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MISC.

April 22, 2003

Mr. William Olson, Hydrologist
State of New Mexico
Energy, Mineral and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RECEIVED

MAY 1 9 2003

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

Annual Sampling 2002 GROUND-WATER SAMPLING EVENT

Former Baker Oil Tools Facility 2800 West Marland Hobbs, New Mexico Project No. 60260-8-1332-04

Dear Mr. Olson:

Baker Oil Tools performed sampling at the Hobbs, New Mexico on March 12, 2003. This sampling event was unavoidably delayed by scheduling conflicts to this date from the scheduled sampling of December of 2002. The NMOCD had been notified of a sampling delay by telephone. The sampling is being performed in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for ground water contamination in the direct vicinity of the former disposal pit on the Baker Oil Tools property located at 2800 West Marland in Hobbs, New Mexico. The NMOCD requested this report discuss relevant background information, execution of services, laboratory analytical results, and a summary of our findings for the subject property.

- 1. BOT performed the monitoring event on March 12, 2003. During this monitoring event, the wells were gauged for depth, purged and sampled. Monitoring tasks began at 9:30 a.m. (MT). Purging of the wells was accomplished by bailing each well with a small electric pump placed in each well. Sampling of the wells was accomplished using dedicated 2" bailers. Monitoring wells MW-1, MW-2 and MW-3 were purged of three volumes of water and allowed to equalize prior to sampling. No sheen or free product was seen on the water bailed from these three wells. However, there was a hydrocarbon type of odor present from the water bailed from MW-3 during sample collection. Water well WW-1 was sampled but not purged due to the depth of the water in the well. No sheen or free product was seen on the water bailed from this well. Monitoring well R-1 was purged of three volumes of water, allowed to equalize and sampled. A slight hydrocarbon odor was noticed on the initial bailer of liquid removed and a very slight spotty sheen was present.
- 2. Samples were collected from each well and shipped to Ace Technologies Laboratory in The Woodlands, Texas for analysis. The laboratory previously used, Von

Analytical, is no longer in business in Houston which required the move to a new laboratory. A summary of the laboratory analytical results of water quality sampling of the monitoring wells is provided in the attached Table 1A through 1E. This data is presented in tabular form showing the previous four monitoring events sampling results. A copy of the original laboratory analytical results is also attached. All samples were non-detect for the contaminants of concern.

3. Water level and well depth measurements were measured using an electronic water level indicator capable of determining water levels to within 0.01 foot. Table 2 provides cumulative ground water level measurements for the previous four monitoring events. Based on the explanation presented in a previous report, WW-1 is still excluded from water table mapping. R-1 was gauged during this sampling event. An updated ground water elevation map using the recent water table elevations of the ground water in the monitoring wells is presented in Figure 1. The map indicates a low gradient flow to the southeast.

If you have any questions or require additional information, please do not hesitate in contacting me at (713) 466-2445.

Sincerely,

For Baker Dil Tools

Reggie Kennedy, Director

Health Safety and Environmental Affairs

Tables 1A – 1E

TABLE 1A MW-1

EPA 8020A	2nd Quarter 6/27/00	3rd Quarter 9/27/00	4th Quarter 12/05/00	2001 Sampling 2003 Samplin 12/05/01 03/12/03	2003 Sampling 08/12/03
Benzene	<0.005 mg/l	<0.005 mg/l		<0.001 mg/l	<0.01 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l		<0.001 mg/l	<0.01 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l		<0.001 mg/l	<0.01 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l		<0.001 mg/l	<0.01 mg/l
Total BETX	BDL	BDF	ם	딥	ם
EPA 8020					
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
EPA 8270B					
2-Methylnaphthalene	15.9 µg/L	<0.01 mg/l	<0.01mg/l	<0.01mg/l	<0.01 mg/l
Naphthalene	23.1 µg/L	<0.01 mg/l	<0.01mg/l	<0.01mg/l	<0.01 mg/l

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constituent concentrations is below detectable limits

TABLE 1B MW-2

EPA 8020A	2nd Quarter 6/27/00	3rt Quarter 9/27/00	4th Guarter 12/05/00	2001 Sampling 12/05/01	1. 2003 Sampling 03/12/03
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l	< 0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Total BETX	BDL	BDL	BD	BDL BDL	<u>8</u> 0
EPA 8020					
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
EPA 8270B					
2-Methylnaphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l
Naphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constituent concentrations is below detectable limits

TABLE 1C MW-3

Ether <0.005 mg/l 0.0382 mg/l 0.0357 mg/l <0.001 mg/l
COOT mg/l

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constituent concentrations is below detectable limits

TABLE 1D WW-1

EPA 8020A	2nd Quarter 6/27/00	3rd Quarter 9/27/00	4th Quarter 12/05/00		2003 Sampling 03/12/03
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l		<0.01 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l		<0.01 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l		<0.01 mg/l
Total BETX	BDL	BDL	BDL		BDL
EPA 8020					
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
EPA 8270B					
2-Methylnaphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l
Naphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l		<0.01 mg/l

notes: N/A indicates the sample was not analyzed for the parameter check lab report for reason BDL indicates the sum of the individual constituent concentrations is below detectable limits

TABLE 1E R-1

EPA 8020A	2nd Quarter 6/27/00	3rd Quarter 9/27/00	4th Quarter 12/21/99	2001 Sampling 12/05/01	2003 Sampling 03/12/03
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Xylenes		<0.005 mg/l	<0.005 mg/l	<0.001 mg/l	<0.01 mg/l
Total BETX		BDL		, 108	BDL
EPA 8020					
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 ma/	<0.01 ma/l
EPA 8270B)	>
2-Methylnaphthalene	84.3 µg/L	73.1 µg/L	<10 µg/L	~13 µg/L	<0.01 mg/l
Naphthalene	138.6 µg/L	164.2 µg/L	21 µg/L	14 µg/L	<0.01 mg/l

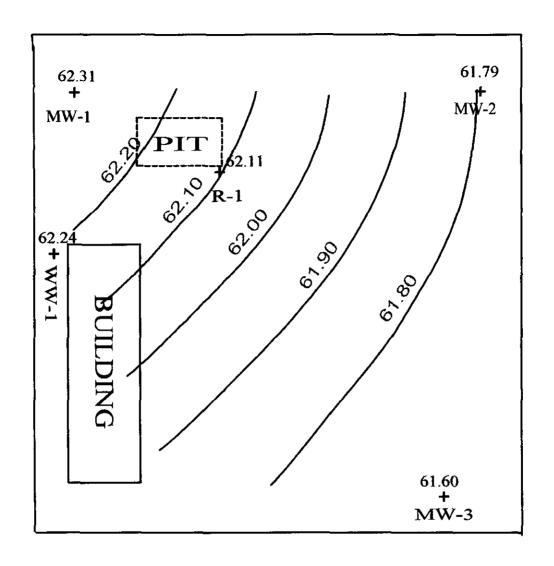
notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constituent concentrations is below detectable limits

Table 2

Table 2
QUARTERLY CUMULATIVE GROUND-WATER ELEVATIONS

_,						
	3/12/2003	62.31	61.79	61.60	62.24	62.11
	12/5/2001	63.42	62.97	62.87	63.29	63.18
ft MSL)	12/5/2000	64.17	63.94	63.93	64.13	64.09
Ground-water Level Elevation (ft MSL)	9/27/2000	64.10	63.88	63.80	63.95	63.95
ound-water Le	6/27/2000	64.56	64.28	64.16	64.11	64.78
Gro	3/29/2000	64.74	64.33	64.27	64.51	*
	12/21/1999	64.73	64.51	64.46	64.96	64.63
	9/30/1999	64.89	64.46	64.50	64.79	64.83
	Top of PVC Casing Elevation (ft MSL)	100.19	99.56	99.15	99.52	100.03
	Well Depth (ft)	45.7	45.0	38.5	125.0	48.0
	Monitoring Well No.	MW-1	MW-2	MW-3	WW-1	R-1

Figure 1



Stenbeck and Associates, Inc Houston, Texas

Figure 1

Groundwater Elevations (2002 sampling event)
Baker Oil Tools

2800 W. Marland Hobbs, NM Prepared by TVS scale 1 = 40' (approx.) 4/22/2003 Analytical Data

CHAIN OF CUSTODY

ACE TECHNOLOGIES, INC

8707 Technology Forest, The Woodlands, TX 77381 Tel(281)363-4777 Fax(281)292-7492

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

SI. No. Page / of /

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SAMPLE LOGIN CHECKLIST/DISCREPANCY REPORT

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ACE Technologies, Inc.		

ACE Technologies, Inc. 8707 Technology Forest The Woodings, TX 77331

ACE Technologies, Inc. 1680 Lake Front Circle, Suite B, The Woodlands TX 77380 Sample Log-In Report

Logged By: VISHNU Report Date: 3/19/2003 17:51:16

Client Name: STENBECK AND ASSOCIATES, INC. Lab Project ID: Q1788D

Client Project Name: HOBBS MARCH 2003

ClientProject #: HOBBS, NM

Date Received: 03/13/03

P.O. No.:

Time Received: 12:15

P.O. No.: Courier/No.:

Lab Sample ID	Client Sample ID	No. Cont.	Sample Matrix	Date Sampled	Time Sampled	Chain Of Custody No.	Analyst Due Date	Remarks
8896,001	MW - 1	4	WATER	03/12/03	11:45	<u></u>		
	Tests Required							
	- SVOA8270C-Q1788D						03/18/03	
	- VOA8260B-BTEX/MTBE						03/18/03	
3896.002	MW - 2	4	WATER	03/12/03	12:00			
	Tests Required							
	- SVOA8270C-Q1788D						03/18/03	
	- VOA8260B-BTEX/MTBE						03/18/03	
8896.003	MW - 3	4	WATER	03/12/03	12:00			
	Tests Required							
	- SVOA8270C-Q1788D						03/18/03	
	- VOA8260B-BTEX/MTBE						03/18/03	
3896.004	R-1	4	WATER	03/12/03	12:40			
	Tests Required							
	- SVOA8270C-Q1788D						03/18/03	
	- VCA8260B-BTEX/MTBE						03/18/03	
8896.005	WW - 1	4	WATER	03/12/03	12:30			
	Tests Required							
	- SVOA8270C-Q1788D						03/18/03	
	- VOA8260B-BTEX/MTBE						03/18/03	

Instructions To Lab:

Lab Approval

Page 1 of 1

Client Approval

9992004

BTEX/MTBE

Page 1 of 1

LABORATORY REPORT

VOLATILES BY GC/MS

CLIENT NAME

: STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : MW - 1

: 8896.001

PROJECT NAME

: HOBBS MARCH 2003

LAB SAMPLE ID

METHOD REFERENCE : SW846-8260B

PROJECT NUMBER

: HOBBS, NM

DATE SAMPLED

: 3/12/03

: WATER

DATE RECEIVED

SAMPLE MATRIX

PRINTED ON

: 3/13/03 : 4/2/2003

9:49

: RKG

CONTAINER ID

ANALYST DATE ANALYZED

: 3/20/2003

DILUTION

INSTRUMENT ID

: A-HP5973

INSTRUMENT FILE : A0744.D PURGE VOLUME

: 10 mL

TIME ANALYZED

: 14:25

PARAMETER	QUANTITATI	ON LIMIT	RES	ULTS	QUALIFIER
Benzene	1.0	UG/L	ИД	UG/L	
Ethyl benzene	1.0	UG/L	ND	UG/L	1
m/p-xylene	2.0	UG/L	ND	UG/L	
Methyl tert-butyl ether	1.0	UG/L	ND	UG/L	
o-Xylene	1.0	UG/L	ND	UG/L	ì
Toluene	1.0	UG/L	ND	UG/L	

	QUALITY CO	NTROL DAT	Ά		
SURROGATE COMPOUND		SPIKE AD	DED	QC RECOVERY LIMITS	*RECOVERY
Toluene-d8	,	10	UG/L	68 - 124	90
1,2-Dichloroethane-d4	1	10	UG/L	64 - 130	82
4-Bromofluorobenzene		10	UG/L	72 - 137	81
Dibromofluoromethane		10	UG/L	56 - 153	82
BATCH QUALITY CONTROL SAMPLE IDS					
QC BATCH ID : AVBLK41	PREP BLANK ID	: AVBLK41		LCS ID : A	VLCS41
LCSD ID : AVLCS41D					

Page I of 1

LABORATORY REPORT VOLATILES BY GC/MS

: STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : MW - 2

PROJECT NAME : HOBBS MARCH 2003 LAB SAMPLE ID : 8896.002
PROJECT NUMBER : HOBBS, NM METHOD REFERENCE : SW846-8260B
DATE SAMPLED : 3/12/03 DATE RECEIVED : 3/13/03

CLIENT NAME

SAMPLE MATRIX : WATER PRINTED ON : 4/2/2003 9:49

ANALYST : RKG CONTAINER ID :

DATE ANALYZED : 3/20/2003 DILUTION : 1

INSTRUMENT FILE : A0745.D INSTRUMENT ID : A-HP5973

PURGE VOLUME : 10 mL TIME ANALYZED : 14:54

PARAMETER QUANTITATION LIMIT RESULTS QUALIFIER Benzene 1.0 UG/L UG/L Ethyl benzene UG/L ND UG/L 1.0 m/p-xylene 2.0 UG/L ND UG/L UG/L Methyl tert-butyl ether UG/L 1.0 ND o-Xylene 1.0 UG/L UG/L ND Toluene UG/L UG/L 1.0 ND

	QUALITY CO	NTROL DATA		
SURROGATE COMPOUND		SPIKE ADDED	QC RECOVERY LIMITS	3RECOVERY
Toluene-d8		10 UG/L	. 68 - 124	95
1,2-Dichloroethane-d4		10 UG/L	54 - 130	91
4-Bromofluorobenzene		10 UG/L	72 - 137	82
Dibromofluoromethane		10 UG/L	56 - 153	87

BATCH QUALITY CONTROL SAMPLE IDS

QC BATCH ID : AVBLK41 PREP BLANK ID : AVBLK41 LCS ID : AVLCS41

LCSD ID : AVLCS41D

Page 1 of 1

LABORATORY REPORT

VOLATILES BY GC/MS

CLIENT NAME

: STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : MW - 3

PROJECT NAME

: HOBBS MARCH 2003

LAB SAMPLE ID : 8896.003

PROJECT NUMBER

: HOBBS, NM

METHOD REFERENCE : SW846-8260B

DATE SAMPLED

: 3/12/03

DATE RECEIVED : 3/13/03

SAMPLE MATRIX

: WATER

PRINTED ON

: 4/2/2003

9:49

ANALYST

: RKG

CONTAINER ID

DILUTION

: 1

: A-HP5973

INSTRUMENT FILE : A0749.D PURGE VOLUME

DATE ANALYZED

: 10 mL

: 3/20/2003

INSTRUMENT ID TIME ANALYZED

: 16:47

PARAMETER	QUANTITA	TION LIMIT	RES	ULTS	QUALIFIER
Benzene	1.0	UG/L	ND	UG/L	
Ethyl benzene	1.0	UG/L	ND	UG/L	
m/p-xylene	2.0	O UG/L	ND	UG/L	
Methyl tert-butyl ether	1.0	UG/L	ND	UG/L	ı
o-Xylene	1.0	0 UG/L	ND	UG/L	
Toluene	1.0	O UG/L	ND	UG/L	

QUALITY CONTROL DATA										
SURROGATE COMPOUND	l l	SPIKE AD	DED	QC R	ECOVERY LIMITS	: %RECOVERY				
Toluene-d8	!	10	UG/L		68 - 124	94				
1,2-Dichloroethane-d4		10	UG/L		64 - 130	100				
4-Bromofluorobenzene		10	UG/L		72 - 137	85				
Dibromofluoromethane		10	UG/L	:	56 - 153	85				
BATCH QUALITY CONTROL SAMPLE IDS										
QC BATCH ID : AVBLK41	PREP BLANK ID	: AVBLK41			LCS ID :	AVLCS41				
LCSD ID : AVLCS41D										

Page 1 of 1

LABORATORY REPORT

VOLATILES BY GC/MS

CLIENT NAME

: STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : R-1

: HOBBS MARCH 2003

PROJECT NAME

PROJECT NUMBER : HOBBS, NM

: 3/12/03

DATE SAMPLED SAMPLE MATRIX

: WATER

PRINTED ON

LAB SAMPLE ID

: 8896.004 METHOD REFERENCE : SW846-8260B

DATE RECEIVED

: 3/13/03 : 4/2/2003

9:49

ANALYST DATE ANALYZED : RKG

: 3/20/2003

INSTRUMENT FILE : A0750.D

PURGE VOLUME

: 10 mL

CONTAINER ID

DILUTION

INSTRUMENT ID TIME ANALYZED

: A-HP5973

: 1

: 17:15

PARAMETER	QUANTITA	TION LIMIT	RES	ULTS	· QUALIFIER
Benzene	1.		ND	UG/L	,,
Ethyl benzene	1.	O UG/L	ND	UG/L	
m/p-xylene	2.	0 UG/L	ND	UG/L	
Methyl tert-butyl ether	! 1.	O UG/L	ND	UG/L	
o-Xylene	1.	O UG/L	ND	UG/L	
Toluene	1.	O UG/L	ND	UG/L	

QUALITY CONTROL DATA										
SURROGATE COMPOUND		SPIKE AD	DED	QC RECOVERY LIMITS	%RECOVERY					
Toluene-d8	:	10	UG/L	68 - 124	89					
1,2-Dichloroethane-d4		10	UG/L	64 - 130	100					
4-Bromofluorobenzene		10	UG/L	72 - 137	100					
Dibromofluoromethane	!	10	UG/L	56 - 153	92					
BATCH QUALITY CONTROL SAMPLE IDS										
QC BATCH ID : AVBLK41	PREP BLANK ID	: AVBLK41		LCS ID : A	VLC\$41					
LCSD ID : AVLCS41D										

Page 1 of 1

LABORATORY REPORT

VOLATILES BY GC/MS

CLIENT NAME : STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : WW - 1

PROJECT NAME : HOBBS MARCH 2003 LAB SAMPLE ID : 8896.005
PROJECT NUMBER : HOBBS, NM METHOD REFERENCE : SW846-8260B

DATE SAMPLED : 3/12/03 DATE RECEIVED : 3/13/03

SAMPLE MATRIX : WATER PRINTED ON : 4/2/2003 9:49

ANALYST : RKG CONTAINER ID :

DATE ANALYZED : 3/20/2003 DILUTION : 1

INSTRUMENT FILE : A0751.D INSTRUMENT ID : A-HP5973
PURGE VOLUME : 10 mL TIME ANALYZED : 17:43

PARAMETER QUANTITATION LIMIT RESULTS QUALIFIER Benzene 1.0 UG/L ND UG/L Ethyl benzene UG/L UG/L 1.0 ND UG/L m/p-xylene 2.0 UG/L ND 1.0 UG/L ND UG/L Methyl tert-butyl ether o-Xylene 1.0 UG/L UG/L Toluene 1.0 UG/L ND UG/L

QUALITY CONTROL DATA										
SURROGATE COMPOUND	I I	SPIKE ADDED	QC RECOVERY LIMITS	*RECOVERY						
Toluene-d8		10 UG/L	68 - 124	88						
1,2-Dichloroethane-d4		10 UG/L	64 - 130	91						
4-Bromofluorobenzene		10 UG/L	72 - 137	95						
Dibromofluoromethane	!	10 UG/L	56 - 153	85						
BATCH QUALITY CONTROL SAMPLE IDS										
QC BATCH ID : AVBLK41	PREP BLANK II	: AVBLK41	LCS ID : A	VLCS41						
LCSD ID : AVLCS41D										

Page 1 of 1

LABORATORY REPORT VOLATILES BY GC/MS								
CLIENT NAME	;	CLIENT SAMPLE ID : Prep Blank						
PROJECT NAME	:	LAB SAMPLE ID : AVBLK41						
PROJECT NUMBER	:	METHOD REFERENCE : SW846-8260B						
DATE SAMPLED	:	DATE RECEIVED :						
SAMPLE MATRIX	: LIQUID	PRINTED ON : 4/2/2003 9:49						
ANALYST	: RKG	CONTAINER ID :						
DATE ANALYZED	: 3/20/2003	DILUTION : 1						
INSTRUMENT FILE	: A0738.D	INSTRUMENT ID : A-HP5973						
PURGE VOLUME	: 10 mL	TIME ANALYZED : 11:25						
		QUANTITATION LIMIT RESULTS QUALIFIES						
Methyl tert-butyl	ether	1.0 UG/L ND UG/L						
m/p-xylene		2.0 UG/L ND UG/L						
Ethyl benzene		1.0 UG/L ND UG/L						
Benzene		1.0 UG/L ND UG/L						
Toluene	······································	1.0 UG/L ND UG/L						

o-Xylene

UG/L

1.0

ND

UG/L

	1	SPIKE AD	DED	QC RECOVERY LIMITS	3RECOVERY
ibromofluoromethane		10	UG/L	56 - 153	74
-Bromofluorobenzene	:	10	UG/L	72 - 137	88
,2-Dichloroethane-d4		10	UG/L	64 - 130	72
'oluene-d8		10	UG/L	68 - 124	97
BATCH QUALITY CONTROL SAMPLE IDS				····	

Page 1 of 1

LCS/LCSD SUMMARY REPORT

VOLATILES BY GC/MS

CLIENT NAME : DATE RECEIVED :
PROJECT NAME : PRINTED ON :4/2/2003 9:56

PROJECT NUMBER : METHOD REFERENCE : SW846-8260B

LAB CONTROL SAMPLE LAB CONTROL SAMPLE DUPLICATE

LCS SAMPLE ID AVLCS41 LCSD SAMPLE ID AVLCS41D

CLIENT SAMPLE ID : CLIENT SAMPLE ID :

DATE ANALYZED : 3/20/2003 DATE ANALYZED : 3/20/2003
INSTRUMENT FILE : A0739.D INSTRUMENT FILE : A0740.D

	: i	LCS	LCSD	LCS	LCSD	LCS	LCSD '	-		:
		TRUE	TRUE	FOUND	FOUND	RECOVERY	RECOVERY		RPD	QC LIMITS
PARAMETER	UNITS	VALUE	VALUE	VALUE	VALUE	(%)	(%)	RPD	LIMIT	REC.
Benzene	UG/L	10.0	10.0	10.5	9.87	105	. 99	5.9	, 25	75 - 143
Ethyl benzene	UG/L	10.0	10.0	12.6	12.0	126	120	4.9	; 25	71 - 141
m/p-xylene	UG/L	20 :	20	25	24	125	120	4.1	25	69 - 140
Methyl tert-butyl ether	. UG/L :	10	10	3.6	9.0	36	90	4.5	25	75 - 140
o-Xylene	UG/L	10	10	11	10	110	100 .	9.5	: 25	67 - 145
Toluene	UG/L	10.0:	10.0	11.1	10.4	111	104 :	6.5	: 25	74 - 139

^{*} Indicate values outside of QC limits

RPD : 0 out of 6 outside limits
Spike Recovery : 0 out of 12 outside limits

SVOA

Page 1 of 1

LABORATORY REPORT

	SEMIVOLATILE ORGANICS BY GC/MS									
CLIENT NAME	: STENBECK AND ASSOCIATES, IN	CLIENT SAMPLE ID	: MW - 1							
PROJECT NAME	: HOBBS MARCH 2003	LAB SAMPLE ID	: 8896.001							
PROJECT NUMBER	: HOBBS, NM	METHOD REFERENCE	: SW846-8270C							
DATE SAMPLED	: 3/12/03	DATE RECEIVED	: 3/13/03							
SAMPLE MATRIX	: WATER	PRINTED ON	: 4/2/2003	9:49	;					

ANALYST : RLP CONTAINER ID :

DATE ANALYZED : 3/20/2003 DATE EXTRACTED : 03/18/03

DILUTION : 1 EXTRACT VOLUME : 1 mL

INSTRUMENT FILE : D5171.D INSTRUMENT ID : D-HP5971

SAMPLE VOLUME : 1000 mL TIME ANALYZED : 23:02

PARAMETER	QUANTITATION LIMIT	JLTS	QUALIFIER	
2-Methylnaphthalene	10 UG/L	ND	UG/L	
Naphthalene	10 UG/L	ND	UG/L	

QUALITY CONTROL DATA										
SURROGATE COMPOUND		4	SPIKE ADD	ED	QC RECOVERY LIMITS	3 RECOVERY				
Nitrobenzene-d5			50	UG/L	35 - 114	35				
BATCH QUALITY CONTROL SAMPLE IDS						<u> </u>				
QC BATCH ID : SBLK27	PREP B	LANK ID	:SBLK27							

Page 1 of 1

LABORATORY REPORT

SEMIVOLATILE ORGANICS BY GC/MS

CLIENT NAME

: STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : MW - 2

PROJECT NAME

: HOBBS MARCH 2003

LAB SAMPLE ID : 8896.002

PROJECT NUMBER

: HOBBS, NM

METHOD REFERENCE : SW846-8270C

DATE SAMPLED SAMPLE MATRIX : 3/12/03

DATE RECEIVED

: 3/13/03

9:49

: WATER

PRINTED ON

: 4/2/2003

ANALYST

: RLP

CONTAINER ID

: 03/18/03

DATE ANALYZED DILUTION

: 3/20/2003

DATE EXTRACTED

:1 mL

INSTRUMENT FILE : D5172.D

EXTRACT VOLUME INSTRUMENT ID

: D-HP5971

SAMPLE VOLUME

: 1000 mL

TIME ANALYZED

: 23:46

PARAMETER	QUANTITATION LIMIT	RESULTS	QUALIFIER
2-Methylnaphthalene	10 UG/L	ND UG/L	:
Naphthalene	10 UG/L	ND UG/L	

QUALITY CONTROL DATA							
SURROGATE COMPOUND			SPIKE ADD	DED	QC RECOVERY LIM	ITS RECOVERY	
Nitrobenzene-d5			50	UG/L	35 - 114	37	
BATCH QUALITY CONTROL SAMPLE IDS							
QC BATCH ID :SBLK27	PREP BLAN	K ID					

Page 1 of 1

LABORATORY REPORT

SEMIVOLATILE ORGANICS BY GC/MS						
: STENBECK AND ASSOCIATES, IN	CLIENT SAMPLE ID	: MW - 3				
: HOBBS MARCH 2003	LAB SAMPLE ID	: 8896.003				
: HOBBS, NM	METHOD REFERENCE	: SW846-8270C				
: 3/12/03	DATE RECEIVED	: 3/13/03				
: WATER	PRINTED ON	: 4/2/2003	9:49			
	: STENBECK AND ASSOCIATES, IN : HOBBS MARCH 2003 : HOBBS, NM : 3/12/03	: STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : HOBBS MARCH 2003 LAB SAMPLE ID : HOBBS, NM METHOD REFERENCE : 3/12/03 DATE RECEIVED	: STENBECK AND ASSOCIATES, IN CLIENT SAMPLE ID : MW - 3 : HOBBS MARCH 2003 LAB SAMPLE ID : 8896.003 : HOBBS, NM METHOD REFERENCE : SW846-8270C : 3/12/03 DATE RECEIVED : 3/13/03			

ANALYST	: RLP	CONTAINER ID	
DATE ANALYZED	: 3/21/2003	DATE EXTRACTED	: 03/18/03
DILUTION	: 1	EXTRACT VOLUME	: 1 mL
INSTRUMENT FILE	: D5173.D	INSTRUMENT ID	: D-HP5971
SAMPLE VOLUME	: 1000 mL	TIME ANALYZED	: 00:30

PARAMETER	QUANTITATION LIMIT :	RESULTS		QUALIFIER
2-Methylnaphthalene	10 UG/L	ND	UG/L	:
Naphthalene	10 UG/L	ND	UG/L	

QUALITY CONTROL DATA							
SURROGATE COMPOUND		SPIKE ADDED	QC RECOVERY LIMITS	*RECOVERY			
Nitrobenzene-d5		50 UG/L	35 - 114	31			
BATCH QUALITY CONTROL SAMPLE IDS	· · · · · · · · · · · · · · · · · · ·						
QC BATCH ID :SBLK27	PREP BLANK II	:SBLK27					

Page 1 of 1

LABORATORY REPORT

SEMIVOLATILE ORGANICS BY GC/MS					
CLIENT NAME	: STENBECK AND ASSOCIATES, IN	CLIENT SAMPLE ID : R-1			
PROJECT NAME	: HOBBS MARCH 2003	LAB SAMPLE ID : 8896.004			
PROJECT NUMBER	: HOBBS, NM	METHOD REFERENCE : SW846-8270C			
DATE SAMPLED	: 3/12/03	DATE RECEIVED : 3/13/03			
SAMPLE MATRIX	: WATER	PRINTED ON : 4/2/2003 9:49			

ANALYST	: RLP	CONTAINER ID	:	
DATE ANALYZED	: 3/21/2003	DATE EXTRACTED	: 03/18/03	
DILUTION	: 1	EXTRACT VOLUME	: 1 mL	
INSTRUMENT FILE	: D5174.D	INSTRUMENT ID	: D-HP5971	
SAMPLE VOLUME	: 1000 mL	TIME ANALYZED	: 1:15	

PARAMETER	QUANTITATION LIMIT			"	RESU		QUALIFIER
2-Methylnaphthalene	:	10	UG/L	:	ND	UG/L	i
Naphthalene	:	10	UG/L	:	ND	UG/L	ı

QUALITY CONTROL DATA							
SURROGATE COMPOUND		SPIKE ADDED	QC RECOVERY LIMITS	* %RECOVERY			
Nitrobenzene-d5		50 UG/L	35 - 114	34			
BATCH QUALITY CONTROL SAMPLE IDS							
QC BATCH ID : SBLK27	PREP BLANK	ID :SBLK27					

Page 1 of 1

LABORATORY REPORT

	SEMIVOLATILE ORGANICS BY GC/MS							
CLIENT NAME	: STENBECK AND ASSOCIATES, IN	CLIENT SAMPLE ID	: WW - 1					
PROJECT NAME	: HOBBS MARCH 2003	LAB SAMPLE ID	: 8896.005					
PROJECT NUMBER	: HOBBS, NM	METHOD REFERENCE	: SW846-8270C					
DATE SAMPLED	: 3/12/03	DATE RECEIVED	: 3/13/03					
SAMPLE MATRIX	: WATER	PRINTED ON	: 4/2/2003	9:49				

ANALYST : RLP CONTAINER ID DATE ANALYZED : 3/21/2003 DATE EXTRACTED : 03/18/03 EXTRACT VOLUME : 1 mL DILUTION : 1 INSTRUMENT ID : D-HP5971 INSTRUMENT FILE : D5175.D SAMPLE VOLUME : 1000 mL TIME ANALYZED : 2:00

PARAMETER	QUANTITATION LIMIT	RESULTS	QUALIFIER
2-Methylnaphthalene	10 UG/L	ND UG/L	, ;
Naphthalene	10 UG/L	ND UG/L	

QUALITY CONTROL DATA									
SURROGATE COMPOUND		i		SPIKE AD	DED	QC	RECOVER	Y LIMITS	; %RECOVERY
Nitrobenzene-d5				50	UG/L	:	35 -	114	41
BATCH QUALITY CONTROL SAMPLE IDS									
QC BATCH ID :SBLK27	PREP	BLANK	ID	:SBLK27				(r. off), to the single (r. o.	<u>, , , , , , , , , , , , , , , , , , , </u>

Page 1 of 1

LABORATORY REPORT

		SEMIVOLATILE ORGANICS BY GC/MS				
CLIENT NAME	:	CLIENT SAMPLE ID : Prep Blank				
PROJECT NAME	:	LAB SAMPLE ID : SBLK27				
PROJECT NUMBER	:	METHOD REFERENCE : SW846-8270C				
DATE SAMPLED	: DATE RECEIVED :					
SAMPLE MATRIX	: LIQUID	PRINTED ON : 4/2/2003 9:49				
ANALYST	: RLP	CONTAINER ID :				
DATE ANALYZED	: 3/20/2003	DATE EXTRACTED : 03/18/03				
DILUTION	: 1	EXTRACT VOLUME : 1 mL				
INSTRUMENT FILE	: D5162.D	INSTRUMENT ID : D-HP5971				
SAMPLE VOLUME	:1000 mL	TIME ANALYZED : 15:16				
,		QUANTITATION LIMIT : RESULTS QUALIFIER				
2-Methylnaphthal	ene	10 UG/L ND UG/L :				
Naphthalene		10 UG/L ND UG/L				

QUALITY CONTROL DATA							
		SPIKE ADDED	QC RECOVERY LIMITS	₹RECOVERY			
Nitrobenzene-d5		50 UG/L	35 - 114	50			
BATCH QUALITY CONTROL SAMPLE IDS							
QC BATCH ID : SBLK27	PREP BLANK I	SBLK27					

END OF THE REPORT

TOTAL NUMBER OF PAGES : 20

March 15, 2002

Mr. William Olson, Hydrologist State of New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

RECEIVED

APR 1 5 2002

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Annual Sampling 2001 GROUND-WATER SAMPLING EVENT

Former Baker Oil Tools Facility 2800 West Marland Hobbs, New Mexico Project No. 60260-8-1332-04

Dear Mr. Olson:

Baker Oil Tools has shifted to annual sampling (1/yr) for calendar year 2001 and beyond as approved by the State of New Mexico. This report is the first submittal under this new sampling schedule. The sampling was performed on December 5, 2001 and is being performed in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for ground water contamination in the direct vicinity of the former disposal pit on the Baker Oil Tools property located at 2800 West Marland in Hobbs, New Mexico. The NMOCD requested this report discuss relevant background information, execution of services, laboratory analytical results, and a summary of our findings for the subject property.

- 1. BOT performed the 2001 monitoring event on December 5, 2001. During this monitoring event, the wells were gauged for depth, bailed and sampled. Monitoring tasks began at 10:30 a.m. (MT). Purging of the wells was accomplished by hand bailing each well. Sampling of the wells was accomplished using dedicated 2" bailers. Monitoring wells MW-1, MW-2 and MW-3 were purged of three volumes of water and allowed to equalize prior to sampling. No sheen or free product was seen on the water bailed from these three wells. Water well WW-1 was sampled but not purged due to the depth of the water in the well. No sheen or free product was seen on the water bailed from this well. Monitoring well R-1 was purged of three volumes of water, allowed to equalize and sampled. A very slight hydrocarbon odor was noticed on the initial bailer of liquid removed with no sheen present. Samples were collected from each well and shipped to Von Analytical Laboratory in Houston, Texas for analysis.
- 2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells is provided in the attached Table 1A through 1E. This data is

presented in tabular form showing the previous four monitoring events sampling results. A copy of the original laboratory analytical results is also attached. The only positive result for naphthalene (14 μ g/L) was detected in well R-1 with 2-methylnaphthalene present at a level just above the detection limit (~13 μ g/L). No other wells yielded positive results for the contaminants.

3. Water level and well depth measurements were measured using an electronic water level indicator capable of determining water levels to within 0.01 foot. Table 2 provides cumulative ground water level measurements for the previous four monitoring events. Based on the explanation presented in a previous report, WW-1 is still excluded from water table mapping. R-1 was gauged during this sampling event. An updated ground water elevation map using the recent water table elevations of the ground water in the monitoring wells is presented in Figure 1. The map indicates a low gradient flow to the southeast.

If you have any questions or require additional information, please do not hesitate in contacting me at (713) 466-2445.

