										

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE

Renton, WA 98055

Project: Texaco #63-232-0037

Sampled: 2/19/97 Received: 2/20/97

Project Manager: John Meyer

Project Number: Not Provided

Reported: 2/25/97 14:19

# Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov.	RPD Limit_	RPD %	Notes*
Batch: 0270387	<u>Date Prepa</u> 0270387-B)		97		Extracti	on Method: EPA	<u> 3550</u>			
Blank Diesel Range Hydrocarbons	<u>9270337-27</u> 2/21/97			ND	mg/kg di	y 10.0				
Heavy Oil Range Hydrocarbons	11			ND	*1	25.0				_
Surrogate: 2-FBP	"	11.5		8.44	"	50.0-150	73.4			
<u>LCS</u>	0270387-B	<u>51</u>								
Diesel Range Hydrocarbons	2/21/97	68.0		63.9	mg/kg di	ry 59.0-135	94.0			
Surrogate: 2-FBP	ii	11.5		9.66	"	50.0-150	84.0			
Duplicate	0270387-D	<u>UP1 B</u>	702300-01							
Diesel Range Hydrocarbons	2/21/97		ND	ND	mg/kg di	ry		50.0		4
Surrogate: 2-FBP	"	12.6		9.69	"	50.0-150	76.9			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

1921 Edmonds Drive SE

Project: Texaco #63-232-0037

Sampled: 2/19/97

Project Number: Not Provided

Received: 2/20/97

Renton, WA 98055

Project Manager: John Meyer

2/25/97 14:19 Reported:

### Metals by EPA 6010/7000 Series Methods/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	F	Reporting Limit		RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	<u>%</u>	Limit	% Notes*
Batch: 0270380	Date Prepare		<u> </u>		<u>Extracti</u>	on Method: EP.	<u> 4 3050</u>		
Blank Lead	<u>0270380-BL)</u> 2/22/97	<u>K1</u>		ND	mg/kg di	y 10.0			
LCS Lead	<u>0270380-BS1</u> 2/22/97	<u>l</u> 25.0		19.8	mg/kg di	y 75.0-125	79.2		
<u>Duplicate</u> Lead	<u>0270380-DU</u> 2/22/97	<u>P1 B2</u>	7 <b>02243-41</b> 64.1	64.1	mg/kg di	у		20.0	0
Matrix Spike Lead	<u>0270380-MS</u> 2/22/97	1 B2	7 <b>02243-41</b> 64.1	107	mg/kg di	y 75.0-125	123		
Matrix Spike Dup Lead	<u>0270380-MS</u> 2/22/97	<u>D1 B2</u> 34.9	702243-41 64.1	100	mg/kg di	y 75.0-125	103	20.0	17.7

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



ERI

Renton, WA 98055

BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

Sampled: 2/19/97 Project: Texaco #63-232-0037 Received: 2/20/97 Project Number: Not Provided 1921 Edmonds Drive SE

2/25/97 14:19 Reported: Project Manager: John Meyer

#### **Notes and Definitions**

#	Note
1	The chromatogram for this sample does not resemble a typical gasoline pattern. Please refer to the sample chromatogram.
2 .	The hydrocarbons present are a complex mixture of diesel range and heavy oil range organics.
3	This sample appears to contain volatile range organics.
4 .	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference
	·

North Creek Analytical, Inc.



18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992 East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

	TEXACO	CHAIN O	F CU	JSTOD	YRJ	EPOR	T	Work	Order #	: B70	2286
CONSULTANT:	) /		ogeneral sample sample.		emer-wederderinger				TURI	VAROUND REQUE	ST in Business Days
PROJECT MANAGER:	<del></del>		7771.00			INFORMAT		•		Organic & Inorga	nic Analyses *
	Edmondy Dry			PROJECT M				•	10		3
Landa	UA 98053	<b>=</b>	TEXACC	FACILITY	UMBER: (	5 7 2 -	32 C	<b>ラ</b> ラフ ・ ノ	10		
PHONE: 227-0	200 FAY: 2	270225	SHE AD	DRESS: S	/ منظر کسارمدی	() / ec	nw D.	2 Au		Air Analys	
	Y - C- W - WALL		State Hve	Irocarbon Meti	ods (please	circle):	WA OR	AK ID		13	1 .
PROJECT NUMBER:	xaro Greenne 3-272-003	8 L	<del>                                     </del>		77	7	7 7	7 /	отн	ER Specify:	
			Analysis		/ & /		/_ /				e Inorganic Analyses is ys
	af as		Request:	§/ /		do la	\$ /	/ /			e Inorgame Analyses is .ys Air Analyses is 3 Days
NCA SAMPLE	CLIENT SAMPLE	SAMPLING	ج بن		1.81.48 F		'/ /		MATRIX	# OF	COMMENTS &
NUMBER	IDENTIFICATION	DATE/TIME	R.		/ E / E		' /		(W, S, O)	CONTAINERS	PRESERVATIVES USED
B702286-01	1. EXN3-5	2/19/27	X	X					5	/	
	2 EX53-5	(1)	X	X						<del></del>	
1 1 -	3. EXE - 5	11							1		
V - 04		2/10/								<del>                                     </del>	
-	-	5/1/9/	1	<del>-  /                                   </del>		<del>                                      </del>	<del></del>			<del>                                     </del>	<del></del>
	5.		<del>                                     </del>		-			<del>  </del>		<del>                                     </del>	
	6.							<u> </u>		<del>                                     </del>	
	7.		-	_		_		<u> </u>	/		
	8.								/	)	
	9.					_					
	10.						- ∤ - 1				
RELINQUISHED BY:	11! m		DATE: 2	120/9	REC	EIVED BY:	Maz	- Ay	leix	/	DATE: 2-2097
PRINT NAME:	Motor FIRM:	ER (	TIME:	15:45	PRI	T NAME:	13	etterl	Cr (PIRA	1: NA	TIME: 15:45
RELINQUISHED BY:	,		DATE:		REC	EIVED BY:			)		DATE:
PRINT NAME:	FIRM:		TIME:		PRIN	IT NAME:		·	FIRM	<u>Л:</u>	TIME:
ADDITIONAL REMARKS:  TEXCOCREV2,11/95											PAGE
											, o no

Phone: (206) 622-8353

FAX: (206) 622-4623

Lab Reference: 469-23

Date Received: March 10, 1997 Date Completed: March 11, 1997

March 11, 1997

JOHN MEYER ERI 1921 EDMONDS DR SE RENTON WA 98055

CLIENT REF:

Greenwood Avenue, PO #31001

REQUEST:

Analysis for benzene and other petroleum related

hydrocarbons.

SAMPLES:

Charcoal tubes A1 and A2

ANALYSIS:

NIOSH Method 1501 using Gas Chromatography.

RESULTS:	Samples	A1	A2
Liters of air submi	itted	18.3	13.5
Benzene - milligrams - milligrams per	cubic meter	0.001 0.05	0.002 0.15
Gasoline - milligrams - milligrams per	cubic meter	0.070 3.8	0.040
Diesel - milligrams - milligrams per	cubic meter	0.021 1.2	0.019 1.4
Total Hydrocarbons - milligrams - milligrams per	cubic meter	0.091 5.0	0.059 4.5

Robert M. Orheim

Director of Laboratories

OMS LABORATORIES INC

# ABORATORIES, INC.

(206) 622-8353

911 WESTERN AVENUE, SUITE 412

SEATTLE, WA 98104-1031

SAMPLE CUSTODY FORM NO # 97-09-06
CONTACT PERSON: John Meyer Bill to: Some  COMPANY (if any): EL/ (if different)  STREET ADDRESS: 1921 Edwards Nr 95  CITY: London STATE: MA ZIP CODE: 2905 Purchase Order #: 3/00/  PHONE NO: 200 227-0280 / 919-0254  If Prepaid, Cash Invoice #: C- Amount: S  FAX NO: 200 227-0225 Charge Rate: Normal Tumaround  PRUSH (prior approval required)  Annu day
SAMPLES/QUANTITY:    GC
RELINQUISHED BY: RECEIVED BY: DATE RECEIVED: REMARKS  ABORATORY REFERENCE NO: 469-23 DATE RECEIVED: 3/10/97  DATE ANALYSIS COMPLETED: 3/1/97 BY: 5/10
DATE REPORT MAILED: MOT 11/97  BY: RWA  BY: RWA  BY: RWA  BY: BY:



PORTLAND - (503) 643-9200 - FAX 644-2202

ERI

Project: Texaco #63-232-0037

Sampled: 3/10/97

1921 Edmonds Drive SE

Project Number: 31001.14T3

Received: 3/10/97

Renton, WA 98055

Project Manager: John Meyer Reported: 3/11/97 15:03

# Summary Report\* (Please refer to the Analytical Report for a thorough review of the complete data set.)

Method	Analyte	Units	EX2-E-3	Soil	3/10/97 B703142-01	EX-N4	Soil	3/10/97	B703142-02	EX-WN-4	Soil	3/10/97	B703142-03	EX-EN-4	Soil	3/10/97	B703142-04	EX-BN-5	Soil	3/10/97	B703142-05
WTPH-G/8020	Gasoline Range Hydrocarbons	mg/kg dry			<5.0	0			120				130			<5	5.00				170
11 11 010020	Benzene	,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			<0.050	0		<0.	.200			0.	.218			<0.0	500				100
11	Toluene	11			<0.050	0		<0.	.200				.124			<0.0					125
n	Ethylbenzene	11			< 0.050	0		0.	.212				.197			<0.0					456
II	Xylenes (total)	н			<0.10	0		0.	.679			0.	.686			<0.	100			0.8	863
WTPH-Dext	Diesel Range Hydrocarbons	mg/kg dry			16.	0		. :	38.4			,	28.2				10.0				51.9
11	Heavy Oil Range Hydrocarbons	"			75.	5			132				136	1		4	14.2				165
Method	Analyte	Units	EX-BS-6	Soil	3/10/97 B703142-06	EX-WS-5	Soil		B703142-07	EX-S-5	Soil	3/10/97	B703142-08	EX-ES-5	Soil	3/10/97	B703142-09				
WTPH-G/8020	Gasoline Range Hydrocarbons	mg/kg dry			10.				5.00				5.00				5.00				
n .	Benzene	n			< 0.050				500			<0.0				<0.0					
н	Toluene	H			0.11				)500				.130			<0.0					
H	Ethylbenzene	"			0.060				)500				)500			<0.0					
n	Xylenes (total)	11			0.35	7		<0.	.100			0	.268			<0.	100				
WTPH-Dext	Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	mg/kg dry "			37 227				520 788				354 712				610 799				

North Creek Analytical, Inc.

\*The Summary Report is a subset of the final Analytical Report and does not include substantial supportive information such as quality control data; this report accurately summarizes sample results for your convenience only.



BOTHELL **=** (206) 481-9200 **=** FAX 485-2992 SPOKANE **=** (509) 924-9200 **=** FAX 924-9290 PORTLAND **=** (503) 643-9200 **=** FAX 644-2202

ERI

1921 Edmonds Drive SE Renton, WA 98055 Project: Texaco #63-232-0037

31001.14T3

Project Manager: John Meyer

Project Number:

Sampled: 3/10/97

Received: 3/10/97

Reported: 3/11/97 15:22

# ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX2-E-3	B703142-01	Soil	3/10/97
EX-N-4	B703142-02	Soil	3/10/97
EX-WN-4	B703142-03	Soil	3/10/97
EX-EN-4	B703142-04	Soil	3/10/97
EX-BN-5	B703142-05	Soil	3/10/97
EX-BS-6	B703142-06	Soil	3/10/97
EX-WS-5	B703142-07	Soil	3/10/97
EX-S-5	B703142-08	Soil	3/10/97
EX-ES-5	B703142-09	Soil	3/10/97

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037
Project Number: 31001.14T3

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Manager: John Meyer

Reported: 3/11/97 15:22

## Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting		·	<b>3.7</b> . ±
Analyte	Number	Prepared	Analyzed	Limits	<u>Limit</u>	Result	Units	Notes*
			D#021.	42 O1			Soil	
EX2-E-3	000000	2/10/07	<u>B7031</u> 3/10/97	<u> 42-U1</u>	5.00	ND	mg/kg dry	
Gasoline Range Hydrocarbons	0370207	3/10/97	3/10/9 <i>1</i>		0.0500	ND	mg/kg ary	
Benzene	"	" H	"		0.0500	ND	et .	
Toluene		n n	"		0.0500		11	
Ethylbenzene	п		H	•		ND ND	11	
Xylenes (total)					0.100			
Surrogate: 4-BFB (FID)	11	11	"	50.0-150		85.3	% "	
Surrogate: 4-BFB (PID)	"	"	**	50.0-150		80.4	•	
EX-N-4			B7031	42-02			Soil	
Gasoline Range Hydrocarbons	0370207	3/10/97	3/10/97		20.0	120	mg/kg dry	
Benzene	11	11	"		0.200	ND	" "	
	н	Ħ	H.		0.200	ND	n	
Toluene	n	Ħ	11		0.200	0.212	n	
Ethylbenzene V. J (4-4-1)	ti	*1	11		0.400	0.679	n	
Xylenes (total)	<del></del>		<del></del>	50.0-150		89.6	%	
Surrogate: 4-BFB (FID)	,,	" "	"	50.0-150 50.0-150		81.2	"	
Surrogate: 4-BFB (PID)	•	•		30.0-130	•	01.2	•	
EX-WN-4			B7031	<u>42-03</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0370207	3/10/97	3/10/97		10.0	130	mg/kg dry	
Benzene	11	11	н		0.100	0.218	11	
Toluene	11	н	11		0.100	0.124	IF	
Ethylbenzene	11	H	n		0.100	0.197	n	
Xylenes (total)	Ħ	13	ti		0.200	0.686	U	
Surrogate: 4-BFB (FID)	. #	"	"	50.0-150		79.9	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		71.0 ·	II .	
			DE034	40.04			<u>Soil</u>	
EX-EN-4		04000	B7031	<u>42-04</u>	5.00	ND	mg/kg dry	
Gasoline Range Hydrocarbons	0370207	3/10/97	3/10/97		0.0500	ND	mg/kg dry	
Benzene		"	"			ND ND	н	
Toluene	"				0.0500		н	
Ethylbenzene	n		11		0.0500	ND	"	
Xylenes (total)		11	10		0.100	ND		
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		70.9	%	
Surrogate: 4-BFB (PID)	"	"		50.0-150		69.6	"	
EX-BN-5			B7031	42-05			Soil	
<del></del>	0370207	- 3/10/97	3/10/97	<u> vv</u>	10.0	170	mg/kg dry	
Gasoline Range Hydrocarbons	0370207	· 3/10/9/	3/10/ <i>31</i>		0.100	ND	11	
Benzene	••				0.100	142		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

Sampled: 3/10/97 Project: Texaco #63-232-0037 ERI Received: 3/10/97 Project Number: 31001.14T3 1921 Edmonds Drive SE

Reported: 3/11/97 15:22 Project Manager: John Meyer Renton, WA 98055

# Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting		<b>77 *</b> .	3.7 . ±
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
EX-BN-5 (continued)			B70314	<u> 42-05</u>			<u>Soil</u>	
Foluene	0370207	3/10/97	3/10/97	<del></del>	0.100	0.125	mg/kg dry	
Ethylbenzene	n	0	n		0.100	0.456	tı	
Kylenes (total)	н	1)	rt		0.200	0.863	n	
Surrogate: 4-BFB (FID)	н	н	"	50.0-150		58.9	%	
Surrogate: 4-BFB (PID)	"	,,	"	50.0-150	•	<i>53.4</i>	"	
X-BS-6			B7031	<u> 42-06</u>			<u>Soil</u>	
Fasoline Range Hydrocarbons	0370207	3/10/97	3/10/97		5.00	10.6	mg/kg dry	
Benzene	n	10	n		0.0500	ND	n	
<b>Toluene</b>	n	II .	H		0.0500	0.113	ir .	
thylbenzene	H	U	11		0.0500	0.0600	. 17	
(ylenes (total)	u	II.	н		0.100	0.357	11	
urrogate: 4-BFB (FID)	"	"	"	50.0-150		55.3	%	
urrogate: 4-BFB (PID)	"	"	"	50.0-150		55.4	"	
NAME OF			B7031	42_0 <del>7</del>			<u>Soil</u>	
X-WS-5	0270207	3/10/97	3/10/97	<del>12-07</del>	5.00	ND	mg/kg dry	
Sasoline Range Hydrocarbons	0370207	3/10/9 <i>/</i>	3/10/9/ II		0.0500	ND	mg/kg ary	
enzene					0.0500	ND	II .	
oluene		n	"		0.0500	ND	н	
thylbenzene	"	"	"			ND	II .	
(ylenes (total)	<del>"</del>	<u>"</u>	<del>"</del> -	500 150	0.100	76.9	%	
urrogate: 4-BFB (FID)				50.0-150			% "	
'urrogate: 4-BFB (PID)	"	"	"	50.0-150		75.7		
X-S-5	•	•	B7031	<del>42-08</del>			<u>Soil</u>	
Sasoline Range Hydrocarbons	0370207	3/10/97	3/10/97		5.00	ND	mg/kg dry	
Benzene	u	n	n		0.0500	ND	11	
'oluene	et e	D	H		0.0500	0.130	II	
thylbenzene	•	11	H*		0.0500	ND	П	
(ylenes (total)	11	11	11		0.100	0.268	II	
urrogate: 4-BFB (FID)	"	"	"	50.0-150		10.0	%	1
Surrogate: 4-BFB (PID)	n	"	. "	50.0-150		10.1	"	1
IV DO F			10 <i>4</i> 021	42.00			Soil	
X-ES-5	0270207	2/10/07	<u>B7031</u>	<u> </u>	5.00	ND	mg/kg dry	
Sasoline Range Hydrocarbons	0370207	3/10/97	3/10/97		0.0500	ND ND	mg/kg dry	
Benzene	ri	.,	rr H			-	11	
Toluene	n .		"		0.0500	ND		
Ethylbenzene	н .	11			0.0500	ND	••	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 3/11/97 15:22

# Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-ES-5 (continued)	0370207	3/10/97	<u>B7031</u> 3/10/97	<u>42-09</u>	0.100	ND	<u>Soil</u> mg/kg dry	
Xylenes (total)  Surrogate: 4-BFB (FID)	"	"	"	50.0-150		37.2	%	1
Surrogate: 4-BFB (PID)	"	n	"	50.0-150		<i>39.0</i>	"	1

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE

Renton, WA 98055

Project: Texaco #63-232-0037 Project Number: 31001.14T3

John Meyer Project Manager:

Sampled: 3/10/97

Received: 3/10/97 Reported: 3/11/97 15:22

# Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) North Creek Analytical - Bothell

<del></del>	Batch	Date	Date	Surrogate	Reporting		<u>.</u> .	
Amaluta	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
Analyte	Number	Troparca	7 mary 20a					
EX2-E-3			B7031	42-0 <u>1</u>			<u>Soil</u>	
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97		10.0	16.0	mg/kg dry	2
Heavy Oil Range Hydrocarbons	11	97	11		25.0	75.5		
Surrogate: 2-FBP		<u>"</u>	"	50.0-150		83.1	%	
								_
EX-N-4			<u>B7031</u>	<u>42-02</u>			Soil	<u>3</u>
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97		10.0	38.4	mg/kg dry	2
Heavy Oil Range Hydrocarbons	n	11			25.0	132	0	
Surrogate: 2-FBP	"	"	11	50.0-150		80.6	%	
			22004	40.02			<u>Soil</u>	3
EX-WN-4			B7031	<u>42-U3</u>	10.0	28.2	<u>Sou</u> mg/kg dry	$\frac{3}{2}$
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97		10.0		mg/kg dry	2
Heavy Oil Range Hydrocarbons		. <u> </u>			25.0	95.6	%	
Surrogate: 2-FBP	"	"	"	50.0-150		93.0	%	
EX-EN-4			B7031	42-04			Soil	
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97	<u></u>	10.0	ND	mg/kg dry	2
Heavy Oil Range Hydrocarbons	"	11	11		25.0 <sup>°</sup>	44.2	11	
Surrogate: 2-FBP			"	50.0-150		81.3	%	
Bull ogule. 2-1 Bi								
EX-BN-5			B7031	<u>42-05</u>			<u>Soil</u>	<u>3</u>
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97		10.0	51.9	mg/kg dry	2
Heavy Oil Range Hydrocarbons	11	H	11		25.0	165	"	
Surrogate: 2-FBP	11	· i	"	50.0-150		84.6	%	
	•						G-11	2
EX-BS-6			B7031	<u>42-06</u>	22.0	254	Soil	. 3/2
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97		20.0	374	mg/kg dry "	Z
Heavy Oil Range Hydrocarbons	н	···	"	50.0.150	50.0	2270	<u> </u>	
Surrogate: 2-FBP	······································	"	"	50.0-150		82.2	%	
EV WC E			B7031	42-07			Soil	4
EX-WS-5 Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97	<del> v -</del>	10.0	520	mg/kg dry	<u>4</u> 5
Heavy Oil Range Hydrocarbons	0370190	5/10/57	<i>3/11/71</i> H		25.0	788	"	-
	· "	"		50.0-150		88.9	%	<del></del> .
Surrogate: 2-FBP				JU.U-1JU		50.7	- <del>-</del>	
EX-S-5			B7031	42-08			Soil	<u>4</u>
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97		10.0	354	mg/kg dry	5
Heavy Oil Range Hydrocarbons	"	11	11		25.0	712	u u	
Surrogate: 2-FBP		"	"	50.0-150		83.5	%	
Surroguie. 2-I DI				20.0 200			•	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 3/11/97 15:22

# Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
EX-ES-5	<del>-</del>		B7031	42-09			<u>Soil</u>	<u>4</u>
Diesel Range Hydrocarbons	0370196	3/10/97	3/11/97		50.0	1610	mg/kg dry	5
Heavy Oil Range Hydrocarbons	11	n	11		25.0	799		
Surrogate: 2-FBP	"	"	"	50.0-150		89.8	%	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project:

Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 3/11/97 15:22

#### Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX2-E-3	B703142-01	Soil	87.9	%
EX-N-4	B703142-02	Soil	79.8	%
EX-WN-4	B703142-03	Soil	71.7	%
EX-EN-4	B703142-04	Soil	85.2	%
EX-BN-5	B703142-05	Soil	76.8	%
EX-BS-6	B703142-06	Soil	36.3	%
EX-WS-5	B703142-07	Soil	14.9	%
EX-S-5	B703142-08	Soil	16.7	%
EX-ES-5	B703142-09	Soil	19.8	. <b>%</b>

North Creek Analytical, Inc.



