

TEXACO STATION #63-232-0037 LUST# 2298 Seattle

Texaco Refining and Marketing Inc 3400 188th Street SW Suite 630 Lynnwood WA 98037 RECEIVED MAY 04 1998 DEPT. OF ECOLOGY

April 24, 1998

ENV - SERVICE STATIONS

Groundwater Sampling and Laboratory Analysis Report 8701 Greenwood Avenue North Seattle, Washington (Texaco Facility #63-232-0037)

Mr. Roger Nye Washington Department of Ecology- Northwest Region 3190 - 160th Avenue Southeast Bellevue, Washington 98008-5452

Dear Mr. Nye:

Enclosed is the Groundwater Sampling and Laboratory Analysis Report for the referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) for Texaco. Groundwater samples were collected from well MW8 on February 13, 1998, and were analyzed for TPH-G, TPH-D, TPH-O, and BTEX. Laboratory results indicated that the samples did not contain analyte concentrations exceeding MTCA Method A Cleanup Levels. TPH-G, TPH-D, and TPH-O concentrations were not detected at or above the laboratory method reporting limit. If you have any questions please contact me at (425) 774-6090, extension 224.

Sincerely,

T.A. Baja

Theresa A. Geijer Project Coordinator

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Enclosure

RLLane-File (w/enclosure)

cc: R. Isackson (w/enclosure) M. Nesteroff (w/enclosure)

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ERI	ENVIRONMENTAL RESOLUTIONS, INC.	

Ms. Theresa Geijer, R.G. Texaco Refining and Marketing Inc. Environment, Health & Safety 3400 188th Street SW, Suite 630 Lynnwood, Washington 98037 RECEIVED MAY 04 1998 DEPT. OF ECOLOGY March 5, 1998 ERI 31001.R12

Subject: Groundwater Sampling and Laboratory Analysis, Former Texaco Facility 63-232-0037, 8701 Greenwood Avenue North, Seattle, Washington

Dear Theresa:

As requested by Texaco Refining and Marketing Inc.- Environment, Health & Safety (TRMI-EH&S) Environmental Resolutions, Inc. (ERI) has prepared this report describing the field activities and laboratory results of groundwater samples collected from monitoring well MW8 on February 13, 1998. The site location shown on Plate P-1.

Background

Prior to 1994, the site had historically operated as a retail gasoline service station. In 1994, the former station building was demolished and environmental assessment and remediation activities were conducted to remove hydrocarbon-impacted soil and groundwater. In June 1995 the property was sold.

In January 1996, an Independent Remedial Action Report summarizing results of the site activities was submitted to the Washington State Department of Ecology (Ecology) for review under the Independent Remedial Action Program (IRAP). On July 31, 1996, Ecology issued a no further action letter for the site notifying TRMI-EH&S and the site owner that no further cleanup action would be required. One condition of the no further action determination was that groundwater samples be collected from remaining downgradient monitoring well AGW-6 and submitted for hydrocarbon analyses on a twice-yearly basis to monitor groundwater conditions.

In September 1996, AGW-6 was inadvertently destroyed by the building contractor. Replacement monitoring well MW8 was subsequently installed during February 1997 at a nearby downgradient location to comply with Ecology requirements. Well locations are shown on Plate P-2. Well installation and sampling activities are presented in the Monitoring Well Installation and Sampling report prepared by ERI dated September 15, 1997.

Groundwater Sampling

On February 13, 1998, ERI visited the site to measure the depth to water, purge the well, and collect groundwater samples. Prior to purging, the depth to water was measured using a water level indicator, and the well was checked for the presence of free product. After measuring the water level, the well was purged of at least three casing volumes using a submersible pump. After each casing volume, the pH, conductivity, and temperature were checked until measurements were within 10% variance. Purge water and decontamination rinsate generated during sampling were treated and discharged on site. Groundwater samples were subsequently collected using a disposable bailer and transferred to laboratory-supplied

1921 Edmonde Drive SE, Renton, Weshington 98055 425-227-0280 (FAX 425-227-0225) irvine • Noveto • Sesttie containers containing appropriate preservatives. The samples were then placed in iced storage and transported to the laboratory for analysis. A Chain of Custody was initiated by the field geologist and accompanied the samples to the analytical laboratory. A copy of the Chain-of-Custody form is attached with the analytical results.