Sincerely,

For Baker Oil Tools

Reggie Kennedy, Director

Health Safety and Environmental Affairs

TABLE 1A MW-1

一个 其是一个 地名	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2001 Sampling
EPA'8020A'	3/29/00	6/27/00	9/27/00	12/05/00	12/05/01
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Total BETX	BDL	BDL	BDL	BDL	BDL
EPA 8020			2		
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
EPA 8270B	, , , , , , , , , , , , , , , , , , ,				i i
2-Methyinaphthalene	<0.01mg/l	1/6 & 6.5 p.	<0.01 mg/l	<0.01mg/l	<0.01mg/l
Naphthalene	<0.01mg/l	(23.4 ²) g/L	<0.01 mg/l	<0.01mg/l	<0.01mg/l

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constiuent concentrations is below detectable limits

A Company

TABLE 1B MW-2

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大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大大	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2001 Sampling
EPA 8020A	3/29/00	6/27/00	9/27/00	12/05/00	12/05/01
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/i	<0.001 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Total BETX	BDL	BDL	BDL	BDL	BDL
EPA 8020	The second second	7.3	Company of the second		
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
EPA 8270B	,				
2-Methylnaphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l
Naphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constiuent concentrations is below detectable limits

TABLE 1C MW-3

EPA 8020A	1st Quarter 3/29/00	2nd Quarter 6/27/00	3rd:Quarter	4th Quarter 12/05/01	2001 Sampling
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Total BETX	BDL	BDL	BDL	BDL	BDL
EPA 8020				から これのはないないのか	1 14 1/3
Methyi Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	0.0382 mg/l	0.0357 mg/l	<0.001 mg/l
EPA 8270B					
2-Methyinaphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l
Naphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l

Appendix to the second of the second of the

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constiuent concentrations is below detectable limits

TABLE 1D WW-1

では ない こうかん ないかん	1st Quarter	2nd Quarter	, 3rd Quarter	4th Quarter	2001 Sampling
EPA'8020A	3/29/00	6/27/00	* \$9/27/00 ·	12/05/00	12/05/01
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Total BETX	BDL	BDL	BDL	BDL	BDL
EPA 8020					
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
EPA 8270B				*** × ***	
2-Methylnaphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l
Naphthalene	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l

notes: N/A indicates the sample was not analyzed for the parameter check lab report for reason BDL indicates the sum of the individual constinent concentrations is below detectable limits

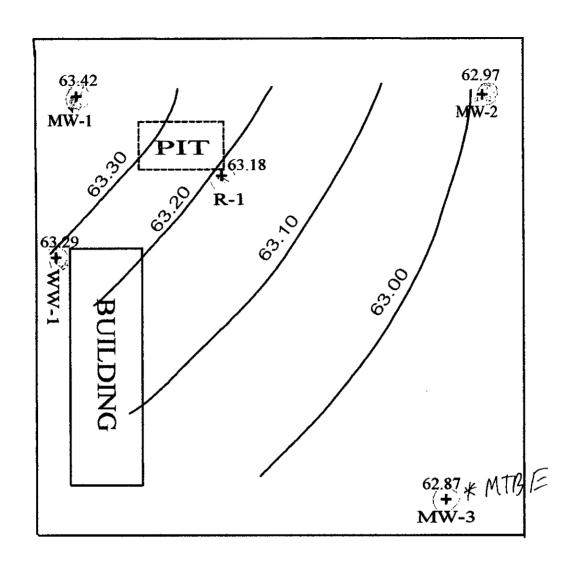
TABLE 1E R-1

The state of the s	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2001 Sampling
EPA 8020A	3/29/00	6/27/00	9/27/00	12/21/99	12/05/01
Benzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Ethylbenzene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Toluene	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Xylenes	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
Total BETX	BDL	BDL	BDL	BDL	BDL
EPA 8020	The state of the s				
Methyl Tertiary Butyl Ether	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.005 mg/l	<0.001 mg/l
EPA 8270B					
2-Methyinaphthalene	97.5 g/L	84.3 g/L	73.1 g/L	<10 g/L	~13 g/L
Naphthalene	122.1 g/L	138.6 g/L	164.2 g/L	21 g/L	14 g/L

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constinent concentrations is below detectable limits

Table 2
QUARTERLY CUMULATIVE GROUND-WATER ELEVATIONS

	12/05/2001	63.42	62.97	62.87	63.29	63.18
•	12/05/2000	64.17	63.94	63.93	64.13	64.09
Ground-water Level Elevation (ft MSL)	09/27/2000	64.10	63.88	63.80	63.95	63.95
ater Level Ele	06/27/2000	64.56	64.28	64.16	64.11	64.78
Ground-w	12/21/1999 03/29/2000 06/27/2000	64.74	64.33	64.27	64.51	*
	12/21/1999	64.73	64.51	64.46	64.96	64.63
•	09/30/1999	64.89	64.46	64.50	64.79	64.83
	Top of PVC Casing Elevation (ft MSL)	100.19	99.56	99.15	99.52	100.03
	Well Depth (ft)	45.7	45.0	38.5	125.0	48.0
	Monitoring Well No.	MW-1	MW-2	MW-3	WW-1	R-1



Stenbeck and Associates, Inc Houston, Texas

Figure 1

Groundwater Elevations (2001 sampling event)

Baker Oil Tools
2800 W. Marland

Prepared by TVS
scale 1 = 40' (approx.)

3/15/02

Hobbs, NM

CERTIFICATE OF ANALYSES

Envirotest Job #: Date of Analyses: Analytical Method:	V01-185 December 10, 2001 SW-846 8270C, 8260B		Client Job #: Reference:	Stenbeck & Assoc. Hobbs 2001 Sampling
Client Sample ID:	MW-1	MW-2	MW-3	
Laboratory Sample Number:	120109-01A	120109-02A	120109-03A	
Analyte	ug/L	ug/L	ug/L	
Benzene	< 1	< 1	< 1	
Toluene	< 1	< 1	< 1	
Ethylbenzene	< 1	< 1	< 1	
Total-Xylene	< 1	< 1	< 1	
Methyl Tertiary-Butyl				
Ether	< 1	< 1	< 1	
Naphthalene	< 10	< 10	< 10	
2-Methyl Naphthalene	< 10	< 10	< 10	

Surrogates	% Recovery	% Recovery	% Recovery	QC Limits
4-Bromofluorobenzene	73%	73%	76%	72 - 137%
Dibromofluoromethane	113%	120%	82%	56 - 153%
Toluene-d8	101%	100%	93%	68 - 124%
1,2-Dichloroethane-d4	106%	113%	86%	64 - 130%
2-Fluorobiphenyl	73%	88%	62%	43 - 116%
Nitobenzene-d5	66%	80%	56%	35 - 114%
Terphenyl-d14	39%	65%	47%	33 - 141%

Reviewed By:

Performance Detection Limit: Detection limits are dependent on sample type, matrix interferences, and initial sample weight/dilutions.

Method Blanks: Method blanks are analyzed to check preparation and analyses for possible laboratory contamination.

ENVIROTEST INC.

CERTIFICATE OF ANALYSES

Envirotest Job #: Date of Analyses: Analytical Method:	V01-185 December 10, 2001 SW-846 8270C, 8260B		Client Job #: Reference:	Stenbeck & Assoc. Hobbs 2001 Sampling
Client Sample ID:	WW- 1	R-1		
Laboratory Sample Number:	120109-04A	120109-05A	Prep. Blank	
Analyte	ug/L	ug/L	ug/L	
Benzene	< 1	< 1	< 1	
Toluene	< 1	< 1	< 1	
Ethylbenzene	< 1	< 1	< 1	
Total-Xylene	< 1	< 1	< 1	
Viethyl Tertiary-Butyl Ethe	< 1	< 1	< 1	
Naphthalene	< 10	14	< 10	
2-Methyl Naphthalene	< 10	~ 13	< 10	

Surrogates	% Recovery	% Recovery	% Recovery	QC Limits
4-Bromofluorobenzene	73%	87%	76%	72 - 137%
Dibromofluoromethane	107%	110%	108%	56 - 153%
Toluene-d8	100%	94%	102%	68 - 124%
1,2-Dichloroethane-d4	101%	104%	103%	64 - 130%
2-Fluorobiphenyl	73%			43 - 116%
Nitobenzene-d5	65%			35 - 114%
Terphenyl-d14	61%			33 - 141%

Reviewed By:

Performance Detection Limit: Detection limits are dependent on sample type, matrix interferences, and initial sample weight/dilutions.

Method Blanks: Method blanks are analyzed to check preparation and analyses for possible laboratory contamination.

_QA/QC



CERTIFICATE OF ANALYSES Lab QA/QC Results

Envirotest Job #:

V01-185

Client Job #:

Stenbeck & Assoc.

Date of Analyses:

December 10, 2001

Reference:

Hobbs 2001 Sampling

Analytical Method:

SW-846 8270C, 8260B

		F	Relative Percent	
	Laboratory Control Spike	Laboratory Contro Spike Duplicate	Difference Limit 20%	QC Limit Recovery
1,1-Dictoroethene	92%	92%	0%	64 - 132%
Benzene	103%	104%	1%	74 - 131%
Chlorobenzene	106%	103%	3%	81 - 126%
Toluene	101%	102%	1%	62 - 162%
Trichloroethene	105%	99%	6%	67 - 132%

Note:

For sample R-1, lab ID 120109-05A, the one liter sample was broken in transit, therefore the analysis was done by volatile GC/MS analysis. 2-Methyl Naphthalene was analyzed as a Tentatively Identified Compound. (TIC)

Reviewed By:

Performance Detection Limit: Detection limits are dependent on sample type, matrix interferences,

and initial sample weight/dilutions.

Method Blanks: Method blanks are analyzed to check preparation and analyses for

possible laboratory contamination.

QA/QC

Envirotest inc.

Olson, William

From: Schauffler, Richard [Richard.Schauffler@bakerhughes.com]

Sent: Friday, December 06, 2002 9:54 AM

To: 'wolson@state.nm.us'

Subject: Baker Oil Tools Well Monitoring Event FY2002

Dear Mr Olsen:

As a follow-up to your telephone conversation with Thomas Stenbeck on December 5, 2002, Baker Oil Tools is considering delaying the 2002 scheduled monitoring event for the Hobbs, New Mexico location (Project No. 60260-8-1332-04). Events beyond our control may require us to delay this monitoring event until early 2003. We understand that if we delay the monitoring event, it will be necessary to perform two monitoring events during calendar year 2003. The second monitoring event we expect would occur during Quarter 4. We appreciate your understanding regarding this delay. Should you have any additional questions or require any additional information please contact me at (713)625-4628.

Sincerely,
Richard Schauffler
HS&E Specialist IV
Baker Hughes Integ/Baker Oil Tools/Baker Atlas



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor

Governor Jennifer A. Salisbury Cabinet Secretary Lori Wrotenbery
Director
Oil Conservation Division

January 4, 2002

CERTIFIED MAIL

RETURN RECEIPT NO: 7000-1670-0012-5357-8185

Mr. Reggie Kennedy Baker Oil Tools P.O. Box 40129

Houston, Texas

77240

RE:

CASE #1R0043

BAKER OIL TOOLS HOBBS FACILITY

Dear Mr. Kennedy:

The New Mexico Oil Conservation Division (OCD) has reviewed Baker Oil Tools (BOT) undated "ANNUAL GROUNDWATER MONITORING REPORT AND MONITORING FREQUENCY CHANGE REQUEST FOR PROJECT 60260-8-1332-04" which was received by the OCD on July 23, 2001. This document contains the results of ground water quality monitoring at BOT's Hobbs facility for the 2000 calendar year. The document also contains a request to change the ground water sampling frequency from quarterly to annually.

The above-referenced request is approved. Please be advised that OCD approval does not relieve BOT of responsibility if the sampling program fails to adequately monitor contamination related to BOT's activities. In addition, OCD approval does not relieve BOT of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 476-3491.

Sincerely,

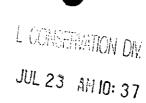
William C. Olson

Hydrologist

Environmental Bureau

xc: Chris Williams, OCD Hobbs District Supervisor

Tom Stenbeck, Page & Kraemer Environmental Services



Mr. William Olson, Hydrogeologist
State of New Mexico
Energy, Mineral and Natural Resources Department
Oil Conservation Division
1220 Saint Francis
Santa Fe, New Mexico 87505

Re: Annual groundwater monitoring report and monitoring frequency change request for Project 60260-8-1332-04

Dear Mr. Olson:

Accompanying this cover letter, Baker Oil Tools is submitting the four quarters of ground water monitoring data for calendar year 2000 for Project Number 60260-8-1332-04. The subject property is located at 2800 West Marland in Hobbs, New Mexico. The property was previously occupied by Baker Oil Tools as an oil field service shop. Currently the property has one building and it is unoccupied.

Well R-1 is the monitoring well closest and immediately down gradient from the on site source of contamination (which was remediated previously). Based on the analytical data from the wells, the last four quarters of monitoring data from well R-1 show a continual decrease in detected amounts of 2-methyl naphthalene. In the fourth quarter of Calendar Year (CY) 2000 2-methyl naphthalene was not detected in the sample from the well. In well R-1, naphthalene contamination indicated a slight increase in contaminant levels during the first 3 quarters with a significant drop in the last quarter.

The only other well with contaminants, believed sourced from the "closed" pit onsite, detected by analysis during the CY 2000 was Well MW-1. In one of the four samples taken during (in the second quarter) CY 2000, the sample was found to contain low levels of 2-methyl naphthalene (15.2 μ g/l) and naphthalene (23.1 μ g/l). All other quarterly samples from this well were non-detect for all compounds.

No BTEX (Benzene, Toluene, Ethyl benzene and Xylene) compounds have been detected in the past year in any of the wells.

The only other contaminant detected in any samples from these wells during CY 2000 was MTBE (Methyl tert-butyl ether). This compound was detected by analysis in Well MW-3 in samples taken during the 3rd and 4th quarter monitoring events. There is no onsite source for this compound. The source must be from an unknown location offsite.

With the decrease in the analytical levels of onsite sourced contaminants, Baker Oil Tools is requesting the State of New Mexico to allow the monitoring frequency to be modified. Based on the data available, it does not appear that the contaminants detected in Well R-1 are migrating to the edges of the property. In addition, Well R-1 has indicated a decreasing amount of contaminant in the groundwater. Therefore, Baker Oil Tools is requesting a decrease in monitoring frequency from the current level of 4 monitoring events per year to 1 monitoring event per year to occur during the second quarter of the year. This change in monitoring frequency will annually assess the levels of contaminants in the aquifer under the site. Should the annual monitoring event indicate a sharp increase in the levels of contaminants present Baker Oil Tools will notify the State of New Mexico and discuss whether the monitoring frequency should be changed back to a quarterly or semi-annual monitoring event.

Should this request prove acceptable to the State of New Mexico, please provide Baker Oil Tools written notification of your agreement to this monitoring change to the attention of Mr. Reggie Kennedy. Should you have any question or require additional information please contact Mr. Reggie Kennedy at the number below.

Sincerely

Mr. Reggle Kennedy, Director

Health, Safety and Environmental Affairs

(713)466-2445



PAGE & KRAEMER ENVIRONMENTAL SERVICES, INC.

P.O. Box 841005 (77284) 5635 Northwest Central Dr., Suite. 100

Houston, Texas 77092

Office: 713/460-3233 Fax: 713/460-8288

Date: 9-14-00

To: Mr. William Olson Company: NMED From: Tom Stenbeck

Company: Page and Kraemer - Houston office

Number of Pages (including cover): 3

Re: Groundwater monitoring schedule change for Baker Oil Tools Hobbs site

Dear Bill:

Here is the letter from Baker Oil Tools (BOT) requesting a change in the monitoring frequency we were discussing. Based on our conversation, with the detection of the contaminants in MW-1 to the northwest, BOT will continue to perform two more monitoring sessions this year (Scpt. and Dec.) and prepare the Annual Report from this data. If the monitoring data over the next two quarters shows no significant shifts in contaminant levels at any of the wells, BOT will request in the Annual Report a change in the monitoring schedule from quarterly monitoring to annual monitoring for you to consider at that time. Should you need any additional information please contact me at the phone number above or Mr. Robby Hendrick (713-625-6785) the Environmental Compliance coordinator for BOT. Thank you for your time.

Sincerely

Tom Stenbeck

This fax is a confidential document intended solely for the recipient identified above. Should you receive this fax in error, please notify the sender and immediately destroy this communication.



Baker Oil Tools

September 8, 2000

1010 Rankin Rond. 3rd Proor 77073-4606 FO. Box 571848 Flouston, Texas 77257-1848 Thi: 713/623-6800 Region Fax: 713/625-6806 Sates Fax: 713/625-6815

Mr. William Olson, Hydrogeologist
State of New Mexico
Energy, Mineral and natural Resource Department
Oil conservation Division
2040 S. Pacheco
Sama Fe, New Mexico 87505

Re: Change to groundwater monitoring schedule for Project No. 60260-8-1332-04 Baker Oil Tools Facility, 2800 W. Marland, Hobbs, NM

Dear Mr. Olson:

Baker Oil Tools is requesting that the State of New Mexico modify the current quarterly monitoring schedule for the above referenced property to an annual schedule. Baker Oil Tools is requesting this change because of the very low levels of contaminants found in the monitoring wells and the relative lack of change between monitoring sessions in the levels of contaminants detected. Additionally, it appears that free product previously noticed in one of the monitoring wells (Well R-1 adjacent to the "old pit") is no longer present. This lack of free product is evidenced by no product recovery from the passive skimmer installed in this well last year and no free product being detected in this well since the June 24, 1999 monitoring session.

The monitoring data for the property indicates very low levels of naphthalene and 2-methyl-naphthalene in well R-1 and (only in the last quarter's data) well MW-1 (Ref. Quarter Z, 2000 Monitoring Report dated July 31, 2000). Prior to this past quarter's report no contaminants from the pit were detected in MW-1. This low level of contaminants in MW-1 is believed due to an apparent slight change in the groundwater table beneath the property. As interpreted, the groundwater elevation map included in the Quarter 2, 2000 report indicates a slight high beneath the "old pit" with flow outward in all directions. Previous maps indicated more planar flow to the east and/or southeast from the pit with no detection of contaminants in the two wells to the east and southeast.

The change in monitoring schedule is requested because of the lack of significant changes in monitoring data. Baker Oil Tools is proposing to change the monitoring frequency to once per year data because it is believed that the yearly monitoring will be representative of the conditions at this site.

Please contact us by September 28, 2000 regarding your decision on this matter. Should you have any questions or require additional information please contact me at 713-625-6785.

Robby Hendrich Sincerely,

Robby Hendrick

Environmental Compliance Coordinator

Baker Oil Tools





ENERGY, MINERALS AND NATURAL RESOURCES

OIL CONSERVATION DIVISION

2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

August 17, 1999

CERTIFIED MAIL RETURN RECEIPT NO: Z-274-520-694

Mr. Myk Thornton **Baker Oil Tools** P.O. Box 40129

Houston, Texas

77240

RE: BAKER OIL TOOLS HOBBS FACILITY

Dear Mr. Thornton:

The New Mexico Oil Conservation Division (OCD) has reviewed Baker Oil Tools (BOT) May 5, 1999 "BAKER OIL TOOLS - HOBBS, NM, WORK PLAN REQUEST" and April 16, 1999 "FIRST QUARTER OF 1999 GROUND-WATER SAMPLING EVENT, FORMER BAKER OIL TOOLS FACILITY, 2800 WEST MARLAND, HOBBS, NEW MEXICO, PROJECT NO. 60260-8-1332-04". These documents contains the results of ground water quality monitoring and a work plan recovery of free phase hydrocarbons at the former BOT facility in Hobbs, New Mexico.

The hydrocarbon recovery work plan as contained in the above referenced documents is approved.

Please be advised that OCD approval does not relieve BOT of liability should the work plan fail to adequately remediate contamination related to BOT's activities, or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve BOT of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson

Hydrologist

xc:

Environmental Bureau

Chris Williams, OCD Hobbs District Office

US Postal Service

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Sent to	onal Mail (See reverse)
Street & Number	
Post Office, State, & ZIP C	ode
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing Whom & Date Delivered	TEND
Return Receipt Sharing South Date, & Address & Sandress	om,
Return Receipt Showing Whom & Date Delips of Date, & Address & Salaress TOTAL Postage & Ages Postmark of Date	\$ 2
Postmark on Date	' - ' 1999



May 5, 1999

Mr. William C. Olson, Hydrologist
State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division – Environmental Bureau
2040 S. Pacheco
Santa Fe, New Mexico 87505

In reply to: Baker Oil Tools - Hobbs, NM, Work Plan Requesst

Dear Mr. Olson:

The following work plan is being submitted in response to your correspondence of March 10, 1999 requesting remediation and control of contaminants downgradient of the former unlined disposal pit. Implementation of the work plan will be coordinated with our next scheduled monitoring event in June. Please contact me at 713-625-4200 if you have any questions or comments regarding this plan.

Sincerely,

Myk Thorntøn

Baker Huges Inteq/ Baker Oil Tools/ Baker Atlas HS&E Department

Xc: OCD Hobbs District Office

Remediation Work Plan

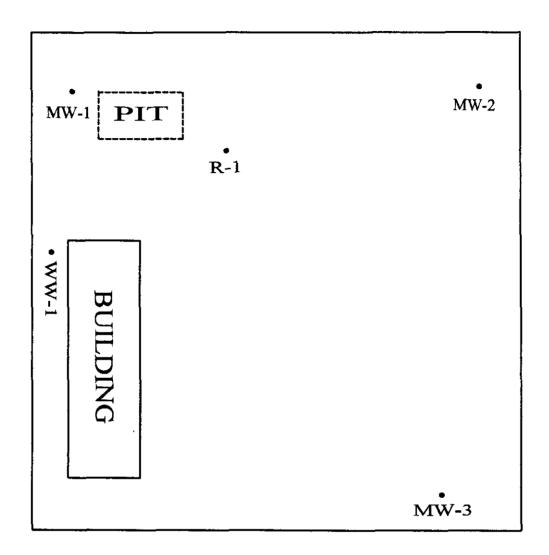
Baker Oil Tools 2800 W. Marland Hobbs, New Mexico

History and Concerns: Baker Oil Tools vacated a property at 2800 W. Marland in Hobbs, NM and moved to a new location. The property had been used as an oil field service shop. Upon leaving the property it was revealed that an unlined pit in the back portion of the property had been used periodically. Additionally, prior to Baker Oil Tools vacating the site, contamination was noted in the water well used for water at the property. The contamination in the water well was analyzed. The laboratory results indicated gasoline components in the water.

Monitoring wells were installed at 4 locations on the property (Figure 1 property layout). Quarterly monitoring of the wells began and data has been provided to the State of New Mexico. Some of the monitoring events revealed the presence of gasoline products in the groundwater under the Baker property. MTBE has been detected in the groundwater beneath the Baker property (indicative of a potential off-site gasoline source for some of the hydrocarbon contamination). Several areas of apparent surface hydrocarbon contamination originating from the petroleum jobber's facility have been noted along the property boundary extending onto the Baker property during various quarterly monitoring events.

Monitoring well R-1 was installed apparently down-gradient from the unlined pit. R-1 has begun yielding free hydrocarbon product (a naphthalene – type material) which is thought to be sourced from the old unlined pit upon which a closure attempt had been made in the past. It does not appear that this well (R-1), recharges with hydrocarbon product at a rapid rate. Attachment 1 is the description of the monitoring activities at R-1 during the most recent monitoring event in March of 1999.

A concern at this site is that groundwater flow rate not be affected by an active recovery process. If gasoline contamination is present from an offiste source, an active groundwater recovery system could draw the contamination onto the Baker site. This assumption supports the installation of a passive hydrocarbon recovery system rather than an active system.



Page and Kraemer Environmental Services, Inc.
Lafayette / Houston

Figure 1

Baker Oil Tools 2800 W. Marland Hobbs, NM

Hydrocarbon Recovery Plan

Baker proposes to perform Items 1 and 2 during the next groundwater sampling event in June 1999. This will be followed up with Items 3, 4 and 5.

- 1. Bail well R-1 and document amount of hydrocarbon recovered. Bail R-1 until all apparent free product is recovered.
- 2. Install a passive groundwater recovery skimmer in Monitoring Well R-1. (Attachment 2 has specifics of one of the systems currently under evaluation by Baker for installation. Monitoring Well R-1 is a two inch well and it is proposed to install a skimmer with approximately 1000 ml of hydrocarbon recovery capacity.)
- 3. During the next two regularly scheduled quarterly monitoring events, document the amount of hydrocarbon product recovered in the passive skimmer and bail well to evaluate if any free product (not recovered by the skimmer) is present.
- 4. If the 2 quarter evaluation period indicates the hydrocarbon recharge rate produces more free product than the skimmer is designed to handle, then Baker will propose to modify the schedule upon which the skimmer in R-1 is recovered and emptied.
- 5. Baker will provide to the State of New Mexico the results of the hydrocarbon recovery information for the evaluation period.

Attachment 1

Attachment 1

Monitoring Well R-1 Recovery Information March 1999

Monitoring well R-1 was bailed but not sampled due to the presence of free product in the well when bailing initiated. Approximately 10 inches of free product was observed in the first bailer during the sampling of monitoring well R-1. The recovered amount decreased in subsequent bails until after the 12th bailer taken the amount of product being recovered was less than 1/8th of an inch. The sampling crew left the site for one hour to deliver the samples from the other wells for transport to the laboratory. Samples collected from each well were shipped to Von Analytical Laboratories in Houston, Texas for analysis. (Note: The laboratory was changed for logistical, service and cost considerations.) When the crew returned, R-1 was bailed again. The first bailer yielded water with ¼ inch of free product. The second bailer yielded 2 inches of free product. The third bail contained less than 1/2 inch of free product. Subsequent bails from the well produced a diminishing quantity of free product until on the 10th bail less than 1/8th of an inch of product was recovered. The well was almost bailed dry at this point. Approximately one foot of water sample was being recovered per bail and this material contained a high sediment load. The crew returned the next morning to resample R-1 to determine if recharge of the free product would occur overnight. Bailing of R-1 began at 7:00 a.m. The first bail taken was a full bailer of water with a sheen of free product. The subsequent 13 bails from the well recovered only a hydrocarbon sheen on each. Again the well bailed almost completely dry by the last bail.

Attachment 2



Floating Intake for 4" and 2" wells

The zorbo™ systems offer the greatest flexibility available in a passive LNAPL recovery system and the highest recovery rates possible with today's akimmer technology! The zorbo™ passive discriminating intake system is ideal for clean up of floating free product down to the sheen!

SUPERIOR FILTER MATERIALI

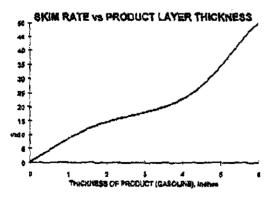
The zorbo™ collects non emulsified hydrocarbons, without water, down to a sheen, through the precision intake float! Exceptional skim rates set the zorbo™ sytems apart from any other available products in this class.

SIMPLE INSTALLATION!

If you can use a bailer you can install a complete zorboTM system! No need for pumps, electrical support or maintenance. This completely passive system begins to work as soon as it is lowered into the well! No more maintenance in the field! Nothing to clean and none of the time and costs associated with cleaning! Geotech can also supply well caps and teflon coated suspension cable!

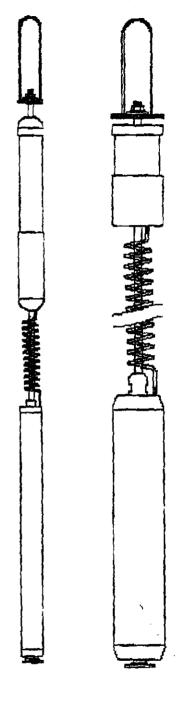
UNMATCHED RESPONSIVENESSI

No other passive recovery system can match zorbo™ systems for flexibility. The scientifically designed coil tubing and precision intake floats accurately follow LNAPL layers for more efficient recovery. The 4 inch zorbo™ adapts to water table fluctuations of up to 3 feet and has a canister capacity of approximately a gallon. The 2 inch zorbo™ handles water fluctuations of up to 15 inches and has a capacity of up to a quart with the 36 inch canister. A 2 inch, static Intake, economy zorbo™ is also available.



Geotech Environmental Equipment, Inc.
8035 East 40th Avenue
Denver, Colorado 80207
(303)320-4764 • (800) 833-7958 • FAX (303) 322-7242
email: geotech@ix.netcom.com
website: www.geotecherv.com

WELLE ANDREW



zorbo™ skimmer systems



Specifications

Zorbo™ 2" skimmer system

Dimensions

Height/weight with 1 foot canister Height/weight with 3 foot canister

Diameter

Volume of canisters

Accomodates water fluctuations to:

Materials

Suspension loop Centering disc

Filter material Ficat material

Fittings

Coll tubing

Center shaft Collection canister

Dispensing valve

•

ıloy

49 3/16"; 5.0 lbs 73 3/16"; 6 25 lbs

1.85" max

347 mi (.092 gal), 1056 ml (.279 gal)

approximately 15 inches with floating intake

stainless steel stainless steel polyethylene

polypropylene

brass

polyurethane, 1/8 x 1/4, with 3/4" id coil

stainless steel

brass, 3/8" NPT thread, petcock

Zorbo™ 4" skimmer system

Dimensions

Height/weight with 1 foot canister Height/weight with 3 foot canister

Diameter

Volume of canisters

Accomodates water fluctuations to:

Materials

Suspension loop Centering disc Filter material

Float material Fittings

Coil tubing Center shaft

Collection canister

Dispensing valve

67 5/16"; 15.0 ibs

91 6/16"; 19.0 lbs

3.75" max

1,609 ml (.425 gal), 5,137 ml (1,357 gal)

approximately 36 inches with floating Intake

stainless steel stainless steel polyethylene

polyethylene

polyurethane, 1/8 x 1/4, with 3/4" id coil

stainless steel

brass, 3/8" NPT thread, petcock

Zorbo™ 2" economy model (not shown)

Dimensions

Height/weight with 1 foot canister Height/weight with 3 foot canister

Diameter

Volume of canisters

Accomodates water fluctuations to:

1

Materials

Suspension loop Filter material Float material

Fittinas

Collection canister

Dispensing valve

29", 3.0 lbs

59", 5.0 lbs

1.8" max

328 mi (.087 gai), 985 mi (.260 gai)

7 inches with static intake

stainless steel

polyetnylene

polyethylene

brass PVC

brass, 3/8" NPT thread, petcock

CALL (800) 833-7958
WE WANT YOUR BUSINESS!!

April 16, 1999

Mr. William Olson, Hydrogeologist
State of New Mexico
Energy, Mineral and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505



First Quarter of 1999 GROUND-WATER SAMPLING EVENT

Former Baker Oil Tools Facility 2800 West Marland Hobbs, New Mexico Project No. 60260-8-1332-04

Dear Mr. Olson:

Baker Oil Tools is submitting the first quarter of 1999 ground-water monitoring report in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for ground water contamination in the direct vicinity of the former disposal pit on the property located at 2800 West Marland in Hobbs, New Mexico. The NMOCD requested this report discuss relevant background information, execution of services, laboratory analytical results, and a summary of our findings for the subject property.

1. BOT performed the first quarter monitoring event on March 25, 1999. During this quarterly monitoring event, the wells were gauged for depth, bailed and sampled. Monitoring tasks began at 2:45 p.m. Purging of the well was accomplished using a low volume electric pump. Bailing and sampling of the wells was accomplished using new 2" bailers. Monitoring wells MW-1, MW-2 and MW-3 were pumped of three volumes and allowed to equalize prior to sampling. Water well WW-1 was sampled but not purged due to the depth of the water in the well. Monitoring well R-1 was bailed but not sampled due to the presence of free product in the well when bailing initiated. Approximately 10 inches of free product was observed in the first bailer during the sampling of monitoring well R-1. The recovered amount decreased in subsequent bails until after the 12th bailer taken the amount of product being recovered was less than 1/8th of an inch. The sampling crew left the site for one hour to deliver the samples from the other wells for transport to the laboratory. Samples collected from each well were shipped to Von Analytical Laboratories in Houston, Texas for analysis. (Note: The laboratory was changed for logistical, service and cost considerations.) When the crew returned, R-1 was bailed again. The first bailer yielded water with 1/4 inch of free product. The second bailer yielded 2 inches of free product. The third bail contained less than \(^1/_2\) inch of free product. Subsequent bails from the well produced a diminishing quantity of free product until on the 10th bail less than 1/8th of an inch of product was recovered. The well was almost bailed dry at this point. Approximately one foot of water sample was being recovered per bail and

this material contained a high sediment load. The crew returned the next morning to resample R-1 to determine if recharge of the free product would occur overnight. Bailing of R-1 began at 7:00 a.m. The first bail taken was a full bailer of water with a sheen of free product. The subsequent 13 bails from the well recovered only a hydrocarbon sheen on each. Again the well bailed almost completely dry by the last bail.

- 2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells is provided in the attached Table 1A through 1E. This data is presented in tabular form showing the previous four monitoring events sampling results. A copy of the original laboratory analytical results is also attached.
- 3. Water level and well depth measurements were measured using an electronic water level indicator capable of determining water levels to within 0.01 foot. Table 2 provides cumulative ground water level measurements for the previous four monitoring events. An updated ground water elevation map using the recent water table elevations of the ground water in all monitoring wells is presented in Figure 1.

If you have any questions or require additional information, please do not hesitate in contacting me at (713) 625-4492.

Sincerely,

For Baker Hughes Inteq/Baker Oil Tools/Baker Atlas

Myk Thornton

Environmental Manager

TABLE 1A MW-1

1 Quarter 3rd Quarter 4th Quarter 1st Quarter 1st Quarter 3rd Quarter 4th Quarter 12/29/98 March 26,1999 2nd Quarter 3rd Quarter 4th Quarter	n <0.002 ppm < 0.0050 ppm	BDL BDL	をいた。 1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、	-			
uarter 3rd Quarter /98 8/4/98	ppm <0.002 ppm	ppm <0.002 ppm	ppm <0.002 ppm	ppm <0.002 ppm	A BDL		0.0050 < 0.0050
2nd Quarter 3n EPA 8020A 4723/98	0>	Ethylbenzene <0.002 ppm	Toluene <0.002 ppm	Xylenes <0.002 ppm	XI	EPA 8020	Methyl Tertiary Butyl Ether < 0.00

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constinent concentrations is below detectable limits

· TABLE 1B MW-2

tth Quarter										
3rd Quarter										
2nd Quarter										
d Quarier 3rd Quarter 4th Quarter 1st Quarter 3rd Quarter 4th Quarter 3rd Quarter 4th Quarter	< 0.0050 ppm	< 0.0050 ppm	< 0.0050 ppm	< 0.0050 ppm	BDL		< 0.0050 ppm		<0.01 mg/l	<0.01 mg/l
4th Quarter 12/29/98	<0.002 ppm	<0.002 ppm	<0.002 ppm	<0.002 ppm	BDL		<0.005 ppm		<0.01 ppm	<0.01 ppm
3rd Quarter 8/4/98	<0.002 ppm	<0.002 ppm	<0.002 ppm	<0.002 ppm	BDF.		<0.005 ppm			<0.01 ppm
2nd Quarter 4/23/98	<0.002 ppm	<0.002 ppm	<0.002 ppm	<0.002 ppm	BDF		<0.005 ppm		<0.01 ppm	<0.01 ppm
EPA 8020A	Benzene	Ethylbenzene	Toluene	Xylenes	Total BETX	EPA 8020	Methyl Tertiary Butyl Ether <0.0	EPA 8270B	2-Methylnaphthalene	Naphthalene

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constiuent concentrations is below detectable limits

TABLE 1C MW-3

	2nd Quarter										
1st Quarter	March 26, 1999	<0.002 ppm < 0.0050	< 0.0050	< 0.0050	< 0.0050	BDL		< 0.0050 ppm		<0.010 mg/l	<0.010 mg/l
4th Quarter	12/29/98	<0.002 ppm	<0.002 ppm	<0.002 ppm	<0.002 ppm	BDL	(1) は然の表の記述	<0.005 ppm		<0.01 ppm	<0.01 ppm
3rd Quarter	8/4/98	<0.002 ppm	<0.002 ppm	<0.002 ppm	<0.002 ppm	BDL	多性物质的现在分	<0.005 ppm		<0.01 ppm	<0.01 ppm
2nd Quarter	4/23/98	<0.002 ppm	<0.002 ppm	<0.002 ppm	<0.002 ppm	BDL		er <0.005 ppm		<0.01 ppm	<0.01 ppm
LISTY I	EPA 8020A	Benzene	Ethylbenzene	Toluene	Xylenes	Total BETX	EPA 8020	Methyl Tertiary Butyl Ether <0.005 ppm	EPA 8270B	2-Methylnaphthalene	Naphthalene

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constiuent concentrations is below detectable limits

TABLE 1D WW-1

EPA 8020A	2nd Quarter 4/23/98	3rd Quarter 8/4/98	3rd Quarter 4th Quarter 1st Quarter 84/198 3/26/99	1st Quarter 2nd Quarter	3rd Quarter 4th Quarter
Benzene		<0.002 ppm	<0.002 ppm	< 0.0050 ppm	
Ethylbenzene	<0.002 ppm	<0.002 ppm	<0.002 ppm	< 0.0050 ppm	
Toluene	<0.002 ppm	<0.002 ppm	<0.002 ppm	< 0.0050 ppm	
Xylenes	<0.002 ppm	<0.002 ppm	<0.002 ppm	< 0.0050 ppm	
Total BETX	BOL	BDL	B DF	BDL	
EPA 8020				と、「一、「一、」というのは、「いっち」という。 こうかん こうかん はいまない はいまい はいまい はいまい はいしょう はいまい はいしょう かんしょう かんしょう しゅうしゅう しゅうしゅう しゅうしゅう しゅうしゅう しゅうしゅう しゅうしゅう しゅうしゅう	
Methyl Tertiary Butyl Ether <0.005 ppm	<0.005 ppm	<0.005 ppm		< 0.0050 ppm	
EPA 8270B			一大大郎の東京の大学の歌の中で		
	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.010 mg/l	
Naphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.010 mg/l	

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constiuent concentrations is below detectable limits

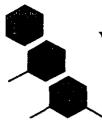
TABLE 1E R-1

	ē	3rd Quarter	4th Quarter	st Quarter		
EPA 8020A Benzene	4/2/98 NA	8448 NA	12/29/96 <0.002 ppm	SK2/SS N/A	Zna Quarier Sra Quar	er 4m Quarter
zene		ΑX	0.041 oom	Ϋ́Z		
		Ϋ́	<0.002 ppm	ΑX		
		Ϋ́	0.035 ppm	ΥX		
X		Ϋ́	0.076 ppm	₹		
EPA 8020			1000年の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の			· · · · · · · · · · · · · · · · · · ·
Methyl Tertiary Butyl Ether	××	NA NA	<0.005 ppm	K N		
EPA 8270B		のなるない				
2-Methylnaphthalene	NA	NA	2.0 ppm	¥		
Naphthalene	ΑN	ΥX	1.2 ppm	Ϋ́		

notes: N/A indicates the sample was not analyzed for the parameter BDL indicates the sum of the individual constiuent concentrations is below detectable limits

QUARTERLY CUMULATIVE GROUND-WATER ELEVATIONS

		5/89	5.19	64.88	4.83	5.12	
(ft MSI							*
Ground-water Level Elevation (ft MSL)		12				65.37	63.93
water Level				65.32			*
Ground-1		4/23/98		65.71			*
	Top of PVC Casing	Elevation (ft MSL)	100.19	99.26	99.15	99.52	100.03
	Well Depth	(tt)	45.7	45.0	38.5	125.0	48.0
_	Monitoring	Well No.	MW-1	MW-2	MW-3	WW-1	R-1



Von Analytical Laboratories

10801 Hammerly, #250, Houston, TX 77043 P.O. Box 841624, Houston, TX 77284-1624 Ph. (713) 827-0737 • Fax (713) 827-8733 email: cfb@flash.net

April 8, 1999

Mr. Tom Steinbeck Page & Kraemer Environmental P. O. Box 841005 Houston, TX 77284-1005

Report:

BOT Hobbs Monitoring

Date samples received: VAL Lab Numbers:

March 26, 1999; 1348 B64-039 to B64-042

Client Sample Numbers: MW-1 to WW-1

Dear Sir:

We have completed the requested analyses and have presented those results in this report. We have also reported the quality assurance/quality control data for these samples.