ERI

1921 Edmonds Drive SE

BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

Sampled: 3/10/97 Project: Texaco #63-232-0037

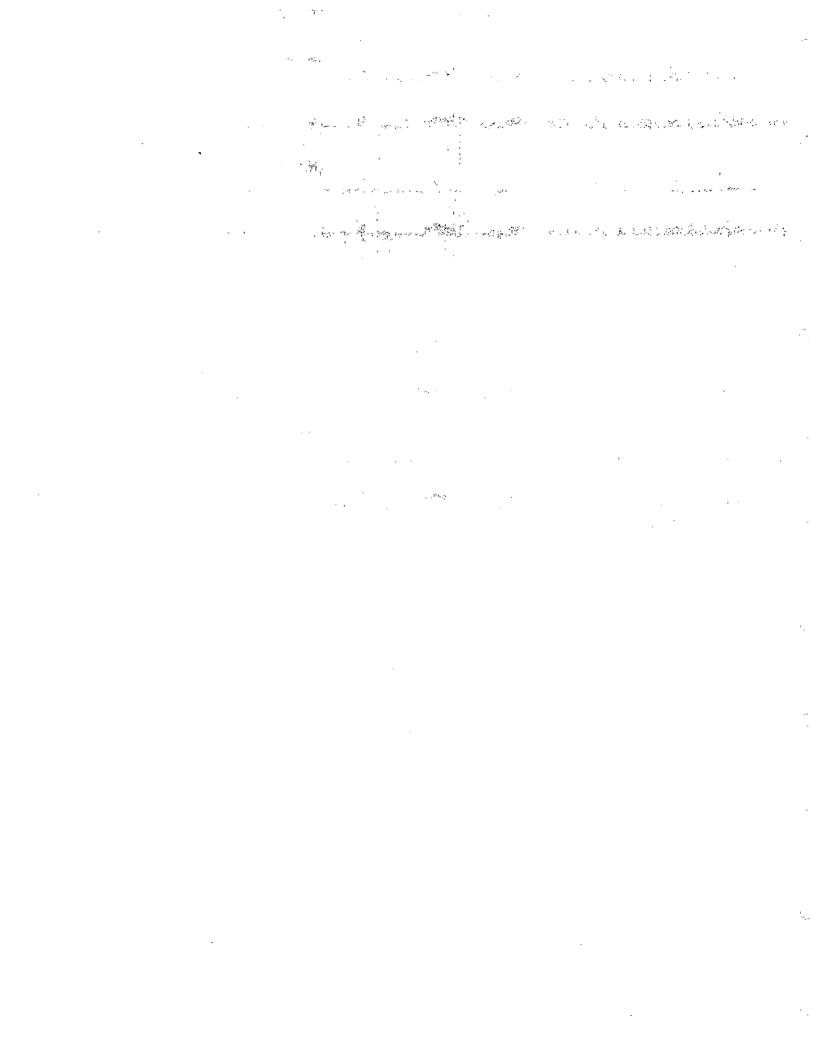
Received: 3/10/97 Project Number: 31001.14T3 Renton, WA 98055 Project Manager: John Meyer Reported: 3/11/97 15:22

### Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	R	eporting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0370207	Date Prepa	red: 3/10/9	97		Extractio	n Method: Me	OH Extr	action		
Blank	0370207-BI		<del></del>							
Gasoline Range Hydrocarbons	3/10/97			ND	mg/kg dry	5.00				
Benzene	1)			ND	"	0.0500				
Toluene	H			ND	17	0.0500				
Ethylbenzene	n			ND	17	0.0500				
Xylenes (total)	11			ND	H	0.100				
Surrogate: 4-BFB (FID)	"	4.00		3.75	n	50.0-150	93.8			
Surrogate: 4-BFB (PID)	"	4.00		3.75	"	50.0-150	93.8			
LCS	0370207-BS	81								
Gasoline Range Hydrocarbons	3/10/97	25.0		23.3	mg/kg dry	75.0-125	93.2			
Surrogate: 4-BFB (FID)	"	4.00		3.78	"	50.0-150	94.5			
Duplicate	0370207-DI	TP1 R	703125-01							
Gasoline Range Hydrocarbons	3/10/97	<u> </u>	ND	ND	mg/kg dry			50.0		6
Surrogate: 4-BFB (FID)	"	4.36		3.84	"	50.0-150	88.1	30.0		<del>_</del>
Duplicate	0370207-DU	IP2 R	703142-01							
Gasoline Range Hydrocarbons	3/11/97	<u> </u>	ND	ND	mg/kg dry			50.0		6
Surrogate: 4-BFB (FID)	"	4.55		3.52	"	50.0-150	77.4			
Matrix Spike	0370207-M	21 <b>D</b> 2	703125-06							
Benzene	3/11/97	0.588	ND	0.470	mg/kg dry	60.0-140	79.9			
Toluene	3/11/3/ H	0.588	ND	0.477	mg/kg diy	60.0-140	81.1			
Ethylbenzene	11	0.588	ND	0.477	11	60.0-140	81.1			
Xylenes (total)	H	1.76	ND	1.44	11	60.0-140	81.8			
Surrogate: 4-BFB (PID)	<i>"</i>	4.70	112	3.88	<del></del>	50.0-150	82.6	-		
Matrix Spike Dup	0370207-MS	SD1 B7	<u>/03125-06</u>							
Benzene	3/11/97	0.588	ND	0.496	mg/kg dry	60.0-140	84.4	20.0	5.48	
Toluene	"	0.588	ND	0.500	gg,	60.0-140	85.0	20.0	4.70	
Ethylbenzene	н	0.588	ND	0.501	н	60.0-140	85.2	20.0	4.93	
Xylenes (total)	п	1.76	ND	1.51	17	60.0-140	85.8	20.0	4.77	
Surrogate: 4-BFB (PID)	·	4.70		3.94		50.0-150	83.8			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.





PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project:

Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 3/11/97 15:22

# Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)/Quality Control North Creek Analytical - Bothell

RPD Reporting Limit Recov. **RPD** Sample QC Spike Date % Notes\* Recov. Limits % Limit Result Result Units Analyzed Level Analyte Extraction Method: EPA 3550 Batch: 0370196 Date Prepared: 3/10/97 Blank 0370196-BLK1 ND 10.0 3/10/97 mg/kg dry Diesel Range Hydrocarbons 25.0 ND Heavy Oil Range Hydrocarbons 50.0-150 87.8 <u> 10.1</u> 11.5 Surrogate: 2-FBP 0370196-BS1 LCS 101 59.0-135 68.9 68.0 mg/kg dry Diesel Range Hydrocarbons 3/10/97 91.3 10.5 50.0-150 11.5 Surrogate: 2-FBP 0370196-DUP1 B702159-06 **Duplicate** 50.0 44.5 382 243 mg/kg dry Diesel Range Hydrocarbons 3/11/97 8.56 50.0-150 13.0 Surrogate: Octacosane Duplicate 0370196-DUP2 B703142-05 51.5 50.0 6 3/11/97 51.9 87.9 mg/kg dry Diesel Range Hydrocarbons 50.0-150 13.9 93.3 14.9 Surrogate: 2-FBP

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL **=** (206) 481-9200 **=** FAX 485-2992 SPOKANE **=** (509) 924-9200 **=** FAX 924-9290 PORTLAND **=** (503) 643-9200 **=** FAX 644-2202

ERI Project: Texaco #63-232-0037

1921 Edmonds Drive SE Project Number: 31001.14T3
Renton, WA 98055 Project Manager: John Meyer

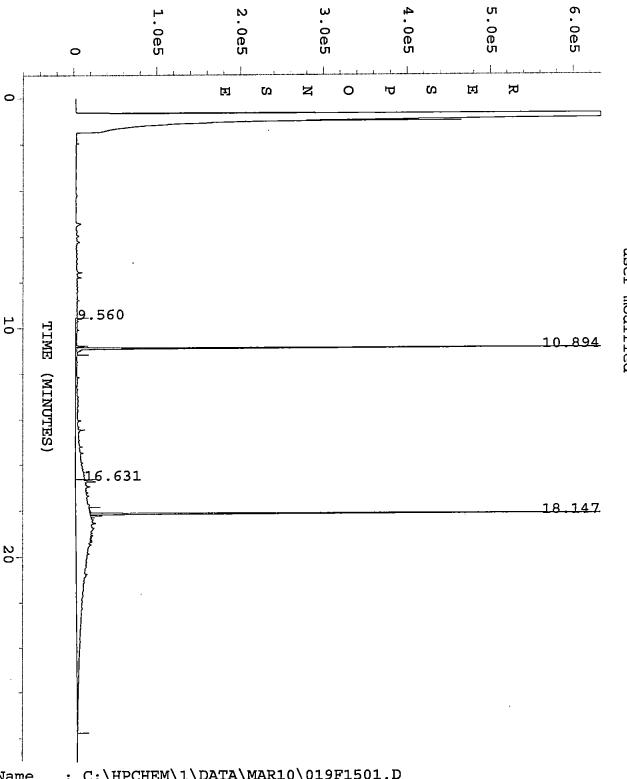
Received: 3/10/97 Reported: 3/11/97 15:22

Sampled: 3/10/97

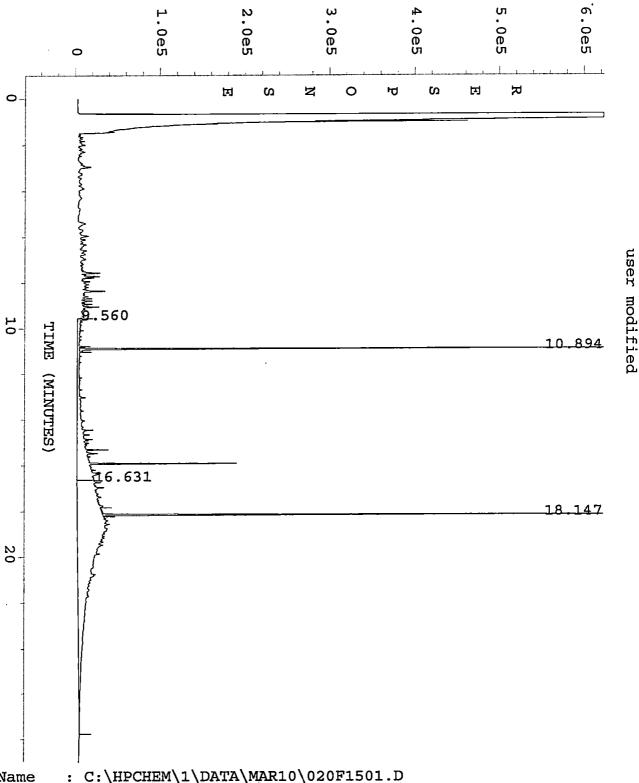
#### **Notes and Definitions**

#	Note
1.	The Surrogate Recovery for this Sample is Outside of Established Control Limits due to a Matrix Interference.
2	The diesel range organics present are due to hydrocarbons eluting primarily in the heavy oil range.
3	This sample appears to contain volatile range organics.
4	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
5	The hydrocarbon concentration result in this sample is partially due to one or more individual peaks eluting in the diesel/heavy oil range. Quantitation by EPA method 8270 is recommended.
6	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
7	Due to problems encountered with the use of the primary surrogate the results of the back-up surrogate have been used to control the analysis.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

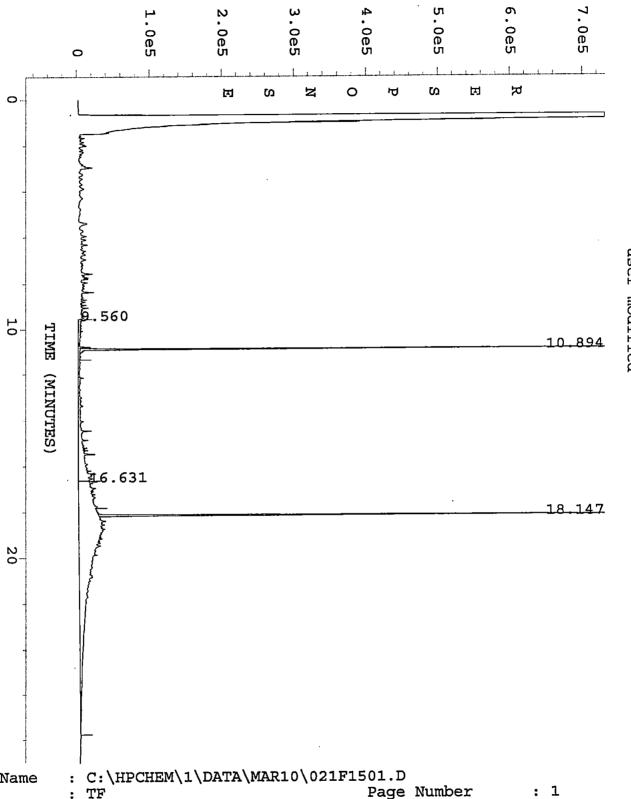
North Creek Analytical, Inc.



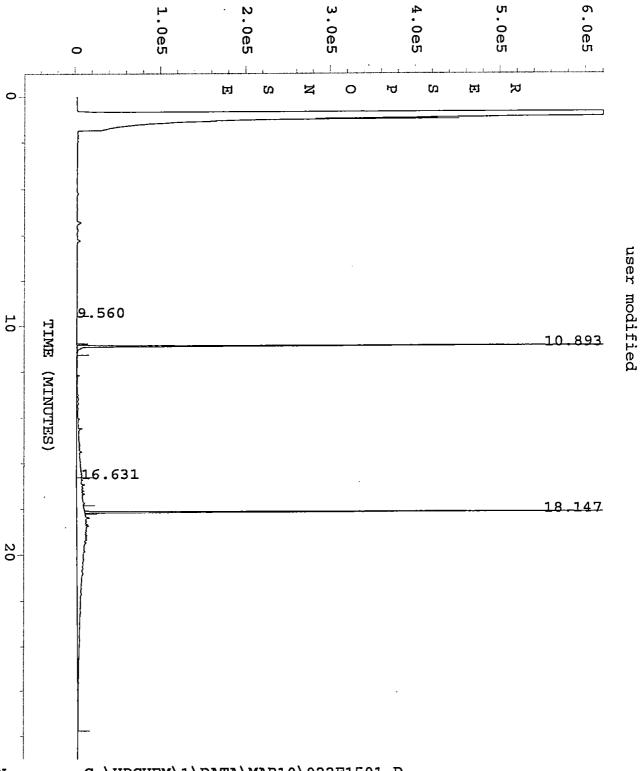
: C:\HPCHEM\1\DATA\MAR10\019F1501.D Data File Name Page Number : 1 : TF Operator Vial Number Instrument : PHIL Injection Number: 1 Sample Name : 703142-01 Run Time Bar Code: Sequence Line : 15 Instrument Method: TPHE.MTH : 11 Mar 97 04:15 AM Acquired on Report Created on: 11 Mar 97 Analysis Method : TPHE.MTH 07:31 AM



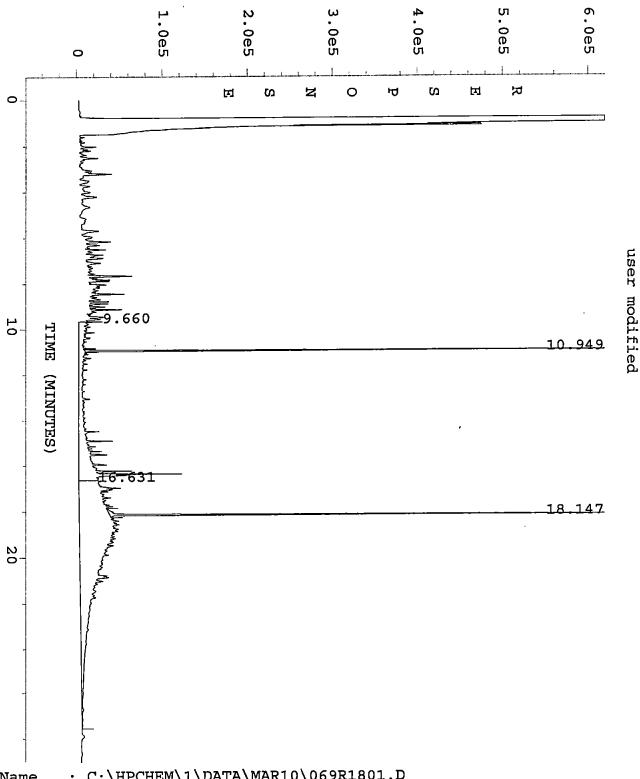
Data File Name Page Number Operator TF Vial Number : 20 Instrument : PHIL Injection Number: 1 : 703142-02 Sample Name Sequence Line Run Time Bar Code: Instrument Method: TPHE.MTH : 11 Mar 97 Acquired on 04:54 AM Analysis Method : TPHE.MTH Report Created on: 11 Mar 97 07:32 AM



Data File Name Page Number Operator : TF Vial Number : 21 Instrument : PHIL Injection Number: 1 Sample Name : 703142-03 Sequence Line : 15 Run Time Bar Code: Instrument Method: TPHE.MTH : 11 Mar 97 05:32 AM Acquired on Analysis Method : TPHE.MTH 07:33 AM Report Created on: 11 Mar 97

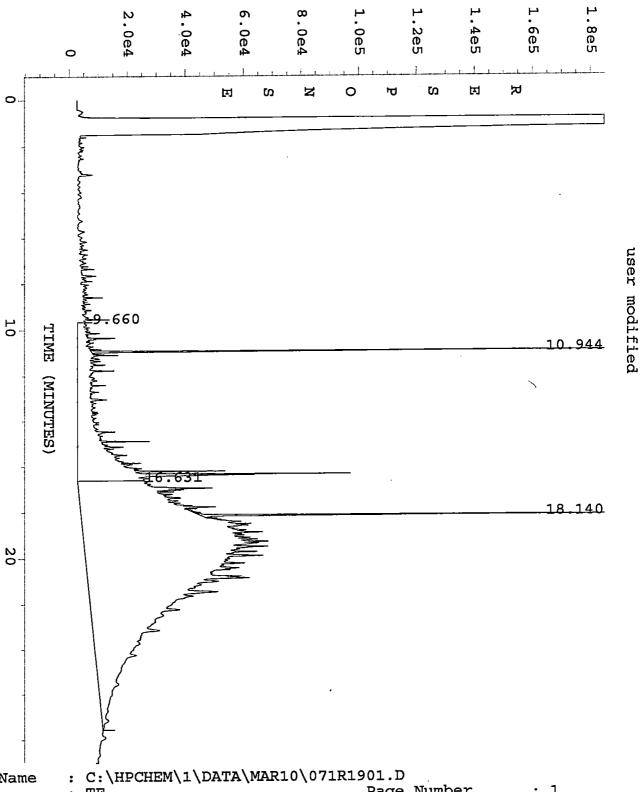


Data File Name	:	C:\HPCHEM\	1\DATA	\MAR10\022F1!	501.D		
Operator	:	TF	•		Page Number		
Instrument	:	PHIL	,		Vial Number	:	22
Sample Name	:	703142-04			Injection Number	:	1
Run Time Bar Code					Sequence Line		
Acquired on	:	11 Mar 97	06:10	AM	Instrument Method		
Report Created on					Analysis Method	:	TPHE.MTH



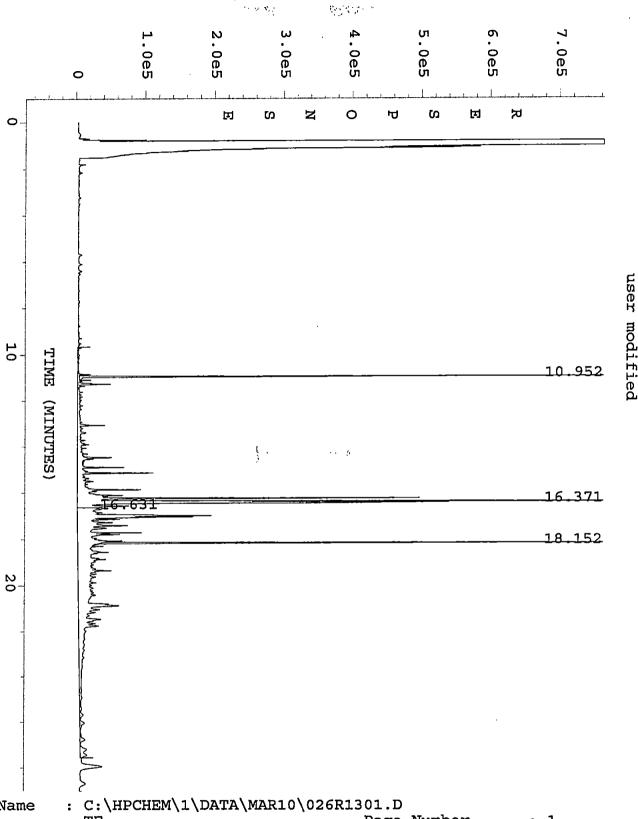
: C:\HPCHEM\1\DATA\MAR10\069R1801.D Data File Name Page Number : TF Operator Vial Number : 69 Instrument : PHIL Injection Number: 1 Sequence Line: 18 : 703142-05 S Sample Name : 18 Run Time Bar Code: Instrument Method: TPHE.MTH Acquired on : 11 Mar 97 11:18 AM