Laboratory Analysis and Results

The groundwater samples were submitted to the North Creek Analytical, Inc. laboratory in Bothell, Washington, and analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) using Ecology Method WTPH-G/EPA Method 8020/602, and total petroleum hydrocarbons as diesel (TPH-D) and as oil (TPH-O) using Ecology Method WTPH-D (extended).

Depth to water measurements collected on February 13, 1998 indicated groundwater was present approximately 2.41 feet below the top of the casing. No free product was observed. Laboratory results indicated that the groundwater samples collected from MW8 on February 13, 1998 did not contain any analyte concentrations exceeding MTCA Method A Cleanup Levels. TPH-G, TPH-D, and TPH-O concentrations were not detected at or above the laboratory method reporting limit (MRL). Depth to water measurements and laboratory results for MW8 are shown in Table 1 with historical data from abandoned monitoring well AGW-6.

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 groundwater. 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.

ERI appreciates this opportunity to provide assistance on this project. Please call if you have questions.

Sincerely, Environmental Resolutions, Inc.

John K. Meyer, R.G.

Branch Manager

Attachments:

Plates P-1 and P-2 Table 1 Laboratory Report

NWRO/TCP TANK UNIT	
INTERIM CLEANUP REPORT	п
SITE CHARACTERIZATION	
FINAL CLEANUP REPORT	Ы
OTHER POST-IRAP MONITORIA 6	F
AFFECTED MEDIA: SOIL	Ы
OTHER GW	П
INSPECTOR (INIT.) A DATE 2/0/99	

DEPARTMENT OF ECOLOGY



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TABLE 2 GROUNDWATER ANALYTICAL RESULTS Texaco Facility 63-232-0037 8701 Greenwood Avenue North Seattle, Washington Page 1 of 1

Well Name	Sample Date	DTW	TPH-G	TPH-D	TPH-O	B	Т	Ē	X	Tot. Pb	Diss. Pb
AGW-6	3/17/94	0.51	300	ND	ND	10.6	1	14	56	4	
	11/10/94	1.58	200	ND	ND	7.4	ND	6	29	ND	
	2/24/95	2.62	460	ND	ND	8.3	2	8	20	ND	
	6/28/95	3.97	80	ND	ND	4.7	ND	1	7	ND	
	9/11/95	1.70	ND	ND	ND	3.2	ND	ND	3	ND	
	12/11/95	1.81	ND	ND	ND	2.8	ND	ND	3.8	ND	
	2/27/96	1.63	ND	ND	ND	ND	ND	ND	2.9	ND	
	9/12/96	1.22	<50	<250	<750	1.64	<0.50	<0.50	<1.0	2.39	<2.0
		Well abar	idoned du	iring cons	truction, s	spring 1997.					
MW8	8/7/97	4.37	123	<250	<750	15.8	0.777	1.45	20.4	<2.0	<2.0
	11 <i>1</i> 25/97	3.19	<50	<250	<750	0.682	1.11	0.576	1.97		-
	2/13/98	2.41	<50	<250	<750	0.818	2.84	<0.500	3.24		
MTCA Method	A Cleanup Level		-	1,000 ^a		5	40	30	20	5	5

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EXPLANATION: All concentrations in ug/L (ppb).

DTW = Depth to water in feet below top of casing.

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). B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes; Tot. Pb = Total Lead; Diss. Pb = Dissolved Lead.

BTEX = Aromatic compounds by EPA Method 8020.

Total and dissolved lead by EPA 6010/7000 Series Methods.

ND = Not detected at or above the laboratory reporting limit.

< = Less than the stated laboratory reporting limit.

- = Not analyzed.

Shaded values equal or exceed MTCA Method A Cleanup Levels.