All raw data, spectra and log files shall remain on-file at VAL for a minimum of five years. Unused sample portions shall remain refrigerated at 4°C per EPA requirements for a minimum of 90 days for possible future analyses. After 90 days, we shall dispose of the samples using guidelines stated by state regulations.

The analytical results pertain only to the samples analyzed as received. Von Analytical Laboratories assumes no responsibility for any subsequent use or interpretation of the analytical results.

We at Von Analytical Laboratories are very pleased to have served you.

Sincerely,

Senior Analyst



Von Analytical Laboratories

10801 Hammerly, #250, Houston, TX 77043 P.O. Box 841624, Houston, TX 77284-1624 Ph. (713) 827-0737 • Fax (713) 827-8733 email: cfb@flash.net

Charles F. Bohnstedt, Ph.D.

Client:

Submitted by:

Sample Set Identification:

Date Received:

Date Samples Extracted by EPA 8270C:

Date Samples Enalyzed by EPA 8270C:

Page & Kraemer

Tom Steinbeck

BOT Hobbs Montoring

March 26, 1999; 1348

March 30, 1999

March 30, 1999

Client Sample No:	MW-1	MW-2	MW-3	WW-1	
VAL Sample No.: Sample Type: Units:	B64-039 Water (ug/L)	B64-040 Water (ug/L)	B64-041 Water (ug/L)	B64-042 Water (ug/L)	Reagent Blank (ug/L)
	(ug)		 (a8. t-)	(49.2)	/a& =/
Naphthalene:	< 10	< 10	< 10	< 10	< 10
2-Methylnaphthalene:	< 10	< 10	< 10	< 10	< 10
% Surrogate Recovery Nitrobenzene-d8	73.9%	80.8%	81.7%	83.1%	95.9%

Client Sample No:

VAL Sample No.: Sample Type:

Units:

Naphthalene:

2-Methylnaphthalene:

% Surrogate Recovery

Nitrobenzene-d8



Von Analytical Laboratories

10801 Hammerly, #250, Houston, TX 77043 P.O. Box 841624, Houston, TX 77284-1624 Ph. (713) 827-0737 • Fax (713) 827-8733 email: cfb@flash.net

Charles F. Bohnstedt, Ph.D.

Client:

Submitted by:

Sample Set Identification:

Date Received:

Date Samples Analyzed by EPA 8021B:

Page & Kraemer

Tom Steinbeck

BOT Hobbs Montoring

March 26, 1999; 1348

March 26, 1999

Client Sample No:	MW-1	MW-2	MW-3	WW-1
VAL Sample No.:	B64-039	B64-040	B64-041	B64-042
Sample Type:	Water	Water	Water	Water

Total BTEX (ppm):	<0.0050	<0.0050	<0.0050	<0.0050
Benzene (ppm):	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Toluene (ppm):	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Et-Benzene (ppm):	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total Xylene (ppm):	< 0.0050	< 0.0050	< 0.0050	< 0.0050
MTBE (ppm):	< 0.0050	< 0.0050	< 0.0050	< 0.0050

	Qualit	y Control Results	;
	Blank	Daily Calibration Check	Percent Recovery
•	*******		
Benzene (ppm):	< 0.005	0.0718	95%
Toluene (ppm):	< 0.005	0.0807	108%
Et-Benzene (ppm):	< 0.005	0.0774	103%
p & m-Xylene (ppm):	< 0.005	0.1467	98%
o-Xylene	< 0.005	0.0809	107%
MTBE (ppm):	< 0.005	0.0707	91%
% Surrogate Recovery	105%	93%	

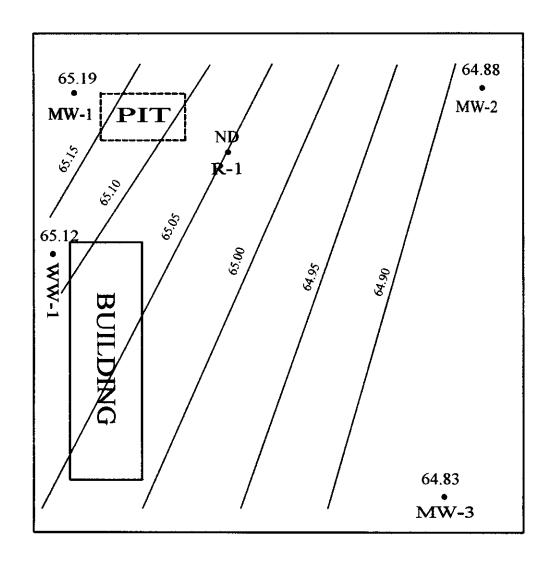
for soils, ppm = mg/kg

for waters, ppm = mg/l

MTBE = Methyl tert-Butyl Ether

REMARKS: SAMPLER Name/Address/Phone/Fax ENVIRONMENTAL LABORATORY

17459 Village Green Drive • Houston, TX 77040 • (713) 466-0958 FAX: (713) 466-9882 Field Sample No. / MW-3 とらると SE-) Mu-) , Kroener Relinquished by:
(signature) FdEx 819-798216955 Time: and and Grab 7134603233 phone Comp 2 you wals Sample Container (Size/Mat1) -Analysis Request and Chain of Custody Record months had to sold the former Sample Sample Type (Liquid Sludge, Etc) 7 Preser-vative Project Name/Number Naphulum, 2 nethylaphthelen, BTEX, MBE BOT Hobbs Nontoni ANALYSIS REQUESTED 1 2 Date: Time * **(3**39 LABORATORY REMARKS ONO 242 100



Page and Kraemer Environmental Services, Inc.
Lafayette / Houston

Figure 1

Groundwater Elevations (QTR 1, 1999)

Baker Oil Tools 2800 W. Marland Hobbs, NM

Prepared by TVS scale 1 = 40' (approx.) 5/1/99

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

March 10, 1999

CERTIFIED MAIL **RETURN RECEIPT NO: Z-274-520-630**

Mr. Myk Thornton **Baker Oil Tools** P.O. Box 40129

Houston, Texas

77240

RE:

4TH QUARTER REPORT

BAKER OIL TOOLS HOBBS FACILITY

Dear Mr. Thornton:

The New Mexico Oil Conservation Division (OCD) has reviewed Baker Oil Tools (BOT) February 2, 1999 "FOURTH QUARTER REPORT OF 1998 GROUND-WATER SAMPLING EVENT". This document contains the results of ground water quality monitoring at BOT's Hobbs facility.

The monitoring actions taken to date are satisfactory. However, the report shows that measurable amounts of free phase product have recently been observed in monitor well RW-1 downgradient of the former unlined disposal pit. In order to remediate and control migration of contaminants at the site, the OCD requires that BOT submit a work plan for remediation of ground water downgradient of BOT's former unlined disposal pit. The work plan will be submitted to the OCD Santa Fe Office by May10, 1999 with a copy provided to the OCD Hobbs District Office.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson Hydrologist

Environmental Bureau

XC:

OCD Hobbs District Office

ost Office, State, & ZIP Code ial Delivery Fee

,008£ mo3 29 266 LINDA



RECEIVED

FEB 0 8 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

February 2, 1999

Mr. William Olson, Hydrogeologist State of New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 2040 S. Pacheco Santa Fe. New Mexico 87505

FOURTH QUARTER REPORT OF 1998 GROUND-WATER SAMPLING EVENT

Former Baker Oil Tools Facility 2800 West Marland Hobbs, New Mexico Project No. 60260-8-1332-04

Dear Mr. Olson:

Baker Oil Tools is submitting the fourth quarter of 1999 ground-water monitoring report in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for ground water contamination in the direct vicinity of the former disposal pit on the property located at 2800 West Marland in Hobbs, New Mexico. The NMOCD requested this report discuss relevant background information, execution of services, laboratory analytical results, and a summary of our findings for the subject property.

1. BOT performed the fourth quarter monitoring event on December 29, 1999. During this quarterly monitoring event, the wells were gauged for depth, bailed and sampled. Monitoring wells MW-1, MW-2 and MW-3 were bailed of three volumes and allowed to equalize prior to sampling. Monitoring well R-1 and water well WW-1 were sampled but not purged. One foot of product was observed in the bailer during the sampling of monitoring well R-1. Samples collected from each well were shipped to Core Laboratories for analysis.

- 2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells is provided in the attached Table 1A through 1E. This data is presented in tabular form showing the previous four monitoring events sampling results.
- 3. Water level and well depth measurements were measured using an electronic water level indicator capable of determining water levels to within 0.01 foot. Table 2 provides cumulative groundwater level measurements for the previous four monitoring events. An updated ground water elevation map using the recent water table elevations of the ground water in all monitoring wells is presented as Figure 1.

If you have any questions or require additional information, please do not hesitate in contacting me at (713) 625-4200.

Sincerely,

For Baker Hughes INTEQ

Myk Thornton Health, Safety and

Environmental Coordinator

G:\60260\RPT\133204.DOC

	TA	TABLE 1A		
	K	MW-1		
DPA/8020A	118 Quarters 2119/98	2.2" Quarter 4.73/98	3 rd Quarter	.4 ^{d.} (Quarrier. 12/29/98
Benzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Ethylbenzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Toluene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Xylenes	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Total BETX	BDL	TGB	BDL	BDL
EPA:8020				
Methyl Tertiary Butyl Ether	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm
EDPA'8270B				
2-Methylnaphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
Naphthalene	mdd 10.0>	<0.01 ppm	<0.01 ppm	<0.01 ppm
FIPAU20.1.& (50:1) B. E. E.				The second second
pH (standard units)	8.9	7.1	7.3	7.2
Specific Conductance	1308	1301	1320	1320
(μmhos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

Baker Oil Tools - Hobbs, New Mexico Law Project No. 60260-8-1332-04

	71	TABLE 1C MW-3		
EPA/8020AV	2 18 Ousfrer 3 18 7/1998	2P* Quarter.	Ondrider	4 [®] (Quarter (0,000)8
Benzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Ethylbenzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Toluene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Xylenes	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Total BETX	BDL	BDL	BDL	BDL
(#PPA/8020) P 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Methyl Tertiary Butyl Ether	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm
[BPA8270B] 11 - 15 - 17 - 17				
2-Methylnaphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
Naphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
INPAREMENTAL TOTAL TOTAL				
pH (standard units)	7.0	7.1	7.9	7.1
Specific Conductance	1959	1841	0961	1870
(µmhos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

Baker Oil Tools - Hobbs, New Mexico Law Project No. 60260-8-1332-04

	TA	TABLE 1D WW-1		
160PA%02.0A	(46.1F. Optarior 生) (45.me/2719/98)	2 ²⁴ (Quarter 4/23/98 9 se	(2) 31 Quarter	4 th Ouarier
Benzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Ethylbenzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Toluene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Xylenes	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Total BETX	TOB	BDL	BDL	BDL
10PA 8020				
Methyl Tertiary Butyl Ether	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm
HOPASSTORIF SALVE SE				
2-Methylnaphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
Naphthalene	ć0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
JEPATI 2011 & 150 II SEP SER			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
pH (standard units)	7.0	1.7	7.9	7.7
Specific Conductance	6561	1841	1960	961
(mmhos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

	TA	FABLE 1E R-1		- .
VIIdi8\ <u>316</u> 1	$1^{(1)}(0)$ in Fig.	# 50 C to quarrant	S. 3 ^{pl} Quarter	44. Oliarter (*) 12. ×12.739/98
Benzene	N/A	N/A	N/A	< 0.002 ppm
Ethylbenzene	N/A	N/A	N/A	0.041 ppm
Toluene	N/A	N/A	N/A	< 0.002 ppm
Xylenes	N/A	N/A	N/A	0.035 ppm
Total BETX	N/A	N/A	N/A	0.076 ppm
(SEASOFOR SERVICE				
Methyl Tertiary Butyl Ether	N/A	N/A	N/A	< 0.005 ppm
EEPA8270B				
2-Methylnaphthalene	N/A	N/A	N/A	2.0 ppm
Naphthalene	N/A	N/A	N/A	1.2 ppm
SIGPANION INCINISATE OF SIGNA				
pH (standard units)	N/A	N/A	N/A	N/A
Specific Conductance	N/A	N/A	N/A	N/A
(mpyocm)				

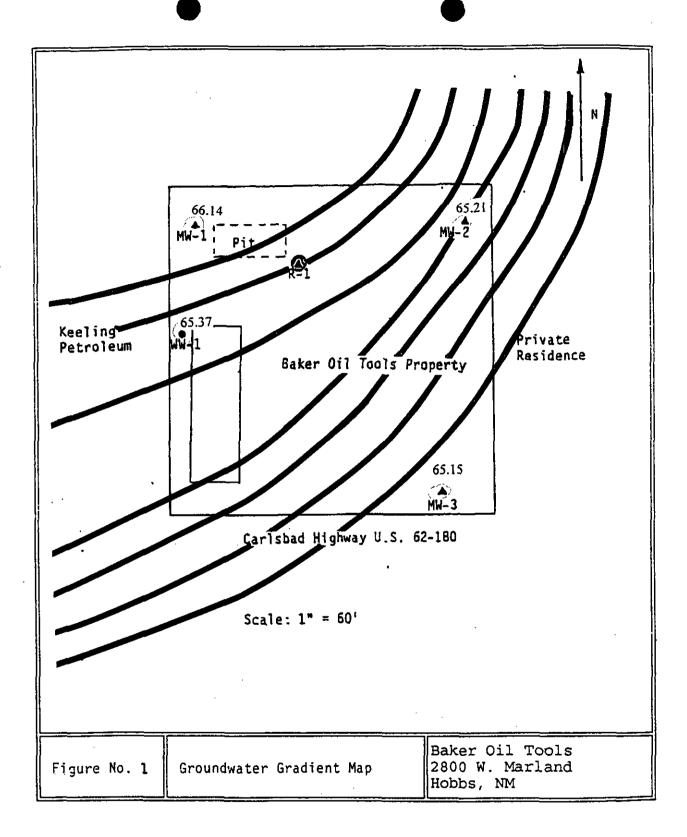
NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

QUARTERLY CUMLATIVE GROUND-WATER ELEVATIONS

levation	_	66.14				
Ground-water Level Elevation	(11 MSL) 8/4/98	65.70	65.32	65.20	65.62	*
Ground-	4/23/98	90.99	65.71	65.56	65.98	*
	2/19/98	66.61	65.97	66.05	66.19	*
Top of PVC Casing Elevation	(It MOL)	100.19	99.56	99.15	99.52	100.03
Well	Lepun (11)	45.7	45.0	38.5	125.0	48.0
Monitoring	well Ind.	MW-1	MW-2	MW-3	WW-1	R-1

* - Measurement not taken





OCT | 6 | 1998

September 30, 1998

Mr. William Olson, Hydrogeologist State of New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

THIRD QUARTER REPORT OF 1998 GROUND-WATER SAMPLING EVENT

Former Baker Oil Tools Facility 2800 West Marland Hobbs, New Mexico Project No. 60260-8-1332-03

Dear Mr. Olson:

Baker Oil Tools is submitting the third quarter of 1998 ground-water monitoring report in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for ground water contamination in the direct vicinity of the former disposal pit on the property located at 2800 West Marland in Hobbs, New Mexico. The NMOCD requested this report discuss relevant background information, execution of services, laboratory analytical results, and a summary of our findings for the subject property.

1. BOT performed the second quarterly monitoring event on August 3, 1998. During this quarterly monitoring event, the wells were gauged for depth, bailed and sampled. Monitoring Wells MW-1, MW-2 and MW-3 were bailed of three volumes and allowed to equalize prior to sampling. The Water Well (WW-1) which is a 125 feet deep was only bailed one volume. Monitoring Well R-1 was not sampled because product was observed during bailing. Samples collected from each well were shipped to Core Laboratories for analysis.

- A summary of the laboratory analytical results of water quality sampling of the monitoring wells is provided in the attached Table 1A through 1E. This data is presented in tabular form showing the 1998 quarterly sampling results.
- 3. Water level and well depth measurements were measured using an electronic water level indicator capable of determining water levels to within 0.01 foot. Table 2 provides cumulative groundwater level measurements for the previous four monitoring events. An updated ground water elevation map using the recent water table elevations of the ground water in all monitoring wells is presented as Figure 1.

If you have any questions or require additional information, please do not hesitate in contacting me at (713) 625-4200.

Sincerely,

For Baker Hughes INTEQ

Myk Thornton Health, Safety and

Environmental Coordinator

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THIRD QUARTER REPORT OF 1998 GROUND-WATER SAMPLING EVENTS

Baker Oil Tools 2800 West Marland Hobbs, New Mexico

Prepared for:

BAKER OIL TOOLS

Hobbs, New Mexico

Prepared by:
BAKER OIL TOOLS
ENVIRONMENTAL DEPARTMENT
Houston, Texas

PROJECT NO. 60260-8-1332-03 AUGUST 1998

	TA	TABLE 1A		
	R	MW-1		
EPA 8020A T T T T	40 Quarter & 1/22,972	17 Quarter	72° Quarder = 4723/98;	32 Quarier
Benzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Ethylbenzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Toluene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Xylenes	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Total BETX	BDL	BDL	BDL	BDL
FPA 8020				重。 <u>等《李</u> 》等《李
Methyl Tertiary Butyl Ether	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm
EPA 8270B			是:是《爱》是:是	
2-Methylnaphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
Naphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
BPAGINDING SELSON				
pH (standard units)	N/A	6.8	7.1	7.3
Specific Conductance	N/A	1308	1301	1320
(mphos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

(2) The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

	TA	TABLE 1B MW-2		•
ADA 8020A	4 ⁴ Olarier 12,02797	1 Ouarter 2/1998	2 2 Quarter 3 2 472198	3 ²⁴ Quarter
Benzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Ethylbenzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Toluene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Xylenes	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Total BETX	BDL	BDL	BDL	BDL
EPA 80201		室 電子室 野		
Methyl Tertiary Butyl Ether	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm
EPA 8250B			新军性 军商	
2-Methylnaphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
Naphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
语言公司(2018年2月) 1915年 191		A Section Section 1		
pH (standard units)	N/A	7.0	7.1	7.5
Specific Conductance	N/A	4150	3970	3570
(μmhos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

	7.1	TABLE 1C MW-3		
EPA 8020A E.	4 Ouarter	1 ³² Ouarter 7/1998	- 2 ^{al} Quarrer = = = 473/98	3 rd Quarter = = 844981. =
Benzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Ethylbenzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Toluene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Xylenes	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Total BETX	BDL	BDL	BDL	BDL
EPA 8020				
Methyl Tertiary Butyl Ether	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm	< 0.005 ppm
TEP A8270B# # 64 64 64			를 기 로 이 들는 글	
2-Methylnaphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
Naphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
EPA # 201): & 50.1				
pH (standard units)	N/A	7.0	7.1	7.9
Specific Conductance	N/A	1959	1841	1960
(µmhos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

	TAI	FABLE 1D WW-1		
EPA8020A	40 Ouartel	14 Onarters	472/98	3 ¹⁴ Quarter
Benzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Ethylbenzene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Toluene	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Xylenes	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm	< 0.002 ppm
Total BETX	TOB	BDL	BDL	BDL
EPA-8020		20 C C C C C C C C C C C C C C C C C C C		
Methyl Tertiary Butyl Ether	< 0.005 ppm	0.015 ppm	< 0.005 ppm	< 0.005 ppm
EPA 8770B	是这一是是一种是一种是一种是一种的一种。 1985年 - 1985年			医骨骨炎 假数 化黄色
2-Methylnaphthalene	<0.01 ppm	<0.01 ppm	<0.01 ppm	<0.01 ppm
Naphthalene	<0.01 ppm	mdq 10.0>	<0.01 ppm	<0.01 ppm
等DPAVIOT 8两50到野 编码设置				
pH (standard units)	Y/N	7.3	7.5	7.8
Specific Conductance	N/A	742	836	842
(μmhos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

	TA	TABLE 1E R-1		
EPA:8020A 唇 多	4th Quarter	1.12 Quarter 2/19/98	2" Quarter 423/88	an Quarter
Benzene	N/A	N/A	N/A	N/A
Ethylbenzene	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A
Xylenes	Y/N	N/A	N/A	N/A
Total BETX	N/A	N/A	N/A	N/A
EPA-80205 - F = 5 - 5	医唇唇唇唇唇	五年 全美		
Methyl Tertiary Butyl Ether	N/A	N/A	N/A	N/A
EPA 8270B		建筑建筑等		
2-Methylnaphthalene	N/A	N/A	N/A	N/A
Naphthalene	N/A	N/A	N/A	N/A
書いむ人(2007 - & 150以音 電子車	医生物 医	二字代字 海外皇		
pH (standard units)	N/A	N/A	N/A	N/A
Specific Conductance	N/A	A/A	N/A	N/A
(µmhos/cm)				

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

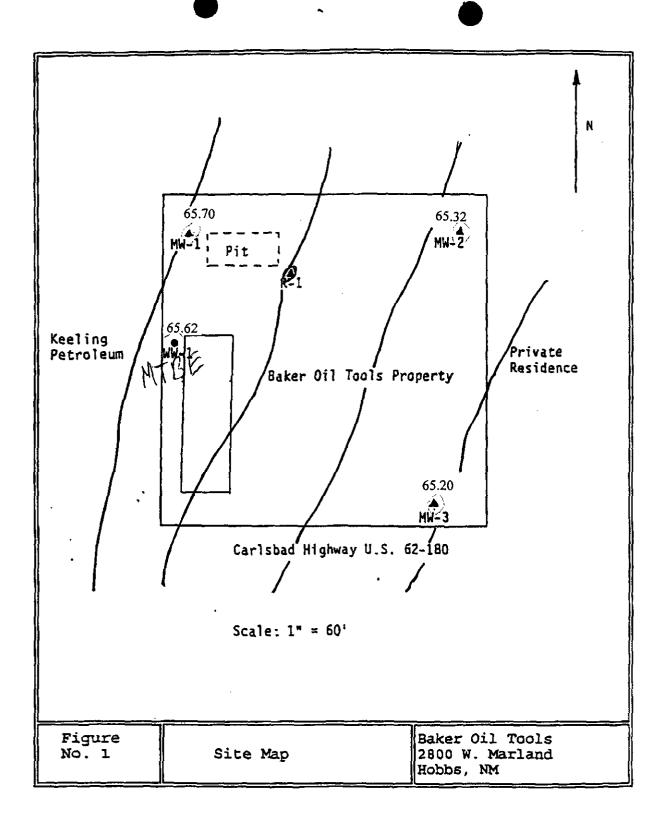
⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

Baker Oil Tools - Hobbs, New Mexico Law Project No. 60260-8-1332-03

QUARTERLY CUMLATIVE GROUND-WATER ELEVATIONS

•	evel Elevation	4/23/98 8/4/98	65.70			_
	Ground-water Level Elevation		66.61 66.0			
		12/22/97	66.34	66.10	66.04	96.99
	Top of PVC Casing Elevation	(TCIMIT)	100.19	99.56	99.15	25 66
	Well	Copul (III)	45.7	45.0	38.5	125.0
•	Monitoring	# CII 140:	MW-1	MW-2	MW-3	WW-1

* - Measurement not taken





State of New Mexico ENERGMINERALS and NATURAL RESOUR Santa Fe, New Mexico 87505 DEPARTMENT



MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal	Time 102	5	Date 6/4/98
Originating Party			Other Parties
Bill Olson - Environmon	tel Bureau	Tom	Stanbark - Balon O. 1 too.
Subject			
Former Hobbs Facility			
Discussion			
Left nessage to in	Jule gus	- Jarly	witer tell inges
and lab analytical	data shee		heret annue report
<u> </u>			
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Conclusions or Agreements		·	
Conclusions or Agreements	<u>.</u>		
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FEB 2 0 1998

Environmental Bureau
Oil Conservation Division

ANNUAL REPORT OF 1997 GROUND-WATER SAMPLING EVENTS

Baker Oil Tools 2800 West Marland Hobbs, New Mexico

Prepared for:

BAKER OIL TOOLS

Hobbs, New Mexico

Prepared by:
BAKER OIL TOOLS
ENVIRONMENTAL DEPARTMENT
Houston, Texas

PROJECT NO. 60260-7-1267 JANUARY 1998



January 21, 1997

Mr. William Olson, Hydrogeologist State of New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

REPORT OF 1997 GROUND-WATER SAMPLING EVENTS

Former Baker Oil Tools Facility 2800 West Marland Hobbs, New Mexico Project No. 60260-7-1267

Dear Mr. Olson:

Baker Oil Tools is submitting the 1997 ground-water monitoring report in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for groundwater contamination in the direct vicinity of the former disposal pit on the property located at 2800 W. Marland in Hobbs, New Mexico. The NMOCD requested this report discuss relevant background information, execution of services, laboratory analytical results, and a summary of our findings for the subject property.

- 1. BOT performed quarterly monitoring events in January, May, October and December 1997. During each quarterly monitoring event, the wells were gauged for depth, bailed and sampled. Each well was bailed of three volumes and allowed to equalize prior to sampling except for WW-1 which is a 125 feet deep water well (only 1 volume was removed). Samples were collected from each well and shipped to a laboratory for analysis. The Hobbs district office of the NMOCD was notified prior to each sampling event as required.
- 2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells is provided in the attached Table 1A through 1E. This data is presented in tabular form showing each quarterly sampling results.

3. Water level and well depth measurements were measured using an electronic water level indicator capable of determining water levels to within 0.01 foot. Table 2 provides cumulative groundwater level measurements for the 1997 monitoring events. An updated ground water elevation map using the recent water table elevations of the ground water in all monitoring wells is presented as Figure 1.

If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely,

Thomas V. Stenbeck

Manager of Health, Safety and Environment

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TABLE 1A 1997 CUMULATIVE GROUND-WATER ANALYTICAL RESULTS FOR MW-1 BAKER OIL TOOLS HOBBS, NEW MEXICO

SAMPLING EVENT DATES

	1/20/97	5/15/97	10/28/97	12/22/97
EPA 8020 COMPOUNDS (ppm)				
Benzene	< 0.002	< 0.002	< 0.002	< 0.002
Ethylbenzene	< 0.002	< 0.002	< 0.002	< 0.002
Toluene	< 0.002	< 0.002	< 0.002	< 0.002
Xylenes	< 0.002	< 0.002	< 0.002	< 0.002
Total (ppm)	BDL	BDL	BDL	BDL
Methyl Tertiary Butyl Ether	< 0.005	< 0.005	< 0.02	< 0.005
EPA 8270 COMPOUNDS (ppm)				
2-Methylnaphthalene	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	< 0.01	< 0.01	< 0.01	< 0.01
pH (standard units)	7.89	7.13	7.2	N/A
Specific Conductance (µmhos/cm)	1400	1550	N/A	N/A

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

TABLE 1B 1997 CUMULATIVE GROUND-WATER ANALYTICAL RESULTS FOR MW-2 BAKER OIL TOOLS HOBBS, NEW MEXICO

SAMPLING EVENT DATES

	1/20/97	5/15/97	10/28/97	12/22/97
EPA 8020 COMPOUNDS (ppm)				
Benzene	< 0.002	< 0.002	< 0.002	< 0.002
Ethylbenzene	< 0.002	< 0.002	< 0.002	< 0.002
Toluene	< 0.002	< 0.002	< 0.002	< 0.002
Xylenes	< 0.002	< 0.002	< 0.002	< 0.002
Total (ppm)	BDL	BDL	BDL	BDL
Methyl Tertiary Butyl Ether EPA 8270 COMPOUNDS (ppm)	< 0.005	< 0.005	< 0.02	< 0.005
2-Methylnaphthalene	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	<0.01	<0.01	<0.01	<0.01
pH (standard units)	7.72	7.06	7.1	N/A
Specific Conductance (µmhos/cm)	4120	4120	N/A	N/A

NOTES: (1) The designation "N/A" indicates that the sample was not analyzed for this parameter.

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

TABLE 1C 1997 CUMULATIVE GROUND-WATER ANALYTICAL RESULTS FOR MW-3 BAKER OIL TOOLS HOBBS NEW MEXICO

SAMPLING EVENT DATES

	1/20/97	5/15/97	10/28/97	12/22/97
EPA 8020 COMPOUNDS (ppm)				
Benzene	< 0.002	< 0.002	< 0.002	< 0.002
Ethylbenzene	< 0.002	< 0.002	< 0.002	< 0.002
Toluene	< 0.002	< 0.002	< 0.002	< 0.002
Xylenes	< 0.002	< 0.002	< 0.002	< 0.002
Total (ppm)	BDL	BDL	BDL	BDL
Methyl Tertiary Butyl Ether(ppm)	< 0.005	< 0.005	0.041	< 0.005
EPA 8270 COMPOUNDS (ppm)				
2-Methylnaphthalene	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	< 0.01	< 0.01	< 0.01	< 0.01
pH (standard units)	7.72	7.11	7.1	N/A

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

TABLE 1D 1997 CUMULATIVE GROUND-WATER ANALYTICAL RESULTS FOR WW-1 BAKER OIL TOOLS HOBBS, NEW MEXICO

SAMPLING EVENT DATES

	1/20/97	5/15/97	10/28/97	12/22/97
EPA 8020 COMPOUNDS (ppm)				
Benzene	0.003	0.011	0.003	< 0.002
Ethylbenzene	0.0024	0.0058	< 0.002	< 0.002
Toluene	< 0.002	< 0.002	< 0.002	< 0.002
Xylenes	0.0036	< 0.002	< 0.002	< 0.002
Total (ppm)	0.009	0.0168	0.003	BDL
Methyl Tertiary Butyl Ether(ppm)	0.017	0.045	0.077	< 0.005
EPA 8270 COMPOUNDS (ppm)				
2-Methylnaphthalene	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	< 0.01	< 0.01	< 0.01	< 0.01
pH (standard units)	7.81	7.28	7.5	N/A
Specific Conductance (µmhos/cm)	2000	2140	N/A	N/A

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

TABLE 1E 1997 CUMULATIVE GROUND-WATER ANALYTICAL RESULTS FOR R-1 BAKER OIL TOOLS HOBBS, NEW MEXICO

SAMPLING EVENT DATES

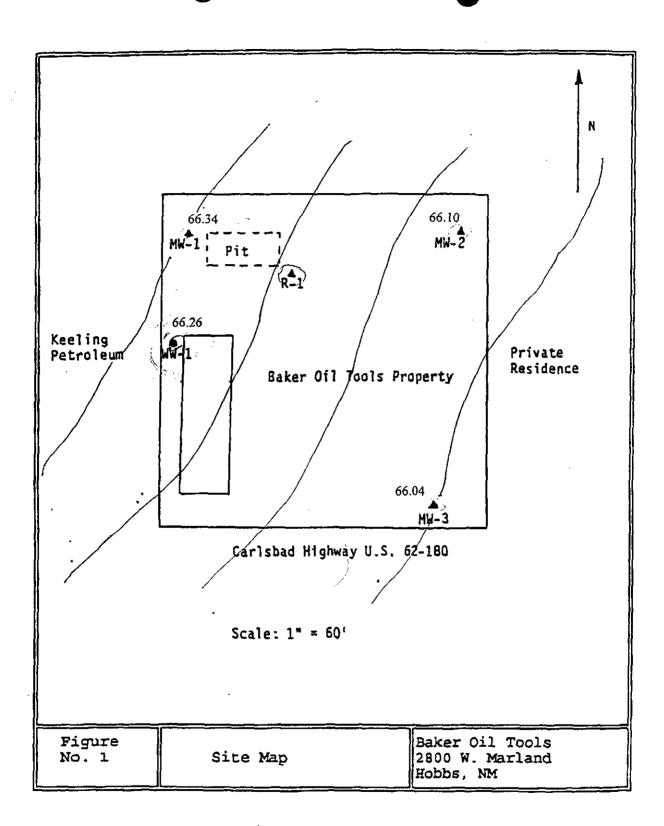
	1/20/97	5/15/97	10/28/97	12/22/97
EPA 8020 COMPOUNDS (ppm)				
Benzene	< 0.002	< 0.002	N/A	N/A
Ethylbenzene	0.03	0.052	N/A	N/A
Toluene	< 0.002	< 0.002	N/A	N/A
Xylenes	0.048	0.14	N/A	N/A
Total (ppm)	0.078	0.192	BDL	N/A
Methyl Tertiary Butyl Ether(ppm)	< 0.005	< 0.005	N/A	N/A
EPA 8270 COMPOUNDS (ppm)				
2-Methylnaphthalene	0.21	0.12	N/A	N/A
Naphthalene	0.18	0.21	N/A	N/A
ull (standard suite)	7 27	7.06	NT/A	NI/A
pH (standard units)	7.37	7.06	N/A	N/A
Specific Conductance (µmhos/cm)	2170	2170	N/A	N/A

⁽²⁾ The designation "BDL" indicates that the sum of the individual constituent concentrations is "below detection limits".