Report Created on: 11 Mar 97 Analysis Method : TPHE.MTH 11:24 AM

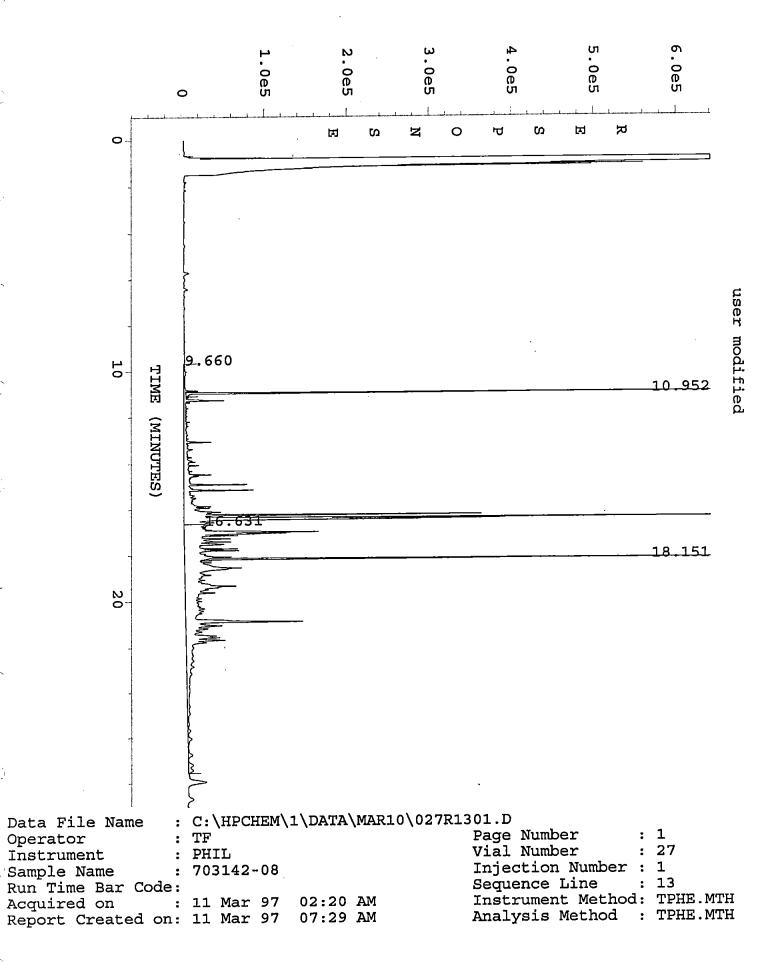


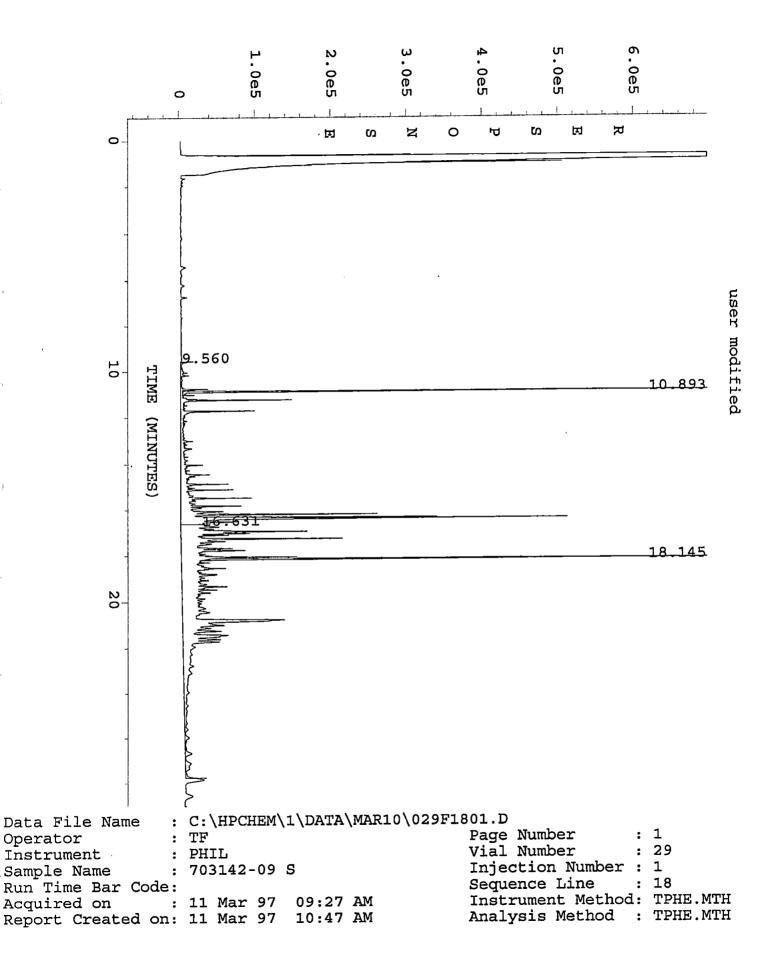
Data File Name Page Number TF Operator Vial Number : 71 Instrument : PHIL Injection Number: 1 Sequence Line: 19 Sample Name : 703142-06 S 2X : 19 Run Time Bar Code: Instrument Method: TPHD.MTH : 11 Mar 97 11:57 AM Acquired on

Report Created on: 11 Mar 97 12:10 PM Analysis Method : TPHE.MTH



Acquired on : 11 Mar 97 01:42 AM Instrument Method: TPHE.MTH Report Created on: 11 Mar 97 07:28 AM Analysis Method : TPHE.MTH







18939 120th Avenuc N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992
 East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290
 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

TEXACO CHAIN OF CUSTODY REPORT Work Order #: TURNAROUND REQUEST in Business Days ER1 CONSULTANT: **TEXACO INFORMATION** Organic & Inorganic Analyses \* PROJECT MANAGER: Wey TEXACO PROJECT MANAGER: Tool ) ADDRESS: 1921 Edman 15 DC SE TEXACO FACILITY NUMBER: 63-232-0037 10 Kenter ut 98055 SITE ADDRESS: \$701 Grach wood Am Air Analyses \* PHONE: (2ds) 227-0280 FAX: 227-025

PROJECT NAME: TEXOLO GRACHUM State Hydrocarbon Methods (please circle): WA OR AK PROJECT NUMBER: 3/00/ OTHER Specify: Analysis SAMPLED BY: \*Standard Turnaround for Organic & Inorganic Analyses is 10 D Request: \* Standard Turnaround for Air Analyses is 3 Days NCA SAMPLE SAMPLING MATRIX # OF COMMENTS & NUMBER IDENTIFICATION DATE / TIME (W, S, O) CONTAINERS PRESERVATIVES USED B703142-01 6 EX-B5-6 -08 3/6/ADECEIVED BY: WAS HULLI RELINQUISHED BY: PRINT NAME: TIME: RELINQUISHED BY: DATE: RECEIVED BY: DATE: PRINT NAME: FIRM: FIRM: TIME: Fox verilly to MEXER ASAP ADDITIONAL REMARKS: PAGE TEXCOCREV2,11/95



March 26, 1997

Service Request No: K9701669

John Meyer ERI 1921 Edmonds Dr. SE Renton, WA 98055

Re: Texaco Greenwood Project

Dear John:

Enclosed are the results of the rush sample(s) submitted to our laboratory on March 15,1997. For your reference, these analyses have been assigned our service request number K9701669.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 281.

Respectfully submitted,

Columbia Analytical Services, Inc.

Elizabeth Schneider Project Chemist

ES/cl

Page 1 of 12

#### Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEO Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit

MPN Most Probable Number

MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

#### **Acronyms**

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

J Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

#### **Analytical Report**

Client:

ERI

Project:

Texaco Greenwood

Sample Matrix: Water

Service Request: K9701669

Date Collected: 3/14/97 Date Received: 3/14/97 Date Extracted: 3/17/97

Date Analyzed: 3/17/97

Total Oil and Grease EPA Methods 413.1 Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
EXWATER	K9701669-001	1	287
Method Blank	K9701669-0MB	1	ND

Approved By:

Date: 3/26/97

3.3

#### **Analytical Report**

Client:

ERI

Project:

Texaco Greenwood

Sample Matrix:

Water

Service Request: K9701669

Date Collected: 3/14/97
Date Received: 3/14/97
Date Extracted: NA

Date Analyzed: 3/17/97

BTE
EPA Methods 5030A/8020
Units: µg/L (ppb)

	Analyte: Method Reporting Limit:	Benzene 0.5	<b>Toluene</b> 1	Ethylbenzene 1
Sample Name	Lab Code			
EXWATER Method Blank	K9701669-001(a) K9701669-MB	37 ND	340 ND	290 ND

Result is from the analysis of a diluted sample, performed on 3/17/97. Dilution factor: 100

Approved By: 5A/102194

(a)

5/

\_\_\_ Date: <u>3/26/9</u>7

# APPENDIX A LABORATORY QC RESULTS

#### QA/QC Report

Client: Project:

ERI

Service Request: K9701669

Texaco Greenwood

Date Collected: NA
Date Received: NA

LCS Matrix: Water Date Re

Date Extracted: 3/17/97
Date Analyzed: 3/17/97

CAS

**Laboratory Control Sample Summary** 

Total Oil and Grease EPA Methods 413.1 Units: mg/L (ppm)

Percent Recovery

True Percent Acceptance

Analyte Value Result Recovery

Limits

77-111

Approved By: \_

01669PHC.DJ1 - LCS 3/26/97

#### QA/QC Report

Client:

ERI

Project:

Texaco Greenwood

Sample Matrix: Water

Service Request: K9701669

Date Collected: 3/14/97 Date Received: 3/14/97 Date Extracted: NA

Date Analyzed: 3/17/97

Surrogate Recovery Summary

BTE

EPA Methods 5030A/8020

Sample Name	Lab Code	Percent Recovery 4-BFB (PID - BTEX)	Percent Recovery 4-BFB (FID - GAS)
EXWATER	K9701669-001	92	NA
Method Blank	K9701669-MB	97	NA
Lab Control Sample	K9701669-LCS	102	NA

CAS Acceptance Limits:

86-113

81-120

Approved By:	<b>4</b> /	Date: 3/24/97
ipprovou 23		

SUR2/111594 01669PHC.EC2 - BTXwSUR 3/26/97

#### QA/QC Report

Client:

**ERI** 

Project:

Texaco Greenwood

Sample Matrix: Water

Service Request: K9701669

Date Collected: 3/14/97 Date Received: 3/14/97

Date Extracted: NA Date Analyzed: 3/19/97

**Duplicate Summary** 

BTE

EPA Methods 5030A/8020

Units: µg/L (ppb)

Sample Name:

Batch QC

Lab Code:

B9700118-001DUP(a)

		Sample	Duplicate Sample		Relative Percent	CAS RPD Acceptance
Analyte	MRL	Result	Result	Average	Difference	Limit
Benzene	0.5	5.5	5.2	5.35	4	30
Toluene	1	4600	4000	4300	9	30
Ethylbenzene	1	1500	1300	1400	9	30

Result is from the analysis of a diluted sample, performed on 3/19/97.

Approved By:

(a)

DUP1SRPD/102194 01669PHC.EC2 - BTXwDUP 3/26/97 Date: 3/24/97

#### QA/QC Report

Client:

ERI

Project:

Texaco Greenwood

Sample Matrix: Water

Service Request: K9701669

Date Collected: 3/14/97 Date Received: 3/14/97 Date Extracted: NA

Date Analyzed: 3/18/97

**CAS** 

Matrix Spike Summary

BTE

EPA Methods 5030A/8020

Units: µg/L (ppb)

Lab Code:	B9700118-002MS		Spike	Sample	Spiked Sample	Percent	Percent Recovery Acceptance
Analyte		MRL	Level	Result	Result	ult Recovery	Limits
Benzene		0.5	100	ND	99	99	79-119
Toluene		1	100	ND .	99	99	82-114
Ethylbenzene		1	100	ND	101	101	83-114

Approved By:

#### QA/QC Report

Client:

ERI

Service Request: K9701669

Project:

Texaco Greenwood

Date Collected: NA

LCS Matrix:

Water

Date Received: NA
Date Extracted: NA
Date Analyzed: 3/17/97

Laboratory Control Sample Summary

BTE

EPA Methods 5030A/8020

Units: µg/L (ppb)

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	100	90	90	69-118
Toluene	100	102	102	66-124
Ethylbenzene	100	109	109	63-127

01669PHC.EC2 - BTXwLCS 3/26/97



## CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

Services Inc. 18912 North Creek Pkwy, Suite 118 • Bothell,	, WA 98011 ·	(206) 4	86-698	33 • FAX (	206) 486	-7695		D	ATE	<u> 3//</u>	14/	1	<u></u> 1	PAGE			OF_	
		r						AN	ALY	SIS	ŘEC	UE	ST					
PROJECT NAME TELES CONSUMED			$\Box$	PETR	OLEU	MH	cs		ORC			7		GAN	IC M	ETA	LS/IN	ORGANICS
PROJECT TEXAS	မှူ			/	/ /		Nolaw.						_//	7 /	65	Total-PTKN, TOS	7 /	///
COMPANY/ADDRESS	<u>\</u>			1,1	', /		25 26 26 26 26	ੇ∥	/8	Ι,	/.				4.5	18 T	1.	/ /
1921 EZMAN IS Dr 4E	CONTAINERS		/ ,	\alpha \ \ .	//	/	Sea Sea Sea		'ganji	' . //	///	Z [8]	ď	/	() ()	tal-p	/18/	/ /
Renty WA PHONE 22700		/	- 1		//	/ /	9 4 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	958 8240		7.NOB H.	۶٬ // <u>:</u> غرار ا	5//	//	'	8 E	12 / 12 /	V	
SAMPLERS SIGNATURE MAN MA	10	) <i>[</i> §	//	//	18.1	ate of			18 8 8 E		ું/જે	S [5]	i' /	i j	္တုပ်	)   §	$X_{i}$	
			; /- : /- 6	دا نه جران	+ 6 J	8				IN	   	B g		8			, K	/
SAMPLE LAB SAMP 1.D. DATE TIME I.D. MATR	IX S	State: HCIN	E Sal	Sale: 0	in the second	60,1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(#S)	Pesticides/PCBS	Z & /		Metals 70/2	/స్	PH Cond CT	<u>₹</u> 0		<del>"</del>	REMARKS
EXWATER 1/14 - 1619-1 CC	2 /															$\bowtie$		
	,																	
											Î							
															,			
		1-					<u> </u>											
						<del> </del>				寸								
		1								_	一					<u> </u>		
RELINQUISHED BY: RECEIVED BY:	TURNABOU	ND REQ	LI Uireme	NTS	REPO	T REQ	<u> </u> Uiremi	ENTS	┞╌╌┵	INVOI	CE INF	ORMA	TION:	!	$\vdash$	LS	AMPLE	RECEIPT:
MPM I out	24 hr _					rtine Repo												
Signature Was Lee wolf		l (10-15 w				ort (inclu D, as req			P.O.# _ Bill To _						1		-	
Printed Name Printed Name	Provide Results	Verbal Pre	enninary	ŀ	cha	rged as s	samples)		Biii 10 _		_				Condi			
Firm3/14/97 3:Cxm	Provide	FAX prelin	ninary Re	esults -	<b>(</b> in	ta Validat cludes Al	I Raw Da	ata)							_	11	2-7/	VII-I-O
Daye/Time Date/Time	Requested Rep	ort Date _		-	IV. CL	P Delivei	abie Rep	oort							Lab N	0:	170	1669
RELINQUISHED BY: RECEIVED BY:	SPECIAL I								•									
Signature				F. 22	Ar	برابو	Shi	14	4	4			11	11.	<b>01/</b>		_	
d					, ,,	, -	/•	/	_	/ '						1		
		0	_	22	27-	0	22	25			u	1		10	M	يركما		•
Firm	-			0	/,	/						•	-	•				
Date/Time Date/Time				7//	[7]	A'	7											



April 10, 1997

Service Request No: K9701617

John Meyer ERI 1921 Edmonds Dr. SE Renton, WA 98055

Re: Texaco Greenwood/31001

Dear John:

Enclosed are the results of the rush sample(s) submitted to our laboratory on March 13, 1997. For your reference, these analyses have been assigned our service request number K9701617.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 281.

Respectfully submitted,

Columbia Analytical Services, Inc.

Elizabeth Schneider Project Chemist

ES/td

Page 1 of \_\_\_\_\_

#### Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEO Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

J Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit

MPN Most Probable Number

MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed

NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

#### Analytical Report

Client:

**Texaco Environmental Services** 

Project:

Texaco Greenwood/31001

Sample Matrix:

Soil

Service Request: K9701617

Date Collected: 3/13/97
Date Received: 3/13/97

Date Extracted: 3/13/97

Date Analyzed: 3/13/97

BTEX and Total Petroleum Hydrocarbons as Gasoline EPA Methods 5030A/8020 and Washington DOE Method WTPH-G Units: mg/Kg (ppm)

Units: mg/Kg (ppm)
Dry Weight Basis

	Analyte: Method Reporting Limit:	Benzene 0.05	Toluene 0.1	Ethylbenzene 0.1	Total Xylenes 0.1	TPH as Gasoline 5
Sample Name	Lab Code					
EX3-E-3 EX4-E-3 Method Blank	K9701617-001 K9701617-002 K9701617-SB	ND ND ND	ND ND ND	ND ND ND	ND ND ND	7(a) 6(a) ND

(a) Quantified as gas. The sample contained components that eluted in the gas range, but the chromatogram did not match the typical gas fingerprint.

Approved By:	3	Date: _	410/99	
			•	

5A/102194 01617PHC.EC2 - GBTXs 4/10/97

#### QA/QC Report

Client:

Texaco Environmental Services

Project:

Texaco Greenwood/31001

Sample Matrix: Soil

Service Request: K9701617
Date Collected: 3/13/97
Date Received: 3/13/97
Date Extracted: 3/13/97
Date Analyzed: 3/13/97

## Surrogate Recovery Summary BTEX and Total Petroleum Hydrocarbons as Gasoline EPA Methods 5030A/8020 and Washington DOE Method WTPH-G

Sample Name	Lab Code	Percent Recovery 1,4-BFB (PID - BTEX)	Percent Recovery 1,4-BFB (FID - GAS)
EX3-E-3	K9701617-001	86	90
EX3-E-3	K9701617-001MS	89	89
EX4-E-3	K9701617-002	86	91
EX4-E-3	K9701917-002DUP	83	87
Method Blank	K9701617-SB	91	95
Lab Control Sample	K9701617-LCS	97	97
Lab Control Sample	K9701617-GLCS	96	100

CAS Acceptance Limits:

59-116

59-115

Approved By: \_\_\_\_\_\_ Date: 4/10/93

SUR2/111594 01617PHC.EC2 - GBTXsSUR 4/10/97

#### QA/QC Report

Client:

Texaco Environmental Services

Project:

Texaco Greenwood/31001

Sample Matrix: Soil

Service Request: K9701617

Date Collected: 3/13/97 Date Received: 3/13/97

Date Extracted: 3/13/97 Date Analyzed: 3/13/97

**Duplicate Summary** 

BTEX and Total Petroleum Hydrocarbons as Gasoline

EPA Methods 5030A/8020 and Washington DOE Method WTPH-G

Units: mg/Kg (ppm) Dry Weight Basis

Sample Name:

EX4-E-3

Lab Code:

K9701617-002DUP

		Sample	Duplicate Sample		Relative Percent	CAS RPD Acceptance	
Analyte	MRL R	Result	Result	Average	Difference	Limit	
Benzene	0.05	ND	ND	-	-	40	
Toluene	0.1	ND	ND	-	-	40	
Ethylbenzene	0.1	ND	ND	-	-	40	
Total Xylenes	0.1	ND	ND	-	-	40	
Gasoline	5	6	ND	NC	-	40	

Date: 1/10/97 Approved By:

DUP1SRPD/102194 01617PHC.EC2 - GBTXsDUP 4/10/97

#### QA/QC Report

Client:

Texaco Environmental Services

Project:

Texaco Greenwood/31001

Sample Matrix: Soil

Service Request: K9701617 Date Collected: 3/13/97 Date Received: 3/13/97 Date Extracted: 3/13/97

Date Analyzed: 3/13/97

Matrix Spike Summary

BTEX and Total Petroleum Hydrocarbons as Gasoline

EPA Methods 5030A/8020 and Washington DOE Method WTPH-G

Units: mg/Kg (ppm) Dry Weight Basis

Sample Name:

EX3-E-3

**CAS** 

Lab Code:	K9701617-001MS		Spike	Sample	Spiked Sample	Percent	Percent Recovery Acceptance
Analyte		MRL	Level	Result	Result	Recovery	Limits
Benzene		0.05	0.87	ND	0.7	80	47-111
Toluene		0.1	0.87	ND	0.7	83	46-119
Ethylbenzene		0.1	0.87	ND	0.7	80	48-116
Gasoline		5	NS	7	NS	-	59-135

NS

Not spiked with Gasoline.