^a Total Petroleum Hydrocarbons Data collected before 9/12/96 are taken from prior consultants.

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ERI	Project:	Texaco Greenwood #63-232-0037	Sampled:	2/13/98
1921 Edmonds Drive SE	Project Number:	31001	Received:	2/16/98
Renton, WA 98055	Project Manager:		Reported:	3/2/98 09:29
Remon, WA 90099	8			

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

Method	Analyte	Units	MW8 Water 2/13/98 B802290-01	
WTPH-G/8021	Gasoline Range Hydrocarbons	ug/l	<50.0	
9	Benzene	17	0.818	
11	Toluene	н	2.84	
н	Ethylbenzene		<0.500	
U.	Xylenes (total)	n	3.24	
WTPH-D	Diesel Range Hydrocarbons	mg/l	<0.250	
"	Heavy Oil Range Hydrocarbons		<0.750	

North Creek Analytical, Inc.

Project/Manager Matthew Es

*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 = (425) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

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Renten, HTT Secto				

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW8	B802290-01	Water	2/13/98

North Creek Analytical, Inc.

Matthew Essig, Project Manager

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.

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132



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1921 Edmonds Drive SE	Project Number:	31001	Received:	2/16/98
Renton, WA 98055	Project Manager:	-	Reported:	3/2/98 09:29
Remon, WIT 90090				

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>MW8</u>			<u>B80229</u>	<u>90-01</u>			Water	
Gasoline Range Hydrocarbons	0280703	2/27/98	2/28/98		50.0	ND	ug/l	
Benzene	11	n	U .		0.500	0.818	U.	
Toluene	"	ei	U		0.500	2.84	н	
Ethylbenzene	"	**	U .		0.500	ND	11	
Xylenes (total)	11	0	0		1.00	3.24	н	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		96.9	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		97.7	"	

North Creek Analytical, Inc.

Matthew Essig, Project Manager

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1921 Edmonds Drive SEProject Number: 31001Received: 2/16/98Renton, WA 98055Project Manager: John MeyerReported: 3/2/98 09:29	ERI	Project:	Texaco Greenwood #63-232-0037	Sampled:	2/13/98
$D_{1} = \frac{1}{2} \frac{1}$	1921 Edmonds Drive SE	Project Number:	31001	Received:	2/16/98
	Renton, WA 98055	Project Manager:	John Meyer	Reported:	3/2/98 09:29

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*
<u>MW8</u>			B8022	90-01			Water	
Diesel Range Hydrocarbons	0280449	2/18/98	2/20/98		0.250	ND	mg/l	
Heavy Oil Range Hydrocarbons		11	U		0.750	ND)r	
Surrogate: 2-FBP	"	- <i>"</i> –	"	50.0-150		94.4	%	

North Creek Analytical, Inc.

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1921 Edmonds Drive SE	Project Number:	31001	Received:	2/16/98
Renton, WA 98055	Project Manager:		Reported:	3/2/98 09:29
Remon, WIT 90000				

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8021B/Quality Control North Creek Analytical - Bothell