TABLE 2
1997 CUMULATIVE GROUND-WATER ELEVATION MEASUREMENTS HOBBS, NEW MEXICO BAKER OIL TOOLS

		12/22/97	66.34	66.10	66.04	66.26	*
evel Elevation	ST)	10/28/97	66.39	66.21	66.18	66.37	*
bround-water Level Elevation	(# WSL)	2/12/97	69:99	99:59	65.45	66.77	*
Ō		1/20/97	68.19	90'.29	04.99	66.62	66.93
Top of PVC Casing Elevation	(the MSL)		100.19	99.56	99.15	99.52	100.03
Well	Depth (ft)		45.7	45.0	38.5	125.0	48.0
Monitoring	Well No.		MW-1	MW-2	MW-3	WW-1	R-1

* - Measurement not taken



EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

 DATE EXTRACTED:
 N/A
 ANALYSIS No.: OR 9602623

 DATE ANALYZED:
 8/2/96
 4 Days: Within EPA Analysis Time
 SLD BATCH No.: 400

 SAMPLE VOL (ml):
 5
 DILUTION FACTOR: 1.00

 REQUEST ID No.: 154590

SAMPLE PRESERVATION: Sample Temperature when received: 18 Degrees C.; pH = 7

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
				uG/L
71-43-2	Benzene	1.3		1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		U	1.0
75-27-4	Bromodichioromethane*		U	1.0
75-25-2	Bromoform*		U	1.0
24-83-9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)		U	10.0
104-51-8	n-Butylbenzene	73		1.0
135-98-8	sec-Butylbenzene	48	1	1.0
98-06-6	tert-Butylbenzene		U	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)		U	10,0
56-23-5	Carbon tetrachioride		U	1.0
108-90-7	Chlorobenzene (monochiorobenzene)	T	U	1.0
75-00-3	Chloroethane		υ	1.0
67-66-3	Chloroform*	 	U	1.0
74-87-3	Chloromethane	 	U	1.0
95.49-3	2-Chiorotoluene	<u> </u>	U	1.0
106-43-4	4-Chiorotoluene		U	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	† · 	U	1.0
124-48-1	Dibromochloromethane*	<u> </u>	U	1.0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		U	1,0
74-95-3	Dibromomethane	1 3 6 7	U	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)		U	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	· · · · · · · · · · · · · · · · · · ·	U	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		Ū	1.0
75-71-8	Dichlorodifluoromethane	95 .	U	1.0
75-34-3	1,1-Dichloroethane	1PD	U	1.0
107-06-2	1,2-Dichloroethane	/[/]	Ū	1.0
75-35-4	1,1-Dichloroethene	##	Ü	1.0
156-59-2	cis-1,2-Dichloroethene		ū	1.0
156-60-5	trans-1,2-Dichloroethene		Ū	1.0
78-87-5	1,2-Dichloropropane	 	Ü	1.0
142-28-9	1,3-Dichloropropane	l	- 0	1.0
590-20-7	2,2-Dichloropropane	<u> </u>	U	1.0
563-58-6	1,1-Dichloropropene	 	 	1,0
1006-01-5	cis-1,3-Dichloropropene	 	Ü	1.0
1006-02-6	trans-1,3-Dichloropropene		u l	1.0
100-41-4	Ethylbenzene	45	-	1.0
87-68-3	Hexachlorobutadiene			1.0
98-82-8	Isopropyibenzene	9.8	 	1.0
99-87-6	4-Isopropyltoluene	J.U		2.0
75-09-2	Methylene chloride (Dichloromethane)		- 5	2.0
91-20-3	Naphthalene	200	<u> </u>	10
103-65-1	Propylbenzene	45	\vdash	1.0
100-42-5	Styrene			1.0

0-07-0 030-₹0-0	1,1,1,2-Tetrachloroethane		10	1.0
79-34-5	1,1,2,2-Tetrachior	5 (A)	U	1.0
127-18-4	Tetrachioroethen		101	1,0
109-99-9	Tetrahydrofuran (THF)		U	10.0
108-88-3	Toluene	1.6	+	1.0
87-61-5	1,2,3-Trichlorobenzene		101	1.0
120-82-1	1,2,4-Trichlorobenzene		U	1.0
71-55-6	1,1,1-Trichioroethane		1 0 1	1.0
79-00-5	1,1,2-Trichloroethane		U	1,0
79-01-6	Trichloroethene		U	1.0
75-69-4	Trichiorofluoromethane		U	1.0
96-18-4	1,2,3-Trichloropropane		U	1.0
95-63-6	1,2,4-Trimethylbenzene	110	1	10
108-67-8	1,3,5-Trimethylbenzene	12	+	1.0
75-01-4	Vinyl chloride		U	1.0
95-47-6	o-Xylene"	28	+ + +	1.0
N/A	p- & m-Xylene*	12	1	1.0
N/A	"Total Xylenes"	41		1.0
N/A	*Total Trihalomethanes*		U	1.0

Laboratory Remarks: This sample was diluted and re-analyzed on 8/21/96 to quantitate Naphthalene and 1,2,4-Trimethyl Benzene. The ELCD surrogate recovery was extremely high due to co-eluting peaks, however, the Internal standard area was at 94.5% of the expected area. There were 80 compounds observed on the photoionization detector at approximately 10-40 ppb, but not identified.

	LABORATORY BATCH QUA	LITY CONTROL SUMMA	RY			
SURROGATE	SURROGATE COMPOUNDS		CONCENTRATION	% RECOVI	ERY	
RECOVERIES:	2-Bromochlorobenzene (Photolonization Detector Surrogate)		. 132	528.0% His		
	2-Bromochlorobenzene(Electrolytic Conductivity Detector Surro	gate)	- 23.9	95.6%		
LABORATORY FORTIFIED BLANK	The % recoveries for compounds in the batch spike were from 80% to 120% with the exception of the compounds listed below: COMPOUND CONCENTRATION (WAL) % RECOVERY					
RECOVERIES	cis-1,2-Dichloroethene		79%			
LABORATORY No target compounds were detected above the sample detection limit in laboratory blank BLANKS with the ecxeption of the compound(s) listed below:						
	COMPOUND No Exceptions	CONCENTRATION (ug/L	7			

ANALYST: Patrick Basile QC APPROVED BY: Ken Sherreil
--

DEFINITIONS

Concentration Exceeds EPA's allowable Maximum Contamination Level

CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names

CONC. Concentration (ug/L) of analyte actually detected in the sample

Qualifier of analytical results as follows: QUAL

B Analyte was detected in laboratory blank

J Analyte was detected at a level below which an accurate quanitation can be given (~5 ° SDL)

U No analyte was detected above the Sample Detection Limit.

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

99% confidence taking sample size (compositing) into account.

Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb) ug/L

STATE OF NEW MEXICO

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

	ED FIELD OFFICE:] . <u></u>	
Rob Pine		SLD No.: OR-	9602628
NMED/Ground Water B	ureau	REQUEST ID No.:	154595
PO Box 26110		RECEIVED	AT SLD: 7/31/96
Santa Fe, NM 87502	2	□SLD COPY 🏂	ISER: 55321
SAMPLE COLLECTION: DATE:	7/29/96 TIME: 0	AUG 1996	Pin 2
SAMPLING LOCATION:	Baker Oil R-1	THIFIULD	<u>191</u>
WSS #:	SAMPLE MATRIX: water	REPORTACEMITS: L	ıg/Lº/

SAMPLE MATRIX: water_

EPA METHOD 625	NEUT	<u>RAL AND BASIC SEMI</u>	<u>VOLATILE ORGANIC COMPOUNI</u>	OS BY GC/MS
DATE EXTRACTED:	8/5/96 7	Days: Within EPA Holding Tim	e ANALYSIS No.: OR-	9602628
DATE ANALYZED:	8/5/96 7	Days: Within EPA Analysis Tin	ne SLD BATCH No.:	405
SAMPLE VOL (mi):	770		DILUTION FACTOR:	1.30
· ·			REQUEST ID No.:	154595

SAMPLE PRESERVATION: Sample Temperature when received: 22 Degrees C.; pH = 7 NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel PERCENT MOISTURE: N/A

GPC CLEANUP: **Not Used**

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL	ŞDL
83-32-9	Acenaphthene	5	J	1.21
208-96-8	Acenaphthylene		U	1.13
120-12-7	Anthracene		U	0.47
103-33-3	Azobenzene		U	1.30
92-87-5	Benzidine		U	1.30
56-55-3	Benzo(a)anthracene		U	0.16
205-99-2	Benzo(b)fluoranthene		U	0.43
207-08-9	Benzo(k)fluoroanthene		υ	0.43
191-24-2	Benzo(g,h,i)perylene		U	1.29
50-32-8	Benzo(a)pyrene		U	0.03
111-91-1	Bis(2-chloroethoxy)methane		U	0.90
111-44-4	Bis(2-chloroethyl)ether		U	0.51
108-60-1	Bis(2-chlorolsopropyl)ether		U	0.58
117-81-7	Bis(2-ethylhexyl)phthalate	6		0.43
101-55-3	4-Bromophenyiphenyi ether		U	0.62
85-68-7	Butylbenzyl phthalate		U	0.82
106-47-8	4-Chloroaniline		U	0.74
91-58-7	2-Chloronaphthalene		U	0.66
7005-72-3	4-Chlorophenylphenyl ether		U	0.55
218-01-9	Chrysene		U	0.31
53-70-3	Dibenz(a,h)anthracene		U	12.99
132-64-9	Dibenzofuran		U	0.94
84-74-2	Di-n-butyl phthalate		U	0.62
95-50-1	1,2-Dichlorobenzene		υ	0.19
541-73-1	1,3-Dichlorobenzene		U	0.31
106-46-7	1,4-Dichlorobenzene		U	0.43
91-94-1	3,3'-Dichlorobenzidine		U	0.23

84-66-2	Diethylphthala 200		U	1.01
131-11-3	Dimethylphthailie		U	0.62
121-14-2	2,4-Dinitrotoluene		U	0.58
606-20-2	2,6-Dinitrotoluene		U	0.51
117-84-0	Di-n-octyl phthalate		U	0.39
206-44-0	Fluoranthene		U	0.97
86-73-7	Fluorene	6		0.97
118-74-1	Hexachlorobenzene		U	0.97
87-68-3	Hexachlorobutadiene		U	0.39
77-47-4	Hexachlorocyclopentadiene		U	12.99
67-72-1	Hexachioroethane		U	0.39
193-39-5	Indeno(1,2,3-cd)pyrene		U	12.99
78-59-1	Isophorone		U	1.17
91-57-6	2-Methylnaphthalene	113		1.29
91-20-3	Naphthalene	81		0.82
88-74-4	2-Nitroaniline		U	0.66
99-09-2	3-Nitroaniline		U	0.43
100-01-6	4-Nitroaniline		U	0.66
98-95-3	Nitrobenzene		U	0.53
86-30-6	N-nitrosodiphenylamine		U	0.62
62-75-9	N-nitrosodimethylamine		U	0.62
621-64-7	N-nitroso-di-n-propylamine		U	0.04
85-01-8	Phenanthrene	22		0.31
129-00-0	Pyrene		U	0.43
120-82-1	1,2,4-Trichlorobenzene		U	0.39

CAS#	* TENTATIVE ANALYTE NAME	EST CONC. (ug/L)	LIBRARY BIS MATCH	RETENT TIME (A
13151-29-6	4-Methyl-1-Decene	300	815	19.9
17301-28-9	3,6-Dimethyl-undecane	300	793	18.1
57289-26-6	2-Methyl-1-Dodecanol	200	853	18.3
2217-43-8	5,6,7,8-Tetrahydro-2-Napthalenamine	200	790	19.5
247183-2	1-Ethylidene-1H-Indene	200	881	20.9
54833-48-6	2,6,10,15-Tetramethyl-Heptadecane	200	797	20.7
55292-65-0	2,5-Dimethyl-Dodecane	200	765	16.5
589-90-2	1,4-Dimethyi-Cyclohexane	200	850	20.3
7058-01-7	1-Methyl-2-(1-Methylethyl)-Benzene	100	869	13.8
934-74-7	1-Ethyl-3,5-Dimethyl-Benzene	100	793	18.8
Comment:	Numerous hydrocarbons were observed by GC/MS		C 15 rang	je
	with an approximate total concentration of 20 ug/m	1,		

[&]quot;Library MS Match" is a number showing the approximate percentage agreement with our 60,000 compound, NIST mass spectral library.

Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Eval.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	30.0	60%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	32.0	64%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	41.0	82%	Normal
LABORATORY	The % recoveries of target analytes in the batch spike	(s) were within	the expected rang	je
FORTIFIED	with the following exceptions:			

[&]quot;Retention Time" is the time required for the specific compound to pass through the chromatographic column.

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de S (), NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

REPORT TO CLIEN	IT:		·
Attn: Rob Pine			SLD No.: OR- 9602619
Ground Water Quality Bureau]		REQUEST ID No.: 154586
P.O. Box 26110			RECEIVED AT SLD: 7/31/96
Santa Fe, New Mexico 87502	7	SLD COPY	USER 55321
SAMPLE COLLECTION: DATE: 7/29/96 SAMPLING LOCATION: Baker Oil WW-1	TIME:	: <u>na</u>	BY: <u>Pin</u>
o Water			REPORTING UNITS: ug/L
Remarks: Hydrocloric acid was us	sed as a	a preservative i	n this sample.

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED: N/A	ANALYSIS No.: OR-	9602619
DATE ANALYZED: 8/2/96 4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml): 5	DILUTION FACTOR:	1.00
0	REQUEST ID No.:	154586

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL	SDL
				uG/L
71-43-2	Benzene	6.7		1,0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		Ü	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform*		บ	1.0
24-83-9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)		U	10.0
104-51-8	n-Butylbenzene		U	1.0
135-98-8	sec-Butylbenzene		Ü	1.0
98-06-6	tert-Butylbenzene		υ	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)		U	10.0
56-23-5	Carbon tetrachloride		U	1.0
108-90-7	Chlorobenzene (monochlorobenzene)		U	1.0
75-00-3	Chloroethane		U	1.0
67-66-3	Chloroform*		U	1.0
74-87-3	Chloromethane		U	1.0
95-49-8	2-Chlorotoluene		U	1.0
106-43-4	4-Chlorotoluene	A 4	U	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		U	1.0
124-48-1	Dibromochioromethane*	4 2	U	1.0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))	- 21	· U	1.0
74-95-3	Dibromomethane	SED	U	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1998 /7	Ü	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	HLIII.	U	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	Wirlin	U	1.0
75-71-8	Dichlorodifluoromethane	- ULI 1/1/1/	U	1.0
75-34-3	1,1-Dichloroethane		U	1.0
107-06-2	1,2-Dichloroethane		U	1.0
75-35-4	1,1-Dichloroethene		U	1.0
156-59-2	cis-1,2-Dichloroethene	The same of the same	U	1.0
156-60-5	trans-1,2-Dichloroethene		U	1.0
78-87-5	1,2-Dichloropropane		U	1.0
142-28-9	1,3-Dichloropropane		U	1.0
590-20-7	2,2-Dichloropropane		U	1.0
563-58-6	1,1-Dichloropropene		Ü	1.0
1006-01-5	cis-1,3-Dichloropropene		Ū	1.0
1006-02-6	trans-1,3-Dichloropropene		Ü	1.0
100-41-4	Ethylbenzene		Ü	1.0
87-68-3	Hexachlorobutadiene	···	Ü	1.0
98-82-8	Isopropylbenzene		U	1.0
99-87-6	4-Isopropyitoluene		- U	2.0
75-09-2	Methylene chloride (Dichloromethane)		Ü	2.0

		0.7	J	1.0
103-65-1	Propylbenzene		U	1.0
100-42-5	Styrene		U	1.0
630-20-6	1,1,1,2-Tetrachloroethane		U	1.0
79-34-5	1,1,2,2-Tetrachloroethane		U	1.0
127-18-4	Tetrachloroethene		U	1.0
109-99-9	Tetrahydrofuran (THF)		U	10.0
108-88-3	Toluene		u	1.0
87-61-5	1,2,3-Trichlorobenzene		U	1.0
120-82-1	1,2,4-Trichlorobenzene		Ü	1.0
71-55-6	1,1,1-Trichloroethane		U	1.0
79-00-5	1,1,2-Trichloroethane		υ	1.0
79-01-6	Trichloroethene		ีย	1.0
75-69-4	Trichlorofluoromethane		U	1.0
96-18-4	1,2,3-Trichloropropane		U	1.0
95-63-6	1,2,4-Trimethylbenzene	0.7	J	1.0
108-67-8	1,3,5-Trimethylbenzene		U	1.0
75-01-4	Vinyl chloride		U	1.0
95-47-6	o-Xylene*	0.8	J	1.0
N/A	p- & m-Xylene*	1.0		1,0
N/A	*Total Xylenes*	1,8		1.0
N/A	*Total Trihalomethanes*		U	1,0
	LABORATORY BATCH QUALITY O	ONTROL SUMMARY		<u> </u>
SURROGATE	SURROGATE COMPOUNDS	CONCENTRATIO	N .	% RECOVERY
RECOVERIES:	2-Bromochlorobenzene (Photolonization Detector Surrogate)	23.5	1	94.0%
,	2-Bromochlorobenzene(Electrolytic Conductivity Detector Surroget	23.1		92.4%
LABORATORY	The % recoveries for compounds in the batch spike w	ere from 80% to 120% with the		
FORTIFIED	exception of the compounds listed below:			
BLANK	COMPOUND CONCENTRAT	ION (ug/L) % RECOVERY		
RECOVERIES	cis-1,2-Dichloroethene 10	79%		
RECOVERIES	CIS-1,2-DICITIOTOGUIGHE 10	1376		
LABORATORY	No target compounds were detected above the sample	detection limit in laboratory blank		
BLANKS	I			
	1	NCENTRATION (ug/L)		
	No Exceptions			
	*			100
ANALYST:	Patrick Basile	QC APPROVED BY:	Ken :	Sherrell 🚫

	DEFINITIONS				
. **	Concentration Exceeds EPA's allowable Maximum Contamination Level				
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names				
CONC.	Concentration (ug/L) of analyte actually detected in the sample				
QUAL	Qualifier of analytical results as follows:				
•	8 Analyte was detected in laboratory blank				
}	 J Analyte was detected at a level below which an accurate quantitation can be given (~5 * SDL) 				
i	U No analyte was detected above the Sample Detection Limit.				
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with				
1	99% confidence taking sample size-(compositing) into account.				
ug/L	Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)				

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

ED FIELD OFFICE: SLD No.: OR- 9602624 **Rob Pine** REQUEST ID No .: **NMED/Ground Water Bureau** 154591 213 1415 76 RECEIVED AT SLD: PO Box 26110 7/31/96 TIME: 0 Santa Fe, NM 87502 USER: 55321 BY: Pin SAMPLE COLLECTION: DATE: 7/29/96 SAMPLING LOCATION: Baker Oil WW-1 WSS #: SAMPLE MATRIX: Water & NG UNITS: ug/L

NEUTRAL AND BASIC SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS **EPA METHOD 625** 9602624 8/5/96 7 Days: Within EPA Holding Time ANALYSIS No.: OR-DATE EXTRACTED: 405 SLD BATCH No.: DATE ANALYZED: 8/5/96 7 Days: Within EPA Analysis Time 980 **DILUTION FACTOR:** 1.02 SAMPLE VOL (ml): REQUEST ID No .: 154591

SAMPLE PRESERVATION: Sample Temperature when received: 23 Degrees C.; pH = 2
NOT COMPOSITED

MOI COMPOSITE

EXTRACTION TECHNIQUE: Separatory Funnel PERCENT MOISTURE: NA

GPC CLEANUP: Not Used

CAS#	ANALYTE NAME	CONC. (Ug/L)	QUAL.	SDL
83-32-9	Acenaphthene		U	0.95
208-96-8	Acenaphthylene		U	0.89
120-12-7	Anthracene		IJ	0.37
103-33-3	Azobenzene		U	1.02
92-87-5	Benzidine		U	1.02
56-55-3	Benzo(a)anthracene		IJ	0.12
205-99-2	Benzo(b)fluoranthene		υ	0.34
207-08-9	Benzo(k)fluoroanthene		C	0.34
191-24-2	Benzo(g,h,i)perylene		υ	1.01
50-32-8	Benzo(a)pyrene		U	0.02
111-91-1	Bis(2-chloroethoxy)methane		U	0.70
111-44-4	Bis(2-chloroethyl)ether	<u> </u>	U	0.40
108-60-1	Bis(2-chloroisopropyl)ether		U	0.46
117-81-7	Bis(2-ethylhexyl)phthalate	9		0.34
101-55-3	4-Bromophenylphenyl ether	1	U	0.49
85-68-7	Butylbenzyl phthalate		U	0.64
106-47-8	4-Chioroaniline	T	U	0.58
91-58-7	2-Chioronaphthalene	1	U	0.52
7005-72-3	4-Chlorophenylphenyl ether		U	0.43
218-01-9	Chrysene		υ	0.24
53-70-3	Dibenz(a,h)anthracene		U	10.20
132-64-9	Dibenzofuran		U	0.73
84-74-2	Di-n-butyl phthalate	1	J	0.49
95-50-1	1,2-Dichlorobenzene		U	0.15
541-73-1	1,3-Dichlorobenzene		U	0.24
106-46-7	1,4-Dichlorobenzene		IJ	0.34
91-94-1	3,3'-Dichlorobenzidine		U	0.18

84-66-2	Diethylphthalate		U	0.80
131-11-3	Dimethylphthal		U	0.49
121-14-2	2,4-Dinitrotoluene		U	0.46
606-20-2	2,6-Dinitrotoluene		_U	0.40
117-84-0	Di-n-octyl phthalate		U_U	0.31
206-44-0	Fluoranthene		U	0.77
86-73-7	Fluorene		U	0.77
118-74-1	Hexachlorobenzene		U	0.77
87-68-3	Hexachlorobutadiene		U	0.31
77-47-4	Hexachlorocyclopentadiene		U	10.20
67-72-1	Hexachloroethane		U	0.31
193-39-5	Indeno(1,2,3-cd)pyrene		IJ	10.20
78-59-1	Isophorone		U	0.92
91-57-6	(2-Metriyirapritrialegie		U	1.01
91-20-3	Naphthalene 2/1/2		U	0.64
88-74-4	2-Nitroaniline/////		U	0.52
99-09-2	3-Nitroaniline		U	0.34
100-01-6	4-Nitroaniline		U	0.52
98-95-3	Nitrobenzene		U	0.42
86-30-6	N-nitrosodiphenylamine	`	U	0.49
62-75-9	N-nitrosodimethylamine		U	0.49
621-64-7	N-nitroso-di-n-propylamine		U	0.03
85-01-8	Phenanthrene		υ	0.24
129-00-0	Pyrene		U	0.34
120-82-1	1,2,4-Trichlorobenzene		U	0.31

QUALITY CONTROL SOMMAP					
SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Eval.		
Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	26.0	52%	Normal		
2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	25.0	50%	Normal		
Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	34.0	68%	Normal		
The % recoveries of target analytes in the batch spike	(s) were within	the expected rang	ge		
with the following exceptions:					
COMPOUND CONCENTRATION	% RECOVERY		,		
No Exceptions					
No target analytes were detected above the sample de	tection limit in la	aboratory blank			
BLANKS with the exception of the compound(s) listed below:					
COMPOUND CONCENTRATION (ug/L) No Exceptions					
	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L) 2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L) Terphenyl-d14 (Neutral Surrogate added at 50 ug/L) The % recoveries of target analytes in the batch spike with the following exceptions: COMPOUND No Exceptions No target analytes were detected above the sample de with the exception of the compound(s) listed below:	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L) 2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L) Terphenyl-d14 (Neutral Surrogate added at 50 ug/L) The % recoveries of target analytes in the batch spike(s) were within with the following exceptions: COMPOUND CONCENTRATION No target analytes were detected above the sample detection limit in lawith the exception of the compound(s) listed below: COMPOUND CONCENTRATION (ug/L)	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L) 2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L) Terphenyl-d14 (Neutral Surrogate added at 50 ug/L) The % recoveries of target analytes in the batch spike(s) were within the expected range with the following exceptions: COMPOUND CONCENTRATION % RECOVERY No target analytes were detected above the sample detection limit in laboratory blank with the exception of the compound(s) listed below: COMPOUND CONCENTRATION (ug/L)		

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

l	Į.	DEFINITIONS
1		Concentration Exceeds EPA's allowable Maximum Contamination Level
	CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
1	CONC.	Concentration (ug/L) of analyte actually detected in the sample
	QUAL	Qualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL) U No analyte was detected above the Sample Detection Limit.
	MCL	Maximum Contamination Level Allowed by EPA for regulated analytes
	SDL.	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with 99% confidence taking sample size (compositing) into account.
L	ug/L	Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

REPORTING UNITS: ug/L

ORGANIC CHEMISTRY SECTION [505] 841-2570

REPORT TO CLIENT: Attn: Rob Pine SLD No.: OR- 9602620 **Ground Water Quality Bureau** REQUEST ID No .: 154587 P.O. Box 26110 RECEIVED AT SLD: 7/31/96 Santa Fe, New Mexico 87502 55321 SLP COPY USER SAMPLE COLLECTION: DATE: 7/29/96 TIME: na BY: Pin SAMPLING LOCATION: Baker Oil MW-1

Remarks:

Hydrocloric acid was used as a preservative in this sample.

No Targeted Compounds were detected in this sample.

o Water

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	N/A		ANALYSIS No.: OR-	9602620
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml):	5		DILUTION FACTOR:	1.00
Ò			REQUEST ID No.:	154587

SAMPLE PRESERVATION: Sample Temperature when received: 18 Degrees C.; pH = 4

CAS#	ANALYTE NAME .	CONC. (ug/L)	QUAL	SDL
				uG/L
71-43-2	Benzene		็น	1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochioromethane		U	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform*		U	1.0
24-83-9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)		U	10.0
104-51-8	n-Butylbenzene	3.2	U	1.0
135-98-8	sec-Butylbenzene	50.05	U	1.0
98-06-6	tert-Butylbenzene		U	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)	- 3	U	10.0
56-23-5	Carbon tetrachloride		U	1.0
108-90-7	Chlorobenzene (monochlorobenzene)	677	U	1.0
75-00-3	Chloroethane		U	1.0
67-66-3	Chloroform*	, T-12	i u	1.0
74-87-3	Chloromethane	11	U	1.0
95-49-8	2-Chlorotoluene	. % /	U	1.0
106-43-4	4-Chlorotoluene	. 4.7.	Ú	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	35	U	1.0
124-48-1	Dibromochloromethane*		U	1.0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		U	1.0
74-95-3	Dibromomethane		1 1 1	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)		U U	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)		Tu l	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		10	1.0
75-71-8	Dichlorodifluoromethane		Tu T	1.0
75-34-3	1.1-Dichioroethane		1 0 1	1.0
107-06-2	1,2-Dichloroethane		1 0	1.0
75-35-4	1.1-Dichloroethene		1 0 1	1.0
156-59-2	cis-1,2-Dichloroethene		10	1.0
156-60-5	trans-1,2-Dichloroethene		1 0 1 -	1.0
78-87-5	1,2-Dichloropropane		 	1.0
142-28-9	1,3-Dichloropropane		 	1.0
590-20-7	2,2-Dichloropropane		 	1.0
563-58-6	1,1-Dichloropropene		+ + + -	1.0
1006-01-5	cis-1,3-Dichloropropene		 U -	1.0
1006-02-6	trans-1,3-Dichloropropene		 0 -	1.0
100-41-4	Ethylbenzene		+ + + -	1.0
87-68-3	Hexachloroputadiene		+ 0 + -	1.0
98-82-8	Isopropylbenzene		+ + + + + + + + + + + + + + + + + + + +	1.0
99-87-6	4-isopropyltoluene		 	2.0
75-09-2	Methylene chloride (Dichloromethane)		 	2.0

91-20-3	Naphthalene		U	1.0		
103-65-1	Propylbenzene		U	1.0		
100-42-5	Styrene		U	1,0		
630-20-6	1,1,1,2-Tetrachloroethane		U	1.0		
79-34-5	1,1,2,2-Tetrachloroethane		U	1.0		
127-18-4	Tetrachloroethene		1.0			
109-99-9	Tetrahydrofuran (THF)	U 10.0				
108-88-3	Toluene	U 1.0				
87-61-5	1,2,3-Trichlorobenzene		U	1.0		
120-82-1	1,2,4-Trichlorobenzene		U	1.0		
71-55-6	1,1,1-Trichloroethane		Ü	1.0		
79-00-5	1,1,2-Trichloroethane		Ü	1.0		
79-01-6	Trichloroethene		Ü	1.0		
75-69-4	Trichlorofluoromethane		U	1.0		
96-18-4	1,2,3-Trichloropropane		U	1.0		
95-63-6	1,2,4-1 rimethylbenzene		U	1.0		
108-67-8	1,3,5-Trimethylbenzene		Ü	1.0		
75-01-4	Vinyl chloride		U	1.0		
95-47-6	o-Xylene*		U	1.0		
N/A	p- & m-Xylene*		U	1.0		
N/A	"Total Xylenes"	0.0	U	1.0		
N/A	*Total Trihalomethanes*		Ü	1.0		
			-			
	LABORATORY BATCH QUALITY CONTROL SUI	MMARY				
SURROGATE	LABORATORY BATCH QUALITY CONTROL SUI	MMARY CONCENTRATION		% RECOVERY		
			$\overline{}$	% RECOVERY		
SURROGATE	SURROGATE COMPOUNDS	CONCENTRATION				
SURROGATE RECOVERIES:	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photojonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate)	CONCENTRATION 23.85 26.58		95.4%		
SURROGATE	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Ehotolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80	CONCENTRATION 23.85 26.58		95.4%		
SURROGATE RECOVERIES:	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photojonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate)	CONCENTRATION 23.85 26.58		95.4%		
SURROGATE RECOVERIES:	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Enotolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80	CONCENTRATION 23.85 26.58 26.58 9% to 120% with the		95.4%		
SURROGATE RECOVERIES: LABORATORY FORTIFIED	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below:	CONCENTRATION 23.85 26.58 26.58 9% to 120% with the		95.4%		
SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Ehotolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) 3 cis-1,2-Dichloroethene 10 79%	CONCENTRATION 23.85 26.58 26.58 26.58 26.58 26.58 26.58		95.4%		
SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Petector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) 5 cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection list	CONCENTRATION 23.85 26.58 26.58 26.58 26.58 26.58 26.58		95.4%		
SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Ehotolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection ling with the ecxeption of the compound(s) listed below:	CONCENTRATION 23.85 26.58 26.58 26.58 26.58 26.58 27 27 27 27 27 27 27 27 27 27 27 27 27		95.4%		
SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection life with the ecxeption of the compound(s) listed below: COMPOUND CONCENTRATION (ug/L) concentration (ug/L) cis-1,2-Dichloroethene 10 79%	CONCENTRATION 23.85 26.58 26.58 26.58 26.58 26.58 27 27 27 27 27 27 27 27 27 27 27 27 27		95.4%		
SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Ehotolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection ling with the ecxeption of the compound(s) listed below:	CONCENTRATION 23.85 26.58 26.58 26.58 26.58 26.58 27 27 27 27 27 27 27 27 27 27 27 27 27		95.4%		
SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection life with the ecxeption of the compound(s) listed below: COMPOUND CONCENTRATION (ug/L) concentration (ug/L) cis-1,2-Dichloroethene 10 79%	CONCENTRATION 23.85 26.58 26.58 26.58 26.58 26.58 27 27 27 27 27 27 27 27 27 27 27 27 27		95.4%		

	·
	DEFINITIONS
**	Concentration Exceeds EPA's allowable Maximum Contamination Level
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
CONC.	Concentration (ug/L) of analyte actually detected in the sample
QUAL	Qualifier of analytical results as follows:
	8 Analyte was detected in laboratory blank
	J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL)
	U No analyte was detected above the Sample Detection Limit.
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with
	99% confidence taking sample size (compositing) into account.
ug/L	Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

ED FIELD OFFICE:	_ 0
Rob Pine	SLD No.: OR- 9602625
NMED/Ground Water Quality Bureau	REQUEST ID No.: 154592
PO Box 26110	PECEIVED AT SLD: 7/31/96 O DSLD OPY USER: 55321
Santa Fe, NM 87502	
SAMPLE COLLECTION: DATE: 7/29/96 TIME: SAMPLING LOCATION: Baker Oil MW-1	© Mile 1888
WSS #- SAMPLE MATRIX: WA	iter \ HEPORTING UNITS: Ua/L

EPA METHOD 625	NEU	TRAL AND BASIC SEMIVOLATI	LE ORGANIC COMPOUNI	OS BY GC/MS
DATE EXTRACTED:	8/5/96	7 Days: Within EPA Holding Time	ANALYSIS No.: OR-	9602625
DATE ANALYZED:	8/5/96	7 Days: Within EPA Analysis Time	SLD BATCH No.:	405
SAMPLE VOL (ml):	910		DILUTION FACTOR:	1.10
•			REQUEST ID No.:	154592

SAMPLE PRESERVATION: Sample Temperature when received: 21 Degrees C.; pH = 7

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel PERCENT MOISTURE: NA

GPC CLEANUP: Not Used

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
83-32-9	Acenaphthene		U	1.02
208-96-8	Acenaphthylene		U	0.96
120-12-7	Anthracene		U	0.40
103-33-3	Azobenzene		U	1.10
92-87-5	Benzidine		U	1.10
56-55-3	Benzo(a)anthracene		U	0.13
205-99-2	Benzo(b)fluoranthene		U	0.36
207-08-9	Benzo(k)fluoroanthene		U	0.36
191-24-2	Benzo(g,h,i)perylene		U	1.09
50-32-8	Benzo(a)pyrene		U	0.02
111-91-1	Bis(2-chloroethoxy)methane		U	0.76
111-44-4	Bis(2-chloroethyl)ether		υ	0.43
108-60-1	Bis(2-chloroisopropyl)ether		U	0.49
117-81-7	Bis(2-ethylhexyl)phthalate	4		0.36
101-55-3	4-Bromophenyiphenyi ether		U	0.53
85-68-7	Butylbenzyl phthalate		ย	0.69
106-47-8	4-Chloroaniline		U	0.63
91-58-7	2-Chloronaphthalene		U	0.56
7005-72-3	4-Chlorophenylphenyl ether		U	0.46
218-01-9	Chrysene		IJ	0.26
53-70-3	Dibenz(a,h)anthracene		υ	10.99
132-64-9	Dibenzofuran	· .	U	0.79
84-74-2	Di-n-butyl phthalate		U	0.53
95-50-1	1,2-Dichlorobenzene		U	0.16
541-73-1	1,3-Dichlorobenzene		U	0.26
106-46-7	1,4-Dichlorobenzene		U	0.36
91-94-1	3,3'-Dichlorobenzidine		U	0.20

84-66-2	Diethylphthalat	 U	0.86
131-11-3	Dimethyiphthata	U	0.53
121-14-2	2,4-Dinitrotoluene	U	0.49
606-20-2	2,6-Dinitrotoluene	U	0.43
117-84-0	Di-n-octyl phthalate	U	0.33
206-44-0	Fluoranthene	U	0.82
86-73-7	Fluorene	U	0.82
118-74-1	Hexachlorobenzene	U	0.82
87-68-3	Hexachiorobutadiene	U	0.33
77-47-4	Hexachlorocyclopentadiene	U	10.99
67-72-1	Hexachioroethane	U	0.33
193-39-5	Indeno(1,2,3-cd)pyrene	U	10.99
78-59-1	isophorone 🐧	U	0.99
91-57-6	2-Methylnaphthalene	U	1.09
91-20-3	Naphthalene ***/ //	U	0.69
88-74-4	2-Nitroaniline	U	0.56
99-09-2	3-Nitroaniline	U	0.36
100-01-6	4-Nitroaniline	U	0.56
98-95-3	Nitrobenzene	 U	0.45
86-30-6	N-nitrosodiphenylamine	U	0.53
62-75-9	N-nitrosodimethylamine	ย	0.53
621-64-7	N-nitroso-di-n-propylamine	U	0.03
85-01-8	Phenanthrene	U	0.26
129-00-0	Pyrene	 U	0.36
120-82-1	1,2,4-Trichlorobenzene	 ן ט	0.33

	QUALITY CONTROL SOMM	7111	د. ن د به ساره بنوان	
Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Evai.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	29.0	58%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	27.0	54%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	40.0	80%	Normal
LABORATORY	The % recoveries of target analytes in the batch spi	ke(s) were within	the expected range	ge
FORTIFIED	with the following exceptions:		-	
BLANK	COMPOUND CONCENTRATIO	N % RECOVERY	_	
RECOVERIES	No Exceptions			
LABORATORY	No target analytes were detected above the sample	detection limit in l	aboratory blank	
BLANKS	with the exception of the compound(s) listed below:			
	COMPOUND CO No Exceptions	NCENTRATION (ug/L	3	

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

1	DEFINITIONS
**	Concentration Exceeds EPA's allowable Maximum Contamination Level
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
CONC.	Concentration (ug/L) of analyte actually detected in the sample
QUAL	Qualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quanitation can be given (-5 * SDL) U No analyte was detected above the Sample Detection Limit.
MCL	Maximum Contamination Level Allowed by EPA for regulated analytes
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with
ug/L	99% confidence taking sample size (compositing) into account. Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)
loûr-	Concentration of this - micrograms per man which is approximately equivalent to Parts Per Buildi (ppb)

P.O. Box 470 Albuquerque, NM 87196-4700

700 Camino de alud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

REPORT TO CLIENT:	T:
Attn: Rob Pine	SLD No.: OR- 9602621
Ground Water Quality Bureau	REQUEST ID No.: 154588
P.O. Box 26110	RECEIVED AT SLD: 7/31/96
Santa Fe, New Mexico 87502	SLD COPY USER 55321
SAMPLE COLLECTION: DATE: 7/29/96 SAMPLING LOCATION: Baker Oil MW-2	TIME: <u>na</u> 8Y: <u>Pin</u>
0 Water	REPORTING UNITS: ug/L
	ed as a preservative in this sample.
No Targeted Compounds were d	detected in this sample.