\_\_\_\_ Date: <u>4/10/97</u> Approved By:

MS1S/102194 01617PHC.EC2 - GBTXsMS 4/10/97

#### QA/QC Report

Client:

**Texaco Environmental Services** 

Project:

Texaco Greenwood/31001

LCS Matrix:

Soil

Service Request: K9701617

Date Collected: NA
Date Received: NA
Date Extracted: 3/13/97

Date Analyzed: 3/13/97

# Laboratory Control Sample Summary BTEX and Total Petroleum Hydrocarbons as Gasoline EPA Methods 5030A/8020 and Washington DOE Method WTPH-G Units: mg/Kg (ppm)

	True		Percent	CAS Percent Recovery Acceptance
Analyte	Value	Result	Recovery	Limits
Benzene	0.76	0.81	107	61-119
Toluene	4.9	4.8	99	59-118
Ethylbenzene	1.0	0.9	91	51-132
Gasoline	48.5	62.4	129	82-155

CS/102194 01617PHC.EC2 - GBTXsLCS 4/10/97

#### **Analytical Report**

Client:

Texaco Environmental Services

Project:

Texaco Greenwood/31001

Sample Matrix:

Soil

Service Request: K9701617

Date Collected: 3/13/97 Date Received: 3/13/97

Date Extracted: 3/13/97

Date Analyzed: 3/13/97

Total Petroleum Hydrocarbons as Diesel and Oil Washington DOE Method WTPH-D Units: mg/Kg (ppm) Dry Weight Basis

	Analyte: Method Reporting Limit:	Diesel 25	Oil*
Sample Name	Lab Code		
EX3-E-3	K9701617-001	68(a)	252
EX4-E-3	K9701617-002	85(a)	348
Method Blank	K9701617-SB	ND	ND

Quantified using 30-weight motor oil as a standard.

This result is primarily due to the beginning of oil, which elutes in the diesel region.

Date: 1/10/97 Approved By:

2A/102094

(a)

01617PHC.EC1 - TPHs 4/10/97

00008

#### QA/QC Report

Client:

Texaco Environmental Services

Project:

Texaco Greenwood/31001

Sample Matrix: Soil

Service Request: K9701617

Date Collected: 3/13/97

Pata Received: 2/13/97

Date Received: 3/13/97 Date Extracted: 3/13/97 Date Analyzed: 3/13/97

Surrogate Recovery Summary
Total Petroleum Hydrocarbons as Diesel and Oil
Washington DOE Method WTPH-D

Sample Name	Lab Code	Percent Recovery p-Terphenyl
EX3-E-3	K9701617-001	98
EX4-E-3	K9701617-002	112
Method Blank	K9701617-SB	81

CAS Acceptance Limits: 81-112

90000

01617PHC.EC1 - TPHsSUR 4/10/97

K9701617

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992 East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

<b>プレイルピニーオー</b> とディストの企画を必要を認識を表現を表現するという。	Order#	
---	--------	--

Environmental Laboratory Services	CHAIN OF CUSTODY REPORT Work (							Order#						
REPORT TO:	Page:	918-0254	INVOICE	то: 7	Exa	760					TURN	AROUND REQU	EST in Business Days *	
ATTENTION: JOHN May		·	ATTENTIO	on: 7	- 6	2C1	-					Organic & Inc	organic Analyses	<del></del>
ADDRESS: 1921 = 2m2 1)	4 Wr 9	E	ADDRESS	: 34	100	18	47	19 4	1 50	<u></u>	10 7	5 4	3 2 1	Day
Kenfor Uf	2000		4	4/11	4/10	<u> </u>	w	<u> 4</u>	98	37	Standard	Fuels & Hy	drocarbon Analyses	
PHONE: 127-0280	FAX: 22	7-0225	P.O. NUM	BER:	<u> </u>		NCA QU	OTE#:		,	 	5 3-4	2 1 Same Day	
PROJECT NAME: TEXALD C	· recuu	<del>~</del>	Analysis	4	177 A	<i>y</i> ) /			//		<u> </u>	Stantiani		
PROJECT NUMBER: 3/00/			Request:	/3/	13 13	' /	/ ,	/ /			OTHER	Specify:		
SAMPLED BY: WEVEN		To a paragraph and its recovery some highests become taken	ļ	10/10	PH.	/ /	′ /		//		* Turnaround	· · · · · · · · · · · · · · · · · · ·	tundard may incur Rush Cha	rges.
CLIENT SAMPLE / IDENTIFICATION	SAMPLING DATE/TIME	CA SAMPLE ID		/ <b>N</b> Y .	<u> </u>				/ /		MATRIX (W. S. A. O)	# OF CONTAINERS	COMMENTS	
1 EX3-E-3	3/14/11-	16/16/19/2/		$X \mid X$							_			
2 EX4-E-3	1			$\times\!$							•			
3.	\			///										
4.														
5.														
6.													· · · · · · · · · · · · · · · · · · ·	
7.		NAME OF STREET												
8.	1													
9.	W					_					-		<del></del> .	
10														
m 1/2	m		<u>*11_</u>	DATE:3/	MA R			<b>/</b>	- ( )		<u> </u>	<u> </u>		Jahr
RELINQUISHED BY (Signatures	1/10	~/	I	DATE://	R	ECEIVED BY		M	CVUPU	w			DATE: 3	112/11
PRINT NAME:	VIJen	FIRM: DY		TIME:	Pi	RINT NAME:		310	CHOIN	1/5/	35	FIRM:	15_ TIME: /	102209
RELINQUISHED BY (Signature):				DATE:	R	ECEIVED BY	(Signature):						DATE:	
PRINT NAME:		FIRM:		тіме:		RINT NAME:		·				FIRM:	тіме:	
additional remarks: Faxed da	ta to	Teresa Gei	ier	as 1	well	31	14/9	7	ER					
· -	•	`	J		_								PAGE	OF
COC Res 8, 1846	<del></del>								<u> </u>			<del></del>	<u></u>	



PORTLAND • (503) 643-9200 • FAX 644-2202

ERI 1921 Edmonds Drive SE

Renton, WA 98055

Project: Project Number: 31001.14T3

Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Project Manager: John Meyer Reported: 4/11/97 07:34

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX-BN-5	B703142-05	Soil	3/10/97
EX-BS-6	B703142-06	Soil	3/10/97

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



ERI

1921 Edmonds Drive SE

Renton, WA 98055

BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

 Project:
 Texaco #63-232-0037
 Sampled:
 3/10/97

 Project Number:
 31001.14T3
 Received:
 3/10/97

Project Manager: John Meyer Reported: 4/11/97 07:34

### Volatile Petroleum Hydrocarbons by WDOE Interim TPH Policy Method. North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
			B7031	42_05			<u>Soil</u>	
EX-BN-5	07/70014	2/20/07	4/1/97	<del>42-03</del>	5.00	ND	mg/kg dry	
C5-C6 Aliphatics	0370814	3/28/97					11.5.1.5 4.7	
C6-C8 Aliphatics	11	*1	**		5.00	ND		
C8-C10 Aliphatics	11	11	**		5.00	10.6	n	
C10-C12 Aliphatics	n	11	**		5.00	18.9	D .	
C8-C10 Aromatics	n	н	U		5.00	5.34	ŧI	
	H	11	H		5.00	14.6	11	
C10-C12 Aromatics		11				ND	11	
C12-C13 Aromatics		<u> </u>			5.00		-	
Surrogate: 4-BFB (FID)	"	"	"	80.0-120		81.8	%	
Surrogate: 4-BFB (PID)	"	"	#	80.0-120	•	105	"	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

Project: Texaco #63-232-0037

Sampled: 3/10/97

1921 Edmonds Drive SE Renton, WA 98055 Project Number: 31001.14T3
Project Manager: John Meyer

Received: 3/10/97 Reported: 4/11/97 07:34

### BTEX, MTBE and Naphthalene by WDOE Interim TPH Policy Method using GC/MS North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
THE PALE	<del></del>		B70314	12-05	,		<u>Soil</u>	
EX-BN-5	0370676	3/25/97	3/26/96	<del>12-03</del>	1.00	ND	mg/kg dry	
Methyl tert-butyl ether	U370070 "	3123191	3/20/30 II		0.200	ND	11	
Benzene	H.	II.	Ir .		0.200	ND	11	
Toluene		H			0.200	ND	11	
Ethylbenzene	,,				0.400	ND	D	
m,p-Xylene	" D	 n			0.200	ND	п	
o-Xylene			н		0.200	ND	n	
Naphthalene					0.200		%	
Surrogate: 1,2-DCA-d4	"	"	"	70.0-130		<i>87.3</i>		
Surrogate: Toluene-d8	"	"	"	70.0-130	•	90.0	"	
Surrogate: 4-BFB	"	, <i>"</i>	#	70.0-130		88.8	"	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE

Renton, WA 98055

Project: Texaco #63-232-0037

Project Number: 31001.14T3

Received: 3/10/97

Sampled: 3/10/97

Project Manager: John Meyer

Reported: 4/11/97 07:34

#### Extractable Petroleum Hydrocarbons by WDOE Interim TPH Policy Method North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting	Dogult	Units	Notes*
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Ullis	Notes.
EX-BS-6		•	B7031	<u> 42-06</u>			<u>Soil</u>	
C8-C10 Aliphatics	0470100	4/4/97	4/5/97		5.00	10.5	mg/kg dry	
C10-C12 Aliphatics	п	11	, n		5.00	16.9	ti .	
C12-C16 Aliphatics	ır	ti	n		5.00	55.5	11	
C16-C21 Aliphatics	II .	19	**		5.00	44.2	11	
C21-C34 Aliphatics	n ´	19	n		5.00	426	11	
C10-C12 Aromatics	11	11	4/9/97		10.0	ND		
C12-C16 Aromatics	11	11	**		10.0	26.8	11	
C16-C21 Aromatics	n	19	17		10.0	69.5	11	
C21-C34 Aromatics	II	U	ti		10.0	602	Π	
Surrogate: Octacosane	<del>"</del>	"	4/5/97	60.0-140	<u> </u>	69.1	%	
Surrogate: 2-FBP	"	"	4/9/97	60.0-140		76.7	"	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 4/11/97 07:34

## Polynuclear Aromatic Hydrocarbons by WDOE Interim TPH Policy Method using GC/MS-SIM North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
EX-BS-6			B70314	12-06			Soil	
Acenaphthene	0470100	4/4/97	4/9/97		0.0400	ND	mg/kg dry	
<del>-</del>	"	"	11		0.0400	ND	11	
Acenaphthylene	11	ır.	ei .		0.0400	0.0456	11	
Anthracene	17	11	11		0.0400	0.208	II .	
Benzo (a) anthracene	n		It		0.0400	ND	n,	
Benzo (a) pyrene		11	n		0.0400	0.324	17	
Benzo (b) fluoranthene			11		0.0400	0.225	U	
Benzo (ghi) perylene			 Ji		0.0400	0.223	п	
Benzo (k) fluoranthene	II .						11	
Chrysene	"	H	11		0.0400	0.273	11	
Dibenzo (a,h) anthracene	n	n	11		0.0400	0.0487		
Fluoranthene	n	ŧı	II .		0.0400	0.514	11	
Fluorene	н	,	н		0.0400	ND	"	
Indeno (1,2,3-cd) pyrene	H	11	n		0.0400	0.153	II .	
2-Methylnaphthalene	11	11	H			0.0726	D	
Naphthalene	n	11	11		0.0400	ND	n	
Phenanthrene	*1	11	**		0.0400	0.279	н	
	, ,	II .	n		0.0400	0.623	· n	
Pyrene	<del></del>	"	- "	60.0-140		104	%	
Surrogate: p-Terphenyl-d14				00.0-140		207		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE **■** (509) 924-9200 **■** FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

1921 Edmonds Drive SE

Renton, WA 98055

Project:

Texaco #63-232-0037

Project Number: 31001.14T3 Project Manager: John Meyer

Sampled: 3/10/97

Received: 3/10/97

Reported: 4/11/97 07:34

#### **Dry Weight Determination** North Creek Analytical - Bothell

			D14	T T : A
Sample Name	Lab ID	Matrix	Result	Units
EX-BN-5	B703142-05	Soil	76.8	%
EX-BS-6	B703142-06	Soil	36.3	%

North Creek Analytical, Inc.



PORTLAND (503) 643-9200 FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3 Project Manager: John Meyer

Reported: 4/11/97 07:34

#### Volatile Petroleum Hydrocarbons by WDOE Interim TPH Policy Method/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	R Units	eporting Limit Recov. Limits	Recov.	RPD Limit	RPD %	Notes*
Batch: 0370814	Date Prepa	red: 3/28/9	97		Extraction	on Method: Met	OH Extr	action		
Blank	0370814-BI		<u>.</u>			•		-		
C5-C6 Aliphatics	4/1/97			ND	mg/kg dr	y <b>5.00</b>				
C6-C8 Aliphatics	II			ND	1)	5.00				
C8-C10 Aliphatics	II			ND	11	5.00				
C10-C12 Aliphatics	ii.			ND	11	5.00				
C8-C10 Aromatics	. #			ND	11	5.00				
C10-C12 Aromatics	11			ND	11	5.00				
C12-C13 Aromatics	II.			ND	H	5.00				
Surrogate: 4-BFB (FID)	11	4.00		3.78	" .	80.0-120	94.5			
Surrogate: 4-BFB (PID)	. "	4.00		4.76	"	80.0-120	119			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.

Project Manager



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

ERI

Texaco #63-232-0037 Project:

Sampled: 3/10/97

1921 Edmonds Drive SE Renton, WA 98055

Project Number: 31001.14T3 Project Manager: John Meyer

Received: 3/10/97 Reported: 4/11/97 07:34

BTEX, MTBE and Naphthalene by WDOE Interim TPH Policy Method using GC/MS/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QĊ	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: <u>0370676</u>	Date Prepa	97								
Blank	0370676-BI		27		Batractic	n Method: Me	<u> </u>			
Methyl tert-butyl ether	3/25/97			ND	mg/kg dry	, 1.00				
Benzene	11			ND	11	0.200				
Toluene	ч			ND	н	0.200				
Ethylbenzene	n			ND	п	0.200				
m,p-Xylene	11			ND	11	0.400				
o-Xylene	If			ND	O.	0.200				
Naphthalene	п			ND	19	0.200				
Surrogate: 1,2-DCA-d4	"	2.00		1.80	. ,,	70.0-130	90.0			
Surrogate: Toluene-d8	"	2.00		2.08	"	70.0-130	104			
Surrogate: 4-BFB	"	2.00		1.96	"	70.0-130	98.0			
Surreguie. 1212										
Matrix Spike	0370676-M	<u>S1</u> <u>B'</u>	703468-08							
Benzene	3/26/96	1.16	ND	0.947	mg/kg dry	70.0-130	81.6			
Toluene	11	1.16	ND	1.05	*11	70.0-130	90.5			
Surrogate: 1,2-DCA-d4	"	2.32		2.14	"	70.0-130	92.2		-	
Surrogate: Toluene-d8	"	2.32		2.34	'n	70.0-130	101			
Surrogate: 4-BFB	"	2.32		2.2 <i>I</i>	"	70.0-130	95.3			
Matrix Spike Dup	0370676-M	SD1 B3	703468-08							
Benzene	3/26/96	1.16	ND	0.931	mg/kg dry	70.0-130	80.3	20.0	1.61	
Toluene	11	1.16	ND	1.01	"	70.0-130	87.1	20.0	3,83	
Surrogate: 1,2-DCA-d4	"	2.32		2.35	<del></del>	70.0-130	101			,
Surrogate: Toluene-d8	,,	2.32		2.23	"	70.0-130	96.1			
Surrogate: 4-BFB	"	2.32		2.04	ıı .	70.0-130	87.9			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.

, Project Manager



PORTLAND **(503)** 643-9200 **FAX** 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 4/11/97 07:34

#### 

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0470100	Date Prepa		<u>1</u>		Extracti	on Method: EPA	<u> 3550</u>			
Blank	<u>0470100-B</u> 1	<u>LK1</u>								
C8-C10 Aliphatics	4/5/97			ND	mg/kg di					
C10-C12 Aliphatics	II .			ND	**	5.00				
C12-C16 Aliphatics	И		•	ND	ti	5.00		•		
C16-C21 Aliphatics	II			ND	ti	5.00				
C21-C34 Aliphatics	11			ND	U	5.00				
C10-C12 Aromatics	II .			ND	O	5.00				
C12-C16 Aromatics	и			ND	ti .	5.00				
C16-C21 Aromatics	II			ND	**	5.00				
C21-C34 Aromatics	11			ND	D	5.00				
Surrogate: Octacosane	"	6.82		5.19	"	60.0-140	76.1			
Surrogate: 2-FBP	"	6.87		5.41	"	60.0-140	78.7			
LCS	0470100- <u>B</u> 5	S1								
C8-C10 Aliphatics	4/5/97	1.64		1.36	mg/kg di	ry 70.0-130	82.9			
C10-C12 Aliphatics	n	1.67		1.47	n	70.0-130	88.0			
C12-C16 Aliphatics	. ,,	1.67		1.50	11	70.0-130	89.8			
C16-C21 Aliphatics	11	1.67		1.89	II .	70.0-130	113			
C21-C34 Aliphatics	n	1.67		2.12	17	70.0-130	127			
C10-C12 Aromatics	11	1.67		1.34	Œ	70.0-130	80.2			
C12-C16 Aromatics	II.	5.01		4.27	ti	70.0-130	85.2			
C16-C21 Aromatics	и	8.35		7.93	0	70.0-130	95.0			
C21-C34 Aromatics	и	13.4		9.69	n	70.0-130	72.3			
Surrogate: Octacosane	"	6.82		5.28	· ·	60.0-140	77.4			
Surrogate: 2-FBP	"	6.87		5.51	"	60.0-140	80.2			
<u>Duplicate</u>	0470100-D	UP1 B'	703505-01							
C8-C10 Aliphatics	4/5/97	<del></del>	ND	ND	mg/kg di	ry		25.0		
C10-C12 Aliphatics	"		ND	ND	"	•		25.0		
C12-C16 Aliphatics	u		ND	7.72	n			25.0		1
C16-C21 Aliphatics	u		6.98	9.79	II.			25.0	33.5	1
C21-C34 Aliphatics	. 0		119	79.5	U			25.0	39.8	1
C10-C12 Aromatics	rr .		ND	ND	D			25.0		
C12-C16 Aromatics	H		ND	ND	H			25.0		
C12-C16 Aromatics C16-C21 Aromatics	u		10.5	6.86	D .	•		25.0	41.9	1
C21-C34 Aromatics	II.		136	33.8				25.0	120	1
Surrogate: Octacosane	"	8.15	. 130	5.94	"	60.0-140	72.9			
_	"	8.21		6.29	"	60.0-140	76.6			
Surrogate: 2-FBP		0.21		0.27		00.0 110	. 0.0			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND (503) 643-9200 FAX 644-2202

ERI 1921 Edmonds Drive SE

Texaco #63-232-0037 Project:

Sampled: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3 Project Manager: John Meyer

Received: 3/10/97 Reported: 4/11/97 07:34

## Extractable Petroleum Hydrocarbons by WDOE Interim TPH Policy Method/Quality Control North Creek Analytical - Bothel

	Date	Spike	Sample	QC	Re	porting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Matrix Spike	<u>0470100-M</u>	S1 B'	703505-01						
C8-C10 Aliphatics	4/5/97	1.96	ND	1.77	mg/kg dry	70.0-130	90.3		
C10-C12 Aliphatics	0	1.99	ND	2.58	u .	70.0-130	130		
C12-C16 Aliphatics	II .	1.99	ND	7.55	11	70:0-130	NR		2
C16-C21 Aliphatics	0	1.99	6.98	10.7	II .	70.0-130	187		2
C21-C34 Aliphatics	n .	1.99	119	106	II	70.0-130	NR		2
C10-C12 Aromatics	n	2.00	ND	1.77	ir .	70.0-130	88.5		
C12-C16 Aromatics	n .	5.99	ND	6.57	117	70.0-130	110		
C16-C21 Aromatics	n	9.97	10.5	20.1	**	70.0-130	96.3		
C21-C34 Aromatics	n	16.0	136	61.5	11	70.0-130	NR		2
Surrogate: Octacosane	n	8.15		6.59	"	60.0-140	80.9		
Surrogate: 2-FBP	"	8.21		7.25	"	60.0-140	<i>88.3</i>		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Project: Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

Renton, WA 98055

Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 4/11/97 07:34

## Polynuclear Aromatic Hydrocarbons by WDOE Interim TPH Policy Method using GC/MS-SIM/Quality Control North Creek Analytical - Bothell