F	Date	Spike	Sample	QC		Reporting Limit		RPD	RPD
Analyte	Analyzed	Level	Result	Result_	Units	Recov. Limits	%	Limit	% Notes*
L									
Batch: 0280703	Date Prepared: 2/27/98 Extraction Method: EPA 5030B (P/T)								
<u>Blank</u>	<u>0280703-BI</u>	<u>.K1</u>							
Gasoline Range Hydrocarbons	2/27/98			ND	ug/l	50.0			
Benzene	14			ND	*1	0.500			
Toluene	14			ND	ti	0.500			
Ethylbenzene	11			ND	11	0.500			
Xylenes (total)	"			ND		1.00			
Surrogate: 4-BFB (FID)	"	48.0		46.7	"	50.0-150	97.3		
Surrogate: 4-BFB (PID)	"	48.0		46.2	"	50.0-150	96.3		
LCS	0280703-BS	51 ⁻							
Gasoline Range Hydrocarbons	2/27/98	500		522	ug/l	75.0-125	104		
Surrogate: 4-BFB (FID)	"	48.0		49.1		50.0-150	102		
Duplicate	0280703-DU	JP1 B	802291-02						
Gasoline Range Hydrocarbons	2/27/98		27600	28900	ug/l	•		25.0	4.60
Surrogate: 4-BFB (FID)		48.0		52.7	"	50.0-150	110		
Duplicate	0280703-DI	JP2 B	802290-01						
Gasoline Range Hydrocarbons	2/27/98		ND	ND	ug/l			25.0	1
Surrogate: 4-BFB (FID)	<i>"</i>	48.0		45.5	'n	50.0-150	94.8		
<u>Matrix Spike</u>	0280703-M	SI B	802291- <u>01</u>						
Benzene	2/27/98	10.0	ND	10.6	ug/l	70.0-130	106		
Toluene	11	10.0	ND	10.6	0	70.0-130	106		
Ethylbenzene	17	10.0	ND	10.7	0	70.0-130	107		
Xylenes (total)	"	30.0	ND	32.3	0	70.0-130	108		
Surrogate: 4-BFB (PID)	"	48.0		46.3	"	50.0-150	96.5		
Matrix Spike Dup	0280703-M	SD1 R	802291-01						
Benzene	2/27/98	10.0	ND	10.5	ug/l	70.0-130	105	15.0	0.948
Toluene	11	10.0	ND	10.2	0	70.0-130	102	15.0	3.85
Ethylbenzene	n	10.0	ND	10.2	U	70.0-130	100	15.0	6.76
Xylenes (total)		30.0	ND	29.5	U U	70.0-130	98.3	15.0	9.40
Surrogate: 4-BFB (PID)		48.0		45.7	"	50.0-150	95.2		

North Creek Analytical, Inc.

Matthew Ess Project Manager



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

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0280449	Date Prepa	red: 2/18/9	<u>.</u>		<u>Extrac</u>	tion Method: EP.	A 3520Ç	<u>/600 Seri</u>	<u>es</u>	
Blank	0280449-B	L <u>K1</u>								
Diesel Range Hydrocarbons	2/19/98			ND	mg/l	0.250				
Heavy Oil Range Hydrocarbons	U U			ND	U	0.750				
Surrogate: 2-FBP		0.320		0.304	n	50.0-150	95.0			
LCS	<u>0280449-B</u>	<u>51</u>								
Diesel Range Hydrocarbons	2/19/98	2.00		1.94	mg/l	60.0-140	97.0			
Surrogate: 2-FBP		0.320		0.304	"	50.0-150	95.0	•		
Duplicate	028044 <u>9-D</u>	<u>UP1 <u>B</u></u>	802290-01							
Diesel Range Hydrocarbons	2/20/98		ND	ND	mg/l			44.0		
Surrogate: 2-FBP	"	0.605		0.404	"	50.0-150	66.8			

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Notes and Definitions

#	Note
1	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.

Matthew Essig, Project/Manager



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TEXACO CHAIN	OF CUSTODY REPORT	Work (Order #: B8(02290		
CONSULTANT: EP-1 PROJECT MANAGER: Doll 11 11/00/00 ADDRESS: 1921 ED 11-0125 1Dr 15E Lenton, 124 98055 PHONE: 125 227-0280 FAX: 8 0225 PROJECT NAME: TEAD Collocations L	State Hydrocarbon Methods (please circle): WA O	= 2037 Ave N	TURNAROUND REQUEST in Business Days Organic & Jnorganic Analyses *			
PROJECT NUMBER: 3/00/78	Analysis Request: A_{T} B_{T}			: ic & Inorganic Analyses is 10 Days for Air Analyses is 3 Days		
NCA SAMPLE CLIENT SAMPLE SAMPLING NUMBER IDENTIFICATION DATE / TIME MN/S 1. B 802290-0(2//3/98	→ → → → → → → → → → → → → → → → → → →		MATRIX # OF (W, S, O) CONTAINER	COMMENTS & PRESERVATIVES USED		
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8. 9.		· · · · ·				
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