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	NA		ANALYSIS No.: OR-	9602621
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml):	_5		DILUTION FACTOR:	1.00
0			REQUEST ID No.:	154588

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
				uG/L
71-43-2	Benzene		U	1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		U	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform*	2 %	U	1.0
24-83-9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)	.07	U	10.0
104-51-8	n-Butylbenzene	; - .	U	1.0
135-98-8	sec-Butylbenzene		Ü	1.0
98-06-6	tert-Butylbenzene		Ų	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)		U	10.0
56-23-5	Carbon tetrachloride		U	1.0
108-90-7	Chlorobenzene (monochlorobenzene)	···	U	1.0
75-00-3	Chloroethane		U	1.0
67-66-3	Chioroform*		U	1.0
74-87-3	Chloromethane		U	1,0
95-49-8	2-Chlorotoluene		U	1.0
106-43-4	4-Chlorotoluene		U	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		U	1.0
124-48-1	Dibromochloromethane*		U	1.0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		- u	1.0
74-95-3	Dibromomethane		U	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)		U	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	<u> </u>	l u l	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		- 	1.0
75-71-8	Dichlorodifluoromethane	· · · · · · · · · · · · · · · · · · ·	- i -	1.0
75-34-3	1,1-Dichloroethane		U	1.0
107-06-2	1,2-Dichloroethane		T ŭ	1.0
75-35-4	1.1-Dichloroethene		 	1.0
156-59-2	cis-1,2-Dichlorgethene		U	1.0
156-60-5	trans-1,2-Dichloroethene		-1 	1.0
78-87-5	1,2-Dichloropropane		- U	1.0
142-28-9	1,3-Dichloropropane		- ŭ 	1.0
590-20-7	2,2-Dichloropropane		- 0 -	1.0
63-58-6	1,1-Dichloropropene		 	1.0
006-01-5	cis-1,3-Dichloropropene	·	 U -	1.0
006-02-6	trans-1,3-Dichloropropene		 i -	1.0
100-41-4	Ethylbenzene		- i -	1.0
87-68-3	Hexachlorobutadiene		 	1.0
98-82-8	Isopropylbenzene		- u	1.0
99-87-6	4-Isopropyltoluene		U	2.0
75-09-2	Methylene chloride (Dichloromethane)		 U -	2.0

103-65-1	Propylbenzene // N	4.10	 	
	Styrene	 - 	U	1.0
100-42-5 630-20-6	1.1.1.2-Tetrachioroethane	<u> </u>	U	1.0
79-34-5	1.1.2.2-Tetrachioroethane		U	1.0
127-18-4	Tetrachloroethene		U	1.0
	Tetrahydrofuran (THF)		U	1.0
109-99-9	Toluene		U	10.0
108-88-3			U	1.0
87-61-5	1,2,3-Trichlorobenzene		U	1.0
120-82-1	1,2,4-Trichlorobenzene		U	1.0
71-55-6	1,1,1-Trichloroethane		U	1.0
79-00-5	1,1,2-Trichloroethane		U	1.0
79-01-6	Trichloroethene		U	1.0
75-69-4	Trichlorofluoromethane		U	1.0
96-18-4	1,2,3-Trichloropropane		U	1.0
95-63-6	1,2,4-Trimethylbenzene		U	1.0
108-67-8	1,3,5-Trimethylbenzene		U	1.0
75-01-4	Vinyl chloride		υ	1.0
95-47-6	o-Xylene"		ប	1.0
N/A	p- & m-Xylene"		U	1,0
	"Total Xylenes"	1 0.0	lυl	1.0
N/A				
N/A N/A Laboratory Rema	*Total Trihalomethanes*		U	1.0
N/A	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb.		U	1.0
N/A	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S		U	
N/A Laboratory Rema	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS			% REÇOVERY
N/A Laboratory Rema	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S	SUMMARY		
N/A _aboratory Rema	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS	SUMMARY CONCENTRATION		% REÇOVERY
N/A Laboratory Rema SURROGATE RECOVERIES:	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate)	CONCENTRATION 24.14 26.18		% RECOVERY 96.6%
N/A _aboratory Rema SURROGATE RECOVERIES:	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene (Electrolytic Conductivity Detector Surrogate)	CONCENTRATION 24.14 26.18		% RECOVERY 96.6%
N/A Laboratory Remains SURROGATE RECOVERIES: ABORATORY	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene (Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from	CONCENTRATION 24.14 26.18 80% to 120% with the		% RECOVERY 96.6%
N/A aboratory Remainstrates: BURROGATE RECOVERIES: ABORATORY FORTIFIED BLANK	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Ehotolonization Detector Surrogate) 2-Bromochlorobenzene (Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L)	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY		% RECOVERY 96.6%
N/A aboratory Rema SURROGATE RECOVERIES: ABORATORY FORTIFIED	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene (Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L)	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY		% RECOVERY 96.6%
N/A Laboratory Remainstrates SURROGATE RECOVERIES: ABORATORY FORTIFIED BLANK RECOVERIES	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY		% RECOVERY 96.6%
N/A Laboratory Remains SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES ABORATORY	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY		% RECOVERY 96.6%
N/A Laboratory Remainstrates SURROGATE RECOVERIES: ABORATORY FORTIFIED BLANK RECOVERIES	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79 No target compounds were detected above the sample detection with the ecxeption of the compound(s) listed below:	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY 1%		% RECOVERY 96.6%
N/A Laboratory Remains SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES ABORATORY	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79 No target compounds were detected above the sample detection with the ecxeption of the compound(s) listed below: COMPOUND CONCENTRA	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY 1%		% RECOVERY 96.6%
N/A Laboratory Remains SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES ABORATORY	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79 No target compounds were detected above the sample detection with the ecxeption of the compound(s) listed below:	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY 1%		% RECOVERY 96.6%
N/A Laboratory Remains SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES ABORATORY	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL S SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) cis-1,2-Dichloroethene 10 79 No target compounds were detected above the sample detection with the ecxeption of the compound(s) listed below: COMPOUND CONCENTRA	CONCENTRATION 24.14 26.18 80% to 120% with the % RECOVERY 1%		% RECOVERY 96.6%

DEFINITIONS

Concentration Exceeds EPA's allowable Maximum Contamination Level CAS#

Chemical Abstract Services Number - Unique number to help identify analytes listed by different names

CONC. Concentration (ug/L) of analyte actually detected in the sample

QUAL Qualifier of analytical results as follows:

8 Analyte was detected in laboratory blank

J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL)

U No analyte was detected above the Sample Detection Limit.

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

99% confidence taking sample size (compositing) into account.

Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb) ug/L

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

ED FIELD OFFICE:	<u>,</u> 🗆
Rob Pine	
NMED/Ground Water Quality Bureau	
PO Box 26111	
Santa Fe, NM 87502	

SLD No.: O	R- 960	2626
REQUEST ID N	lo.: 15	4593
RECE	IVED AT SLD:	7/31/96
☐SLD COPY	USER:	55321

SAMPLE COLLECTION: DATE: 7/29/96

TIME: 0

BY: Pin

WSS #:

SAMPLING LOCATION: Baker Oil MW-2

SAMPLE MATRIX: Water

REPORTING UNITS: ug/L

EPA METHOD 625 NEUTRAL AND BASIC SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS 9602626 ANALYSIS No.: OR-

DATE EXTRACTED: DATE ANALYZED:

8/5/96

8/5/96 7 Days: Within EPA Holding Time 7 Days: Within EPA Analysis Time

SLD BATCH No .: **DILUTION FACTOR:**

405 1.11

900 SAMPLE VOL (ml):

REQUEST ID No .:

154593

SAMPLE PRESERVATION: Sample Temperature when received: 23 Degrees C.; pH = 7

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel

PERCENT MOISTURE:

GPC CLEANUP:

Not Used

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL	SDL
83-32-9	Acenaphthene		U	1.03
208-96-8	Acenaphthylene		U	0.97
120-12-7	Anthracene		U	0.40
103-33-3	Azobenzene		U	1.11
92-87-5	Benzidine		U	1.11
56-55-3	Benzo(a)anthracene		IJ	0.13
205-99-2	Benzo(b)fluoranthene		U	0.37
207-08-9	Benzo(k)fluoroanthene		ป	0.37
191-24-2	Benzo(g,h,i)perylene		บ	1.10
50-32-8	Benzo(a)pyrene		U	0.02
111-91-1	Bis(2-chloroethoxy)methane		U	0.77
111-44-4	Bis(2-chloroethyl)ether		U	0.43
108-60-1	Bis(2-chloroisopropyl)ether		υ	0.50
117-81-7	Bis(2-ethylhexyl)phthalate	3		0.37
101-55-3	4-Bromophenylphenyl ether		IJ	0.53
85-68-7	Butylbenzyl phthalate		บ	0.70
106-47-8	4-Chloroaniline		U	0.63
91-58-7	2-Chloronaphthaiene		U	0.57
7005-72-3	4-Chiorophenylphenyl ether		U	0.47
218-01-9	Chrysene		U	0.27
53-70-3	Dibenz(a,h)anthracene		υ	11.11
132-64-9	Dibenzofuran		U	0.80
84-74-2	Di-n-butyl phthalate		U	0.53
95-50-1	1,2-Dichlorobenzene		U	0.17
541-73-1	1,3-Dichlorobenzene		U	0.27
106-46-7	1,4-Dichlorobenzene		U	0.37
91-94-1	3,3'-Dichlorobenzidine		U	0.20

84-66-2	Diethylphthalate	<u> </u>	Į U	0.87
131-11-3	Dimethylphthalat		U	0.53
121-14-2	2,4-Dinitrotoluene		Ü	0.50
606-20-2	2,6-Dinitrotoluene		U	0.43
117-84-0	Di-n-octyl phthalate		U	0.33
206-44-0	Fluoranthene		ט	0.83
86-73-7	Fluorene		U	0.83
118-74-1	Hexachlorobenzene		U	0.83
87-68-3	Hexachlorobutadiene		U	0.33
77-47-4	Hexachlorocyclopentadiene		U	11.11
67-72-1	Hexachloroethane		U	0.33
193-39-5	Indeno(1,2,3-cd)pyrene		U	11.11
78-59-1	Isophorone		U	1.00
91-57-6	2-Methylnaphthalene		U	1.10
91-20-3	Naphthalene		U	0.70
88-74-4	2-Nitroaniline		บ_	0.57
99-09-2	3-Nitroaniline		U	0.37
100-01-6	4-Nitroaniline		U	0.57
98-95-3	Nitrobenzene		U	0.46
86-30-6	N-nitrosodiphenylamine		U	0.53
62-75-9	N-nitrosodimethylamine		U	0.53
621-64-7	N-nitroso-di-n-propylamine		U	0.03
85-01-8	Phenanthrene	<u> </u>	U	0.27
129-00-0	Pyrene		U	0.37
120-82-1	1,2,4-Trichlorobenzene		U	0.33

	QUALITY CONTAC	JE SUMMENT	t i		
Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO BEFORE EXTRACTION	O SAMPLE	Surrogate Recovered	% RECOVERY	QC Eval.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added a	at 50 ug/L)	31.0	62%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added	at 50 ug/L)	29.3	59%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at	50 ug/L)	65.7	131%	Normal
LABORATORY	The % recoveries of target analytes in the	batch spike	(s) were within	the expected rang	je
FORTIFIED	with the following exceptions:				
BLANK	COMPOUND CON	CENTRATION	% RECOVERY		
RECOVERIES	No Exceptions				
LABORATORY	No target analytes were detected above th	e sample de	tection limit in l	aboratory blank	
BLANKS	with the exception of the compound(s) liste	ed below:			
	COMPOUND	CONC	ENTRATION (ug/L).	
	No Exceptions				

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

DEFINITIONS Concentration Exceeds EPA's allowable Maximum Contamination Level CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names CONC. Concentration (ug/L) of analyte actually detected in the sample QUAL Qualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL) U No analyte was detected above the Sample Detection Limit. MCL Maximum Contamination Level Allowed by EPA for regulated analytes SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with 99% confidence taking sample size (compositing) into account. Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb) ug/L

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de d, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

	REPORT TO C	LIENT: X		• • • • • • • • • • • • • • • • • • • •			
Attn: Rob Pine			`	SLD No.: OR-	960	02622	
Ground Water Quality Bur	eau			REQUEST ID No.:	15	4589	1.000
P.O. Box 26110				RECEIVE	ED AT SLD:	7/31/96	
Santa Fe, New Mexico 87	502		SLD COPY		USER	55321	4
SAMPLE COLLECTION: DATE: SAMPLING LOCATION:	7/29/96 Baker Oll MW-3	TIME:	na	BY:	Pin /	RA PA	DET 1996
	Water			REPORTING UNITS:	ug/L \	~ 4	V////
Remarks:	Hydrocloric acid was	used as a	preservative in	ı this sample.		10:	~~~///
No 1	rargeted Compounds we	re detected	in this sample	e		150.	

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	N/A		ANALYSIS No.: OR-	9602622
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml):	5		DILUTION FACTOR:	1.00
0			REQUEST ID No.:	154589

SAMPLE PRESERVATION: Sample Temperature when received: 17 Degrees C.; pH = 3

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
				uG/L
71-43-2	Benzene		Ü	1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		U	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform*		U	1.0
24-83-9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)		U	10.0
104-51-8	n-Butylbenzene		U	1.0
135-98-8	sec-Butylbenzene		U	1,0
98-06-6	tert-Butylbenzene		Ü	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)		· · ·	10.0
56-23-5	Carbon tetrachloride		Ü	1.0
108-90-7	Chlorobenzene (monochlorobenzene)		U	1.0
75-00-3	Chloroethane		U	1.0
67-66-3	Chloroform*		Ù	1.0
74-87-3	Chloromethane		U	1.0
95-43-8	2-Chlorotoluene		U	1.0
106-43-4	4-Chlorotoluene		U	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		U	1.0
124-48-1	Dibromochloromethane*		U	1.0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		Ü	1.0
74-95-3	Dibromomethane		U	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)		U	1.0
541-73-1	1,3-Dichiorobenzene (m-Dichlorobenzene)		U	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		U	1.0
75-71-8	Dichlorodifiuoromethane		U	1.0
75-34-3	1,1-Dichloroethane		U	1.0
107-06-2	1,2-Dichloroethane		U	1.0
75-35-4	1,1-Dichloroethene		u	1.0
156-59-2	cis-1.2-Dichloroethene		U	1.0
156-60-5	trans-1,2-Dichloroethene		U	1.0
78-87-5	1,2-Dichloropropane		U	1.0
142-28-9	1,3-Dichloropropane		U	1.0
590-20-7	2,2-Dichloropropane		Ü	1.0
563-58-6	1,1-Dichloropropene		1 1	1.0
1006-01-5	cis-1,3-Dichloropropene		+ 0 +	1.0
1006-02-6	trans-1,3-Dichloropropene		+	1.0
100-41-4	Ethylbenzene		+	1.0
87-68-3	Hexachlorobutadiene		Ü	1.0
98-82-8	Isopropylbenzene		1 0	1.0
99-87-6	4-Isopropyltoluene		 	2.0
75-09-2	Methylene chloride (Dichloromethane)		+ 0 +	2.0
91-20-3	Naphthalene		 	1.0
103-65-1	Propylbenzene		+ ; ;	1.0
100-42-5	Styrene		+	1.0

			1 0	1.0
79-34-5	1,1,2,2-Tetrachloroett ne		U	1.0
127-18-4	Tetrachloroethene		Ü	1.0
109-99-9	Tetrahydrofuran (THF)		U	10.0
108-88-3	Toluene		U	1.0
87-61-5	1,2,3-Trichlorobenzene		U	1.0
120-82-1	1,2,4-Trichlorobenzene		l u	1.0
71-55-6	1,1,1-Trichloroethane		U	1.0
79-00-5	1,1,2-Trichloroethane		U	1.0
79-01-6	Trichloroethene		101	1,0
75-69-4	Trichiorofluoromethane		Ü	1.0
96-18-4	1,2,3-Trichloropropane		U	1.0
95-63-6	1,2,4-Trimethylbenzene		U	1.0
108-67-8	1,3,5-Trimethylbenzene		υ	1.0
75-01-4	Vinyi chloride		U	1.0
95-47-6	o-Xylene*		Ü	1.0
NA	p- & m-Xyiene"		U	1.0
N/A	"Total Xylenes"	0.0	U	1.0
NA	*Total Trihalomethanes*		Ü	1.0

Laboratory Remarks: Acetone was observed in this sample at 22 ppb. There were 28 compounds observed at approximately 1-10 ppb on the photoionization detector, but not identified.

	<u> </u>			Approx	. Conc.
CAS#	Tentatively Identified Compound Name	GC/MS Match %	R.T.		
611-14-3	1-Ethyl-2-Methyl-Benzene	97.9%	31.82	50.00	ug
2870-04-4	2-Ethyl-1,3-Dimethyl-Benzene	98.0%	37.12	5.00	ug
27133-93-3	2,3-Dihydro-1-Methyl-Indene	98.2%	37.54	5.00	ug
488-23-3	1,2,3,4-Tetramethyl-Benzene	99.2%	38.8	5.00	ug

	LABORATORY BATCH QUALITY CONTRO	L SUMMARY	
SURROGATE	SURROGATE COMPOUNDS	CONCENTRATION	% RECOVERY
RECOVERIES:	2-Bromochlorobenzene (Photolonization Detector Surrogate)	26.18	104.7%
	2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate)	28.34	113.4%
LABORATORY PORTIFIED BLANK RECOVERIES	The % recoveries for compounds in the batch spike were from 80° exception of the compounds listed below: COMPOUND CONCENTRATION (ug/L) % cis-1,2-Dichlroethene 10	% to 120% with the RECOVERY 79%	
LABORATORY BLANKS	No target compounds were detected above the sample detection limit with the ecception of the compound(s) listed below: COMPOUND CONCENTRATION No Exceptions	•	

			T P
ANALYST:	Patrick Basile	 QC APPROVED BY:	Ken Sherrell

Concentration Exceeds EPA's allowable Maximum Contamination Level

CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names

CONC. Concentration (ug/L) of analyte actually detected in the sample

QUAL Qualifier of analytical results as follows:

B Analyte was detected in laboratory blank

J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL)

U No analyte was detected above the Sample Detection Limit.

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

99% confidence taking sample size (compositing) into account.

Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb) ug/L

STATE OF NEW MEXICO

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

ED FIELD OFFICE: **Rob Pine** NMED/Ground Water Quality Bur. PO Box 26110 Santa Fe, NM 87502

SLD No.: OR- 9602627 REQUEST ID No .: 154594 7/31/96 RECEIVED AT SLD: USER: 55321

SAMPLE COLLECTION:

DATE: 7/29/96

TIME: 0

SAMPLING LOCATION: Baker Oil MW-3 WSS #:

SAMPLE MATRIX: water

NEUTRAL AND BASIC SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS **EPA METHOD 625**

DATE EXTRACTED: 8/5/96 8/5/96 DATE ANALYZED:

SAMPLE VOL (ml):

7 Days: Within EPA Holding Time

7 Days: Within EPA Analysis Time

ANALYSIS No.: OR-SLD BATCH No.: **DILUTION FACTOR:**

REQUEST ID No .:

9602627 405 1.00 154594

SAMPLE PRESERVATION: Sample Temperature when received: 23 Degrees C.; pH = 7

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel

1000

PERCENT MOISTURE:

N/A

GPC CLEANUP:

Not Used

CAS# #	ANALYTE NAME	CONC. (ug/L)	QUAL	SDL
83-32-9	Acenaphthene		U	0.93
208-96-8	Acenaphthylene		U	0.87
120-12-7	Anthracene		IJ	0.36
103-33-3	Azobenzene		U	1.00
92-87-5	Benzidine Benzidine		U	1.00
56-55-3	Benzo(a)anthracene		U	0.12
205-99-2	Benzo(b)fluoranthene		Ü	0.33
207-08-9	Benzo(k)fluoroanthene		U	0.33
191-24-2	Benzo(g,h,i)perylene		U	0.99
50-32-8	Benzo(a)pyrene		U	0.02
111-91-1	Bis(2-chloroethoxy)methane		U	0.69
111-44-4	Bis(2-chloroethyl)ether		U	0.39
108-60-1	Bis(2-chloroisopropyl)ether	_	U	0.45
117-81-7	Bis(2-ethylhexyl)phthalate	1	j	0.33
101-55-3	4-Bromophenylphenyl ether		υ	0.48
85-68-7	Butyibenzyi phthalate		U	0.63
106-47-8	4-Chloroaniline		U	0.57
91-58-7	2-Chloronaphthalene		U	0.51
7005-72-3	4-Chlorophenylphenyl ether		U	0.42
218-01-9	Chrysene		U	0.24
53-70-3	Dibenz(a,h)anthracene		υ	10.00
132-64-9	Dibenzofuran		U	0.72
84-74-2	Di-n-butyl phthalate		U	0.48
95-50-1	1,2-Dichlorobenzene		U	0.15
541-73-1	1,3-Dichlorobenzene		U	0.24
106-46-7	1,4-Dichlorobenzene		U	0.33
91-94-1	3,3'-Dichlorobenzidine		U	0.18

84-66-2	Diethylphthalate		L U	0.78
131-11-3	Dimethylphthalate	No.	U	0.48
121-14-2	2,4-Dinitrotoluene		u	0.45
606-20-2	2,6-Dinitrotoluene		U	0.39
117-84-0	Di-n-octyl phthalate		U	0.30
206-44-0	Fluoranthene		Ü	0.75
86-73-7	Fluorene		U	0.75
118-74-1	Hexachiorobenzene		U	0.75
87-68-3	Hexachlorobutadiene		U	0.30
77-47-4	Hexachlorocyclopentadiene		U	10.00
67-72-1	Hexachloroethane		U	0.30
193-39-5	Indeno(1,2,3-cd)pyrene		U	10.00
78-59-1	Isophorone		U	0.90
91-57-6	2-Methylnaphthalene		U	0.99
91-20-3	Naphthalene		U	0.63
88-74-4	2-Nitroaniline		U	0.51
99-09-2	3-Nitroaniline		U	0.33
100-01-6	4-Nitroaniline		U	0.51
98-95-3	Nitrobenzene		ับ	0.41
86-30-6	N-nitrosodiphenylamine		U	0.48
62-75 -9	N-nitrosodimethylamine		U	0.48
621-64-7	N-nitroso-di-n-propylamine		U	0.03
85-01-8	Phenanthrene		υ	0.24
129-00-0	Pyrene		U	0.33
120-82-1	1,2,4-Trichlorobenzene		U	0.30

	QUALITY CONTINUE COMMA			
Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Eval.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	28.0	56%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	28.0	56%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	37.0	74%	Normal
LABORATORY	The % recoveries of target analytes in the batch spike	(s) were within	the expected rang	e
FORTIFIED	with the following exceptions:			
BLANK	COMPOUND CONCENTRATION	% RECOVERY		
RECOVERIES	No Exceptions			
LABORATORY	No target analytes were detected above the sample de	tection limit in la	aboratory blank	
BLANKS	with the exception of the compound(s) listed below:			
	COMPOUND CONC	ENTRATION (ug/L	1	
	No Exceptions			

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

CAS# Concentration Exceeds EPA's allowable Maximum Contamination Level CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names CONC. Concentration (ug/L) of analyte actually detected in the sample QUAL Qualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quantitation can be given (~5 * SDL) U No analyte was detected above the Sample Detection Limit. MCL Maximum Contamination Level Allowed by EPA for regulated analytes

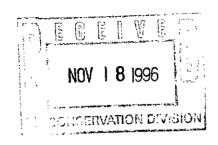
MCL Maximum Contamination Level Allowed by EPA for regulated analytes

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

99% confidence taking sample size (compositing) into account.

Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)





Nov 13, 1996

Mr. William Olson, Hydrogeologist
State of New Mexico
Energy, Mineral and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Mr. Olson:

Baker Oil Tools is submitting the fourth required monitoring in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for groundwater contamination in the direct vicinity of the former disposal pit on the property located at 2800 W. Marland in Hobbs, New Mexico. The NMOCD requested the following three items from BOT for each monitoring session:

1. A brief description of all monitoring activities which occurred during the quarter.

BOT performed sampling on October 23, 1996. Each well was bailed of three volumes and allowed to equalize prior to sampling except for WW-1 which is a 125' deep water well (only 1 volume was removed). The wells were gauged for depth and bailed on the 23rd with sampling occurring on the 23rd. The Hobbs district office of the NMOCD was notified prior to sampling as required. Samples were packaged and submitted to the laboratory for analysis.

2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells. The data will be presented in tabular form showing past and present sampling results.

Tables 1a through 1g present the sampling data.

Table 1a BENZENE (ug/L)

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	Dataset Quarter 2 4 149-17,1995 Guster 2, 1995	646 <u>2</u> 24
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Table 1b TOLUENE (μg/L)

	000000000000000000000000000000000000000	0.000	
	333 SEC. 14	000000000000000000000000000000000000000	0.000000
	330		
	333 TO 1		888888

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Table 1f NAPHTHALENE (ug/L)

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Table 1g 2-METHYL NAPHTHALENE (ug/L)

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*sample broke during shipment

3. A ground water elevation map using the water table elevation of the ground water in all monitoring wells.

Figure 1 presents the water elevation data as requested. Table 2 lists the well number, the depth of the well, the depth to the top of the water, the elevation of the well casing and the actual depth to ground water.

The previous quarter sampling was performed by New Mexico Environmental Department (NMED) and those results, which were just received (Nov 12, 1996), are presented as well.

If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely,

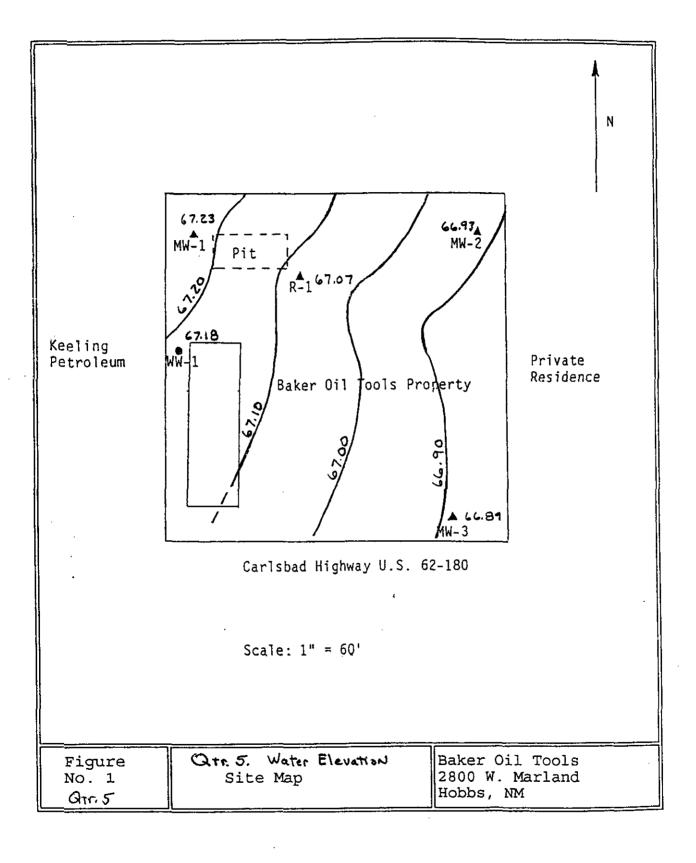
For Baker Oil Tools

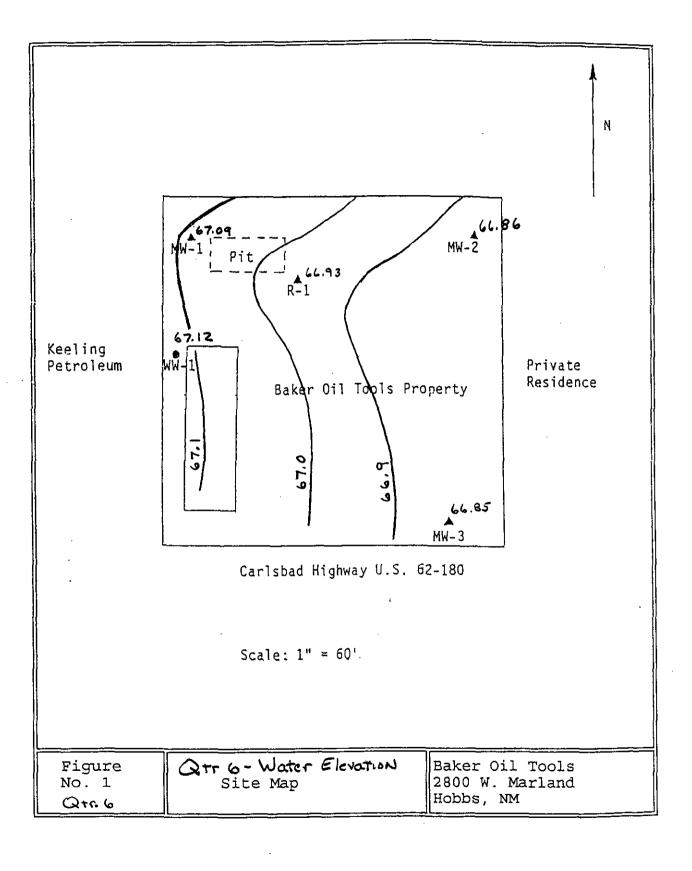
Thomas V. Stenbeck

Manager of Health, Safety and Environment

Table 2 Ground Water Elevation Data

		1	{	:	Ł	
g day	actual deoth	67.09	98.99	66.85	67.12	66.93
Our	gauged	33.10	32.70	32.30	32.40	33.10
ter S	actual	67.23	66.93	66.89	67.18	67.07
Овая	gauged	32.96	32.63	32.26	32.34	32.96
ter 4	actual	67.49	67.16	67.15	67.52	67.13
() () ()	gauged	32.7	32.4	32.0	32.0	32.9
ster 3	actual deoth	67.87	67.59	67.60	67.87	67.79
Quan-	gauged	32.32	31.97	31.55	31.65	32.24
ter 2	actual depth	62.69	67.56	67.15	67.72	67.23
Onar	gauged	32.5	32.0	32.0	31.8	32.8
1 191	actual	66.99	90'.29	66.45	67.22	67.03
Ouan	gauged	33.2	32.5	32.7	32.3	33.0
Tievalina Tievalina		100.19	99.56	99.15	99.52	100.03
Well Depth		46.0	45.7	39.3	125.0	40.0
Well IB		MW-1	MW-2	MW-3	WW-1	R-1







State of New Mexico ENVIRONMENT DEPARTMENT

Ground Water Protection and Remediation Bureau

Harold Runnels Building 1190 St. Francis Drive, P.O. Box 26110 Santa Fe, New Mexico 87502 (505) 827-2918 phone (505) 827-2965 fax



EDGAR T. THORNTON, III DEPUTY SECRETARY

November 8, 1996

Mr. Thomas Stenbeck Baker Oil Tools P.O. Box 40129 9100 Emmott Rd. Houston, TX 77240-0129

RE: Ground Water Analyses at Hobbs Facility

Dear Mr. Stenbeck:

Enclosed you will find copies of the laboratory analyses of the ground water samples collected from the monitor wells at Baker Oil Tools' Hobbs facility. I apologize for delay, but our lab only recently sent me the last of the results. You might note the elevated levels of polycyclic aromatic hydrocarbons in well R-1. Copies of these analyses have been forwarded to Bill Olson with the Oil Conservation Division.

Thank you very much for your cooperation. If you should have any questions, please call me at 505-827-0178.

Sincerely,

Robert Pine Hydrologist

Assessment & Abatement Section

Enclosures: Lab Analyses

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

REPORT TO CL	IENT:				
Attn: Rob Pine			SLD No.: OR-	%960	2620
Ground Water Quality Bureau			REQUEST ID No.:	15	4587
P.O. Box 26110			RECEIVED A	T SLD:	7/31/96
Santa Fe, New Mexico 87502		SLD COPY	•	USER	55321
SAMPLE COLLECTION: DATE: 7/29/96 SAMPLING LOCATION: Baker Oil MW-1	TIME:	na	BY: <u>-</u>	<u>Pin</u>	
o Water			REPORTING UNITS:	ug/L	
Remarks: Hydrocloric acid was No Targeted Compounds was					
			<u></u>		

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	NA		ANALYSIS No.: OR-	9602620
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml):	5		DILUTION FACTOR:	1.00
0			REQUEST ID No.:	154587

SAMPLE PRESERVATION: Sample Temperature when received: 18 Degrees C.; pH = 4

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL	SDL
				uG/L
71-43-2	Benzene		l u	1.0
108-86-1	Bromobenzene		Ü	1.0
74-97-5	Bromochloromethane		(U	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform"		U	1.0
24-83-9	Bromomethane		וטן	1.0
78-93-3	2-Butanone (MEK)		ן ט	10.0
104-51-8	n-Butylbenzene	11:25	U	1.0
135-98-8	sec-Butylbenzene) 0	1.0
98-06-6	tert-Butylbenzene	4	l u l	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)	.,	1 0 1	10.0
56-23-5	Carbon tetrachloride	700-3-	U	1.0
108-90-7	Chlorobenzene (monochlorobenzene)	1046 / .	U	1.0
75-00-3	Chloroethane	1/2	u	1.0
67-66-3	Chloroform*	11.11	ΙÜ	1.0
74-87-3	Chloromethane		U	1.0
95-49-8	2-Chiorotoluene	N /	U	1.0
106-43-4	4-Chiorotoluene	: 44	Ιυ	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		T U	1.0
124-18-1	Dibromochloromethane*	1	iul	1,0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (ED8))		i u	1.0
74-95-3	Dibromomethane		iu	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	<u> </u>	Ü	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	 	U	1.0
106-16-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		υ	1.0
75-71-8	Dichlorodifluoromethane	 	i u	1.0
75-34-3	1,1-Dichloroethane	 	i. u	1.0
107-06-2	1,2-Dichloroethane	 	U	1.0
75-35-4	1,1-Dichloroethene	· 	1 0	1.0
156-59-2	cis-1,2-Dichloroethene	i	1 0	1.0
156-60-5	trans-1,2-Dichloroethene	 	1 11	1.0
78-87-5	1,2-Dichloropropane		1 11	1.0
142-28-9	1,3-Dichloropropane		10	1.0
590-20-7	2,2-Dichloropropane	 	† 	1.0
563-58-6	1,1-Dichloropropene	 	1 0 1	1.0
1006-01-5	cis-1,3-Dichloropropene		1 0	1.0
006-02-6	trans-1,3-Dichloropropene	 	1 0	1.0
100-41-4	Ethylbenzene	 	+ + + + + + + + + + + + + + + + + + + +	1.0
87-68-3	Hexachiorobutadiene	 	+ + + + -	1.0
98-82-8	Isopropylbenzene		+	1.0
99-87-6	4-isopropyitoluene		1 5	2.0
75-09-2	Methylene chloride (Dichloromethane)	 	1 0	2.0

91-20-3	Naphthalene 🤲		U I	1.0		
103-65-1	Naphthalene Propylbenzene		U	1.0		
100-42-5	Styrene		U	1.0		
630-20-6	1,1,1,2-Tetrachloroethane		u	U 1.0		
79-34-5	1,1,2,2-Tetrachioroethane		U	1.0		
127-18-4	Tetrachloroethene		U	1.0		
109-99-9	Tetrahydrofuran (THF)	,	U	10.0		
108-88-3	Toluene		Ü	1.0		
87-61-5	1,2,3-Trichlorobenzene		U	1.0		
120-82-1	1,2,4-Trichlorobenzene		U	1.0		
71-55-6	1,1,1-Trichloroethane		U	1.0		
79-00-5	1,1,2-Trichloroethane		U	1.0		
79-01-6	Trichloroethene		U	1.0		
75-69-4	Trichlorofluoromethane		U	1.0		
96-18-4	1,2,3-Trichloropropane		U	1.0		
95-63-6	1,2,4-Trimethylbenzene		U	1.0		
108-67-8	1,3,5-Trimethylbenzene		U	1.0		
75-01-4	Vinyl chloride		U	1.0		
95-47-6	o-Xylene*		U	1.0		
N/A	p- & m-Xylene"		U	1.0		
N/A	Total Xylenes	0,0	U	1.0		
N/A	*Total Trihalomethanes*		U	1.0		
						
	LABORATORY BATCH QUALITY CONTROL SU	JMMARY				
SURROGATE	SURROGATE COMPOUNDS	CONCENTRATION		% RECOVERY		
RECOVERIES:	2-Bromochlorobenzene (Photolonization Detector Surrogate)	23.85		95.4%		
<u> </u>	2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate)	26.58		106.3%		
LABORATORY	The % recoveries for compounds in the batch spike were from 8	0% to 120% with the				
FORTIFIED	exception of the compounds listed below:	•				
BLANK	COMPOUND CONCENTRATION (ug/L)	% RECOVERY				
D	cis-1,2-Dichloroethene 10 79%					

BLANK	COMPOUND CONCENTRATION (ug/L) % RECOVERY
RECOVERIES	cis-1,2-Dichloroethene 10 79%
LABORATORY	No target compounds were detected above the sample detection limit in laboratory blank
BLANKS	with the ecxeption of the compound(s) listed below:
	COMPOUND CONCENTRATION (UGL.)
	No Exceptions

ANALYST: Patrick Basile QC APPROVED BY: Ken Sherrell

DEFINITIONS

Concentration Exceeds EPA's allowable Maximum Contamination Level

CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names

CONC. Concentration (ug/L) of analyte actually detected in the sample

Qualifier of analytical results as follows: QUAL

B Analyte was detected in laboratory blank

J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL)

U No analyte was detected above the Sample Detection Limit.