Analyze		Date	Spike	Sample	QC	-	orting Limit		RPD	RPD	
Batch: 0470100   Date Propared: 4/4/97   Signar   Date Propared: 4/4/97   ND mg/kg dry 0.0200   ND " 0.0200   ND	Analyte	Analyzed	Level	Result	Result	Units R	ecov. Limits	<u>%</u>	Limit	% Not	es*
Manual Pattern							_				
Accnaphthene	Batch: 0470100			<u>97</u>		Extraction I					
Acenaphthylene Anthracene  ND  ND  ND  ND  ND  ND  ND  ND  ND  N		<u>0470100-BI</u>	<u>LK1</u>								
Anthracene	Acenaphthene										
Benzo (a) anthracene   " ND " 0.0200   Benzo (a) pyrene   " ND " 0.0200   Benzo (b) fluoranthene   " ND ND " 0.0200   Benzo (b) fluoranthene   " 0.264 0.253 0.250 0.217 " 0.250 0.362   Benzo (b) fluoranthene   " 0.265 0.250 0.217 " 0.250 0.362   Benzo (b) fluoranthene   " 0.265 0.250 0.217 " 0.250 0.362   Benzo (b) fluoranthene   " 0.265 0.250 0.217 " 0.250 0.	Acenaphthylene				ND						
Benzo (a) pyrene   "   ND "   0.0200	Anthracene	II.									
Benzo (b) fluoranthene   "   ND "   0.0200	Benzo (a) anthracene	II.									
Benzo (ki) perylene " ND " 0.0200 Benzo (k) fluoranthene " ND " 0.0200 Chrysene " ND " 0.0200 Fluoranthene " ND " 0.0200 Fluoranthene " ND " 0.0200 Indeno (1,2,3-cd) pyrene " ND " 0.0200 Leading in the company of t	Benzo (a) pyrene	п			ND						
Benzo (k) fluoranthene	Benzo (b) fluoranthene	п			ND	II					
Chrysene	Benzo (ghi) perylene	n .									
Dibenzo (a,b) anthracene	Benzo (k) fluoranthene	U			ND						
Fluoranthene " ND " 0.0200 Fluorene " ND " 0.0200 Indeno (1,2,3-cd) pyrene " ND " 0.0200 Indeno (1,2,3-cd) pyrene " ND " 0.0200 Naphthalene " ND " 0.0200 Naphthalene " ND " 0.0200 Phenanthrene " ND " 0.0200 Pyrene " ND " 0.0200 Fluorane " 1.33	Chrysene	H				н					
Fluorene " ND " 0.0200 Indeno (1,2,3-cd) pyrene " ND " 0.0200 2-Methylnaphthalene " ND " 0.0200 Naphthalene " ND " 0.0200 Phenanthrene " ND " 0.0200 Phenanthrene " ND " 0.0200 Pyrene " ND " 0.0200  Surrogate: p-Terphenyl-d14 " 1.33 1.22 " 17.0-120 91.7  LCS 0470100-BSI Chrysene 4/9/97 1.67 1.63 mg/kg dry 10.0-125 97.6 Fluorene " 1.67 1.29 " 11.0-116 77.2 Indeno (1,2,3-cd) pyrene " 1.67 1.29 " 11.0-116 77.2 Indeno (1,2,3-cd) pyrene " 1.67 1.97 " 10.0-147 118  Surrogate: p-Terphenyl-d14 " 1.33 1.43 " 17.0-120 108  Duplicate 4/9/97 ND ND mg/kg dry 10.0-125 92.6 Acenaphthene 4/9/97 ND ND mg/kg dry 10.0-125 92.0 Acenaphthene 4/9/97 ND ND mg/kg dry 10.0-125 92.0 Acenaphthene 4/9/97 ND ND mg/kg dry 10.0-125 92.0 Anthracene " 0.0363 0.0283 " 25.0 24.8 Benzo (a) anthracene " 0.0364 0.253 " 25.0 4.26 Benzo (a) pyrene " 0.264 0.253 " 25.0 4.26 Benzo (b) fluoranthene " 0.225 0.217 " 25.0 3.62 Benzo (k) fluoranthene " 0.225 0.217 " 25.0 15.4 Chrysene " 0.225 0.250 " 25.0 1.19 Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 24.8	Dibenzo (a,h) anthracene	n			ND	11					
Indeno (1,2,3-cd) pyrene	Fluoranthene	U			ND	11					
2-Methylnaphthalene	Fluorene	U			ND	11	0.0200				
Naphthalene	Indeno (1,2,3-cd) pyrene	17			ND	n					
Naphthalene	, , , , , , , , , , , , , , , , , , , ,	II .			ND	"	0.0200				
Phenanthrene   "		D			ND	II.	0.0200				
LCS		11		•	ND	II .	0.0200			•	
LCS	Pyrene	n			ND	It .	0.0200				
Chrysene         4/9/97         1.67         1.63         mg/kg dry         10.0-125         97.6           Fluorene         " 1.67         1.29         " 11.0-116         77.2           Indeno (1,2,3-cd) pyrene         " 1.67         1.97         " 10.0-147         118           Surrogate: p-Terphenyl-d14         " 1.33         1.43         " 17.0-120         108           Duplicate         0470100-DUP1         B703505-01         ND         ND         mg/kg dry         25.0           Acenaphthene         4/9/97         ND         ND         mg/kg dry         25.0         24.8           Acenaphthylene         " ND         ND         " 25.0         24.8         25.0         24.8           Anthracene         " 0.0363         0.0283         " 25.0         24.8         25.0         24.8           Benzo (a) anthracene         " 0.202         0.199         " 25.0         1.50         25.0         1.50           Benzo (b) fluoranthene         " 0.264         0.253         " 25.0         25.0         4.26           Benzo (ghi) perylene         " 0.225         0.217         " 25.0         3.62           Benzo (k) fluoranthene         " 0.253         0.250         " 25.0	·	"	1.33	<u>.</u>	1.22	"	17.0-120	91.7			
Chrysene         4/9/97         1.67         1.63         mg/kg dry         10.0-125         97.6           Fluorene         " 1.67         1.29         " 11.0-116         77.2           Indeno (1,2,3-cd) pyrene         " 1.67         1.97         " 10.0-147         118           Surrogate: p-Terphenyl-d14         " 1.33         1.43         " 17.0-120         108           Duplicate         0470100-DUP1         B703505-01         ND         ND         mg/kg dry         25.0           Acenaphthene         4/9/97         ND         ND         mg/kg dry         25.0         24.8           Acenaphthylene         " ND         ND         " 25.0         24.8         25.0         24.8           Anthracene         " 0.0363         0.0283         " 25.0         24.8         25.0         24.8           Benzo (a) anthracene         " 0.202         0.199         " 25.0         1.50         25.0         1.50           Benzo (b) fluoranthene         " 0.264         0.253         " 25.0         25.0         4.26           Benzo (ghi) perylene         " 0.225         0.217         " 25.0         3.62           Benzo (k) fluoranthene         " 0.253         0.250         " 25.0	-										
Fluorene " 1.67 1.29 " 11.0-116 77.2 Indeno (1,2,3-cd) pyrene " 1.67 1.97 " 10.0-147 118	<u>LCS</u>										
1.67   1.97   10.0-147   118	Chrysene	4/9/97									
Duplicate         0470100-DUP1         B703505-01           Acenaphthene         4/9/97         ND         ND         mg/kg dry         25.0           Acenaphthylene         "         ND         ND         "         25.0           Anthracene         "         0.0363         0.0283         "         25.0         24.8           Benzo (a) anthracene         "         0.202         0.199         "         25.0         1.50           Benzo (a) pyrene         "         0.264         0.253         "         25.0         4.26           Benzo (b) fluoranthene         "         0.279         0.279         "         25.0         0           Benzo (k) fluoranthene         "         0.225         0.217         "         25.0         3.62           Benzo (k) fluoranthene         "         0.111         0.0951         "         25.0         15.4           Chrysene         "         0.253         0.250         "         25.0         1.19           Dibenzo (a,h) anthracene         "         0.0419         0.0382         "         25.0         9.24	Fluorene	ti .	1.67								
Duplicate         0470100-DUP1         B703505-01           Acenaphthene         4/9/97         ND         ND         mg/kg dry         25.0           Acenaphthylene         "         ND         ND         "         25.0           Anthracene         "         0.0363         0.0283         "         25.0         24.8           Benzo (a) anthracene         "         0.202         0.199         "         25.0         1.50           Benzo (a) pyrene         "         0.264         0.253         "         25.0         4.26           Benzo (b) fluoranthene         "         0.279         0.279         "         25.0         0           Benzo (ghi) perylene         "         0.225         0.217         "         25.0         3.62           Benzo (k) fluoranthene         "         0.111         0.0951         "         25.0         15.4           Chrysene         "         0.253         0.250         "         25.0         1.19           Dibenzo (a,h) anthracene         "         0.0419         0.0382         "         25.0         9.24	Indeno (1,2,3-cd) pyrene	ti									
Acenaphthene         4/9/97         ND         ND         mg/kg dry         25.0           Acenaphthylene         "ND         ND         ND         "25.0           Anthracene         "0.0363         0.0283         "25.0         24.8           Benzo (a) anthracene         "0.202         0.199         "25.0         1.50           Benzo (a) pyrene         "0.264         0.253         "25.0         4.26           Benzo (b) fluoranthene         "0.279         0.279         "25.0         0           Benzo (ghi) perylene         "0.225         0.217         "25.0         3.62           Benzo (k) fluoranthene         "0.111         0.0951         "25.0         15.4           Chrysene         "0.253         0.250         "25.0         1.19           Dibenzo (a,h) anthracene         "0.0419         0.0382         "25.0         9.24	Surrogate: p-Terphenyl-d14	"	1.33		1.43	"	17.0-120	108			
Acenaphthene         4/9/97         ND         ND         mg/kg dry         25.0           Acenaphthylene         "         ND         ND         "         25.0           Anthracene         "         0.0363         0.0283         "         25.0         24.8           Benzo (a) anthracene         "         0.202         0.199         "         25.0         1.50           Benzo (a) pyrene         "         0.264         0.253         "         25.0         4.26           Benzo (b) fluoranthene         "         0.279         0.279         "         25.0         0           Benzo (ghi) perylene         "         0.225         0.217         "         25.0         3.62           Benzo (k) fluoranthene         "         0.111         0.0951         "         25.0         15.4           Chrysene         "         0.253         0.250         "         25.0         1.19           Dibenzo (a, h) anthracene         "         0.0419         0.0382         "         25.0         9.24											
Acenaphthylene " ND ND " 25.0  Anthracene " 0.0363 0.0283 " 25.0 24.8  Benzo (a) anthracene " 0.202 0.199 " 25.0 1.50  Benzo (a) pyrene " 0.264 0.253 " 25.0 4.26  Benzo (b) fluoranthene " 0.279 0.279 " 25.0 0  Benzo (ghi) perylene " 0.225 0.217 " 25.0 3.62  Benzo (k) fluoranthene " 0.111 0.0951 " 25.0 15.4  Chrysene " 0.253 0.250 " 25.0 1.19  Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24			<u>JP1                                    </u>						25.0		
Anthracene " 0.0363 0.0283 " 25.0 24.8  Benzo (a) anthracene " 0.202 0.199 " 25.0 1.50  Benzo (a) pyrene " 0.264 0.253 " 25.0 4.26  Benzo (b) fluoranthene " 0.279 0.279 " 25.0 0  Benzo (ghi) perylene " 0.225 0.217 " 25.0 3.62  Benzo (k) fluoranthene " 0.111 0.0951 " 25.0 15.4  Chrysene " 0.253 0.250 " 25.0 1.19  Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24	-										
Benzo (a) anthracene " 0.202 0.199 " 25.0 1.50 Benzo (a) pyrene " 0.264 0.253 " 25.0 4.26 Benzo (b) fluoranthene " 0.279 0.279 " 25.0 0 Benzo (ghi) perylene " 0.225 0.217 " 25.0 3.62 Benzo (k) fluoranthene " 0.111 0.0951 " 25.0 15.4 Chrysene " 0.253 0.250 " 25.0 1.19 Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24	•									• • •	
Benzo (a) pyrene " 0.264 0.253 " 25.0 4.26 Benzo (b) fluoranthene " 0.279 0.279 " 25.0 0 Benzo (ghi) perylene " 0.225 0.217 " 25.0 3.62 Benzo (k) fluoranthene " 0.111 0.0951 " 25.0 15.4 Chrysene " 0.253 0.250 " 25.0 1.19 Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24											
Benzo (b) fluoranthene " 0.279 0.279 " 25.0 0  Benzo (ghi) perylene " 0.225 0.217 " 25.0 3.62  Benzo (k) fluoranthene " 0.111 0.0951 " 25.0 15.4  Chrysene " 0.253 0.250 " 25.0 1.19  Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24	* *										
Benzo (ghi) perylene       "       0.225       0.217       "       25.0       3.62         Benzo (k) fluoranthene       "       0.111       0.0951       "       25.0       15.4         Chrysene       "       0.253       0.250       "       25.0       1.19         Dibenzo (a,h) anthracene       "       0.0419       0.0382       "       25.0       9.24											
Benzo (k) fluoranthene " 0.111 0.0951 " 25.0 15.4 Chrysene " 0.253 0.250 " 25.0 1.19 Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24											
Chrysene " 0.253 0.250 " 25.0 1.19  Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24	Benzo (ghi) perylene										
Dibenzo (a,h) anthracene " 0.0419 0.0382 " 25.0 9.24	Benzo (k) fluoranthene										
Dibbliza (upi) minimuotie	Chrysene	11									
Fluoranthene " 0.338 0.334 " 25.0 1.19	Dibenzo (a,h) anthracene	It		0.0419	0.0382						
1 Idolandore	Fluoranthene	IF.		0.338	0.334	11			25.0	1.19	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND • (503) 643-9200 • FAX 644-2202

Texaco #63-232-0037 Sampled: 3/10/97 Project: ERI Received: 3/10/97 31001.14T3 Project Number: 1921 Edmonds Drive SE Reported: 4/11/97 07:34 Renton, WA 98055 John Meyer

Project Manager:

#### Polynuclear Aromatic Hydrocarbons by WDOE Interim TPH Policy Method using GC/MS-SIM/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	R	Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit		Notes*
Duplicate (continued)	0470100-DUI	<u>P1 B</u>	703505-01							
Fluorene	4/9/97		ND	ND	mg/kg dr	У		25.0		
Indeno (1,2,3-cd) pyrene	n		0.218	0.212	11			25.0	2.79	
2-Methylnaphthalene	н		ND	ND	11			25.0		
Naphthalene	n		ND	ND	11			25.0		
Phenanthrene	II		0.201	0.175	и .			25.0	13.8	
Pyrene	II		0.616	0.510	17			25.0	18.8	
Surrogate: p-Terphenyl-d14	11	1.59		1.56	n	17.0-120	98.1			
Matrix Spike	0470100-MS	<u>L</u> <u>B</u>	703505 <u>-01</u>							
Chrysene	4/9/97	2.00	0.253	2.21	mg/kg dr	y 10.0-125	97.9			
Fluorene	U	1.99	ND	1.51	ti .	10.0-154	75.9			
Indeno (1,2,3-cd) pyrene	II.	1.99	0.218	2.53	II .	10.0-144	116			
Surrogate: p-Terphenyl-d14	"	1.59		1.57	"	17.0-120	98.7	-		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL **(206)** 481-9200 **FAX** 485-2992 SPOKANE **(509)** 924-9200 **FAX** 924-9290 PORTLAND **(503)** 643-9200 **FAX** 644-2202

ERI

Project:

Texaco #63-232-0037

Sampled: 3/10/97 Received: 3/10/97

1921 Edmonds Drive SE Renton, WA 98055 Project Number: 31001.14T3
Project Manager: John Meyer

Reported: 4/11/97 07:34

Notes and Definitions

Note Visual evaluation indicates the RPD is above the control limit due to a non-homogeneous sample matrix. 1 The spike recovery for this QC sample is outside of NCA established control limits due to sample matrix interference. 2 DET Analyte DETECTED Analyte NOT DETECTED at or above the reporting limit ND NR Not Reported Sample results reported on a dry weight basis dry Recovery Recov. **RPD** Relative Percent Difference

North Creek Analytical, Inc.

FAX 485-2522
East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

TEXACO CHAIN	OF C	CUST	ODY	RE	PO	RT	, ,	Work	Orde	r#:	B70	13142		
CONSULTANT: EL 1			TE	XACO IN	FORM				· - · - · - ·			EST in Business Days		
PROJECT MANAGER: Wey	TEX	TEXACO PROJECT MANAGER: T Gol) ar						Organie & Inorganie Analyses •						
ADDRESS: 1921 ESMON 15 Dr SE	TEXA	TTEXACO RACIL TEV MUNICIPI. (- 2 ) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2							10 5 3					
, Kenter, ut 98055	SITE	SITE ADDRESS: 4701 Graen wood Aug								Air Analyses				
PHONE: (26) 227-0280 FAX: 227-0225 PROJECT NAME: TEXOLO Grachusel	_	5-14/4, und will								3 1				
PROJECT NAME: TEXOLO GRACHUEL	State	State Hydrocarbon Methods (please circle): WA OR WA									<u> </u>	<u> </u>		
PROJECT NUMBER: 3/00/	Analy	sis	77	6	7	7	\\ \X\		O	OTHER Specify:				
SAMPLED BY: Me/e/	Reque	st: 💫	100	ş <sup>u</sup> /	/_ /	/ 🐉 /	/(m/m/)		* Standara	Turnaround	for Organic &	l Inorganic Analyses is 10.		
MCA CAN DUE	_	8/5		8	Ž / .	ر / چ	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			* Standard Tu	maround for ,	Air Analyses is 3 Days		
AND COMPANY	مُ	st: AHOU	TPH-DEXEMP	1814/18,1 174,18,1		\\{\ <sup>\</sup>		/	MATRI	<	# OF	COMMENTS &		
One of the state o		<del>//</del>		<u></u>	f- `~f	· · · · · /	/ <b>\V</b>	· <sub> </sub>	(W, S, O	) CON	VIAINERS	PRESERVATIVES I		
	z   ./X	)	.X									RUSH		
,	-+X		X-	-	<u></u>  .	-			<del></del>					
-03 3. EX-WN-4	<u> </u>	<del>                                     </del>	XL	<u> </u>							_//			
-04 4. EX-EN-4	<u> </u>	-)	$\times  $	_										
-05 s. EX-BN-5	$\bot$	_ <u>\</u>	$\times$						_ (					
-06 6. EX-B5-L		(	X			Carried Services								
-07 1. EX-W5-5 /			$\times$				****			)				
-1/-08 8. EX-5-5		1	X								_			
V -09 9 EX-E3-5	X	7		<b> </b>								<del>/-</del>		
10.7											<b>W</b>	<del></del>		
RELINQUISHED BY:		2/	12/2	<del>                                     </del>		W/	ار میر		10.0	l		- V		
) has the	DATE:	-2//	ر راح	PÆCEIV	ED BY:	1 -	01	1/100	lle	<i>Y</i>		DATE: 3/10/9		
PRINT NAME: JOHN MEGFERM: FIRM:	TIME:	4,	49	PRINT	NAME:	<u>U</u>	3a -	ttur	Per F	TRM: NO	<u>A</u>	TIME: 16:40		
RELINQUISHED BY:	DATE:			RECEIV	ED BY:					•	•	DATE:		
PRINT NAME: FIRM:	TIME:			PRINT 1	NAME:				r	TRM;	-	TO C.		
ADDITIONAL REMARKS:	1		111	,— <u>,</u> /	1,~/	 ኅ	Δ	411	^	<u> </u>		TIME:		
1 -1 VE3017 )	7-	• <i>,</i>		$=$ $\chi$	<u>/·</u>	<_	17	) /+ V				PAGI		
ADDITIONAL REMARKS:	TI	ت	>e1	)e	1									
EXCOC.REV2,11/95		- 5			De area			A 4000 A 10	e e			OF		
		90	6			F				Mary 1				



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055

Project: Texaco Greenwood

Project Number: 31001

Project Manager: John Meyer

Sampled: 3/14/97

Received: 3/25/97 Reported: 4/11/97 07:31

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
EX4-E-3	B703505-01	Soil	3/14/97

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055

Project: Texaco Greenwood

Sampled: Received: 3/25/97

3/14/97

Project Number: 31001 Project Manager: John Meyer

Reported: 4/11/97 07:31

#### Extractable Petroleum Hydrocarbons by WDOE Interim TPH Policy Method North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			-
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
70% 4 Th 2			B70350	ne 01			Soil	
EX4-E-3	0.480100	1/1/05		<u> </u>	5.00	ND	mg/kg dry	
C8-C10 Aliphatics	0470100	4/4/97	4/5/97					
C10-C12 Aliphatics	11	**	n		5.00	ND	U	
C12-C16 Aliphatics	*1	**	n		5.00	ND	n	
C16-C21 Aliphatics	*1	U	n		5.00	6.98	H	
C21-C34 Aliphatics	n ·	11	II .		5.00	119	n	
C10-C12 Aromatics	n	n	11		5.00	ND	O	
C12-C16 Aromatics	n .	IJ	11		5.00	ND	D	
C16-C21 Aromatics	, "	n	n.		5.00	10.5	u	
C21-C34 Aromatics	10	n	II .	· ·	5.00	136	19	
Surrogate: Octacosane	n	"	"	60.0-140		74.1	%	
Surrogate: 2-FBP	"	"	"	60.0-140		NR	"	1

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



ERI Project: Texaco Greenwood Sampled: 3/14/97
1921 Edmonds Drive SE Project Number: 31001 Received: 3/25/97
Renton, WA 98055 Project Manager: John Meyer Reported: 4/11/97 07:31