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

99% confidence taking sample size (compositing) into account.

Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb) ug/L

STATE OF NEW MEXICO

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

ED FIELD OFFICE: SLD No.: OR- 9602625 **Rob Pine NMED/Ground Water Quality Bureau** REQUEST ID No .: 154592 PO Box 26110 RECEIVED AT SLD 7/31/96 る) USER: 3 Santa Fe, NM 87502 55321 BY: Pin TIME: 0 SAMPLE COLLECTION: DATE: 7/29/96 SAMPLING LOCATION: Baker Oil MW-1 WSS #: SAMPLE MATRIX: Water \<

NEUTRAL AND BASIC SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS **EPA METHOD 625** DATE EXTRACTED: 8/5/96 7 Days: Within EPA Holding Time ANALYSIS No.: OR-9602625 405 DATE ANALYZED: 8/5/96 7 Days: Within EPA Analysis Time SLD BATCH No .: 910 DILUTION FACTOR: 1.10 SAMPLE VOL (mi): REQUEST ID No .: 154592

SAMPLE PRESERVATION: Sample Temperature when received: 21 Degrees C.; pH = 7

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel PERCENT MOISTURE: N/A

GPC CLEANUP: Not Used

CAS# 🦃	ANALYTE NAME	CONC: (ug/L)	QUAL.	SDL %
83-32-9	Acenaphthene		U	1.02
208 -9 6-8	Acenaphthylene		U	0.96
120-12-7	Anthracene		J	0.40
103-33-3	Azobenzene		כ	1.10
92-87-5	Benzidine		ט	1.10
56-55-3	Benzo(a)anthracene		U	0.13
205-99-2	Benzo(b)fluoranthene		U	0.36
207-08-9	Benzo(k)fluoroanthene		U	0.36
191-24-2	Benzo(g,h,i)perylene		IJ	1.09
50-32-8	Benzo(a)pyrene		U	0.02
111-91-1	Bis(2-chloroethoxy)methane		υ	0.76
111-44-4	Bis(2-chloroethyl)ether		U	0.43
108-60-1	Bis(2-chloroisopropyl)ether		U.	0.49
117-81-7	Bis(2-ethylhexyl)phthalate	4		0.36
101-55-3	4-Bromophenylphenyl ether		U	0.53
85-68-7	Butylbenzyl phthalate		Ü	0.69
106-47-8	4-Chloroaniline		U	0.63
91-58-7	2-Chloronaphthalene		U	0.56
7005-72-3	4-Chiorophenylphenyl ether		U	0.46
218-01-9	Chrysene		U	0.26
53-70-3	Dibenz(a,h)anthracene		U	10.99
132-64-9	Dibenzofuran		Ü	0.79
84-74-2	Di-n-butyl phthalate		U	0.53
95-50-1	1,2-Dichlorobenzene		U	0.16
541-73-1	1,3-Dichlorobenzene		U	0.26
106-46-7	1,4-Dichlorobenzene		U	0.36
91-94-1	3,3'-Dichlorobenzidine		U	0.20

84-66-2	Diethylphthalate 🧠		U	0.86
131-11-3	Dimethylphthalate	र् प्रकृति	U	0.53
121-14-2	2,4-Dinitrotoluene		U	0.49
606-20-2	2,6-Dinitrotoluene		U	0.43
117-84-0	Di-n-octyl phthalate		U	0.33
206-44-0	Fluoranthene		U	0.82
86-73-7	Fluorene		U	0.82
118-74-1	Hexachlorobenzene		U	0.82
87-68-3	Hexachiorobutadiene		ับ	0.33
77-47-4	Hexachlorocyclopentadiene		U	10.99
67-72-1	Hexachioroethane		ប	0.33
193-39-5	Indeno(1,2,3-cd)pyrene		U	10_99
78-59-1	Isophorone		U	0.99
91-57-6	2-Methyinaphthalene		U	1.09
91-20-3	Naphthalene ***		U	0.69
88-74-4	2-Nitroaniline		U	0.56
99-09-2	3-Nitroaniline		U	0.36
100-01-6	4-Nitroaniline		U	0.56
98-95-3	Nitrobenzene		υ	0.45
86-30-6	N-nitrosodiphenylamine		IJ	0.53
62-75-9	N-nitrosodimethylamine		U	0.53
621-64-7	N-nitroso-di-n-propylamine		U	0.03
85-01-8	Phenanthrene		U	0.26
129-00-0	Pyrene		U	0.36
120-82-1	1,2,4-Trichlorobenzene		U	0.33

Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Eval.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	29.0	58%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	27.0	54%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	40.0	80%	Normal
LABORATORY	The % recoveries of target analytes in the batch spike	(s) were within	the expected range	e
FORTIFIED	with the following exceptions:			
BLANK	COMPOUND CONCENTRATION	% RECOVERY		
RECOVERIES	No Exceptions			
	No target analytes were detected above the sample de with the exception of the compound(s) listed below:	tection limit in la	aboratory blank	
	COMPOUND CONC No Exceptions	ENTRATION (ug/L)	

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

	DEFINITIONS
	Concentration Exceeds EPA's allowable Maximum Contamination Level
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
CONC.	Concentration (ug/L) of analyte actually detected in the sample
QUAL	Oualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL) U No analyte was detected above the Sample Detection Limit.
MCL	Maximum Contamination Level Allowed by EPA for requiated analytes
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with
ug/L	99% confidence taking sample size (compositing) into account. Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

P.O. Box 4700 (A) Albuquerque, NM 87196-4700

700 Camino de S. ॔॔॔॔॔d, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

REPORT TO CLIEN	T:				
Attn: Rob Pine	3		SLD No.: OR-	- 3896	02621
Ground Water Quality Bureau			REQUEST ID No.:	15	54588
P.O. Box 26110			RECEIVED	AT SLD:	7/31/96
Santa Fe, New Mexico 87502		SLD COPY		USER	55321
SAMPLE COLLECTION: DATE: 7/29/96 SAMPLING LOCATION: Baker Oil MW-2	TIME:	na	BY:	<u>Pin</u>	
0 Water	_		REPORTING UNITS:	ug/L	
Remarks: Hydrocloric acid was us	ed as a	preservative i	n this sample.		
No Targeted Compounds were	detect	ed in this samp	le.		

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	N/A		ANALYSIS No.: OR-	9602621
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (mi):	5		DILUTION FACTOR:	1.00
0			REQUEST ID No.:	154588

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL	SDL
				uG/L
71-43-2	Benzene		U	1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		ប	1.0
75-27-4	Bromodichioromethane*		U	1.0
75-25-2	Bromoform*	· ·	U	1.0
24-83-9	Bromomethane		U	1.0
78-9 <mark>3-3</mark>	2-Butanone (MEK)	· / 1	U	10.0
104-51-8	n-Butylbenzene 1/50	•	U	1.0
135-98-8	sec-Butylbenzene		U	1.0
98-06-6	tert-Butylbenzene #L1:T11		U	1.0
634-04-4	tert-Butyl methyl ether (MTBE)		U	10.0
56-23-5	Carbon tetrachloride		U	1.0
08-90-7	Chlorobenzene (monochlorobenzene)		U	1.0
75-00-3	Chloroethane		U	1.0
67-6 6-3	Chloroform*	<u> </u>	U	1.0
74-87-3	Chloromethane		U	1.0
95-49-8	2-Chlorotoluene		U	1.0
106-43-4	4-Chlorotoluene		u	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		u	1.0
24-48-1	Dibromochloromethane*		Ü	1.0
06-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))	·	u -	1.0
74-95-3	Dibromomethane		Ū	1.0
95-50-1	1,2-Dichiorobenzene (o-Dichiorobenzene)		u u	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)		 	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		1 1	1.0
75-71-8	Dichlorodifluoromethane		u l	1.0
75-34-3	1.1-Dichloroethane		10	1.0
07-06-2	1,2-Dichloroethane		 	1.0
75-35-4	1,1-Dichloroethene		T U	1.0
156-59-2	cis-1,2-Dichloroethene		 	1.0
56-60-5	trans-1,2-Dichloroethene	· · · · · · · · · · · · · · · · · · ·	+ 5 +	1.0
78-87-5	1,2-Dichloropropane		1 0	1,0
42-28-9	1,3-Dichioropropane		l ŭ	1.0
90-20-7	2,2-Dichloropropane		1 0	1.0
63-58-6	1,1-Dichloropropene		 ŭ -	1.0
006-01-5	cis-1,3-Dichloropropene		1 5	1.0
006-02-6	trans-1,3-Dichloropropene		1 0 1	1.0
00-41-4	Ethylbenzene		 	1.0
37-68-3	Hexachiorobutadiene		1 0 1	1.0
8-82-8	Isopropylbenzene	·····	+ + + + + + + + + + + + + + + + + + + +	1.0
9-87-6	4-Isopropyltoluene	·	U	2.0
5-09-2	Methylene chloride (Dichloromethane)		 	2.0

103-65-1	Propylbenzene	150	Ų	1.0
100-42-5	Styrene	\(\sigma_1 \sigma_2 \sigma_1 \sigma_2 \sigma_1 \sigma_2 \sigma_1 \sigma_2 \sigma_2 \sigma_1 \sigma_2 \sigma_2 \sigma_1 \sigma_2 \	Ü	1.0
630-20-6	1,1,1,2-Tetrachioroethane		Ų	1.0
79- 34-5	1,1,2,2-Tetrachloroethane		IJ	1.0
127-18-4	Tetrachloroethene		Ü	1.0
109-99-9	Tetrahydrofuran (THF)		U	10:0
108-88-3	Toluene .		U	1.0
87-61-5	1,2,3-Trichlorobenzene		U	1.0
120-82-1	1,2,4-Trichlorobenzene		U	1.0
71-55-6	1,1,1-Trichloroethane		U	1.0
79-00-5	1,1,2-Trichloroethane		U	1,0
79-01-6	Trichloroethene		Ū	1.0
75-69-4	Trichlorofluoromethane		U	1.0
96-18-4	1,2,3-Trichloropropane		IJ	1.0
95-63-6	1,2,4-Trimethylbenzene		U	1.0
108-67-8	1,3,5-Trimethylbenzene		U	1.0
75-01-4	Vinyl chloride		Ü	1.0
95-47-6	o-Xylene*		U	1.0
N/A	p- & m-Xylene"		U	1.0
4447				
N/A	Total Xylenes	0.0	U	1.0
N/A N/A	*Total Trihalomethanes*	0.0	U	1.0
N/A N/A	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb.			
N/A N/A Laboratory Rema	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM	MMARY	U	1.0
N/A N/A Laboratory Rema	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUA SURROGATE COMPOUNDS	MMARY CONCENTRATION	U	1.0
N/A N/A Laboratory Rema	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUA SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate)	MMARY CONCENTRATION 24.14	U V	1.0 % RECOVERY 96.6%
N/A N/A Laboratory Rema	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUA SURROGATE COMPOUNDS	MMARY CONCENTRATION	U V	1.0
N/A N/A Laboratory Rema SURROGATE RECOVERIES:	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate)	MMARY CONCENTRATION 24.14 25.18	U V	1.0 % RECOVERY 96.6%
N/A N/A Laboratory Rema SURROGATE RECOVERIES:	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80	MMARY CONCENTRATION 24.14 25.18	U V	1.0 % RECOVERY 96.6%
N/A N/A Laboratory Rema SURROGATE RECOVERIES: LABORATORY FORTIFIED	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below:	GONCENTRATION 24.14 26.18 1% to 120% with the	U V	1.0 % RECOVERY 96.6%
N/A N/A Laboratory Rema SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L)	GONCENTRATION 24.14 26.18 1% to 120% with the	U V	1.0 % RECOVERY 96.6%
N/A N/A Laboratory Rema SURROGATE RECOVERIES: LABORATORY FORTIFIED	*Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below:	GONCENTRATION 24.14 26.18 1% to 120% with the	U V	1.0 % RECOVERY 96.6%
N/A N/A N/A Laboratory Remains SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene (Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79%	GONCENTRATION 24.14 26.18 26.18 26 to 120% with the	U V	1.0 % RECOVERY 96.6%
N/A N/A N/A Laboratory Remainstratory Recoveries: LABORATORY FORTIFIED BLANK RECOVERIES LABORATORY	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection line.	GONCENTRATION 24.14 26.18 26.18 26 to 120% with the	U V	1.0 % RECOVERY 96.6%
N/A N/A N/A Laboratory Remains SURROGATE RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection lin with the ecxeption of the compound(s) listed below:	CONCENTRATION 24.14 26.18 3% to 120% with the 6 RECOVERY	U V	1.0 % RECOVERY 96.6%
N/A N/A N/A Laboratory Remainstratory Remainstratory RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection lin with the ecxeption of the compound(s) listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79%	CONCENTRATION 24.14 26.18 3% to 120% with the 6 RECOVERY	U V	1.0 % RECOVERY 96.6%
N/A N/A N/A Laboratory Remainstratory Remainstratory RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection lin with the ecxeption of the compound(s) listed below:	CONCENTRATION 24.14 26.18 3% to 120% with the 6 RECOVERY	U V	1.0 % RECOVERY 96.6%
N/A N/A N/A Laboratory Remainstratory Remainstratory RECOVERIES: LABORATORY FORTIFIED BLANK RECOVERIES	Total Trihalomethanes* arks: Acetone was observed in this sample at 35 ppb. LABORATORY BATCH QUALITY CONTROL SUM SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Ejectrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79% No target compounds were detected above the sample detection lin with the ecxeption of the compound(s) listed below: COMPOUND CONCENTRATION (up/L) 2 cis-1,2-Dichloroethene 10 79%	CONCENTRATION 24.14 26.18 3% to 120% with the 6 RECOVERY	U V	1.0 % RECOVERY 96.6%

	DEFINITIONS
	Concentration Exceeds EPA's allowable Maximum Contamination Level
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
CONC.	Concentration (ug/L) of analyte actually detected in the sample
QUAL	Qualifier of analytical results as follows:
İ	8 Analyte was detected in laboratory blank
	J Analyte was detected at a level below which an accurate quanitation can be given (-5 * SDL)
	U No analyte was detected above the Sample Detection Limit.
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with
ug/L	99% confidence taking sample size (compositing) into account. Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

STATE OF NEW MEXICO

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

ED FIELD OFFICE: **Rob Pine NMED/Ground Water Quality Bureau** PO Box 26111 Santa Fe, NM 87502

SLD No.: OR- 9602626 REQUEST ID No.: 154593 7/31/96 RECEIVED AT SLD: 55321 SLD COPY USER:

SAMPLE COLLECTION:

EPA METHOD 625

DATE EXTRACTED:

DATE ANALYZED:

SAMPLE VOL (ml):

DATE: 7/29/96

8/5/96

TIME: 0

BY: Pin

SAMPLING LOCATION: Baker Oil MW-2

REPORTING UNITS: ug/L

WSS #:

SAMPLE MATRIX: water

7 Days: Within EPA Holding Time

NEUTRAL AND BASIC SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS 9602626 ANALYSIS No.: OR-405 SLD BATCH No .:

8/5/96 7 Days: Within EPA Analysis Time

900

DILUTION FACTOR: REQUEST ID No.:

1.11 154593

SAMPLE PRESERVATION: Sample Temperature when received: 23 Degrees C.; pH = 7

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel

PERCENT MOISTURE:

GPC CLEANUP:

Not Used

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL.	**SDL
83-32-9	Acenaphthene		U	1.03
208-96-8	Acenaphthylene		U	0.97
120-12-7	Anthracene		U	0.40
103-33-3	Azobenzene		U	1.11
92-87-5	Benzidine		U_	1.11
56-55-3	Benzo(a)anthracene		U	0.13
205-99-2	Benzo(b)fluoranthene		U	0.37
207-08-9	Benzo(k)fluoroanthene		U	0.37
191-24-2	Benzo(g,h,i)perylene		U	1.10
50-32-8	Benzo(a)pyrene		Ų	0.02
111-91-1	Bis(2-chloroethoxy)methane		U	0.77
111-44-4	Bis(2-chioroethyl)ether		U	0.43
108-60-1	Bis(2-chloroisopropyl)ether	_	U	0.50
117-81-7	Bis(2-ethylhexyl)phthalate	3		0.37
101-55-3	4-Bromophenylphenyl ether		U	0.53
85-68-7	Butylbenzyl phthalate		U	0.70
106-47-8	4-Chloroaniline		U	0.63
91-58-7	2-Chloronaphthalene		U	0.57
7005-72-3	4-Chlorophenylphenyl ether		u	0.47
218-01-9	Chrysene		U	0.27
53-70-3	Dibenz(a,h)anthracene		U	11.11
132-64-9	Dibenzofuran		U	0.80
84-74-2	Di-n-butyl phthalate		U	0.53
95-50-1	1,2-Dichlorobenzene		U	0.17
541-73-1	1,3-Dichlorobenzene		υ	0.27
106-46-7	1,4-Dichlorobenzene		U	0.37
91-94-1	3,3'-Dichlorobenzidine		U	0.20

84-66-2	Diethylphthalate		U	U.87
131-11-3	Dimethylphthalate		ט	0.53
121-14-2	2,4-Dinitrotoluene		U	0.50
606-20-2	2,6-Dinitrotoluene		IJ	0.43
117-84-0	Di-n-octyl phthalate		U	0.33
206-44-0	Fluoranthene		บ	0.83
86-73-7	Fluorene		U	0.83
118-74-1	Hexachlorobenzene		U	0.83
87-68-3	Hexachlorobutadiene		U	0.33
77-47-4	Hexachlorocyclopentadiene		U	11.11
67-72-1	Hexachloroethane		U	0.33
193-39-5	Indeno(1,2,3-cd)pyrene		U	11.11
78-59-1	Isophorone		U	1.00
91-57-6	2-Methylnaphthalene		U	1.10
91-20-3	Naphthalene		ט	0.70
88-74-4	2-Nitroaniline		U	0.57
99-09-2	3-Nitroaniline		U	0.37
100-01-6	4-Nitroaniline		U	0.57
98-95-3	Nitrobenzene		U	0.46
86-30-6	N-nitrosodiphenylamine		U	0.53
62-75-9	N-nitrosodimethylamine		U	0.53
621-64-7	N-nitroso-di-n-propylamine		บ	0.03
85-01-8	Phenanthrene	-	U	0.27
129-00-0	Pyrene		U	0.37
120-82-1	1,2,4-Trichlorobenzene		U	0.33

Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Eval.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	31.0	62%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	29.3	59%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	65.7	131%	Normal
LABORATORY	The % recoveries of target analytes in the batch spike	(s) were within	the expected range	е
FORTIFIED	with the following exceptions:			
BLANK	COMPOUND CONCENTRATION	% RECOVERY		
RECOVERIES	No Exceptions			
	No target analytes were detected above the sample de with the exception of the compound(s) listed below:	tection limit in la	aboratory blank	
	<u>сомроиир</u> <u>сомо</u> No Exceptions	ENTRATION (ug/L		

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

	DEFINITIONS
**	Concentration Exceeds EPA's allowable Maximum Contamination Level
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
CONC.	Concentration (ug/L) of analyte actually detected in the sample
QUAL	Cualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL) U No analyte was detected above the Sample Detection Limit.
MCL	Maximum Contamination Level Allowed by EPA for regulated analytes
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with 99% confidence taking sample size (compositing) into account.
ug/L	Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

SCIEF OFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 VISION 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION (505) 841-2570

	REPORT TO CLIENT:	X.					
Attn: Rob Pine			`	SLD No.: OR-	- 🥍 9602	2622	
Ground Water Quality Bureau		Ĭ		REQUEST ID No .:	154	589 -	
P.O. Box 26110				RECEIVI	ED AT SLD:	7/31/96	
Santa Fe, New Mexico 87502			SLD COPY		USER	55321	4
SAMPLE COLLECTION: DATE: 7/29/9	96 r Oll MW-3	TIME:	na	BY:	Pin (=		Pri 1996
	Water			REPORTING UNITS:	ug/L \	. ' ' ' (UTVIN
	drocloric acid was used			sample.		Č.	- "[]
No Targete	ed Compounds were de	tected	in this sample.			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	· ·

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	N/A		ANALYSIS No.: OR-	9602622
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml):	5		DILUTION FACTOR:	1.00
0 .			REQUEST ID No.:	154589

SAMPLE PRESERVATION: Sample Temperature when received: 17 Degrees C.; pH = 3

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
				UG/L
71-43-2	Benzene		U	1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		u	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform*		Ü	1.0
24-83-9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)	<u> </u>	U	10.0
104-51-8	n-Butylbenzene		U	1.0
135-98-8	sec-Butylbenzene		u	1.0
98-06-6	tert-Butylbenzene		U	1.0
1634-04-1	tert-Butyl methyl ether (MTBE)		U	10,0
56-23-5	Carbon tetrachloride		U	1.0
108-90-7	Chlorobenzene (monochlorobenzene)		U	1.0
75-00-3	Chloroethane		U	1.0
67-66-3	Chloroform"		<u>ט</u>	1.0
74-87-3	Chloromethane		U	1.0
95-43-8	2-Chlorotoluene		U	1.0
106-43-4	4-Chlorotoluene		U	1.0
96-12-8	1,2-Cibromo-3-chloropropane (DBCP)		U	1.0
124-48-1	Dibromochioromethane*		U	1.0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		U	1.0
74-95-3	Dibromomethane	,	U	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)		U	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)		U	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		U	1.0
75-71-8	Dichlorodifluoromethane) U	1.0
75-34-3	1,1-Dichloroethane		U	1.0
107-06-2	1,2-Dichloroethane		U	1.0
75-35-4	1,1-Dichloroethene		U	1.0
156-59-2	cis-1,2-Dichloroethene		U	1.0
156-60-5	trans-1,2-Dichloroethene		U	1.0
78-87-5	1,2-Dichloropropane		U	1.0
142-28-9	1,3-Dichloropropane		U	1.0
590-20-7	2,2-Dichloropropane		U	1.0
563-58-6	1,1-Dichloropropene		U	1.0
1006-01-5	cis-1,3-Dichloropropene		U	1.0
1006-02-6	trans-1,3-Dichloropropene		U	1.0
100-41-4	Ethylbenzene		U	1.0
87-68-3	Hexachlorobutadiene		U	1.0
98-82-8	Isopropylbenzene		U	1.0
99-87-6	4-Isopropyitoluene		U	2.0
75-09-2	Methylene chloride (Dichloromethane)		U	2.0
91-20-3	Naphthalene		U	1.0
103-65-1	Propylbenzene		U	1.0
100-42-5	Styrene	· · · · · · · · · · · · · · · · · · ·	u	1.0

				1.0
79-34-5	1,1,2,2-Tetrachloroethane		U	1,0
127-18-4	Tetrachloroethene	199	U	1.0
109-99-9	Tetrahydrofuran (THF)		U	10.0
108-88-3	Toluene		U	1.0
87-61-5	1,2,3-Trichlorobenzene	-	u	1.0
120-82-1	1,2,4-Trichlorobenzene		U	1.0
71-55-6	1,1,1-Trichloroethane		U	1.0
79-00-5	1,1,2-Trichloroethane		u	1.0
79-01-6	Trichloroethene		i i	1.0
75-69-4	Trichlorofluoromethane		1	1.0
96-18-4	1,2,3-Trichloropropane		T u	1.0
95-63-6	1,2,4-Trimethylbenzene		T u	1.0
108-67-8	1,3,5-Trimethylbenzene		u	1.0
75-01-4	Vinyl chloride		u	1.0
95-47-6	o-Xylene*	· · · · · · · · · · · · · · · · · · ·	i u	1.0
N/A	p- & m-Xylene		บ	1.0
N/A	'Total Xylenes'	0.0	T U	1,0
N/A	"Total Trihalomethanes"		1 1	1.0

Laboratory Remarks: Acetone was observed in this sample at 22 ppb. There were 28 compounds observed at approximately 1-10 ppb on the photoionization detector, but not identified.

				Approx	, Conc.
CAS#	Tentatively Identified Compound Name	GC/MS Match %	R.T.		
611-14-3	1-Ethyl-2-Methyl-Benzene	97.9%	31.82	50.00	ug/
2870-04-4	2-Ethyl-1,3-Dimethyl-Benzene	98.0%	37.12	5.00	ug/
27133-93-3	2,3-Dihydro-1-Methyl-Indene	98.2%	37.54	5.00	ug/
488-23-3	1.2.3.4-Tetramethyl-Benzene	99.2%	38.8	5.00	ug/

LABORATORY BATCH QUALITY CONTROL SUMM	YARY	
SURROGATE COMPOUNDS	CONCENTRATION	% RECOVERY
2-Bromochlorobenzene (Photofonization Detector Surrogate)	25.18	104.7%
2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate)	28.34	113.4%
exception of the compounds listed below:		
No target compounds were detected above the sample detection limit in la with the ecxeption of the compound(s) listed below:	boratory blank	, <u>, , , , , , , , , , , , , , , , , , </u>
COMPOUND CONCENTRATION (ug/L) No Exceptions		
	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photo[onization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) The % recoveries for compounds in the batch spike were from 80% to 1 exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) % RECOV cis-1,2-Dichtroethene 10 No target compounds were detected above the sample detection limit in la with the ecxeption of the compound(s) listed below: COMPOUND CONCENTRATION (up/L)	SURROGATE COMPOUNDS 2-Bromochlorobenzene (Photolonization Detector Surrogate) 2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate) 28.34 The % recoveries for compounds in the batch spike were from 80% to 120% with the exception of the compounds listed below: COMPOUND CONCENTRATION (up/L) No target compounds were detected above the sample detection limit in laboratory blank with the ecxeption of the compound(s) listed below: COMPOUND COMPOUND CONCENTRATION (up/L)

				علا
ANALYST:	Patrick Basile	QC APPROVED BY:	Ken Sherreli	<u> </u>

DEFINITIONS

Concentration Exceeds EPA's allowable Maximum Contamination Level

Chemical Abstract Services Number - Unique number to help identify analytes listed by different names CAS#

CONC. Concentration (ug/L) of analyte actually detected in the sample

QUAL Qualifier of analytical results as follows:

B Analyte was detected in laboratory blank

J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL)

U No analyte was detected above the Sample Detection Limit.

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

95% confidence taking sample size (compositing) into account.

Concentration Units - micrograms per liter which is approximately equivalent to Pans Per Billion (ppb) ug/L

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

Rob Pine	SLD No.: OR- 9602627
NMED/Ground Water Quality Bur.	REQUEST ID No.: 154594
PO Box 26110	RECEIVED AT SLD: 7/31/96
Santa Fe, NM 87502	SLD COPY SUSER: 55321
SAMPLE COLLECTION: DATE: 7/29/96 TIME: SAMPLING LOCATION: Baker Oil MW-3	O SE RECEIVED BY: Pin
WSS #: SAMPLE MATRIX: Wa	ter REPORTING UNITS: 1/2/L

EPA METHOD 625	NEU	TRAL AND BASIC SEMIVO	LATILE ORGANIC COMPOUNI	OS BY GC/MS
DATE EXTRACTED:	8/5/96	7 Days: Within EPA Holding Time	ANALYSIS No.: OR-	9602627
DATE ANALYZED:	8/5/96	7 Days: Within EPA Analysis Time	SLD BATCH No.:	405
SAMPLE VOL (ml):	1000		DILUTION FACTOR:	1.00
•		,	REQUEST ID No.:	154594

SAMPLE PRESERVATION: Sample Temperature when received: 23 Degrees C.; pH = 7

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel PERCENT MOISTURE: NA

GPC CLEANUP: Not Used

CAS# ANALYTE NAME CONC. (ug/L) QUAL. SDL 83-32-9 Acenaphthene U 0.93 208-96-8 Acenaphthylene U 0.87 **Anthracene** 0.36 120-12-7 U Azobenzene U 1.00 103-33-3 Benzidine U 1.00 92-87-5 Benzo(a)anthracene 0.12 56-55-3 U Benzo(b)fluoranthene 0.33 205-99-2 U Benzo(k)fluoroanthene 0.33 207-08-9 0.99 191-24-2 Benzo(g,h,i)perylene U 0.02 Benzo(a)pyrene U 50-32-8 Bis(2-chloroethoxy)methane 0.69 111-91-1 U 111-44-4 Bis(2-chloroethyl)ether U 0.39 Bis(2-chloroisopropyl)ether 108-60-1 0.45 U Bis(2-ethylhexyl)phthalate 117-81-7 1 ſ 0.33 101-55-3 4-Bromophenylphenyl ether U 0.48 **Butylbenzyl** phthalate 85-68-7 U 0.63 4-Chloroaniline 106-47-8 U 0.57 2-Chloronaphthalene 91-58-7 U 0.51 4-Chlorophenylphenyl ether 7005-72-3 0.42 u Chrysene 218-01-9 U 0,24 Dibenz(a,h)anthracene 53-70-3 10.00 U Dibenzofuran 132-64-9 0.72 U Di-n-butyl phthalate 84-74-2 u 0.48 95-50-1 1,2-Dichlorobenzene U 0.15 541-73-1 1,3-Dichlorobenzene U 0.24 1,4-Dichlorobenzene 106-46-7 U 0.33 91-94-1 3,3'-Dichlorobenzidine 0.18

84-66-2	Diethylphthalate ()	 <u> </u>	0.78
131-11-3	Dimethylphthalate	U	0.48
121-14-2	2,4-Dinitrotoluene	U	0.45
606-20-2	2,6-Dinitrotoluene	U	0.39
117-84-0	Di-n-octyl phthalate	U	0.30
206-44-0	Fluoranthene	U	0.75
86-73-7	Fluorene	U	0.75
118-74-1	Hexachlorobenzene	U	0.75
87-68-3	Hexachlorobutadiene	U	0.30
77-47-4	Hexachlorocyclopentadiene	υ	10.00
67-72-1	Hexachloroethane	U	0.30
193-39-5	Indeno(1,2,3-cd)pyrene	U	10.00
78-59-1	Isophorone	U	0.90
91-57-6	2-Methylnaphthalene	υ	0.99
91-20-3	Naphthalene '	U	0.63
88-74-4	2-Nitroaniline	U	0.51
99-09-2	3-Nitroaniline	Ü	0.33
100-01-6	4-Nitroaniline	J	0.51
98-95-3	Nitrobenzene	5	0.41
86-30-6	N-nitrosodiphenylamine	ט	0.48
62-75-9	N-nitrosodimethylamine	Ü	0.48
621-64-7	N-nitroso-di-n-propylamine	U	0.03
85-01-8	Phenanthrene	U	0.24
129-00-0	Pyrene	U	0.33
120-82-1	1,2,4-Trichlorobenzene	U	0.30

QUALITY CONTROL SUMMARY

	GOALITI CONTINCE COMMEN			
Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Eval.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	28.0	56%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	28.0	56%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	37.0	74%	Normal
LABORATORY	The % recoveries of target analytes in the batch spike	(s) were within	the expected rang	je
FORTIFIED	with the following exceptions:			
BLANK	COMPOUND CONCENTRATION	% RECOVERY		
RECOVERIES	No Exceptions			
LABORATORY	No target analytes were detected above the sample de	tection limit in la	aboratory blank	
BLANKS	with the exception of the compound(s) listed below:			ſ
	<u>COMPOUND</u> CONC	ENTRATION (ug/L)	j
	No Exceptions			

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

	DEFINITIONS	
**	Concentration Exceeds EPA's allowable Maximum Contamination Level	
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names	
CONC.	Concentration (ug/L) of analyte actually detected in the sample	
QUAL	Cualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quanitation can be given (~5 * SDL) U No analyte was detected above the Sample Detection Limit.	
MCL	Maximum Contamination Level Allowed by EPA for regulated analytes	
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with	
ug/L	99% confidence taking sample size (compositing) into account. Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)	

STATE OF NEW MEXICO

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700 Albuquerque, NM 87196-4700 700 Camino de Salud. NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505] 841-2570

ED FIELD OFFICE: **Rob Pine** NMED/Ground Water Bureau PO Box 26110 Santa Fe. NM 87502

SLD No.: OR- 9602624 REQUEST ID No .: 154591 1213 1415 76 RECEIVED AT SLD: 7/31/96 55321 USER:

BY: Pin

REQUEST ID No .:

SAMPLE COLLECTION:

DATE: 7/29/96

TIME: 03

SAMPLING LOCATION: Baker Oil WW-1

NG UNITS: ug/L

WSS #:

SAMPLE MATRIX: Water.

NEUTRAL AND BASIC SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS **EPA METHOD 625** 8/5/96 7 Days: Within EPA Holding Time

DATE EXTRACTED: DATE ANALYZED: SAMPLE VOL (mi):

8/5/96 980

7 Days: Within EPA Analysis Time

9602624 ANALYSIS No.: OR-405 SLD BATCH No.: DILUTION FACTOR: 1.02

154591

SAMPLE PRESERVATION: Sample Temperature when received: 23 Degrees C.; pH = 2

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel

PERCENT MOISTURE:

Not Used GPC CLEANUP:

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL.	● SDL
83-32-9	Acenaphthene	<u></u>	U	0.95
208-96-8	Acenaphthylene		U	0.89
120-12-7	Anthracene		υ	0.37
103-33-3	Azobenzene		U	1.02
92-87-5	Benzidine		บ	1.02
56-55-3	Benzo(a)anthracene		Ŋ	0.12
205-99-2	Benzo(b)fluoranthene		U	0.34
207-08-9	Benzo(k)fluoroanthene		U	0.34
191-24-2	Benzo(g,h,i)perylene		U	1.01
50-32-8	Benzo(a)pyrene		U	0.02
111-91-1	Bis(2-chloroethoxy)methane		U	0.70
111-44-4	Bis(2-chloroethyl)ether		U	0.40
108-60-1	Bis(2-chioroisopropyl)ether		U	0.46
117-81-7	Bis(2-ethylhexyl)phthalate	9		0.34
101-55-3	4-Bromophenylphenyl ether	·	U	0.49
85-68-7	Butyibenzyl phthalate		U	0.64
106-47-8	4-Chloroaniline		U	0.58
91-58-7	2-Chloronaphthalene		U	0.52
7005-72-3	4-Chlorophenylphenyl ether		U	0.43
218-01-9	Chrysene		U	0.24
53-70-3	Dibenz(a,h)anthracene		U	10.20
132-64-9	Dibenzofuran		U	0.73
84-74-2	Di-n-butyl phthalate	1	J	0.49
95-50-1	1,2-Dichlorobenzene		U	0.15
541-73-1	1,3-Dichlorobenzene		U	0.24
106-46-7	1,4-Dichlorobenzene		U	0.34
91-94-1	3,3'-Dichlorobenzidine		U	0.18

84-66-2	Diethylphthalate	1	Ü	j 0.00 j
131-11-3	Dimethylphthalate :	- 1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (U	0.49
121-14-2	2,4-Dinitrotoluene		U	0.46
606-20-2	2,6-Dinitrotoluene		U	0.40
117-84-0	Di-n-octyl phthalate		Ų	0.31
206-44-0	Fluoranthene		U	0.77
86-73-7	Fluorene		U	0.77
118-74-1	Hexachlorobenzene		U	0.77
87-68-3	Hexachlorobutadiene		U	0.31
77-47-4	Hexachlorocyclopentadiene		U	10.20
67-72-1	Hexachloroethane		U	0.31
193-39-5	Indeno(1,2,3-cd)pyrene		U	10.20
78-59-1	Isophorone 3		บ	0.92
91-57-6	(Z-METIANIGDITATIONE)E		U	1.01
91-20-3	Naphthalene 2.Nitroaniline		U	0.64
88-74-4	2-Nitroaniline/////		U	0.52
99-09-2	3-Nitroaniliné Jary 1997		ט	0.34
100-01-6	4-Nitroaniline		U	0.52
98-95-3	Nitrobenzene		Ü	0.42
86-30-6	N-nitrosodiphenylamine		U	0.49
62-75-9	N-nitrosodimethylamine		U_	0.49
621-64-7	N-nitroso-di-n-propylamine		Ų	0.03
85-01-8	Phenanthrene		U	0.24
129-00-0	Pyrene		U.	0.34
120-82-1	1,2,4-Trichlorobenzene	<u> </u>	U	0.31

QUALITY CONTROL SUMMARY

Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Eval.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	26.0	52%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	25.0	50%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	34.0	68%	Normai
LABORATORY	The % recoveries of target analytes in the batch spike	(s) were within	the expected range	e
FORTIFIED	with the following exceptions:			1
BLANK	COMPOUND CONCENTRATION	% RECOVERY		
RECOVERIES	No Exceptions	·		
	No target analytes were detected above the sample de with the exception of the compound(s) listed below:	tection limit in la	iboratory blank	
	COMPOUND CONC No Exceptions	ENTRATION (ug/L	1 	

ANALYST: Tim Chapman QC APPROVED BY: Roberta Hine

DEFINITIONS Concentration Exceeds EPA's allowable Maximum Contamination Level CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names CONC. Concentration (ug/L) of analyte actually detected in the sample QUAL Qualifier of analytical results as follows: B Analyte was detected in laboratory blank J Analyte was detected at a level below which an accurate quanitation can be given (-5 * SDL) U No analyte was detected above the Sample Detection Limit. MCL Maximum Contamination Level Allowed by EPA for regulated analytes SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with 99% confidence taking sample size (compositing) into account. ug/L Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

700 Camino de Satis NE [505] 841-250

ORGANIC CHEMISTRY SECTION (505) 841-2570

	REPORT TO CLIE	NT:		
Attn: Rob Pine				SLD No.: OR- \$29602619
Ground Water Quality Bu	reau	_]		REQUEST ID No.: 154586
P.O. Box 26110				RECEIVED AT SLD: 7/31/96
Santa Fe, New Mexico 8	7502		SLD COPY	USER 55321
SAMPLE COLLECTION: DATE: SAMPLING LOCATION:	7/29/96 Baker Oil WW-1	TIME:	na	BY: Pin
	0 Water			REPORTING UNITS: Ug/L

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	N/A		ANALYSIS No.: OR-	9602619
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml):	5_		DILUTION FACTOR:	1.00
0			REQUEST ID No.:	154586

SAMPLE PRESERVATION: Sample Temperature when received: 19 Degrees C.; pH = 2

CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
			7	uG/L
71-43-2	Benzene	6.7		1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		U	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform*		U	1.0
24-83-9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)		U	10.0
104-51-8	n-Butylbenzene		U	1.0
135-98-8	sec-Butylbenzene		U	1.0
98-06-6	tert-Butylbenzene		U	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)		U	10.0
56-23-5	Carbon tetrachloride		U	1.0
108-90-7	Chlorobenzene (monochlorobenzene)		U	1.0
75-00-3	Chloroethane		U	1.0
67-66-3	Chloroform*		U	1.0
74-87-3	Chloromethane		Ü	1.0
95-49-8	2-Chlorotoluene		U	1.0
106-13-4	4-Chlorotoluene		U	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		U	1.0
124-48-1	Dibromochloromethane*	4	U	1.0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		U	1.0
74-95-3	Dibromomethane	NFO -	U	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	77.5	U	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	RLITI	U	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	MITTIE	U	1.0
75-71-8	Dichlorodifluoromethane	1 26/ 1///	Ü	1.0
75-34-3	1,1-Dichloroethane		U	1.0
107-06-2	1,2-Dichloroethane		U	1.0
75-35-4	1,1-Dichloroethene		U	1.0
156-59-2	cis-1,2-Dichloroethene		U	1.0
156-60-5	trans-1,2-Dichloroethene		υ	1.0
78-87-5	1,2-Dichloropropane		U	1.0
142-28-9	1,3-Dichioropropane		U	1.0
590-20-7	2,2-Dichloropropane		U	1.0
563-58-6	1,1-Dichloropropene		U	1.0
1006-01-5	cis-1,3-Dichloropropene		U	1.0
1006-02-6	trans-1,3-Dichloropropene		U	1.0
100-41-4	Ethylbenzene		U	1.0
87-68-3	Hexachiorobutadiene		U	1.0
98-82-8	Isopropylbenzene		U	1.0
99-87-6	4-Isopropyltoluene		U	2.0
75-09-2	Methylene chloride (Dichloromethane)		U	2.0

	<u> </u>	<u> </u>	J	1.0
103-65-1	Propylbenzene		ט	1.0
100-42-5	Styrene	200	U	1.0
630-20-6	1,1,1,2-Tetrachioroethane		U	1.0
79-34-5	1,1,2,2-Tetrachloroethane		U	1.0
127-18-4	Tetrachioroethene		U	1.0
109-99-9	Tetrahydrofuran (THF)		· U	10.0
108-88-3	Toluene		U	1.0
87-61-5	1,2,3-Trichlorobenzene		U	1.0
120-82-1	1,2,4-Trichlorobenzene		U	1.0
71-55-6	1,1,1-Trichloroethane		U	1,0
79-00-5	1,1,2-Trichloroethane	· · · · · · · · · · · · · · · · · · ·	Ü	1.0
79-01-6	Trichloroethene		U	1,0
75-69-4	Trichlorofluoromethane		u	1.0
96-18-4	1,2,3-Trichloropropane	<u> </u>	u	1.0
95-63-6	1,2,4-Trimethylbenzene	0.7	J	1.0
108-67-8	1,3,5-Trimethylbenzene		U	1.0
75-01-4	Vinyl chloride		Ü	1.0
95-47-6	o-Xylene*	0.8	J	1.0
N/A	p- & m-Xylene*	1.0		1.0
N/A	"Total Xylenes"	1.8		1.0
N/A	*Total Trinalomethanes*		U	1.0
	LABORATORY BATCH QUALITY CONTROL SU	IMMARY		
URROGATE	SURROGATE COMPOUNDS	CONCENTRATION		% RECOVERY
RECOVERIES:	2-Bromochlorobenzene (Photo(onization Detector Surrogate)	23.51		94.0%
	2-Bramachlorobenzene(Ejectrolytic Conductivity Detector Surrogate)	23.1		92.4%
ABORATORY	The % recoveries for compounds in the batch spike were from 8	0% to 120% with the	·	
FORTIFIED	exception of the compounds listed below:			
BLANK	COMPOUND CONCENTRATION (ug/L)	% RECOVERY		
RECOVERIES	cis-1,2-Dichloroethene 10 79%			
ABORATORY	No target compounds were detected above the sample detection li	imit in laboratory blank		

			10
ANALYST:	Patrick Basile	QC APPROVED BY:	Ken Sherrell

CONCENTRATION (uo/L)

DEFINITIONS

BLANKS

Concentration Exceeds EPA's allowable Maximum Contamination Level

CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names

CONC. Concentration (ug/L) of analyte actually detected in the sample

QUAL Qualifier of analytical results as follows:

B Analyte was detected in laboratory blank

J Analyte was detected at a level below which an accurate quanitation can be given (-5 * SDL)

with the ecception of the compound(s) listed below:

COMPOUND

No Exceptions

U No analyte was detected above the Sample Detection Limit.

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

99% confidence taking sample size (compositing) into account.

Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

STATE OF NEW MEXICO

***DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700

Albuquerque, NM 87196-4700

700 Camino de Salud, NE [505] 841-2500

ORGANIC CHEMISTRY SECTION [505]_841-2570

ED FIELD OFFICE: Rob Pine NMED/Ground Water Bureau PO Box 26110 Santa Fe, NM 87502

SLD No.: OR- 9602628 REQUEST ID No .: 154595 RECEIVED AT SLD: 7/31/96 USER. 55321 USLD COPY A

SAMPLE COLLECTION:

DATE: 7/29/96

TIME: 0

SAMPLING LOCATION: Baker Oil R-1

ug/Lº/

WSS #:

SAMPLE MATRIX: Water

NEUTRAL AND BASIC SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS **EPA METHOD 625** 9602628 ANALYSIS No.: OR-

DATE EXTRACTED: DATE ANALYZED: SAMPLE VOL (ml):

8/5/96 8/5/96 770

7 Days: Within EPA Holding Time

7 Days: Within EPA Analysis Time

SLD BATCH No .: DILUTION FACTOR: REQUEST ID No.:

405 1.30

154595

SAMPLE PRESERVATION: Sample Temperature when received: 22 Degrees C.; pH = 7

NOT COMPOSITED

EXTRACTION TECHNIQUE: Separatory Funnel

PERCENT MOISTURE: N/A

GPC CLEANUP:

Not Used

				
CAS#	ANALYTE NAME	CONC. (ug/L)	QUAL	SDL
83-32-9	Acenaphthene	5	J	1,21
208-96-8	Acenaphthylene		U_	1,13
120-12-7	Anthracene		U	0.47
103-33-3	Azobenzene		U	1,30
92-87-5	Benzidine		U	1.30
56-55-3	Benzo(a)anthracene		ប	0.16
205-99-2	Benzo(b)fluoranthene		U	0.43
207-08-9	Benzo(k)fluoroanthene		כ	0.43
191-24-2	Benzo(g,h,i)perylene		U	1.29
50-32-8	Benzo(a)pyrene		U	0.03
111-91-1	Bis(2-chloroethoxy)methane		U_	0.90
111-44-4	Bis(2-chloroethyl)ether		U	0.51
108-60-1	Bis(2-chloroisopropyl)ether		U	0.58
117-81-7	Bis(2-ethylhexyl)phthalate	6		0,43
101-55-3	4-Bromophenylphenyl ether		U	0.62
85-68-7	Butylbenzyl phthalate		U	0.82
106-47-8	4-Chloroaniline		U	0.74
91-58-7	2-Chloronaphthalene		U	0.66
7005-72-3	4-Chlorophenylphenyl ether		U	0.55
218-01-9	Chrysene		U	0.31
53-70-3	Dibenz(a,h)anthracene		U	12.99
132-64-9	Dibenzofuran		U	0.94
84-74-2	Di-n-butyl phthalate		U	0.62
95-50-1	1,2-Dichlorobenzene		U	0.19
541-73-1	1,3-Dichlorobenzene		U	0.31
106-46-7	1,4-Dichlorobenzene		U	0.43
91-94-1	3,3'-Dichlorobenzidine		U	0.23

84-66-2	Diethylphthalate		U	1.01
131-11-3	Dimethylphthalate	14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	U	0.62
121-14-2	2,4-Dinitrotoluene		U	0.58
606-20-2	2,6-Dinitrotoluene		U	0.51
117-84-0	Di-π-octyl phthalate		u	0.39
206-44-0	Fluoranthene		U	0.97
86-73-7	Fluorene	6		0.97
118-74-1	Hexachiorobenzene		Ü	0.97
87-68-3	Hexachiorobutadiene		Ü	0.39
77-47-4	Hexachlorocyclopentadiene		Ų	12.99
67-72-1	Hexachloroethane		ប	0.39
193-39-5	Indeno(1,2,3-cd)pyrene		5	12.99
78-59-1	Isophorone		U	1.17
91-57-6	2-Methylnaphthalene	113		1.29
91-20-3	Naphthalene	81		0.82
88-74-4	2-Nitroaniline		J	0.66
99-09-2	3-Nitroaniline		5	0.43
100-01-6	4-Nitroaniline		υ	0.66
98-95-3	Nitrobenzene		U	0.53
86-30-6	N-nitrosodiphenylamine		U	0.62
62-75-9	N-nitrosodimethylamine		U	0.62
621-64-7	N-nitroso-di-n-propylamine		U	0.04
85-01-8	Phenanthrene	2		0.31
129-00-0	Pyrene		U	0.43
120-82-1	1,2,4-Trichlorobenzene		U	0.39

CAS#	TENTATIVE ANALYTE NAME	EST CONC. (ug/L)	LERAST ES SATCH	RETENTION THE (MIN)
13151-29-6	4-Methyl-1-Decene	300	815	19.90
17301-28-9	3,6-Dimethyl-undecane	300	793	18.12
57289-26-6	2-Methyl-1-Dodecanol	200	853	18.30
2217-43-8	5,6,7,8-Tetrahydro-2-Napthalenamine	200	790	19.53
247183-2	1-Ethylidene-1H-Indene	200	881	20.95
54833-48-6	2,6,10,15-Tetramethyl-Heptadecane	200	797	20.73
56292-65-0	2,5-Dimethyl-Dodecane	200	765	16.50
589-90-2	1,4-Dimethyl-Cyclohexane	200	850	20.34
7058-01-7	1-Methyl-2-(1-Methylethyl)-Benzene	100	869	13.85
934-74-7	1-Ethyl-3,5-Dimethyl-Benzene	100	793	18.87
Comment:	Numerous hydrocarbons were observed by GC/MS	in the C11 to	C 15 ran	ige
	with an approximate total concentration of 20 ug/m	l		

NIST mass spectral library.

"Retention Time" is the time required for the specific compound to pass through the chromatographic column.

QUALITY CONTROL SUMMARY

Surrogate com- pounds are added	SURROGATE COMPOUNDS ADDED TO SAMPLE BEFORE EXTRACTION	Surrogate Recovered	% RECOVERY	QC Evai.
to samples to de-	Nitrobenzene-d5 (Neutral Surrogate added at 50 ug/L)	30.0	60%	Normal
termine extraction	2-Fluorobiphenyl (Neutral Surrogate added at 50 ug/L)	32.0	64%	Normal
efficiency and QC	Terphenyl-d14 (Neutral Surrogate added at 50 ug/L)	41.0	82%	Normal
LABORATORY	The % recoveries of target analytes in the batch spike	(s) were within	the expected rang	e
FORTIFIED	with the following exceptions:			1

SCIENTIFIC LABORATORY DIVISION P.O. Box 4700
700 Camino de S NE [505] 841-2500

SLD No.: OR- 9602623 154590

RECEIVED AT SLD: 7/31/96

USER ,55321

SAMPLE COLLECTION: DATE: 7/29/96

Ground Water Quality Bureau

Santa Fe, New Mexico 87502

OLLECTION: DATE: 7/29/96
SAMPLING LOCATION: Baker Oil R-1

Water

пме: па

SLO COPY

BY: Pin

REPORTING UNITS: Ug/L

D: 1996

Ut:

Remarks:

Attn: Rob Pine

P.O. Box 26110

Hydrochloric acid was used as a preservative in this sample.

EPA METHOD 8021 VOLATILES BY GAS CHROMATOGRAHY (PID/ELCD)

DATE EXTRACTED:	N/A		ANALYSIS No.: OR-	9602623
DATE ANALYZED:	8/2/96	4 Days: Within EPA Analysis Time	SLD BATCH No.:	400
SAMPLE VOL (ml):	5		DILUTION FACTOR:	1.00
			AEQUEST ID No.:	154590

SAMPLE PRESERVATION: Sample Temperature when received: 18 Degrees C.; pH = 7

	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
				uG/L
71-43-2	Benzene	1.3		1.0
108-86-1	Bromobenzene		U	1.0
74-97-5	Bromochloromethane		U	1.0
75-27-4	Bromodichloromethane*		U	1.0
75-25-2	Bromoform*		Ü	1,0
24-83- 9	Bromomethane		U	1.0
78-93-3	2-Butanone (MEK)		U	10.0
104-51-8	n-Butylbenzene	73		1.0
135-98-8	sec-Butylbenzene	48		1.0
98-06-6	tert-Butylbenzene		U	1.0
1634-04-4	tert-Butyl methyl ether (MTBE)		U	10.0
56-23-5	Carbon tetrachioride		U	1.0
108-90-7	Chlorobenzene (monochiorobenzene)		U	1.0
75-00-3	Chloroethane	1	U	1.0
67-66-3	Chicroform*		U	1.0
74-87-3	Chloromethane		υ	1.0
95-49-3	2-Chlorotoluene		U	1.0
106-43-4	4-Chlorotoluene	'*	U	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		u	1,0
124-48-1	Dibromochloromethane*		U I	1,0
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		U	1.0
74-95-3	Dibromomethane	· · · · · · · · · · · · · · · · · · ·	U	1.0
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	-	U I	1.0
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)		U	1.0
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	L_77	U	1.0
75-71-8	1,4-Dichlorobenzene (p-Dichlorobenzene) Dichlorodifluoromethane	96	u i	1.0
75-34-3	1,1-Dichioroethane B COCH	IFO.	U	1.0
107-06-2	1,2-Dichloroethane	/LII	u	1.0
75-35-4	1,1-Dichloroethene	/	u i	1.0
156-59-2	cis-1,2-Dichloroethene		u i	1.0
156-60-5	trans-1,2-Dichloroethene		u l	1.0
78-87-5	1,2-Dichloropropane	 	" "	1.0
142-28-9	1,3-Dichloropropane		U	1.0
590-20-7	2,2-Dichloropropane		U	1.0
563-58-6	1,1-Dichloropropene		u	1,0
1006-01-5	cis-1,3-Dichloropropene		U	1.0
1006-02-6	trans-1,3-Dichloropropene		U I	1.0
100-41-4	Ethylbenzene	45	 	1.0
87-68-3	Hexachlorobutadiene	+3	u	1.0
98-82-8	Isopropylbenzene	9.8	├──┼-	1.0
99-87-6	4-isopropyltoluene	3.0		2.0
	Methylene chloride (Dichloromethane)		U	2.0
/:::-US-2	menty iene enteride (Dictiol offettialie)		'	
75-09-2 91-20-3	Nanhthaiene	900		10
75-09-2 91-20-3 103-65-1	Naphthaiene Propylbenzene	200 45		10

	 		ן ט	1.0
79-34-5	1,1,2,2-Tetrachioroethene	(%) v] U	1.0
127-18-4	Tetrachioroethene	4/2°	U	1.0
109-99-9	Tetrahydrofuran (THF)		U	10.0
108-88-3	Toluene	1.6	1	1,0
87-61-5	1,2,3-Trichlorobenzene		U	1,0
120-82-1	1,2,4-Trichlorobenzene		U	1.0
71-55-6	1,1,1-Trichloroethane		U	1.0
79-00-5	1,1,2-Trichlorgethane		U	1.0
79-01-6	Trichloroethene		U	1.0
75-69-4	Trichlorofluoromethane		U	1.0
96-18-4	1,2,3-Trichloropropane		U	1.0
95-63-6	1,2,4-Trimethy/benzene	110	† †	10
108-67-8	1,3,5-Trimethylbenzene	12	 	1.0
75-01-4	Vinyl chloride		U	1.0
95-47-6	o-Xylene*	28	1 1-	1.0
N/A	p- & m-Xylene*	12	1	1.0
N/A	*Total Xylenes*	41	i	1.0
N/A	*Total Trihalomethanes*		U	1.0

Laboratory Remarks: This sample was diluted and re-analyzed on 8/21/96 to quantitate Naphthalene and

1,2,4-Trimethyl Benzene. The ELCD surrogate recovery was extremely high due to co-eluting peaks, however, the internal standard area was at 94.5% of the expected area. There were 80 compounds

observed on the photoionization detector at approximately 10-40 ppb, but not identified.

	LABORATORY BATCH QUALITY	CONTROL SUMMARY					
SURROGATE	SURROGATE COMPOUNDS	CONCENTRATION	% RECOVERY				
RECOVERIES:	2-Bromochlorobenzene (Photo[onization Detector Surrogate)	132	528.0% High				
	2-Bromochlorobenzene(Electrolytic Conductivity Detector Surrogate)	23.9	95.5%				
LABORATORY FORTIFIED	The % recoveries for compounds in the batch spike we exception of the compounds listed below:	The % recoveries for compounds in the batch spike were from 80% to 120% with the exception of the compounds listed below:					
BLANK RECOVERIES	COMPOUND CONCENTRATION CONCENTRATION 10						
LABORATORY BLANKS	No target compounds were detected above the sample d with the ecxeption of the compound(s) listed bel-	•					
·	COMPOUND COM No Exceptions	ICENTRATION (vo/L)					

			(20
ANALYST:	Patrick Basile	QC APPROVED BY:	Ken Sherrell	لاك

DEFINITIONS

Concentration Exceeds EPA's allowable Maximum Contamination Level

CAS# Chemical Abstract Services Number - Unique number to help identify analytes listed by different names

CONC. Concentration (ug/L) of analyte actually detected in the sample

QUAL Qualifier of analytical results as follows:

- B Analyte was detected in laboratory blank
- J Analyte was detected at a level below which an accurate quantitation can be given (~5 * SDL)
- U No analyte was detected above the Sample Detection Limit.

SDL Sample Detection Limit - The lowest concentration which can be differentiated from Zero with

99% confidence taking sample size (compositing) into account.

ug/L. Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)



ANALYTICAL AND QUALITY CONTROL REPORT

Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040

11/04/1996

EPIC Job Number: 96.07903

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of EPIC Laboratories, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample	Sample Description	Date	Date
<u>Number</u>		<u>Taken</u>	<u>Received</u>
321462	MW-3	10/23/1996	10/24/1996
321463	MW-2	10/23/1996	10/24/1996
321464	MW-1	10/23/1996	10/24/1996
321465	WW-1	10/23/1996	10/24/1996
321466	R-1	10/23/1996	10/24/1996
321467	TRIP BLANK	10/18/1996	10/24/1996

EPIC Laboratories, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Tim Rowley
Project Manager

Fax: (972) 484-2969

Fax: (512) 928-3208

(972) 406-8100

(512) 928-8905

Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040

11/04/1996

Job No.: 96.07903

Page: 2

Project Name:

BOT HOBBS/4TH QT MONITOR 1996

Date Received:

10/24/1996

321462

MW-3

Taken:

10/23/1996 14:30

Taken: 10/23/1996 1	L4:30	
pH Conductivity EPA-8020 AQ (PRESERVED)	6.7 2220	units umhos/cm
Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS	<2 <2 <2 <2 <5 81	ug/L ug/L ug/L ug/L ug/L % Rec
2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	<10 <10 55 62 96	ug/L ug/L % Rec % Rec % Rec
321463 MW-2 Taken: 10/23/1996 1	L 4:4 5	
pH Conductivity EPA-8020 AQ (PRESERVED)	6.8 4800	units umhos/cm
Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS	<2 <2 <2 <2 <5 83	ug/L ug/L ug/L ug/L ug/L % Rec
2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	<10 <10 66 73 107	ug/L ug/L % Rec % Rec % Rec
321464 MW-1 Taken: 10/23/1996 1	5:00	
pH Conductivity EPA-8020 AQ (PRESERVED)	6.9 1370	units umhos/cm

Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040 11/04/1996

Job No.: 96.07903

Page: 3

Project Name:

BOT HOBBS/4TH QT MONITOR 1996

Date Received:

10/24/1996

_	_	_		_	
コ	7	7	4	~	4

Taken:	10/23/1996	15:00	
Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 A 2-Methylnaphthalene	QUEOUS	<2 <2 <2 <2 <5 73	ug/L ug/L ug/L ug/L ug/L
Naphthalene		<10	ug/L ug/L
SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5		59 65	% Rec % Rec
SURR: Terphenyl-d14		96	% Rec
321465 WW-1 Taken:	10/23/1996	15:30	
pH Conductivity EPA-8020 AQ (PRESERVED)	6.9 1970	units umhos/cm
Benzene Ethylbenzene	,	27	ug/L
Toluene		7 <2	ug/L ug/L
Xylenes, Total MTBE		<2	ug/L
SURR: a,a,a-TFT		15 71	ug/L % Rec
BASE/NEUTRALS - 8270 A 2-Methylnaphthalene	QUEOUS	-10	. /=
Naphthalene		<10 <10	ug/L ug/L
SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5	-	62	% Rec
SURR: Terphenyl-d14		62 118	% Rec % Rec
321466 R-1 Taken:	10/23/1996		

pH Conductivity EPA-8020 AQ (PRESERVED)	6.7 2110	units umhos/cm
Benzene	<2	ug/L
Ethylbenzene	230	ug/L
Toluene	<2	ug/L

Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040 11/04/1996

Job No.: 96.07903

Page: 4

Project Name:

BOT HOBBS/4TH QT MONITOR 1996

Date Received:

10/24/1996

321466

R-1

10/23/1996 16:00 Taken:

Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS	410 <5 67	ug/L ug/L % Rec
2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	240 140 58 84 113	ug/L ug/L % Rec % Rec % Rec
321467 TRIP BLANK Taken: 10/18/1996	16:45	
EPA-8020 AQ (PRESERVED) Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT	<2 <2 <2 <2 <5 70	ug/L ug/L ug/L ug/L ug/L % Rec

CCV

JOB NUMBER:

96.07903

					CCA		
		DATE		CCA	TRUE		
PARAMETER	ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	% REC.	FLAG
рН	jmd	10/24/1996	SM-4500H.	7.9	8.0	99	NA
Conductivity	kwo	10/31/1996	E-120.1	1387	1410	98	NA
BPA-8020 AQ (PRESERVED)			S-8020M				
genzene	dtw ·	10/28/1996	S-8020M	16.5	20	83	NA
Sthylbenzene	dt w	10/28/1996	S-8020M	18.0	20	90	NA
MTBE	dtw	10/28/1996	S-8020M	14.7	20	74	NA
Toluene	dtw	10/28/1996	S-8020M	17.3	20	87	, NA
Mylenes, Total	dtw	10/28/1996	S-8020M	63	60	105	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	dtw	10/30/1996	S-8020M	16.5	20	83	NA
fthylbenzene	dtw	10/30/1996	S-8020M	18	20	90	NA
MTBE	dtw	10/30/1996	S-8020M	14.7	40	37	NA
Toluene	dtw	10/30/1996	S-8020M	17.3	20	87	NA
Xylenes, Total	dtw	10/30/1996	S-8020M	63	60	105	NA
•							

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the

Analysis of Pollutants", U.S. EPA, 40CFR, Part 136,

rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

M: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT

JOB NUMBER:

96.07903

	DATE		REPORTING			
PARAMETER	ANALYZED	BLANK	UNITS	LIMIT	FLAG	
Conductivity EPA-8020 AQ (PRESERVED)	10/31/1996	<5.0	. numpos	5.0	NA	
Benzene	10/28/1996	<2	ug/L	2	NA	
Ethylbenzene	10/28/1996	<2	ug/L	2	NA	
мтве	10/28/1996	<5	ug/L	5	NA	
Toluene	10/28/1996	<2 ·	nā\F	2	NA	
Xylenes, Total	10/28/1996	<2	· ug/L	2	NA	
BASE/NEUTRALS - 8270 AQUEOUS						
2-Methylnaphthalene	10/31/1996	<10	ug/L	10	NA	
Naphthalene	10/31/1996	<10	ug/L	10	NA	

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT Laboratory Control Sample (LCS)

JOB NUMBER:

96.07903

	LCS	TRUE	LCS	
PARAMETER	RESULT	CONC.	REC. I	FLAG
Conductivity	2720	2764	98	
EPA-8020 AQ (PRESERVED)				
Benzene	13	20	65	
Ethylbenzene	14	20	70	
MTBE	12	20	60	
Toluene	14	20	70	
Xylenes, Total	45	40	113	

QUALITY CONTROL REPORT Matrix Spike / Matrix Spike Duplicate (MS / MSD)

JOB NUMBER:

96.07903

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS <u>* REC.</u>	MSD % REC.	MS/MSD RPD	FLAG
EPA-8020 AQ (PRESERVED)	•							
Benzene	15	26	29	20	55	70	24	
Ethylbenzene	<2	12	15	20	60	75	22	
Toluene	<2	12	15	20	60	75	22	
Xylenes, Total	<2	25	33	40	63	83	28	
MTBS	190	173	164	20	-84	-129	42	·

Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.



JOB NUMBER:

96.07903

	SAMPLE	DUPLICATE		SPIKE SAMPLE	SPIKE	SPIKE		
PARAMETER	RESULT	RESULT	RPD	RESULT	RESULT	AMOUNT	* REC.	FLAG
рН	6.8	6.8	0.0	NA	NA.	NA	NA	
Conductivity	2220	2230	0.4	NA	NA	NA	NA	

Advisory Control Limits for Spikes

The spike recovery should be 75-125% if the spike amount is greater than or equal to one fourth of the sample result value.

NOTE: Spike Samples may not be samples from this job.

Advisory Control Limits for Duplicates

The RPD for the sample and duplicate should be less than 20.

CHAIN OF CUSTODY RECORD يز Ton Stubeck PROJECT NAMELOCATION BOT + 10665 ¥ нэнто # and Type of Containers H^S2O[¢] PHONE 7/3 46/2520 €ОИН HOBN PROJECT MANAGER __ ийнсі × PROJECT NUMBER COMP GRAB COMPANY. XIRTAM **€** SIGNATURE SAMPLE ID/DESCRIPTION 1548 VALWOOD PARKWAY, SUITE 118 LABORATORIES, INC. CARROLLTON, TEXAS 75006 DALLAS (972) 406-8100 AUSTIN (512) 928-8905 BAILRET MW- 2 EPIC 14.00 1845 3:30 10/24 23:50 SAMPLED BY Ĭ PRINT NAME) PRINT NAME) 15/01 E.

REPORT TO: Tom Sin bock Drinking Water NPDES Waslewater ____ To assist us in selecting the proper method RECEIVED FOR EPIC BY: Bottles supplied by EPIC? YES / NO COMMENTS Is this work being conducted for regulatory enforcement action? is this work being conducted for regulatory compliance monitoring? TEMPERATURE UPON RECEIPT: Which regulations apply: RCRA _____ Other . EPIC QUOTE NO. INVOICE TO: _ Emmod Rd Houston P.O. NO. Ę DATE S FAX HON'T ANALYSES COC SEALS PRESENT AND INTACT? YES / NO VOLATILES FREE OF HEADSPACE? YES / NO Bo7 RELINQUISHED BY: 1 opn RETURN SAMPLE REMAINDER TO CLIENT VIA I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS_ RECEIVED BY: REMARKS: BOTTLES INTACT? YES / NO FIELD FILTERED? YES / NO DATE / TIME F SAMPLE REMAINDER DISPOSAL: CONDITION OF SAMPLE: METHOD OF SHIPMENT RELINQUISHED BY: \



9100 Emmott Road P.O. Box 40129 Houston, Texas 77240-0129 Telephone (713) 466-1322

July 22, 1996

Mr. William C. Olsen, Hydrogeologist State of New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

Dear Mr. Olsen:

Baker Oil Tools is requesting an extension of the report due date for the quarterly monitoring report due August 1, 1996 for the Baker Oil Tools, 2800 West Marland, Hobbs, NM facility. The sampling is being rescheduled to coordinate sampling with Mr. Ron Pine of the New Mexico Environmental Division, who would like to sample the wells on July 29, 1996 as part of the investigation of the adjoining property (Keeling Petroleum). Our sampling report should be submitted by August 23, 1996. Should any further delay be incurred, BOT will notify you immediately. If you require any additional information please contact me at (713)466-2520.

Sincerely,

Thomas V. Stenbeck

Health, Safety and Environmental Manager

xc Mr. Wayne Price NMOCD-Hobbs





1 May 1996

Mr. William Olson, Hydrogeologist
State of New Mexico
Energy, Mineral and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Mr. Olson:

Baker Oil Tools is submitting the fourth required monitoring in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for groundwater contamination in the direct vicinity of the former disposal pit on the property located at 2800 W. Marland in Hobbs, New Mexico. The NMOCD requested the following three items from BOT for each monitoring session:

1. A brief description of all monitoring activities which occurred during the quarter.

BOT performed sampling on April 4, 1996. Each well was bailed of three volumes and allowed to equalize prior to sampling except for WW-1 which is a 125' deep water well. The wells were gauged for depth and bailed on the 3rd with sampling occurring on the 4th.. The Hobbs district office of the NMOCD was notified prior to sampling as required. Samples were packaged and submitted to the laboratory for analysis.

2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells. The data will be presented in tabular form showing past and present sampling results.

Tables 1a through 1g present the sampling data.

Table 1a BENZENE (μg/L)

Well ID	Previous	Quarter I	Quarter 2	Quarter 3	Ouarter 4
T-i- Diani:	<0.5	July 17, 1905 <2	Actaber 16, 1995	< 0.5	<i>april</i> 4. <i>au</i> 64.0 <2.0
Trip Blank MW-1	<0.5	₹2	· 2	<0.5	<2.0
MW-2	<0.5	<2	<2	<0.5	<2.0
MW-3	<0.5	<2	2	<0.5	<2.0
WW-1	260	51	<2	0.5 1.3	<2.0 10
R-1	<0.5	- 2	<20	1.0	10

Table 1b TOLUENE (μg/L)

WellID	Provious	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Trip Blank	< 0.5	<i>July 17, 1995</i> <2	**************************************	<0.5	<i>April & 1996</i> <2.0
MW-1	<0.5	<2	2	<0.5	<2.0
MW-2	0.5	<2	<2	<0.5	<2.0
MW-3	<0.5	2	<2	<0.5	<2.0
WW-1 R-1	1.9	<2 <2	<2 <20	<0.5 1.9	<2.0 <2.0

Table 1c ETHYL BENZENE (μg/L)

Well ID	Previous Va. 12 1994	Quarter I late 1 1991	Quarter 2 Orașies 24, 1995	Quarter 3	Quarter 4
Trip Blank	<0.5	<2	<2	<0.5	<2.0
MW-1	<0.5	- 2	2	<0.5	<2.0
MW-2	<0.5	<2	<2	<0.5	<2.0
MW-3	<0.5	<2	2	<0.5	<2.0
WW-1	180	<2	2	1.0	<2.0
R-1	49	52	46	40.0	16

Table 1d XYLENE (μg/L)

Fell ID	Previous	Quarter 1 July 19, 1995	Quarter 2 Greber 20, 1995	Quarter :	Quarter 4
Trip Blank	<0.5	<2	<2	<0.5	<2.0
MŴ-1	1.2	<2	2	<0.5	<2.0
MW-2	0.5	<2	<2	<0.5	<2.0
VIW-3	0.8	<2	<2	<0.5	<2.0
WW-1	7.0	<2	2	0.6	<2.0
R-1	94	64	72	67.0	20

Table 1e MTBE (µg/L)

Well ID	Previous	Quarter 1	Quarter 2	Quarter 3	Quarter 4
	Nov. 27, 1994	July 17, 1995	(f. taber 28, 1995)	January II 1996	April 4 1996
Trip Blank	<2.5	<2	<2	<2.5	<2.0
MW-1	<2.5	<2	2	<2.5	<2.0
MW-2	<2.5	<2	<2	<2.5	<2.0
MW-3	2.6	~2	2	<2.5	<2.0
WW-1	4.1	<2	<2	<2.5	<2.0
R-I	<2.5	21	<20	<2.5	<2.0

Table 1f
NAPHTHALENE (µg/L)

Well ID	Previous	Quarter 1	Quarter 2	Ouurier 3	thuarter 4
	No. 17, 1994	July 13, 1905	October 20, 1995	Januari II, 1996	April 8: 1996
Trip Blank	<0.3	<5	not analyzed	<0.5	not analyzed
MW-1	<0.3	ধ	<10	<0.5	<5.0
MW-2	<0.3	<5	<10	<0.5	<5.0
MW-3	<0.3	not available*	<10	<0,5	<5.0
WW-1	46	12.9	<10	<0.5	<5.0
R-1	240	101	39.4	140.0	33.0

^{*}sample broke during shipment

Table 1g 2-METHYL NAPHTHALENE (ug/L)

Well ID Previous Quarter 1 Quarter 2 Quarter 3								
	Nov. 27, 2994	July 17, 1995	Games 28, 1991	January 1, 1966	Quarter 4			
Trip Blank	<0.3	<5	not analyzed	<1.0	not analyzed			
MW-1	<0.3	<5	<10	<1.0	<10.0			
MW-2	<0.3	<5	<10	<1.0	<10.0			
MW-3	1.0	not available*	<10	<1.0	<10.0			
WW-1	14	<5	<10	<1.0	<10.0			
R-1	360	115	56.2	170.0	35			

^{*}sample broke during shipment

3. A ground water elevation map using the water table elevation of the ground water in all monitoring wells.

Figure 1 presents the water elevation data as requested. Table 2 lists the well number, the depth of the well, the depth to the top of the water, the elevation of the well casing and the actual depth to ground water.