### Polynuclear Aromatic Hydrocarbons by WDOE Interim TPH Policy Method using GC/MS-SIM North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting		<del>-</del>	
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
EX4-E-3			B70350	05-01			Soil	
Acenaphthene	0470100	4/4/97	4/9/97	<del></del> .	0.0200	ND	mg/kg dry	
Acenaphthylene	fl	IP .	n		0.0200	ND	н	
Anthracene	11	D	u		0.0200	0.0363	н	
Benzo (a) anthracene	tt	R	u		0.0200	0.202	"	
Benzo (a) pyrene	*1	п	11		0.0200	0.264	н	
Benzo (b) fluoranthene	n	н	U		0.0200	0.279	п .	
Benzo (ghi) perylene		II	IJ		0.0200	0.225	11	
Benzo (k) fluoranthene	O	**	10		0.0200	0.111	11	
Chrysene	n	11	17		0.0200	0.253	н	
Dibenzo (a,h) anthracene	11	It	O		0.0200	0.0419	н	
Fluoranthene	11	11	IJ		0.0200	0.338	н	
Fluorene	11	II	U		0.0200	ND	11	
Indeno (1,2,3-cd) pyrene	**	II .	U		0.0200	0.218	н	
2-Methylnaphthalene	•	II .	tı		0.0200	ND	11	
Naphthalene	11	II	11		0.0200	ND	н	
Phenanthrene	n	н	D		0.0200	0.201	n	
Pyrene	H	**	10		0.0200	0.616	**	
Surrogate: p-Terphenyl-d14	"	"	11	17.0-120		107	%	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



ERI

1921 Edmonds Drive SE Renton, WA 98055

Project: Texaco Greenwood

Project Number: 31001

Project Manager: John Meyer

Sampled: 3/14/97

Received: 3/25/97

Reported: 4/11/97 07:31

#### Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
EX4-E-3	B703505-01	Soil	83.7	%

North Creek Analytical, Inc.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI 1921 Edmonds Drive SE Renton, WA 98055 Project: Texaco Greenwood
Project Number: 31001

Sampled: 3/14/97 Received: 3/25/97

Project Manager: John Meyer

Reported: 4/11/97 07:31

### Extractable Petroleum Hydrocarbons by WDOE Interim TPH Policy Method/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC		porting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
		1 444104			Eutus Alam	Method: EPA	2550			
Batch: 0470100	Date Prepa		<u>7</u>		Extraction	Wietnod: EPA	2000			
Blank	0470100-BJ	LKI		ND	mg/kg dry	5.00				
C8-C10 Aliphatics	4/5/97			_	ilig/kg diy	5.00				
C10-C12 Aliphatics	"			ND ND	ęı	5.00				
C12-C16 Aliphatics	11				H	5.00				
C16-C21 Aliphatics	"			ND		5.00				
C21-C34 Aliphatics	" "			ND		5.00				
C10-C12 Aromatics	"			ND	U	5.00				
C12-C16 Aromatics	"			ND	n	5.00				
C16-C21 Aromatics				ND						
C21-C34 Aromatics		<del></del>		ND	"	5.00	76.1			
Surrogate: Octacosane		6.82		5.19	"	60.0-140	76.1			
Surrogate: 2-FBP	"	6.87		5.41	11	60.0-140	<i>78.7</i>			
LCS	0470100-BS	S1								
C8-C10 Aliphatics	4/5/97	1.64		1.36	mg/kg dry	70.0-130	82.9			
C10-C12 Aliphatics	11	1.67		1.47	"	70.0-130	88.0			
C12-C16 Aliphatics	11	1.67		1.50	n	70.0-130	89.8			
C16-C21 Aliphatics	ıı	1.67		1.89	•	70.0-130	113			
C21-C34 Aliphatics	H	1.67		2.12	H	70.0-130	127			
C10-C12 Aromatics	"	1.67		1.34	10	70.0-130	80.2			
C12-C16 Aromatics	II.	5.01		4.27	H	70.0-130	85.2			
C16-C21 Aromatics	n	8.35		7.93	H	70.0-130	95.0			
C21-C34 Aromatics	n	13.4		9.69	н	70.0-130	72.3			
Surrogate: Octacosane	·	6.82		5.28	- "	60.0-140	77.4	-		
•	"	6.87		5.51	"	60.0-140	80.2	-		
Surrogate: 2-FBP		0.67		5.51		00.0 110	00.2			
Duplicate	0470100-D1	UP1 B	703505-01							
C8-C10 Aliphatics	4/5/97		ND	ND	mg/kg dry			25.0		
C10-C12 Aliphatics	IJ		ND	ND	11			25.0		
C12-C16 Aliphatics	U		ND	7.72	н			25.0		2
C16-C21 Aliphatics	н		6.98	9.79	19			25.0	33.5	2
C21-C34 Aliphatics	11		119	<b>7</b> 9. <b>5</b>	14			25.0	39.8	2
C10-C12 Aromatics	II .		ND	ND	O.			25.0		
C12-C16 Aromatics	н		ND	ND	lf .			25.0		
C16-C21 Aromatics	и		10.5	6.86	10			25.0	41.9	2
C21-C34 Aromatics	11		136	33.8	Ħ			25.0	120	2
Surrogate: Octacosane	"	8.15		5.94	11	60.0-140	72.9		-	
Surrogate: 2-FBP	"	8.21		6.29	tt.	60.0-140	76.6			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



ERI 1921 Edmonds Drive SE Project: Texaco Greenwood

Sampled: 3/14/97

Renton, WA 98055

Project Number: 31001
Project Manager: John Meyer

Received: 3/25/97 Reported: 4/11/97 07:31

### Extractable Petroleum Hydrocarbons by WDOE Interim TPH Policy Method/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	Re	porting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Matrix Spike	0470100 <u>-MS</u>	<u>1                                    </u>	3703505 <u>-01</u>							
C8-C10 Aliphatics	4/5/97	1.96	ND	1.77	mg/kg dry	70.0-130	90.3			
C10-C12 Aliphatics	n	1.99	ND	2.58	11	70.0-130	130			
C12-C16 Aliphatics	II .	1.99	ND	7.55	н	70.0-130	NR			3
C16-C21 Aliphatics	11	1.99	6.98	10.7	п	70.0-130	187			3
C21-C34 Aliphatics	11	1.99	119	106	11	70.0-130	NR			3
C10-C12 Aromatics	11	2.00	ND	1.77	11	70.0-130	88.5			
C12-C16 Aromatics	N	5.99	ND	6.57	11	70.0-130	110			
C16-C21 Aromatics	Ħ	9.97	10.5	20.1	II	70.0-130	96.3			
C21-C34 Aromatics	u .	16.0	136	61.5	11	70.0-130	NR			3
Surrogate: Octacosane	n n	8.15		6.59	"	60.0-140	80.9	_		
Surrogate: 2-FBP	"	8.21		7.25	"	60.0-140	88.3			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



ERI 1921 Edmonds Drive SE Renton, WA 98055 Project: Texaco Greenwood

Project Number: 31001
Project Manager: John Meyer

Sampled: 3/14/97 Received: 3/25/97

Reported: 4/11/97 07:31

## Polynuclear Aromatic Hydrocarbons by WDOE Interim TPH Policy Method using GC/MS-SIM/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
<u> </u>										
Batch: 0470100	Date Prepar		<u> </u>		Extraction	n Method: EPA	3550			
Blank	0470100-BL	<u>K1</u>								
Acenaphthene	4/9/97			ND	mg/kg dr					
Acenaphthylene	11			ND	n	0.0200				
Anthracene	ti .			ND	11	0.0200				
Benzo (a) anthracene	11			ND	**	0.0200				
Benzo (a) pyrene	17			ND	H	0.0200				
Benzo (b) fluoranthene	11			ND	H	0.0200				
Benzo (ghi) perylene	II .			NĎ	U	0.0200				
Benzo (k) fluoranthene	11			ND	н	0.0200				
Chrysene	Ħ			ND	H	0.0200				
Dibenzo (a,h) anthracene	n			ND	н	0.0200				
Fluoranthene	н			ND	11	0.0200				
Fluorene	H			ND	41	0.0200				
Indeno (1,2,3-cd) pyrene				ND	11	0.0200				
2-Methylnaphthalene	n			ND	17	0.0200				
Naphthalene	**			ND	IP	0.0200				
Phenanthrene	47			ND	11	0.0200				
Pyrene	н			ND	11	0.0200				
Surrogate: p-Terphenyl-d14	"	1.33		1.22	11	17.0-120	91.7			
· · · · · · · · · · · · · · · · · · ·										
LCS	0470100-BS	<u>51</u>								
Chrysene	4/9/97	1.67		1.63	mg/kg dr		97.6			
Fluorene	U	1.67		1.29	"	11.0-116	77.2			
Indeno (1,2,3-cd) pyrene	10	1.67		1.97		10.0-147_	118			
Surrogate: p-Terphenyl-d14	11	1.33		1.43	<del>"</del>	17.0-120	108			
<u>Duplicate</u>	0470100-DU	<u>JP1 B'</u>	703505-01	> IT>				25.0		
Acenaphthene	4/9/97		ND	ND	mg/kg dr	У				
Acenaphthylene	Ħ		ND	ND	"			25.0	24.8	
Anthracene	Ħ		0.0363	0.0283				25.0		
Benzo (a) anthracene	n		0.202	0.199	H			25.0	1.50	
Benzo (a) pyrene	n		0.264	0.253				25.0	4.26	
Benzo (b) fluoranthene	**		0.279	0.279	n			25.0	0	
Benzo (ghi) perylene	11		0.225	0.217	O			25.0	3.62	
Benzo (k) fluoranthene	н		0.111	0.0951	11			25.0	15.4	
Chrysene	11		0.253	0.250	n			25.0	1.19	
Dibenzo (a,h) anthracene	11		0.0419	0.0382	"			25.0	9.24	
Fluoranthene	"		0.338	0.334	*1			25.0	1.19	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

ERI Project: Texaco Greenwood Sampled: 3/14/97
1921 Edmonds Drive SE Project Number: 31001 Received: 3/25/97
Renton, WA 98055 Project Manager: John Meyer Reported: 4/11/97 07:31

## Polynuclear: Aromatic Hydrocarbons by WDOE Interim TPH Policy Method using GC/MS-SIM/Quality. Control North Creek Analytical - Bothell

<u> </u>	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	<u>%</u>	Limit	% Notes*
Duplicate (continued)	0470100-ĐUI	<u>P1 B</u>	703505-01						
Fluorene	4/9/97		ND	ND	mg/kg d	ry		25.0	
Indeno (1,2,3-cd) pyrene	H		0.218	0.212	0			25.0	2.79
2-Methylnaphthalene	11		ND	ND	19			25.0	
Naphthalene	н		ND	ND	H			25.0	
Phenanthrene	11		0.201	0.175	19			25.0	13.8
Pyrene	11		0.616	0.510	n			25.0	18.8
Surrogate: p-Terphenyl-d14	"	1.59		1.56	11	17.0-120	98.1		
Matrix Spike	0470100-MS	<u>1 B</u>	703505-01						
Chrysene	4/9/97	2.00	0.253	2.21	mg/kg d	ry 10.0-125	97.9		
Fluorene	n	1.99	ND	1.51	11	10.0-154	75.9		
Indeno (1,2,3-cd) pyrene	н	1.99	0.218	2.53	11	10.0-144	116		
Surrogate: p-Terphenyl-d14	"	1.59		1.57	11	17.0-120	98.7		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



ERI Project: Texaco Greenwood Sampled: 3/14/97
1921 Edmonds Drive SE Project Number: 31001 Received: 3/25/97
Renton, WA 98055 Project Manager: John Meyer Reported: 4/11/97 07:31

#### **Notes and Definitions**

#	Note
1	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
2	Visual evaluation indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
3	The spike recovery for this QC sample is outside of NCA established control limits due to sample matrix interference.
DET .	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference
	·

North Creek Analytical, Inc.

#### APPENDIX B

#### SOIL DISPOSAL MANIFESTS AND WEIGH TICKETS

#### Soil Master (c)

## Customer Job Report Gross & Tare Weight Codes: M=Manual; S=Scale; T=Trk File

Job Numb	er Name		SiteAddress	Sin	te <b>C</b> ity	State	ZipCode	
A03 006	23 TEXACO #63-2	32-0037	8701 GREENWOOD AVENUE	SE	ATTLE	WA 00000		
Load#			Truck & Trailer Number	Gross (lb)	Tare (lb)	Net (lb)	Net Wt (tons)	
33	02/17/97 08:07 02/17/97 08:07	3ESECOR 3ESECOR	REX DARIN	49,420M 93,140M	22,840M 38,180M	26,580 54,960	13.29 27.48	
34 35	02/19/97 08:21	3ESECOR	REX	81,680M	33,260M 33,260M	48,420 44,220	24.21 22.11	
36 37	02/19/97 08:22 02/20/97 08:31	3ESECOR 3ESECOR	REX REX	77,480M 53,200M	33,260M 33,260M	19,940	9.97	
-	ed Loads Ma 50%	nifests Received	Completed Weight 15,184.20%		ed Weight (tons)		AL Net Wt: 97.06 (tons)	

	Manifest	-	TPS Techn	_	<b>jies Soi</b> l zardous So	_	cling		. ↓ Mani	ifest# ↓	
_	Date of Shipment:	Responsib	le for Payment:		porter Truck		Facility #:	Giv	ven by TPS:	<del>.</del>	Load #
	Date of Shipment	Gener	ator		<b>P</b> -1100		ADŚ	00	0623		233
	Generator's Name and Billing	Address:	- <del></del> -	<u>.l.,</u>	Genera (206	tor's Phone	#: -6090		Generator's US	EPA ID No.	
	3400 - 188th S	TREET .	sw			to Contact:	70A! _	77/4	ת נה בייי כד	~ ~ <del>~</del> / /~	_
	SUITE 630				FAX#:	المستهرية م		1 KE	Customer Acco		
	LYNNWOOD, WAS			USA	(206		-7786		100151		
	Consultant's Name and Billing ERI	; Address:			(20)		7-0280		_		
	:921 EDMONDS I	ORIVE S	E		JOHI	to Contact:	ER				w mpc
	RENTON, WA 980	055 	<u> </u>	USA	FAX#: (208	5, 227	7-0225		Customer Acco 100223		with 11'5:
	Generation Site (Transport from TEXACO #63-232	n): (name & ada 2-0037	iress)		Site Ph	one #:			BTEX Levels		
<u> </u>	8701 GREENWOOD	) AVENU	E		Person	to Contact:			TPH Levels		
Consultant	SEATTLE, WA 00	0000		USA	FAX#:				AVG. Levels		
	Designated Facility (Transport					Phone #: 5 ) 584 -	-8430	•	Facility Permit	Numbers	
and/or	3800 - 104th 9			th	Person Reno	to Contact:	elino				
Generator	Tacoma, WA 984	144-676	6	AZU	FAX#:	57584-	-8309				
Gen	Transporter Name and Mailing			(20		5-3112		Transporter's l		.;	
	11011 WALLER F	ROAD EA	ST			to Contact: JOHNS		<u> </u>	Transporter's I		
	TACOMA, WA 984	446		USA							
1	Description of Soil	Moisture Con	tent Contaminate	d by: A	pprox. Qty:	Descrip	tion of Deliv		Gross Weight		
	Sand I Organic II Clay II Other II		Gas Diesel C				<del></del>		49 <i>480</i> 13.29	22840	2650
	Sand I Organic II Clay II Other II		Gas Gas Gibber G	r					13.29		
	List any exception to items listed at										
	Generator's and/or consult Sheet completed and certifi any way.	ant's certificat ed by me/us fo	tion: I/We certify the or the Generation S	at the se	oil referenced on above and	herein is t nothing h	aken entirel as been adde	y from t d or do	hose soils desc ne to such soil	ribed in the that would a	Soil Data alter it in
	Print or Type Name:	Generator	☐ Consultant	<u>a ·</u>	Signature and	date:				Month	Day Year
Transporter	Transporter's certification: condition as when received	i. I/We furth	er certify that this .	soil is b	eing directly	transporte	ed from the	soil is Genera	being delivered tion Site to th	d in exactly e Designated	the same I Facility
)sb(	without off-loading, adding	to, subtractii	ng from or in any u	ay delay			te	ا در دور سناسید در دور سناسید	·	Month	Day Year
Tran	Print or Type Name:		DEEN		Signature and	date:		Sept.	A STATE OF THE STA	2	7 27
iity	Discrepancies:	_				, <b>`</b>	1				
Recycling Facility		•									
ling	Recycling Facility certifies th	e receipt of the	soil covered by this	manifest	except as not	ed above:					
Š	Print or Type Name:	_			Signature and	i dato.	101	//			
Re	RENEE AVELING	- CSM		٠.		my p		//		de	
Pleas	se print or type.	** P ***					200	13.7		建學	

3. A.	Manifest	T.	ን <b>S Techno</b> No		s SOII Re Ious Soils	cycling	波莱	↓ Mani	fest#↓	
	Date of Shipment:	Responsible for Generato	Payment:	Transporte		Facility #:	Gi , Ø	ven by TPS: 2623		Load #
	Generator's Name and Billing TEXACO EH&S	g Address:			Generator's P	hone #: 771-6 <b>0</b> 90	)	Generator's US	EPA ID No.	ł
	3400 - 188th	STREET SW			Person to Con	tact:		2	<u> </u>	_
	SUITE 630				FAX#:	HOOK 7	HER	Customer Acco	unt Number v	with TPS:
	LYNNWOOD, WA	98037	LL	JSA		771 <u>-77</u> 86		100151	3	
	Consultant's Name and Billin	ng Address:			(206)	Phone #: 227 <b>- 0</b> 280	)		<del>.</del>	
	1921 EDMONDS	DRIVE SE			Person to Con					
	RENTON, WA 98	055	L	ISA	FAX#: (206)	227-0225		Customer Acco		with TPS:
	Generation Site (Transport for TEXACO #63-23				Site Phone #:	,	• •	BTEX Levels		
   <sub>*</sub>	9701 GREENWOO	D AVENUE			Person to Con	tact:		TPH Levels	·	
Consultant	SEATTLE. WA 0	9000	ι	JSA	FAX#:			AVG. Levels		
log	Designated Facility (Transpor				Facility Phone			Facility Permit	Numbers	
and/or	TPS Technolog				Person to Con	34-8430 tact:		<u> </u>	· <del>-</del>	
	2800 - 104th	Street Cou	irt South	1	Renee .	Avelino				
Generator	Tacoma, WA 98	14.4.4	ī	JSA	FAX#:	34-8309				
ene	Transporter Name and Mailin			,	Transporter's		-	Transporter's U	JS EPA ID No	.:
9	ESE CORPORTAT				(206)	555-3112	-	Transporter's I	OOT No :	
	11011 WALLER	ROAD EAST			WES JOH					
	TACOMA, WA 98	446	Ĺ	JSA	FAX#: (206)	535-3298	3	Customer Acco	ount Number (	with TPS:
	Description of Soil	Moisture Content	Contaminated t	oy: Appro	x. Qty: De	scription of Del	ivery	Gross Weight	Tare Weight	Net Weight
	Sand I Organic II Clay II Other II	0 - 10% □ 10 - 20% □ 20% - over □	Gas Diesel Dother D					93140	38180	549/2
	Sand Organic Clay Other D	0 - 10% □ 10 - 20% □ 20% - over □	Gas 🗅 Diesel 🗅 Other 🔾					27.48	· 	
	List any exception to items listed	above:	·							_
	Generator's and/or consul Sheet completed and certi any way.	tant's certification: fied by me/us for the	I/We certify that Generation Site	the soil re shown ab	ferenced hereir ove and nothir	ı is taken entire ıg has been add	ely from led or do	those soils desc ne to such soil	ribed in the S that would a	Soil Data ulter it in
	Print or Type Name:	Generator 🔾	Consultant	Sig	nature and date:				Month	Day Year
orter	Transporter's certification condition as when receive	ed. I/We further cer	tify that this soi	l is being	directly trans	ported from the	h soil is Genera	being delivered tion Site to the	l in exactly e Designated	the same I Facility
Transporter	without off-loading, addin Printor Type Name:	or LANELY	- · <del>-</del>		nature and date:	n sue.		<del></del>	Month 2	Day Xear
一		<del></del>		hi	AAND W	18 for	Mi	W/FST	Gons	e+=/
Facility	Discrepancies: THIS WARNIES	ree . See	ATTHAK	2	THE PARK	Commence de	5/20	19. 44. JAM 5		
Recycling	Recycling Facility certifies t			nifest excep	ot as noted abou					
cyc	Print or Type Name:	7.714		Sig	nature and date:	and the second				1
Be	RENES AVELINO	) - CSM		,	Tere	2 1	re-			رر
Plea:	se print or type.			1			A -	1	\$\frac{1}{2}	,

TER INMONONIC CONS

<b>.</b> .	Manifest		R <b>S. Techno</b> No	n-Hazard			多緣	↓ Man	ifest#↓	366
. [-	Date of Shipment:	Responsible for	Payment:	Transporter	Truck #:	Facility #:	ř.	ven by TPS:	,	Load #   3#
	Generator's Name and Billin IEXALO EI 3400 - 188 Suite 630 Lywwwood	Address: HAS  HASTNEET	LSW	-	Person to	2) - 60 Contact: Contact: 77/-77	THER	Customer Acco	TET IE	
	Consultant's Name and Billin	ng Address: IUDS DX'L	)	,	Consultan 206) Person to	t's Phone #:  DAT - 62  Contact:  N MEYEIG	180	Customer Acco	ount Number	with TPS:
	RENTON, C Generation Site (Transport from			37	Site Phone	227-02 <sub>0</sub>	25	1000 BTEX Levels	1230 -	
1	1 = XALO 8701 ERE	7 63 0 ENWOOD	AVEIUV	٤	Person to	Contact:		TPH Levels		
nsulta	SEATTLE. O	NA. 60	000_		FAX#:	· · · · · · · · · · · · · · · · · · ·		AVG. Levels		
Generator and/or Consultant	Designated Facility (Transpor	rt to): (name & pddress) I DAIO 10G ( 11 Hz	is SINC	<u>~</u> .		Contact: 1		Facility Permit	Numbers	<del>~-</del>
ator an	2800 10. TACOMA, W				FAX#: )	Contact: 4 UE /i, 584 - 83	_			<i>,</i> .
Gener	Transporter Name and Mailin	ng Address:	אינו		Transport	r's Phone #:	<u>·</u> _	Transporter's l	JS EPA ID No	.:
	11011 WA	HER RO	ACL EAS	<del>/-</del>	Person to		מפ	Transporter's [		
	TAROMA,	WA. 9	8446	6	206)	535-32	98	Customer Acco	SOR	with 11'5:
	Description of Soil	Moisture Content	Contaminated b	y: Approx	. Qty:	Description of Dell	_	Gross Welght		
	Sand	0 - 10%	Gas Diesel Diesel Diesel Gas Diesel D	-		· · · · · ·		93MO 37M8	38180	4/920
	Sand O Organic O Clay O Other O List any exception to items listed a	0 - 10% 10 - 20% 20% - over above:	Gas Diesel Diesel Diesel Diesel D					37,48		
	Generator's and/or consul Sheet completed and certif any way.	tant's certification: ied by me/us for the	I/We certify that Generation Site	the soil refe shown abo	erenced he we and not	rein is taken entire thing has been add	ly from t ed or dor	hose soils desc ne to such soil	that would a	ılter it in
	Print or Type Name:	Generator 🗅	Consultant	□ Sign	ature and dal	e:			Month	Day Year
Transporter	Transporter's certification condition as when receive without off-loading, addin	d. I/We further cer	tify that this soil	is being a	lirectly tra	insported from the	n soil is General	being delivered tion Site to the	l in exactly Designated	the same l Facility
Trans		DIANEN		Sign	ture and dut		T		Month /	Day Year
9 Facility	Discrepancies:									
cling	Recycling Facility certifies to Print or Type Name:	he receipt of the soil co	overed by this man		as noted a				<del>,</del>	
Recycling	Trant or Type (vame:			Jigit	be		M.		£.	
Plass	se print or type.		<u> </u>						ing be	

	Manifest	——— TF			es Soil Recycling rdous Soils			↓ Manifest # ↓			
	Date of Shipment:	Responsible for		Transporter		Facility #:		en by TPS:		Load #	
11	Date of only specific	Generato	•			AØ3	- 00	0623 		Ø <b>3</b> 5	
	Generator's Name and Billing	Address:		· !	Generator's Phon (206) 77			Generator's US	EPA ID No.		
	3400 - 188th S	TREET SW	•		Person to Contact THERESA						
	SUITE 630 Lynnwood, WA 9	2027		SA	FAX#: (206) 77			Customer Acco		with TPS:	
					Consultant's Pho			100101			
	Consultant's Name and Billing ERI				(206) 227-0280					_	
11	1921 EDMONDS D	RIVE SE			Person to Contact JOHN MEY	ER					
	RENTON, WA 980	55 	บ	SA	FAX#: (206) 227-0225			Customer Acco		with TPS:	
Ш	Generation Site (Transport from TEXACO #63-232	1):>(name & address) -0037			Site Phone #:			BTEX Levels			
	2701 GREENWOOD				Person to Contact	:		TPH Levels			
Consultant	SEATTLE, WA 00	.000	11	SA	FAX#:			AVG. Levels	-	_	
Sons	Designated Facility (Transport				Facility Phone #:			Facility Permit	Numbers		
	TPS Technologi	es Inc.			(206) 584 Person to Contact						
r and/or	2800 - <b>104</b> th S	treet Cou	irt South	1	Renee Av	elino			<del></del>		
Generator	Tacoma, WA 984	44-6766	บ	AZI	FAX#: (206)584	-8309					
Gene	Transporter Name and Mailing				Transporter's Pho (206) 53			Transporter's l	JS EPA ID No		
H	11011 WALLER R				Person to Contact	t:		Transporter's I	OOT No.:		
	i				WES JOHN FAX#: (206) 53			Customer Acco	ount Number	with TPS:	
	TACOMA, WA 984  Description of Soil	Moisture Content	Contaminated b	SA by: Approx	<u>!</u>	iption of Deliv		Gross Weight		Net Weight	
$\ \cdot\ $	Sand  Organic  Clay  Other	0 - 10%	Gas 🗅 Diesel 🗅 Other 🗅	<u> </u>				81680 24.21	33260	48420	
	Sand  Organic	0 - 10%	Gas Diesel D	<u> </u>				01/01			
	Clay D Other D  List any exception to items listed ab	20% - over □	Other 🗆					29179		l	
			*****	.1 .7		t-less setimal	les <b>G</b> eneral I	hosa saila dasa	rihad in the	Soil Data	
	Generator's and/or consulta Sheet completed and certific any way.	nt's certification:  d by me/us for the	I/We certify that Generation Site	the soil rej shown abo	erencea nerein is ove and nothing l	taken entirei has been adde	y from t ed or do	ne to such soil	that would	alter it in	
	Print or Type Name:	Generator 🚨	Consultant	O Sig	nature and date:			-	Month	Day Year	
ě	Transporter's certification: condition as when received	I/We acknowledge	e receipt of the so	oil describe	ed above and cert	tify that such	ı soil is Genera	being delivered	d in exactly e Designates	the same d Facility	
Transporter	without off-loading, adding	to, subtracting fro	om or in any way	delaying	delivery to such s	ite.		//			
Tran	Print of Type Name:	20205	لمحخ	Sig	nature and date:	1/2	1/2		1 1	Day Year	
	Discrepancies:					Jan de la companya di			-		
acilit	1	•									
Recycling Facility	Recycling Facility certifies th	e receipt of the soil of	covered by this man	nifest excep	t ds noted above:	$\overline{\sim}$	$\widehat{}$			<del></del>	
ycli	Print or Type Name:		<u>`</u>		nature and date:		Ϊ,			110	
Rec	RENEE AVELINO	- CSM			DUC	HO	up	bew		17	
Plea	se print or type.							<b>V</b> ariation	<b>建</b>	点觀論。	

3	Manifest سر	anifest Technologies Soil Recycling Non-Hazardous Soils						↓ Manifest # ↓				
·		Responsible for I		N-Mazaro Transporte		Facility #:	Giv	en by TPS:	<del>`</del>	Load #		
1	Date of Shipment:	Generato		Hamopone		E0A	. 00	623		øgs <sub>i</sub>		
	Generator's Name and Billing A	ddress:			Generator's Phone (206) 77.	2#: 1-6090		Generator's US	EPA ID No.			
	3400 - 188th S'	TREET SW		•	Person to Contact:							
	SUITE 630				THERESA (	GEIJER				TDC		
	LYNNWOOD, WA 9	3037	ı	JSA	FAX#: (206) 77	1-7786		Customer Acco	unt Number v 3	vith 11'5:		
	Consultant's Name and Billing A	Address:			Consultant's Phone #: (206) 227-0280				<u> </u>			
	1921 EDMONDS DI	RIVE SE			Person to Contact JOHN MEY	Person to Contact: JOHN PIEYER			. <u> </u>			
	RENTON, WA 980	55	Į	JSA	FAX#: (206) 22	7-0225		Customer Acco		with TPS:		
	Generation Site (Transport from TEXACO #63-232	): (name & address) -0037		_	Site Phone #:			BTEX Levels				
_ 	8701 GREENWOOD	AVENUE			Person to Contact	: 		TPH Levels				
Consultant	SEATTLE, WA 00	<b>200</b>	τ	JSA	FAX#:			AVG. Levels				
	Designated Facility (Transport to	o): (name & address)			Facility Phone #:	-8430		Facility Permit	Numbers			
Generator and/or	TPS Technologi 2800 - 104th S		rt Souti	n	Person to Contact Renee Av							
rator	Tacoma, WA 984	44-6766	i	JSA	FAX#: (206)584	-8309						
Gene		nsporter Name and Mailing Address:				Transporter's Phone #: (206) 535-3112			JS EPA ID No.			
1	11011 WALLER R				Person to Contact			Transporter's I	OOT No.:			
	TACOMA, WA 984	46		JSA	(20s) 53			Character	unt Number R	with TPS:		
	Description of Soil	Moisture Content	Contaminated	by: Appro	x. Qty: Descri	ption of Deliv	ery	Gross Weight				
	Sand I Organic II Clay I Other II	0 - 10%	Gas Diesel DOTHER D	<u>.</u>				77480	99,760	14020		
	Sand I Organic I Clay I Other I	0 - 10%	Gas Diesel DOther D					211				
	List any exception to items listed abo											
	Generator's and/or consulta Sheet completed and certified any way.	nt's certification: d by me/us for the	I/We certify tha Generation Sit	t the soil re e shown ab	eferenced herein is nove and nothing l	taken entirel has been adde	y from t ed or do	hose soils desc ne to such soil	ribed in the t that would a	Soil Data ilter it in		
	Print or Type Name:	Generator D	Consultant	□ Si <sub>i</sub>	gnature and date:	<del></del>			Month	Day Year		
orter	Transporter's certification: condition as when received. without off-loading, adding	I/We further cer	tify that this so	oil is being	directly transpor	ted from the	ı soil is Genera	being delivere tion Site to th	d in exactly e Designated	the same I Facility		
Transporter	Print or Type Name:	to, subtracting fro	in or in any wa		gnature and date:				I 1.	Day Year		
F	Discrepancies:	4 1/0	4070	<u>~ ا ,                                  </u>		<u>. 10 . (</u>	<u>,                                    </u>	SF 14 F		<u>, , , , , , , , , , , , , , , , , , , </u>		
Recycling Facility	( )						•	$\wedge$				
ng F	Recycling Facility certifies the	receipt of the soil of	covered by this m	anifest exce	pt as noted above:		$\overline{\wedge}$	<del>/</del>				
Ycli	Print or Type Name:				gnature and date:			, ,		1/10		
Rec	RENEE AVELINO	- CSM		(	LIDE	CHO	Zu	Maper	$\bigcup \circ$	119		
Plea	se print or type				. — <del>1</del>			- VV		9ď		

THE INVOICING CORV

2.	Manifest		PS Technol Non	_	<b>S SOII</b> ious Soi	_	ling		<b>↓</b> Man	ifest# 4	
,	Date of Shipment:	Responsible for Generato		Transporte	er Truck #:		Facility #: AØ3		ven by TPS: 0623		Load # 037
	Generator's Name and Billing ATEXACO EH&S	Address:				or's Phone #			Ģenerator's U	S EPA ID No.	
	3400 - 188th S	STREET SW	•			Contact:	ETJER				
İ	SUITE 630 LYNNWOOD, WA 9	8037	บร	5A	FAX#:	) 771		_	Customer Acc		with TPS:
	Consultant's Name and Billing	Address:			Consulta	nt's Phone	#:				
	1921 EDMONDS D	RIVE SE			Person to	Contact: MEYE:					-
	RENTON, WA 980	55	ນອ	SA.	FAX#: (206	) 227	-0225		Customer Acco		with TPS:
	Generation Site (Transport from TEXACO #63-232				Site Phor	ıe #:			BTEX Levels		
	8701 GREENWOOD	AVENUE			Person to	Contact:			TPH Levels		
Consultant	SEATTLE, WA 00	000	US	5A	FAX#:	·			AVG. Levels		
	Designated Facility (Transport t		,		Facility P	hone #: ) 584-6	2470		Facility Permit	Numbers	
Generator and/or	TPS Technologi 2800 - 104th S		rt South		Person to	Contact:	-				
rator	Tacoma, WA 984	11_6766	US	. A	FAX#:	584-6	<del></del>				
Gene	Transporter Name and Mailing	Address:	0.5	- A	Transport	er's Phone	#:		Transporter's U	JS EPA ID No	h.:
	ESE CORPORTATION 11011 WALLER RO		•		Person to	535 Contact:	-3112		Transporter's I	OOT No.:	
	TICONI WI DOA	4.5			FAX#:	บดหมรด			Customer Acco	unt Number	with TPS:
	TACOMA, WA 984-	Moisture Content	US Contaminated by:		!	535-	on of Delive	erv	GESECO  Gross Weight		Net Weight
	Sand O Organic O Clay O Other O	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas 🔾 Diesel 🗅			•		+	53200		
	Sand 🖸 Organic 🛈 Clay 🔾 Other 🔾	0 - 10%	Gas 🖸 Diesel 🗓 Other 🗅						9.91		
	List any exception to items listed about			<u>.</u>		•	•			•	<u></u>
	Generator's and/or consultan Sheet completed and certified any way.										
	Print or Type Name:	Generator 🗅	Consultant 🗅	Sign	ature and da	te:				Month I	Day Year
Transporter	Transporter's certification: I condition as when received. without off-loading, adding to	I/We further cert	ify that this soil is	s being a	lirectly tra	ansported					
Tran	Printor Type Name:			Sign	ature and da	te:	معر تعمد	. e		Month [	Day Year
Facility	Discrépanciès:			•	<u> </u>						
Recycling	Recycling Facility certifies the r	receipt of the soil co	vered by this manife		as-noted a		- / 1	· · · · ·			
Recy	PENEE AVELINO -	- CSM		Signa -	acure and dat	Weer	4 St	, LE	keic		0
Pleas	se print or type.					-	2 di			(1 m. 4	

# Customer Job Report Gross & Tare Weight Codes: M=Manual; S=Scale; T=Trk File

ob Number Name .03 00623 TEXACO #63-232-0037			SiteAddress	Sid	teCity	State	ZipCode 00000	
			8701 GREENWOOD AVENUE	SE	ATTLE	WA		
Load#	Date & Time Out	Transporter #	Truck & Trailer Number	Gross (lb)	Tare (lb)	Net (lb)	Net Wt (tons)	
38	03/10/97 08:10	3ESECOR	JOHN	49,000M	22,840M	26,160	13.08	
39	03/11/97 08:17	3ESECOR	DARIN	48,960M	25,240M	23,720	11.86	
40	03/11/97 08:18	3ESECOR	JOHN	29,240M	22,840M	6,400	3.20	
41	03/13/97 09:28	3ESECOR	REX	12,300M	7,340M	4,960	2.48	
42	03/18/97 08:21	3ESECOR	DEVIN	11,240M	7,340M	3,900	1.95	
Complete 60.5	ed Loads Ma	nifests Received 36	Completed Weight 15,835.60%		ed Weight (tons)		AL Net Wt: 32.57 (tons)	

	Manifest	™	TPS Technologies Soil Recycling Non-Hazardous Soils						↓ Manifest # ↓			
[-]	Date of Shipment:	Responsible for Generato	Payment:		ter Truck #:		Facility #: AØ3		ven by TPS: 0623		Load # 23은	
	Generator's Name and Billing A	address:		<u> </u>	Generator' (206)	771	-6090		Generator's US	EFA ID No.		
	3400 - 188th S SUITE 630	TREET SW			Person to C		EIJER					
	LYNNWOOD, WA 9	8037	•	USA	FAX#: (206)	771	-7786		Customer Accu 100151	unt Number 1 3	with TPS:	
֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֡֓֓֓֓֡֓֡֓֡	Consultant's Name and Billing	Address:			(206)							
	1921 EDMONDS D	RIVE SE			Person to 9		R					
	RENTON, WA 980	55		usa	FAX#: ( 206 )		-0225	Customer Account Number with TPS: 1002230				
	Generation Site (Transport from TEXACO #63-232			<u>-</u> -	Site Phone	: #: 		_	BTEX Levels			
<u> </u>	9701 GREENWOOD				Person to	Contact:	-		TPH Levels			
Consultant	SEATTLE, WA 00	000		USA	FAX#:	<u> </u>			AVG. Levels			
_	Designated Facility (Transport t	or: (name & address)		-	Facility Pl		8430		Facility Permit	Numbers		
Generator and/or	TPS Technologi 2800 - 104th S		rt Sout	h	Person to	Contact: トレモ	lino					
rator	racoma, WA 984	44-6766		AZU	FAX#: (206)	584-	8309					
Gene	Transporter Name and Mailing			,		Transporter's Phone #: (206) 535-3112			Transporter's US EPA ID No.:			
	11011 WALLER R	OAD EAST			Person to		אס		Transporter's I			
	TACOMA, WA 984	4E		USA	F20E)	535	-3298		Customer Acco	nunt Number R	with TPS:	
	Description of Soil	Moisture Content		by: Appr	rox. Qty:	Descript	ion of Deliv	егу	Gross Weight	Tare Weight	Net Weight	
	Sand D Organic D Clay D Other D	0 - 10% □ 10 - 20% □ 20% - over □	Gas Diesel DOTHER D						49000	22840	26160	
$\ \cdot\ $	Sand I Organic II Clay II Other II	0 - 10%	Gas Diesel Diesel Diesel D					<u> </u>	13.08			
	List any exception to items listed about							<del>_</del> _			0.11.70.4	
	Generator's and/or consulta Sheet completed and certifie any way.	nt's certification: d by me/us for the	I/We certify that Generation Sil	it the soil i te shown a 	referenced he ibove and no	rein is ta thing has	ken entirel s been adde	y from i ed or do	those soils desc ne to such soil	ribed in the that would a	Sou Data alter it in	
	Print or Type Name:	Generator 🗅	Consultant	ū s	Signature and da	te:				Month	Day Year	
Transporter	Transporter's certification: condition as when received without off-loading, adding	I/We further cer	rtify that this s	oil is bein	g directly tra	ansported	d from the	soil is Genera	being delivered tion Site to th	d in exactly e Designated	the same d Facility	
Trans	Printer Name	TIDBUSH			ignature and da		ZG	>			Ö 97	
Recycling Facility	Discrepancies:											
cling	Recycling Facility certifies the	receipt of the soil o	covered by this m		opt as noted a						) .	
Recy	Print or Type Name: RENEE AVELINO	- CSM			200	1001	16	4	ben	<u> </u>	10	
Plea	se print or type.						1,50			Agt to the	. j	

<u> </u>		#	TF	TPS Technologies Soil Recycling							
À		Manifest		No	n-Hazard	lous Soils				iesi# •	****
73		Date of Shipment:	Responsible for I Senerato		Transporte	r Truck #:	Facility #:		ven by TPS: 0623		Load # 23명
		Generator's Name and Billing Ad TEXACO EH&S	ddress:	<del></del>		Generator's Phon (206) 77			Generator's US	EPA ID No.	
	1	3400 - 188th Si	REET SW			Person to Contact THERESA			i L		
		SUITE 630 LYNNWOOD, WA 98	3037	i	USA	FAX#: (206) 77			Customer Acco		vith TPS:
		Consultant's Name and Billing A				Consultant's Pho	ne #:		<del></del>	<u> </u>	
Ċ		ERI 1921 EDMONDS DA	RIVE SE			(206) 22 Person to Contact	:			<del>!</del>	-
		1921 Ebilokob D.				JOHN MEY	ER		Customer Acco		with TPS:
		RENTON, WA 9805			USA ———	(206) 22   Site Phone #:	7-0225		100223 BTEX	0	
		Generation Site (Transport from) TEXACO #63-232-				Person to Contact: TPH					
	<u>,</u>	3701 GREENWOOD	AVENUE	٠	•	Person to Contact	: 	Levels			
	Consultant	SEATTLE, WA 000	200	;	USA	FAX#:			AVG. Levels	· .	
		Designated Facility (Transport to	o): (name & address)			Facility Phone #: (206) 584		_	Facility Permit	Numbers	
	and/or	TPS Technologie 2800 - 104th S		rt Sout	h	Person to Contact Renee Av					
					USA	FAX#: (206)584					
	Generator	Tacoma, WA 984. Transporter Name and Mailing.	one #:		Transporter's U	JS EPA ID No.	:				
	9 -	ESE CORPORTATION 11011 WALLER RO		(206) 53 Person to Contac		<u> </u>	Transporter's DOT No.:				
		HOLL WELLER N	JAD BAD!			WES JOHN			Customer Acco	ount Number	with TPS:
		TACOMA, WA 984			USA	(206) 535-3298			Gross Weight		Net Weight
		Description of Soil	Moisture Content	Contaminated	by: Appro	ox. Qty: Descr.	iption of Den				
•		Sand 🗅 Organic 🗅 Clay 🕽 Other 🗅	0 - 10%	Gas D Diesel D Other D					48960 11.86	25040	23720
		Sand 🖫 Organic 🗆 Clay 🕒 Other 🗅	0 - 10% □ 10 - 20% □ 20% - over □	Gas □ Diesel □ Other □					11.86	·	
		List any exception to items listed abo	ve:	<u> </u>							
		Generator's and/or consultar Sheet completed and certified any way.	nt's certification: I by me/us for the	I/We certify tha Generation Sit	it the soil re e shown al	eferenced herein is bove and nothing	taken entire has been add	ly fròm i led or do	those soils desc ne to such soil	ribed in the t that would t	Soil Data ulter it in
		Print or Type Name:	Generator 🚨	Consultant	Sig	gnature and date:				Month	Day Year
	orter	Transporter's certification: condition as when received.	I/We further cer	tify that this s	oil is being	directly-transpor	rted from the	h soil is Genera	being delivered tion Site to th	d in exactly e Designated	the same I Facility
	Transporter	without off-loading, adding		1		gnatule and date:				Month	Day Year
	11	Discrepancies:	101 LANEA			1000					17 17 7
	Facility				•						
		Recycling Facility certifies the	receipt of the soil o	overed by this m	anifest exce	pt as noted above:					
	Recycling	Print or Type Name:		•		gnature and date:	$\alpha$	) .		3/	, ,,,
	RE	RENEE AVELINO	- CSM			KLDICE	HIZ	W	afor L	<i>اک ر</i>	1/
•	Plea	se print or type.	的"特"或 <b>有</b> 是					學		解的。 肾分	

· · ·		TPS Technologies Soil Recycling  Non-Hazardous Soils  Manifest #							:44 H	•
8	Manifest	·	No	n-Hazard	lous Soils			.∵ ∨ мап	itest# \v	**.
5	Date of Shipment:	Responsible for Generato		Transporte	r Truck #:	Facility #:		ven by TPS: 0623	•	Load # 240
	Generator's Name and Billing ATEXACO EH&S	Address:			Generator's Phone (206) 771	#: -6090		Generator's US	S EPA ID No.	
	3400 - 188th S SUITE 630	TREET SW			Person to Contact:	SEIJER				
	LYNNWOOD, WA 9	8037	{	JSA	FAX#: (206) 771	7786		Customer Acco	ount Number 3	with TPS:
	Consultant's Name and Billing	Address:			Consultant's Phone (206) 227					
	1921 EDMONDS D	RIVE SE			Person to Contact: JOHN MEYE	ER				
	RENTON, WA 980	55 ·	t	JSA	FAX#: (206) 227	7-0225		Customer Acco		with TPS:
	Generation Site (Transport from TEXACO #63-232				Site Phone #:			BTEX . Levels		
" "	S701 GREENWOOD	AVENUE	· · · · · · · ·	<del>.</del>	Person to Contact:	<u>,,                                    </u>	4.	TPH Levels		
Consultant	SEATTLE, WA 00	000	t	JSA	FAX#:			AVG. Levels		
	Designated Facility (Transport to TPS Technologi				Facility Phone #: (206) 584-	8430		Facility Permit	Numbers	
r and/or	2800 - 104th S		ırt Soutl	ח	Person to Contact:	lino		_		
Generator	Tacoma, WA 984		t	JSA	FAX#:  (206+584-					
Ger	Transporter Name and Mailing ESE CORPORTATI	ON			Transporter's Phone #: (206) 535-3112			Transporter's US EPA ID No.:		
	11011 WALLER R	DAD EAST			Person to Contact: WES JOHNS			Transporter's f		
	TACOMA, WA 984			JSA	(206) 535			Customer Acco SESECO		
	Description of Soil	Moisture Content	Contaminated	by: Approx	x. Qty: Descrip	tion of Deliv	ery	Gross Weight		
	Sand D Organic D Clay D Other D	0 - 10% □ 10 - 20% □ 20% - over □	Gas 🗅 Diesel 🗅 Other 🗅					29240	22840	6400
	Sand D Organic D Clay D Other D	0 - 10% □ 10 - 20% □ 20% - over □	Gas Diesel Dother D					3.20		
	List any exception to items listed abo	<u> </u>	ф. н						•. ————————————————————————————————————	
	Generator's and/or consultar Sheet completed and certified any way.	nt's certification: I by me/us for the	I/We certify that Generation, Site	the soil rej	ferenced herein is to eve and nothing ha	iken entirely s been adde	y from ti d or don	hose soils desc e to such soil	ribed in the S that would a	Soil Data
	Print or Type Name:	Generator 🖫	Consultant		nature and date:			-		Day Year
Transporter	Transporter's certification: condition as when received. withouf off-loading, adding	I/We further cer	tify that this so	il is being i	directly tran <u>sp</u> orte	d from the	soil is l Generat	eing delivered ion Site to the	l in exactly Designated	the same I Facility
Trans		FUZDBU			nature and date:	)~	<u> </u>	>	Month	Day Year
lity	Discrepancies:			0				-		
Recycling Facility					· <u> </u>					
iing	Recycling Facility certifies the	receipt of the soil c	overed by this ma							
Recyc	Print or Type Name: RENEE AVELINO	- CSM	¥	/Sigr	nature and date:	AIST.	عدل	bon	3/1/	
Plea	se print or type		1	<u>'</u> ,	100,000					

			TPS Technologies Soil Recycling  Non-Hazardous Soils  Wanifest							1.54		
Ť		Manifest							_			Load #
"Г	T	Date of Shipment:	Responsible for l	· ·			:	Facility #:		en by TPS: 0623	•	041
11	ı		Senerato	r		_			<del></del>			944
	ı	Generator's Name and Billing A	ddress:	-		1	or's Phone			Generator's US	EFA ID No.	
1	ŀ	TEXACO EH&S					b Contact:	<u>-6090</u>				
	ŀ	3400 - 188th Si	rreet sw					FIJER				
- 1 1		SUITE 630 -				FAX#:	CESA U	1 <u>F. L. J. E. F.</u>		Customer Acco	unt Number v	vith TPS:
		LYNNWOOD, WA 98	B037	ປ	SA			<u>-7786</u>		100151	3	
	t	Consultant's Name and Billing	Address:		-		tant's Phone					
- [ ]	1	ERI					5) 227 to Contact:	<u>-0280</u>				
	ı	1921 EDMONDS DI	RIVE SE				MEYE	ER				
1	١					FAX#:				Customer Acco	unt Number v	with TPS:
	1	RENTON, WA 980	55		ISA	(206	i) <u>227</u>	7-0225		100223	0	
	ŀ	Generation Site (Transport from)	: (name & address)			Site Ph	one #:			BTEX Levels		}
11		TEXACO #63-232	-0037			Duman	to Contact:			TPH		
	.	8701 GREENWOOD	AVENUE			Person	to Comaci.			Levels		
Consultant		• • • • • • • • • • • • • • • • • • • •		•		FAX#:				AVG.		,
	2	SEATTLE, WA 00	ମ <u>ମ୍ବର</u>	<u> </u>	ISA	<u> </u>				Levels		
3	3	Designated Facility (Transport to	o): (name & address)			· ·	Phone #:			Facility Permit	Numbers	
ةِ ا	3	TPS Technologic	es Inc.				5 ) 584 - to Contact:	<u>-8430</u>	<del>,</del> _			
ond/or		2800 - 104th S		irt South	1		ee Ave	lino				
	- 6					FAX#:			_			
1 2	<u> </u>	Tagoma, WA 984	44-67 <u>5</u> 6		184		5) <u>584</u> -				to EDA ID N	
Congrator		Transporter Name and Mailing	Address:			1 -	orter's Phor			Transporter's U	IS EI'A ID NO	•
		ESE CORPORTATION					to Contact:	<u>5-3112</u>		Transporter's E	OOT No.:	
- 1		11011 WALLER R	DAD EAST			WES	_JOHNS	30N				
						FAX#:		5-3298		Customer Acco		with TPS:
		TACOMA, WA 984			JSA				_	Gross Weight		Net Weight
. 1		Description of Soil	Moisture Content	Contaminated L	oy: Appro	ox. uty:	Descrip	tion of Deliv	rery			
		Sand 🔾 Organic 🗅	0 - 10% U 10 - 20% U	Gas □ Diesel □						10210	1340	4960
	l	Clay Other O	20% - over □	Other D						12300	1010	7.7.5
	▶.	Sand O Organic O	0 - 10%	Gas 🗅 Diesel 🖸						2.48		
		Clay O Other U  List any exception to items listed abo	20% - over 🗆	Other 🗆							<u>.                                    </u>	
					· <u> </u>			<u> </u>		<del></del>		
		Generator's and/or consultar	nt's certification:	I/We certify that	the soil r	eferenced	herein is l	aken entirel	y from	those soils desc	ribed in the	Soil Data
		Sheet completed and certified any way.	d by me/us for the	Generation Site	shown at	bove and	nothing n	as been aaat	ea or ao	ne to such son	mar woma	
		Print or Type Name:	Generator 🗅	Consultant	□ Si	gnature and	date:				Month	Day Year
	1	<u>v</u>										
T	16	Transporter's certification:	I/We acknowledge	e receipt of the s	oil descri	bed abov	e and certi	fy that such	soil is	being delivered	d in exactly	the same
	ransporier	condition as when received. without off-loading, adding	I/We further cer	rtify that this soi	il is being i delavino	z directiy deliveri	transport to such si	ea from ine te.	Genera	tion sue to th	e Designati	. 1 ucy
	usb	Brief or Time Names	7 . 1			ignature and		<del> </del>			Mogth	Pay La Year
	ıra	War I	THISON								12/	377
		Discrepancies:	<i>.</i>		01.	ميد در	Cller	n. b. 18	M	In last	WER A	END
	/// /	Discrepancies: Sel ATTACHE O MIRIHEN OKIA	MINITE	ST FOR	EFIL	KRES 1	מוניקים אב	agarie .	1-19	· · · · · · · · · · · · · · · · · · ·	7.5 77.	
	racility	WRIHEN ORTH	inally &	sucto Con	u put e	The g	Willen	•				
	ng	Recycling Facility certifies the	receipt of the soil of	covered by this ma	nifest exce	ept as not	Ed)above:			es.		
	несусипд	Print or Type Name:				ignaturé an			7		7	ſ,
;	Yec.	RENEE AVELINO	_ CSM	<b>~</b> ~	1	1			2 l	_ //		3/26
	_	RENCE AVELINU				Ven	188		ue	7000 / 200 Per 190	2	-1' 4 <u>7</u> 7
PI	leas	se print or type.	可能的機能	÷					主義等	题的外部分		

		TI	TPS Technologies Soil Recycling  Non-Hazardous Soils  Manifest #							60 06 H .l.	
A.	Manifest	<u> </u>	Non-Haz			ls				test # Ψ	
	Date of Shipment:	Responsible for	Payment:	Transporte	r Truck #:		Facility #:	Giv	en by TPS:		Load #
					-		·				
	Generator's Name and Billing	Address:				or's Phone	#:		Generator's US	EPA ID No.	ŀ
	TEXACO EHE	.5			(200		1.69				<u>'</u>
11	3400 - 188 H	STREET S	54			o Contact: E <i>KES F</i>	e 6e.	1 810	_		
11	150176 630				FAX#:	KESM	,	7	Customer Acco		with TPS:
Ш	LYNNWOOD.	1, 5A. 980	737 U	SA	606	・フフノ	-778		1001	<u> 513                                    </u>	
	Consultant's Name and Billing	Address:		_	Consult	ant's Phone	:#: 2- ^ 7	02			
	ERI		_				7-02	10			
11	1921 EDMON	DS DRIE	IE SE		Person t	o Contact:	EYERE	,			
					FAX#:		•		Customer Acco	unt Number	with TPS:
Ш	RENTON, WI	4. 9805	5		(206)	1 30	7-022	<u>25  </u>	100-	1230	
11	Generation Site (Transport from	n): (name & address)	- 4427		Site Pho	me#:			BTEX Levels		
	TEXACO TO	63-232	-005/		Porcan (	o Contact:			TPH		
_	8701 EREE	en wood	AUZ.		Person	to Contact.			Levels		
Itan	111	•			FAX#:				AVG.		;
ารต	SEATHE 4	SA. O	0000		<u> </u>				Levels		
Ö	Designated Facility (Transport	to): (name & address)			Facility	Phone #:	-8430	$\neg$	Facility Permit	Numbers	
Įŏ	TPS Tech	NO109 (5)	s the	_ 12		to Contact: ,	0736				
and	2800 10412	STREET	Cover S	wh	ردع	7. 33 1. 33	DELIN	c			}
į					FAX#:			-			
Generator and/or Consultant	THOMA, WIN	98444	-6766				. 830	7		10 ED1 1D 1:	
Gen	Transporter Name and Mailing ESE Core Po	Address:	ر		Transpo	rter's Phon	ic#: -3/12	2	Transporter's U	15 EI'A ID NO	 
	11011 WALL	La Port	FAST			to Contact:			Transporter's I	OT No.:	
.	11011 61411	E16 100	2,,0,		وعوس	5 50	hrson.	و			
		. 1 6414	1/		FAX#:	\=x	-323		Customer Acco		with TPS:
11	THEOMA W			Ta				_	Gross Weight		Not Weight
	Description of Soil	Moisture Content	Contaminated b	y: Appro	x. Qty:	Descrip	tion of Deliv	rely	GIUSS WEIGHT	Tale Weight	net weight
	Sand □ Organic □	0 - 10% □ 10 - 20% □	Gas 🗅 Diesel 🗅						12200	7340	4460
.	Clay 🖸 . Other 🗅	20% - over 🗆	Other 🗆						7 8 500	1010	
_ <b> </b>     .	Sand D Organic D Clay D Other D	0 - 10% 🖸 10 - 20% 📮	Gas Diesel D			•	1/2	NS_	12300 2.48	•	
	List any exception to items listed at	20% - over □ ∞ve:	Other 🗅				- /*		<u> </u>	<b>*</b>	<del>' ,                                   </del>
11	<u> </u>										
	Generator's and/or consulta	ant's certification:	I/We certify that	the soil re	eferenced	herein is t	akén entirel	y from t	hose soils desc	ribed in the . that mould i	Soil Data alter it in
	Sheet completed and certificany way.	ea by mejus for the	Generation Site	รกอนทา คช	iove ana 1	wing na	э оссн ишие	01 401	L TO SUCH SUH	would	
Hi	Print or Type Name:	. Generator 🚨	Consultant	□ Sig	gnature and	date:	<del></del>			Month	Day Year
1'											
er	Transporter's certification:	I/We acknowledg	e receipt of the so	oil describ	ed above	and certif	fy that such	soil is	being delivered	d in exactly e Designates	the same d Facility
Transporter	condition as when received without off-loading, adding	i. I/We further cer to subtracting fr	rtify that this soi om or in anu wau	ı 15 venng delavino	deliverv	transporte to such sit	e.	General 'e	Marketti III	r Designated	a ancirry
isu	Print or Type Name:	, 10, 0101111011110			gnature and		المام التي العالم مراد التي العالم	11/	· ·	Month	Day Year
٦	WER / J	and her was been	A Section of the Sect		<u> L</u>	Symmetry.	J. J. S.	Popular	how	3	179 2
Γ	Discrepancies:					/		•	•		
							·				
Fac	l .								•		ł
Recycling Facility	Recycling Facility certifies th	ne receipt of the soil of	covered by this man	nifest exce	pt as note	d above:					
\\\\	Print or Type Name:		_		gnature and				P	-	
Rec			• •		//	7	[]]		$> \!\!\! < \!\!\! <$		
L		<u> </u>	-1		1/1	2.4. P	11/10	an.	<u> </u>	<del></del>	
Ple	ase print or type.	<b>武章:</b>	I	,	<i>i</i> .			. 1			•

TPG INIVAICING CAPY

<del></del> :	ب	N. Caral Caral	ТР	TPS Technologies Soil Recycling  Non-Hazardous Soils				↓ Manifest # ↓				
		Manifest					Encility #:				Load #	
		Date of Shipment:	Responsible for I	'ayment: Y	Transport	Transporter Truck #: Facility #: んどう				en by TPS: もとさ —————		0 4 2 
		Generator's Name and Billing / TEXACO EH&S	Address:	,			tor's Phone 5 \ 77 J	#: -6090		Generator's US	EPA ID No.	
.		3400 - 188th S	TREET SW			1	to Contact:	BEIJER	İ			
	1 1	SUITE 630			USA	FAX#:				Customer Accor	unt Number v	vith TPS:
ı		_YNNWOOD, WA 9			UDA	. 1	tant's Phon	7786 .#		100151	<u>ٽ</u>	
		Consultant's Name and Billing □ F. T	Address:					-0280				
Ì		1921 EDMONDS D	RIVE SE				to Contact: N MEYE	CR				
		MENTON, WA 980	:55		USA		FAX#: (206) 227-0225			Customer According 100223		with TPS:
İ		Generation Site (Transport from TEXACO #63-232	1): (name & address) -0037			Site Ph	one #:			BTEX Levels		
.   .	¹ [	8701 GREENWOOD				Person	to Contact:			TPH Levels	<u></u>	
	Consultant	SEATTLE, WA 00	0000		USA	FAX#:				AVG. Levels		
-   ;	5	Designated Facility (Transport					y Phone #: 5 ) 584 -	-8430		Facility Permit	Numbers	
		TPS Technologi 1800 - 104th S		irt Sout	h	Person	to Contact:					
		Tacoma, WA 984	44-6766		USA.	FAX#:	 6)584-	-8309		-		
,	eu eu	Transporter Name and Mailing	Address:			Transp	orter's Pho	ne#: 5-3112		Transporter's U	IS EPA ID No	:
	1	11011 WALLER F			,		to Contact:			Transporter's D	OT No.:	
o de la companya de la companya de la companya de la companya de la companya de la companya de la companya de		TACOMA, WA 984	46		AZU			3-3298	-	Customer Acco	unt Number R	with TPS:
		Description of Soil	Moisture Content	Contaminated	d by: App	rox. Qty:	Descri	otion of Deliv	very	Gross Weight	Tare Weight	Net Weight
		Sand I Organic II Clay II Other II	0 - 10%	Gas Diesel DOTHER D			_			11240	1340	3900
		Sand  Organic  Clay  Other	0 - 10%	Gas Diesel Dother D						1.95	•	
		List any exception to items listed al	ove:					,		· parkens	*	0.117
·     .   ·		Generator's and/or consult Sheet completed and certifi any way.	ant's certification: ed by me/us for the	Ì/We certify the Generation Si	at the soil ite shown a	references above and	d herelit is I nothing h	täkèn entirel as been addi	ly from t ed or do	hose soils desc ne to such soil	ribed in the that would	Sou Data alter it in
		Print or Type Name:	Generator 🔾	Consultant		Signature an						Day Year
	oorter	Transporter's certification: condition as when received without off-loading, adding	i. I/We further cei	rtify that this s	soil is bein	ig directly	y transport	rea f <del>r</del> om tne	h soil is Genera	being delivered tion Site to th	d in exactly e Designate	the same d Facility
	Transporter		Leuia 16			Signature an			. 6			Day Year
	<u>~</u>	Discrepancies:						<u> </u>				
.:	Facility	ľ					_				<u>.                                    </u>	·
	ling	Recycling Facility certifies th	ne receipt of the soil o	covered by this 1	nanifest ex	cept as no	ted above:		$\overline{\bigcirc}$	*None of	·	
	Recycling	Print or Type Name: RENEE AVELINO	- CSM	w.		Signaturyar	nd date:	(ix	æ		5	1/8
	Pies	se print or type.			<del></del>	~ 0	<u> </u>				STAN S	night.

# APPENDIX C METRO DISCHARGE AUTHORIZATION

King County Water Pollution Control Division

Industrial Waste Program
Department of Natural Resources
130 Nickerson Street, Suite 200
Scattle, WA 98109-1658

Post-it Fax Note 7671 Date From Pages Post-it Fax Note 7671 Date From Date Prome Pages Post-in Co. Kins County Phone 9 227 - 0280 Phone 9 659 - 3017

September 11, 1996

Robert E. Bayley Construction, Inc. 205 Columbia Street P.O. Box 4567 Seattle, WA 98104-0567

Authorization to Discharge to the Sanitary Sewer

Dear Mr. Bayley:

The King County Department of Natural Resources' Industrial Waste Program has reviewed the September 6, 1996, letter requesting authorization to discharge groundwater pumped from the former Texaco Facility #63-232-0037 located at 8701 Greenwood Avenue North, Seattle, Washington to the sanitary sewer. King County grants approval for the discharge of up to 1000 gpd of groundwater for up to one month provided that: Kami Wong of Seattle Drainage and Wastewater (684-7774) is notified to allow for assessment of sewer charges; and the discharge criteria outlined in the following paragraphs are met. There is no fee for this authorization.

This authorization permits you to discharge limited amounts of groundwater into the King County sewer system in accordance with the regulations outlined in King County Code 28.84.060 and Ordinance No. 11034 (enclosed) and the following discharge criteria:

#### Discharge Limitations

Constituent	Maximum Concentration, ppm
Benzene	0.13
Toluene	1.5
Ethylbenzene	1.4
Nonpolar Fats, Oil & Grease (Nonpolar FOG)	10
Lead	4.0

#### Operating Procedures

- There shall be no pronounced odor of solvent or gasoline.
- b) There shall be no pronounced oil sheen or unusual color.
  c) There shall be no pronounced hydrogen sulfide (rotten egg) odor.
- d) There shall be no pronounced hydrogen sunide (totten egg) odd:

  There shall be no visibly pronounced turbidity; the discharge must remain translucent.

King County will expect operators on site to pay close attention to these operating procedures whenever discharge to the sanitary sewer is occurring. If any of the discharge limits or operating criteria are exceeded, you must stop discharging and notify the King County Industrial Waste Section at 689-3000.

The formal requirements and fees of a full wastewater permit will not be required as long as you maintain good compliance and do not change the nature and volume of your discharge.

Changes to, or additions at, this facility may cause us to reassess this decision and require that you obtain a full wastewater discharge permit. If you propose to substantially increase the volume of your discharge or change the type and quantities of substances discharged, you must submit a new waste discharge permit application to King County. State law requires that such application for a permit be made a minimum of sixty (60) days before starting a new discharge. Therefore, to avoid delays, please time your submittal accordingly.

King County Industrial Waste staff want to help you stay in compliance with our regulations. If at any time you have questions about this authorization, or other questions about your discharge, please do not hesitate to call me at 689-3017.

Since ely,

Horace Lee

Senior Industrial Waste Investigator

Department of Natural Resource, Business Outreach Unit

Enclosure

cc:

Doug Knutson, Department of Ecology Kami Wong, City of Seattle Doug Hilderbrand, King County

I:/LEE/DGWTEX