Table 2 Ground Water Elevation Data

		Flevation	Quai	ter 1	Qua	rter 2	Qua	rter 3	Qua	rter 4
	Deptil		gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth
MW-1	46.0	100.19	33.2	66.99	32.5	67.69	32.32	67.87	32.7	67.49
MW-2	45.7	99.56	32.5	67.06	32.0	67.56	31.97	67.59	32.4	67.16
MW-3	39.3	99.15	32.7	66.45	32.0	67.15	31.55	67.60	32.0	67.15
WW-1	125.0	99.52	32.3	67.22	31.8	67.72	31.65	67.87	32.0	67.52
R-1	40.0	100.03	33.0	67.03	32.8	67.23	32.24	67.79	32.9	67.13

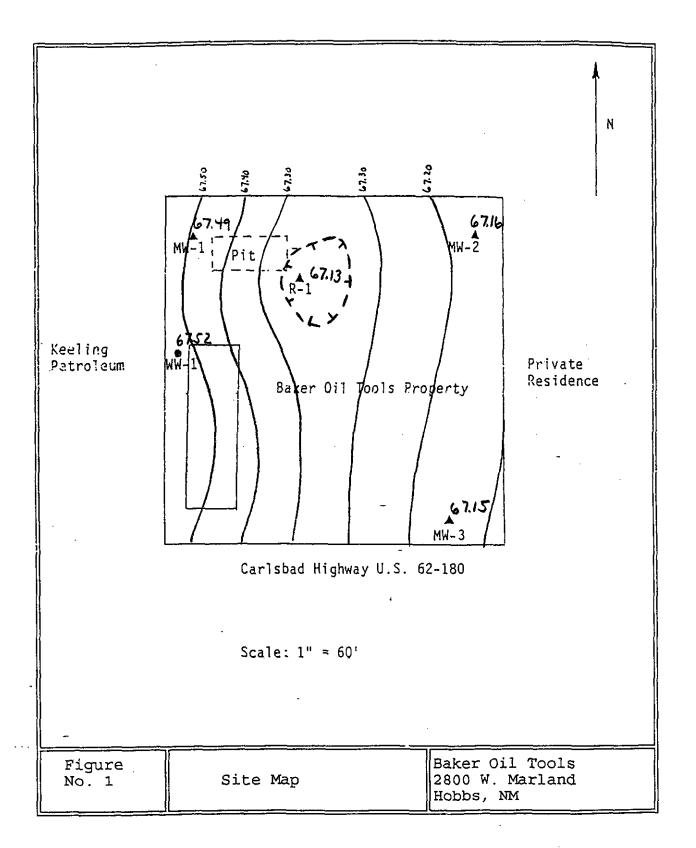
The next scheduled monitoring will occur in July with the report submitted by August 1996. If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely,

For Baker Oil Tools

Thomas V. Stenbeck

Manager of Health, Safety and Environment





Dallas Division 1548 Valwood Parkway Suite 118 Carrollton, TX 75006 Tel: (214) 406-8100 Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040

04/22/1996

NET Job Number: 96.02648

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample	Sample Description	Date	Date
<u>Number</u>		<u>Taken</u>	<u>Received</u>
301973 301974 301975 301976 301977 301978	MW-3 MW-2 MW-1 WW-1 R-1 TRIP BLANK	04/04/1996 04/04/1996 04/04/1996 04/04/1996 04/04/1996	04/05/1996 04/05/1996 04/05/1996 04/05/1996 04/05/1996 04/05/1996

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Gregory K. Horton Project Manager



Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040 04/22/1996

Job No.: 96.02648

Page: 2

Project Name:

BOT HOBBS, N.M.

Date Received:

04/05/1996

301973

MW-3

Taken:

04/04/1996 11:00

pH Conductivity EPA-8020 AQ (PRESERVED)	6.5 2000	units umhos/cm
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	73	%ืRec
BASE/NEUTRALS - 8270 AQUEOUS		
2-Methylnaphthalene	<10	ug/L
Naphthalene	<5	ug/L
SURR: 2-Fluorobiphenyl	72.8	% Rec
SURR: Nitrobenzene-d5	76.4	% Rec
SURR: Terphenyl-d14	83.3	% Rec
3.01.974 MW-2		

301974 MW-2

Taken: 04/04/1996 10:30

pH	6.6	units
Conductivity	4030	umhos/cm
EPA-8020 AQ (PRESERVED)		•
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L
SURR: a,a,a-TFT	73	% Rec
BASE/NEUTRALS - 8270 AQUEOUS		
2-Methylnaphthalene	<10	ug/L
Naphthalene	<5	ug/L
SURR: 2-Fluorobiphenyl	64.8	% Řec
SURR: Nitrobenzene-d5	66.8	% Rec
SURR: Terphenyl-d14	73.7	% Rec



Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040 04/22/1996

Job No.: 96.02648

Page: 3

Project Name: BOT HOBBS, N.M.

Date Received: 04/05/1996

301975

MW-1

Taken:

04/04/1996 11:00

, ,		
рН	6.8	units
Conductivity	1470	umhos/cm
EPA-8020 AQ (PRESERVED)	_	4_
Benzene	<2	ug/L
Ethylbenzene Toluene	<2 <2	ug/L
Xylenes, Total	<2	ug/L
MTBE	<2	ug/L ug/L
SURR: a,a,a-TFT	70	% Rec
BASE/NEUTRALS - 8270 AQUEOUS		v nee
2-Methylnaphthalene	<10	ug/L
Naphthalene	<5	ug/L
SURR: 2-Fluorobiphenyl	67.2	% Rec
SURR: Nitrobenzene-d5	67.0	% Rec
SURR: Terphenyl-d14	89.0	% Rec
301976 WW-1		
Taken: 04/04/1996 11	- 20	
1axen: 04/04/1996 11	.:20	
На	7.7	units
Conductivity	279	umhos/cm
EPA-8020 AQ (PRESERVED)		,
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
MTBE SURR: a,a,a-TFT	<2	ug/L
BASE/NEUTRALS - 8270 AQUEOUS	75	% Rec
2-Methylnaphthalene	<10	ug/L
Naphthalene	<5	ug/L
SURR: 2-Fluorobiphenyl	66.1	% Rec
SURR: Nitrobenzene-d5	70.5	% Rec
SURR: Terphenyl-d14	07 0	
bolde: Telphenyl-di-	87.8	% Rec



Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040 04/22/1996

Job No.: 96.02648

Page: 4

Project Name:

BOT HOBBS, N.M.

Date Received: 04/05/1996

301977

R-1

Taken:

04/04/1996 12:00

pH Conductivity EPA-8020 AQ (PRESERVED)	6.6 1900	units umhos/cm
Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS	10 16 <2 20 <2 78	ug/L ug/L ug/L ug/L ug/L % Rec
2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	35 33 62.5 59.7 76.7	ug/L ug/L % Rec % Rec % Rec
301978 TRIP BLANK Taken:		
EPA-8020 AQ (PRESERVED) Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT	<2 <2 <2 <2 <2 <70	ug/L ug/L ug/L ug/L ug/L % Rec



JOB NUMBER:

96.02648

					CCA		
		DATE		CCA	TRUE		
PARAMETER	ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	* REC.	FLAG
pН	rsd	04/08/1996	SM-4500H.	8.01	8.00	100	NA
Conductivity	des	04/09/1996	E-120.1	1390	1409	99	NA
EPA-8020 AQ (PRESERVED)		:	S-8020M				
Benzen e	bdb	04/08/1996	S-8020M	18	20	90	NA
Ethylbenzene	bdb	04/08/1996	S-8020M	16	20	80	NA
MTBE	NA	NA	S-8020M	NA		NA	NA
Toluene	bdb	04/08/1996	S-8020M	17	20	85	NA
Xylenes, Total	bdb	04/08/1996	S-8020M	48	60	80	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	bdb	04/09/1996	S-8020M	22	20	110	NA
Ethylbenzene	bdb	04/09/1996	S-8020M	23	20	115	NA
MTBE	bdb	04/09/1996	S-8020M	33	40	83	NA
Toluene	bdb	04/09/1996	S-8020M	23	20	115	NA
Xylenes, Total	bdb	04/09/1996	S-8020M	70	60	117	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	bdb	04/11/1996	S-8020M	19	20	95	NA
Ethylbenzene	bdb	04/11/1996	S-8020M	17	20	85	NA
MTBE	bdb	04/11/1996	S-8020M	34	40	85	NA
Toluene	bdb	04/11/1996	S-8020M	18	20	90	NA
Xylenes, Total	bdb	04/11/1996	S-8020M	54	60	90	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	bdb	04/10/1996	S-8020M	21	20	105	NA

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes",

U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: *Guidelines Establishing Test Procedures for the

Analysis of Pollutants", U.S. EPA, 40CFR, Part 136,

rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA

SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and

Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and

Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference



cor

JOB NUMBER:

96.02648

					CCV		
		DATE		CCA	TRUE		
PARAMETER	ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	* REC.	FLAG
Ethylbenzene	bdb	04/10/1996	S-8020M	21	20	105	NA
MTBE	bdb	04/10/1996	S-8020M	32	40	80	NA
Toluene	bdb	04/10/1996	S-8020M	21	20	105	NA
Xylenes, Total	bdb	04/10/1996	S-8020M	67	60	112	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	04/11/1996	S-8020M	19	20	95	NA
Ethylbenzene	tcc	04/11/1996	S-8020M	17	20	85	NA
MIBE	tcc	04/11/1996	S-8020M	33	40	83	NA
Toluene	tcc	04/11/1996	S-8020M	18	20	90	NA
Xylenes, Total	tcc	04/11/1996	S-8020M	55	60	92	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	04/12/1996	S-8020M	20	20	100	NA
Ethylbenzene	tee	04/12/1996	S-8020M	20	20	100	NA
MTBE	tcc	04/12/1996	S-8020M	32	40	80	NA
Toluene	tee	04/12/1996	S-8020M	20	20	100	NA
Xylenes, Total	tcc	04/12/1996	S-8020M	64	60	107	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	04/15/1996	S-8020M	21	20	105	NA
Ethylbenzene	tcc	04/15/1996	S-8020M	20	20	100	NA
MTBE	tcc	04/15/1996	S-8020M	32	40	80	NA
Toluene	tcc	04/15/1996	S-8020M	22	20	110	NA
Xylenes, Total	tcc	04/15/1996	S-8020M	64	60	107	NA

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes",

U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the

Analysis of Pollutants", U.S. EPA, 40CFR, Part 136,

rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA

SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and

Wastewater*, 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and

Wastewater*, 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference



JOB NUMBER:

96.02648

		DATE		CCV	TRUE		
PARAMETER	ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	* REC.	FLAG
BASE/NEUTRALS - 8270 AQUEOUS			S-8270A				
2-Methylnaphthalene	cac	04/17/1996	S-8270A	47.2	50.0	94	NA
Naphthalene	cac	04/17/1996	S-8270A	46.5	50.0	93	NA

Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100	through	493:	"Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.
E-601	through	625:	"Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.
S-1000	through	9999:	"Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.
		A:	"Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.
		SM:	"Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

- D: ASTM Method
- M: Method has been modified
- *: Other Reference



QUALITY CONTROL REPORT BLANKS

JOB NUMBER: 96.02648

	DATE			REPORTING	
PARAMETER	ANALYZED	BLANK	UNITS	LIMIT	PLAG
Н	04/08/1996	N/A	units	N/A	NA
Conductivity	04/09/1996	<5.0	umhos	5.0	NA
EPA-8020 AQ (PRESERVED)					
Benzene	04/08/1996	<2	ug/L	2	NA
Ethylbenzene	04/08/1996	<2	ug/L	2	NA
MTBE	04/08/1996	<2	ug/L	2	NA
Toluene	04/08/1996	<2	ug/L	2	NA
Xylenes, Total	04/08/1996	<2	ug/L	2	NA.
EPA-8020 AQ (PRESERVED)					
Benzene	04/09/1996	<2	ug/L	2	NA
Ethylbenzene	04/09/1996	<2	ug/L	2	NA
MTBE	04/09/1996	<2	ug/L	2	NA
Toluene	04/09/1996	<2	ug/L	2	NA
Xylenes, Total	04/09/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	04/11/1996	<2	ug/L	2	NA
Ethylbenzene	04/11/1996	<2	ug/L	2	NA
MTBE	04/11/1996	<2	ug/L	2	NA
Toluene	04/11/1996	<2	ug/L	2	NA
Xylenes, Total	04/11/1996	<2	ug/L	2	NA
BASE/NEUTRALS - 8270 AQUEOUS			-		
2-Methylnaphthalene	04/17/1996	<10	ug/L	5	NA
Naphthalene	04/17/1996	<5	ug/L	5	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.



QUALITY CONTROL REPORT Laboratory Control Sample (LCS)

JOB NUMBER: 96.02648

	LCS	TRUE	LCS
PARAMETER	RESULT	CONC.	* REC. FLAG
рн	n/a	0	0
EPA-8020 AQ (PRESERVED)			
Benzene	18	20	90
Ethylbenzene	17	20	85
MTBE	NA		NA
Toluene	16	20	80
Xylenes, Total	52	60	87
EPA-8020 AQ (PRESERVED)			
Benzene	15	20	75
Ethylbenzene	14	20	70
MTBE	32	40	80
Toluene	14	20	70
Xylenes, Total	45	60	75
EPA-8020 AQ (PRESERVED)			
Benzene	20	20	100
Ethylbenzene	18	20	90
MTBE	34	40	85
Toluene	18	20	90
Xylenes, Total	64	60	107
BASE/NEUTRALS - 8270 AQUEOUS			
Naphthalene	65.2	100	65



QUALITY CONTROL REPORT Matrix Spike / Matrix Spike Duplicate (MS / MSD)

JOB NUMBER:

96.02648

	SAMPLE	MS	MSD	SPIKE	MS	MSD	MS/MSD	
PARAMETER	RESULT	RESULT	RESULT	AMOUNT	₹ REC.	* REC.	RPD	FLAG
BPA-8020 AQ (PRESERVED)								
Benzene	<2	14	12	20	70	60	15	
Ethylbenzene	<2	15	13	20	75	65	14	
Toluene	<2	14	13	20	70	65	7.4	
Xylenes, Total	<2	46	39	60	77	65	17	
EPA-8020 AQ (PRESERVED)						•	_,	
Benzene	<2	15	16	20	75	80	6.5	
Ethylbenzene	<2	14	14	20	70	70	0	
Toluene	<2	14	15	20	70	75	6.9	
Xylenes, Total	<2	45	45	60	75	75	0	
EPA-8020 AQ (PRESERVED)								
Benzene	2.5	17	19	20	73	83	13	
Ethylbenzene	11	26	29	20	75	90	18	
Toluene	<2	16	18	20	80	90	12	
Xylenes, Total	34	80	89	60	77	92	18	
EPA-8020 AQ (PRESERVED)								
Benzene	<2	15	27	20	75	135	57	
Ethylbenzene	<2	14	30	20	70	150	73	MI
Toluene	<2	14	28	20	70	140	67	MI
Xylenes, Total	<2	44	88	60	73	147	67	MI
EPA-8020 AQ (PRESERVED)								
Benzene	<2	15	16	20	75	80	6.5	
Ethylbenzene	<2	13	12	20	65	60	8	
Toluene	<2	13	14	20	65	70	7.4	
Xylenes, Total	<2	41	41	60	68	68	0	
MTBE	<2	31	33	40.	78	83	6.3	

MI - MS/MSD outside limits - matrix interference suspected

Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.



QUALITY CONTROL REPORT DUPLICATES

JOB NUMBER:

96.02648

				SPIKE				
	SAMPLE	DUPLICATE		SAMPLE	SPIKE	SPIKE		
PARAMETER	RESULT	RESULT	RPD	RESULT	RESULT	AMOUNT	* REC.	FLAG
								_
рН	6.5	6.5	0.0	NA	NA	NA	NA	
- р н	8.0	8.0	0.0	NA	NA	NA	NA	
-								

Advisory Control Limits for Spikes

The spike recovery should be 75-125% if the spike amount is greater than or equal to one fourth of the sample result value.

NOTE: Spike Samples may not be samples from this job.

Advisory Control Limits for Duplicates

The RPD for the sample and duplicate should be less than 20.

NATIONAL	ENVIRONMENTAL	, TESTING, INC.
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CHAIN OF CUSTOPY RECORD

8383 1200 Tom PROJECT NAME/LOCATION __ PROJECT NUMBER ADDRESS 300 10 COMPANY_ PHONE

Stewbeck

PROJECT MANAGER __

INVOICE TO: TOM 5 REPORT TO:

P.O. NO.

NET QUOTE NO.

		COMMENTS			near Dresent	lydroceibin Odor Strong	Administrative of the second s				and the second s	.0/7	TEMPERATURE UPON RECEIPT:		RECEIVED FOR NET BY:	
ANALYSES					\(\frac{\dagger}{\times}\)		2)		·	:		TEMPE	DATE	DATECTIME	101/6/1
1/20//		TO TO THE SERVED	× - × - × - × -										COC SEALS PRESENT AND INTACT? YES / NO VOLATILES FREE OF HEADSPACE? YES / NO	NDERS	RELINQUISHED BY:	
# 5C	£.	COMP # OF TYPE FATERS	У/N 5				- T- M-		-				,	RETURN SAMPLE REMAINDER TO CLIENT VIA I PEQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS	RECEIVED BY:	/REMARKS:
Favve the SIGNATURE	SIGNATURE	SAMPLE ID/DESCRIPTION	11:40cm 211	4 MV-1	WW-1		Trip Blank						DF SAMPLE: BOTTLES INTACT? (VES/NO FIELD FILTERED? YES/NO FIELD FILTERED?	SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE F	to 1 M supplied	1101/1/
SAMPLED BY U IN (PRINT NAME)	(PRINT NAME)	DATE TIME	10:VI	11:00	11:70		_						CONDITION OF SAMPLE:	SAMPLE RE	RELINGUISHED BY	METHOD OF SHIPMENT



T MX

Name of Site 45 Hobbs Date of Sample 4/4/96
Name of Person Completing Log Jon Barrick
Samples for the Z Quarter of 1996 Page of
Monitoring Well Number WW-1 Date 4/3/46 Time 5:400
Outage to Static Water Level 32-125 = 93x,66 = 61 gal
Elevation of Top of casing 32
Water Temperature Before Bailing
Water Volume in Well 60 gal
Number of Bailer Volumes Removed to Purge Well
Water Temperature After Bailing
Quantity of Water Remover to Purge Well
Static Water Level After Recharge 32
Quantity of Sample Collected /1/1004
Sample Number $\frac{1000-1}{1000}$ Sample Sealed By
Observed Water Recharge Rate Over 1464
Did Well Bail Dry During Purge or Sample
pH <u>Lat</u> conductivity <u>Let</u>
Notes and Remarks: 10+ Bailed -
Signature

Name of Site DOT Holds Date of Sample 4/4/96
Name of Person Completing Log JON BARRETT
Samples for the 2 Quarter of 1996 Page of
Monitoring Well Number $R-1$ Date $\frac{4/3/96}{5.25}$ Time $\frac{5.25}{1}$
Outage to Static Water Level 32.9-43-15,3K./7 = 2.6 pm 13
Elevation of Top of Casing
Water Temperature Before Bailing
Water Volume in Well
Number of Bailer Volumes Removed to Purge Well 894/4002 buile
Water Temperature After Bailing
Quantity of Water Remover to Purge Well Sand
Static Water Level After Recharge 37.9
Quantity of Sample Collected
Sample Number 2-1 sample Sealed By 1/8
Observed Water Recharge Rate Niconight
Did Well Bail Dry During Purge or Sample
pH conductivity
Notes and Remarks: Hydrocurbon Odor prisent Sheen W/ Black! Grey Water
Sheen W/ Black! Grey Water
Signature

Name of Site BOT Hobbs Date of Sample 4/4/96
Name of Person Completing Log Jon Barrett
Samples for the Quarter of 1996 Page of
Monitoring Well Number <u>MW</u> / Date <u>4/3/96</u> Time <u>4:40</u>
Outage to Static Water Level 327-45,71x.66 = 8.58gulx 3
Elevation of Top of Casing 32.7
Water Temperature Before Bailing
Water Volume in Well S, 6 gal
Number of Bailer Volumes Removed to Purge Well
Water Temperature After Bailing
Quantity of Water Remover to Purge Well 26 gal
Static Water Level After Recharge 32.6
Quantity of Sample Collected 16 (100A
Sample Number MN/ Sample Sealed By 4/5.
Observed Water Recharge Rate OVCVN19ht
Did Well Bail Dry During Purge or Sample / No
pH (a) conductivity (46
Notes and Remarks: Water Cloudy W/Gediament (brown

R

		Name of Site BOT Habbs Date of Sample 4/4/96
		Name of Person Completing Log JON BARRETT
		Samples for theOuarter of 19_96 Pageof
451		Monitoring Well Number MW 2 Date 4/3/16 Time 4:00/a
·		Outage to Static Water Level 32, 4-45'=126 x 66= 8.32 gal x 3
•		Elevation of Top of Casing 32.
		Water Temperature Before Bailing
	•	Water Volume in Well 8.37 qu
		Number of Bailer Volumes Removed to Purge Well 25 bailes
		Water Temperature After Bailing
		Quantity of Water Remover to Purge Well 25gd
	Þ	Static Water Level After Recharge 32,3
	•	Quantity of Sample Collected 1-/1004
		Sample Number WW#2 sample Sealed By WW#2
		Observed Water Recharge Rate
		Did Well Bail Dry During Purge or Sample
		pH Lab conductivity lab
		Notes and Remarks: Water Clair
		water
		Signature
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

NATIONAL	ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

03/1 ξ Stenber ADDRESS (2017) (1500) (1500) Tom PROJECT NAME/LOCATION PROJECT MANAGER_ PROJECT NUMBER_ PHONE

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REPORT TO:		INVOICE TO:_	-
		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1

NET QUÔTE NO.

P.O. NO.

SAMPLED BY	+		F	Ţ.				ANALYSES			
(PRINT NAME)	-	SIGNATURE		•	Ť		1/0/				
(PRINT NAME)	SIGN	SIGNATURE									
DAVE. TÎME	SAMPLE ID/DESCHIPTION	GRAB	# OF CONTAINERS TYPE	MATRIX MATRIX						COMMENTS	
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CONDITION OF SAMPLE:	BOTTLES INTACT? YES/NO FIELD FILTERED? YES/NO	/NO NO	ŎŎ N	C SEALS PRE	COC SEALS PRESENT AND INTACT? YES / NO VOLATILES FREE OF HEADSPACE? YES / NO	«TACT? YES PACE? YES	ON/		TEMPERATURE UPON RECEIPT:	JPON RECEIPT:	
SAMPLE REMAINDER DISPOSAL:		RETURN SAMPLE REMAINDER TO CLIENT VIA I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS	O CLIENT ALL SAMP	VIA LE REMAINC	ERS				DATE		
RELINQUISHED BY:	DATE/TIME	RECEIVED BY:			RELINQUISHED BY:	HED BY:		DATE/TIME		RECEIVED FOR NET BY:	
METHOD OF SHIPMENT		REMARKS:	!								



TAX RAHTE TO

TIM TO NEACH IMAGE BY HORING TK

TO CONSERVE OF AN DIVERSION RESERVED



COTE " HA 8 52

1 February 1996

Mr. William Olson, Hydrogeologist
State of New Mexico
Energy, Mineral and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Mr. Olson:

Baker Oil Tools is submitting the third required monitoring in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for groundwater contamination in the direct vicinity of the former disposal pit on the property located at 2800 W. Marland in Hobbs, New Mexico. The NMOCD requested the following three items from BOT for each monitoring session:

1. A brief description of all monitoring activities which occurred during the quarter.

BOT contracted Rhino Environmental Services, Inc. to perform sampling on January 11, 1996. Each well was bailed of three volumes and allowed to equalize prior to sampling except for WW-1 which is a 125' deep water well. The wells were gauged for elevation and depth and sampled on the 11th.. The Hobbs district office of the NMOCD was notified prior to sampling as required. Samples were packaged and submitted to the laboratory for analysis.

2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells. The data will be presented in tabular form showing past and present sampling results.

Tables 1a through 1g present the sampling data.

Table 1a BENZENE (µg/L)

Well ID	Previous	Quarter I	Quarter 2	Quarter 3	Quarter 4
	Nev. 17, 1994	July 17, 1995	October 28, 1995	January 11, 1946	
Trip Blank	<0.5	<2	<2	<0.5	
MW-1	<0.5	<2	<2	<0.5	
MW-2	<0.5	<2	<2	<0.5	
MW-3	<0.5	<2	<2	<0.5	
WW-1	260	51	≤2	0.5	
R-1	<0.5	- 2	<20	1.3	

Table 1b
TOLUENE (µg/L)

			· (F· <i>G</i> - /		* *************************************
WellID	Previous	Quarter I	Quarter 2	Quarter 3	Quarter 4
	Nov. 17, 1994	July 17, 1995	October 20, 1995		-
Trip Blank	<0.5	<2	<2	<0.5	
MŴ-1	<0.5	- 2	<2	<0.5	
MW-2	0.5	<2	<2	<0.5	
MW-3	<0.5	<2	<2	<0.5	
WW-1	1.9	<2	<2	<0.5	
R-1	3.0	- 2	<20	1.9	

Table 1c ETHYL BENZENE (µg/L)

Well ID	Previous	Quarter I	Quarter 2	Quarter 3	Quarter 4
	Nov. 17, 1994	July 17, 1995	October 20, 1995		
Trip Blank	<0.5	<2	<2	<0.5	
MW-1	<0.5	<2	<2	<0.5	
MW-2	<0.5	<2	<2	<0.5	
MW-3	<0.5	<2	2	<0.5	
WW-1	180	<2	<2	1.0	
R-1	49	52	46	40.0	

Table 1d XYLENE (µg/L)

				*****************************	n waaraan aan aan aan aan aan aan aan aan a
Well ID	Previous	Quarter I	Quarter 2	Quarter 3	Quarter 4
	Nov. 17, 1994	July 17, 1995	October 20, 1995		
Trip Blank	<0.5	<2	<2	<0.5	
MW-1	1.2	<2	- 2	<0,5	
MW-2	0.5	<2	<2	<0.5	
MW-3	0.8	<2	<2	<0.5	
WW-1	7,0	<2	<2	0.6	
R-1	94	64	72	67.0	
K-1	94	04	14	v/.V	

Table le MTBE (µg/L)

		<u> </u>	\r'\ \\ - /		
Well ID	Previous Nov. 17, 1994	Quarter I tuty 17, 1995	Quarter 2 October 28, 1995	Quarter 3	Quarter 4
Trip Blank	<2.5	Q	<2	<2.5	
MW-1	<2.5 <2.5	<2 <2	Q <2	<2.5 <2.5	
MW-2 MW-3	2.6	\ \	<2 2	~2.5 <2. 5	
WW-1	4.1	<2	<2	<2.5	
R-1	<2.5	21	<20	<2.5	

Table 1f NAPHTHALENE (µg/L)

*******************************	dan managan (1900)		, , , , , , , , , , , , , , , , , , , 		*****************************
Well LD	Previous	Ouarter I	Ouarter 2	Quarter 3	Ouarter 4
77 041 527	1.0040163			2	*****
	Nov. 17, 1994	July 17, 1995	October 28, 1995		
				- A -	
Trip Blank	< 0.3	<5	not analyzed	<0.5	
\$660,606,600,000,000,000,000,000,000,000					
MW-1	<0.3	< 5	<10	< 0.5	
	2.2	4=	24.6	40 E	
MW-2	< 0.3	<5	<10	<0.5	
GO CONTROL O CONTROL DE CONTROL D		not avaniable*	216	-n 2	
MW-3	< 0.3	1104.04.11111111111	<10	<0.5	
		180	210	-n c	
WW-1	46	12.9	<10	<0.5	
-		101	50.4	140.0	1
R-1	240	101	39,4	140.0	

^{*}sample broke during shipment

Table 1g 2-METHYL NAPHTHALENE (ug/L)

Well ID	Previous	Quarter I	Quarter 2	Quarter 3	Quarter 4
	Nov. 17, 1994	July 17, 1995	October 20, 1995		
Trip Blank	<0.3	<5	not analyzed	<1.0	
MW-1	<0.3	<5	<10	<1.0	
MW-2	<0.3	<5	<10	<1.0	
MW-3	1.0	not available*	<10	<1.0	
WW-1	14	<5	<10	<1.0	
R-I	360	115	56.2	170.0	

^{*}sample broke during shipment

3. A ground water elevation map using the water table elevation of the ground water in all monitoring wells.

Figure 1 presents the water elevation data as requested. Table 2 lists the well number, the depth of the well, the depth to the top of the water, the elevation of the well casing and the actual depth to ground water.

Table 2
Ground Water Elevation Data

Well ID	Vell Depth	Flevation	Quar	ter 1	Qua	rter 2	Qua	iter 3	Qua	rier 4
50000000000000000000000000000000000000	RESSESSAMERANE. A/688/48/4888888		gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth
MW-1	46.0	100.19	33.2	66.99	32.5	67.69	32.32	67.87		
MW-2	45.7	99.56	32.5	67.06	32.0	67.56	31.97	67.59		
MW-3	39.3	99.15	32.7	66.45	32.0	67.15	31.55	67.60		
WW-1	125.0	99.52	32.3	67.22	31.8	67.72	31.65	67.87		
R-1	40.0	100.03	33.0	67.03	32.8	67.23	32.24	67.79		

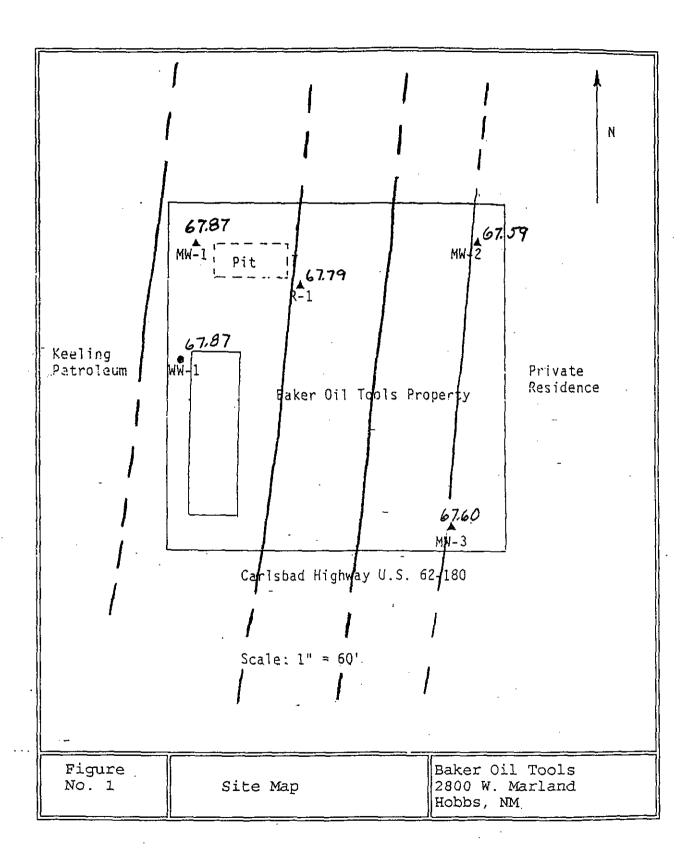
The next scheduled monitoring will occur in April with the report submitted by May 1, 1996. If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely,

For Baker Oil Tools

Thomas V. Stenbeck

Manager of Health, Safety and Environment





Tightness Tests Removals New Installations Repairs Remedial Services Contaminated Soils Disposal Leak Detection

February 12, 1996

Tom Stenbeck Baker Oil Tools 9100 Emmott Rd PO Box 40129 Houston, TX 77040-3514

Baker Oil Tools Facility

2800 W. Marland

Hobbs, NM

Dear Tom,

On January 11, 1996 Rhino gauged, purged and sampled five monitor wells at the above referenced site. The depths to water in the wells are summarized in Table No. 1. The wells were not surveyed.

	LE NO. 1 F WATER LEVELS
WELL NO.	DEPTH TO WATER (PEET)
MW-1	32.32
MW-2	31.97
MW-3	31.55
WW-1	31.65
R-1	32.24

A copy of the analytical results are attached.

If you have any questions, please call me.

Sincerely,

Royce Cooper, Jr.

ATI I.D. 601347

January 26, 1996

Rhino Environmental P.O. Box 2327 Hobbs, NM 88240

Project Name/Number: BAKER-OIL MARLAND

Attention: Royce Cooper

On 01/15/96, Analytical Technologies, of New Mexico Inc., (ADHS License No. A20015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8310 analyses were performed by Analytical Technologies, Inc., 225 Commerce Drive, Fort Collins, Co.

All other analyses were performed by Analytical Technologies, Inc., Albuquerque, NM.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill Project Manager

MR: jt

Enclosure

H M. tchell filt

Laboratory Manager

H. Mitchell Rubenstein, Ph.D.

CLIENT

: RHINO ENVIRONMENTAL

DATE RECEIVED

:01/15/96

PROJECT #

: (NONE)

PROJECT NAME : BAKER-OIL MARLAND

REPORT DATE

:01/26/96

ATI ID: 601347

	ATI	CLIENT		DATE
	ID #	DESCRIPTION	MATRIX	COLLECTED
01	601347-01	MN-1	AQUEOUS	01/11/96
02	601347-02	₩W-2	aqueous	01/11/96
03	601347-03	MW-3	aqueous	01/11/96
04	601347-04	R-1	AQUEOUS	01/11/96
05	601347-05	WW-1	AQUEOUS	01/11/96
06	601347-06	TRIP BLANK	AQUEOUS	01/09/96

---TOTALS---

MATRIX AQUEOUS #SAMPLES

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

GAS CHROMATOGRAPHY RESULTS

TEST

: BTEX, MTBE (EPA 8020)

CLIENT

: RHING ENVIRONMENTAL

ATI I.D.: 601347

Project #

: (NONE)

PROJECT NAME : BAKER-OIL MARLAND

SAMPLE ID.	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-1	AQUEOUS	01/11/96	NA	01/17/96	1
02	MM-3	AQUEOUS	01/11/96	NA	01/17/96	1
03	MW-3	AQUEOUS	01/11/96	NA	01/17/96	1
PARAME	TER		UNITS	01	02	03
BENZEN	E		UG/L	<0.5	<0.5	<0.5
TOLUEN:	E		UG/L	<0.5	<0.5	<0.5
ethylb:	enzene		UG/L	<0.5	<0.5	<0.5
TOTAL :	xylenes		UG/L	<0.5	<0.5	<0.5
METHYL	-t-BUTYL ETHER		UG/L	<2.5	<2.5	<2.5
SURROG	ATE:					
BROMOF	LUOROBENZENE (1)			90	91	91

P'4/1P

GAS CHROMATOGRAPHY RESULTS

TEST

: BTEX, MTBE (BPA 8020)

CLIENT

: RHING ENVIRONMENTAL

ATI I.D.: 601347

PROJECT # : (NONE)

PROJECT NAME : BAKER-OIL MARLAND

SAMPL	e CLIENT I.D.	MATRIX	DATE Sampled	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	R-1	AQUEOUS	01/11/96	NA	01/17/96	1
05	WW-1	AQUEOUS	01/11/96	NA	01/17/96	1
06	TRIP BLANK	AQUEOUB	01/09/96	NA	01/17/96	1
PARAM	ETER		UNITE	04	05	06
BENER	FE		DG/L	1.3	0.5	<0.5
TOLUE	ne e		UG/L	1.9	<0.5	<0.5
eteyl:	Beneeme		UG/L	40	1.0	<0.5
TOTAL	XYLEMES	-	UG/L	67	0.6	<0.5
METHY:	L-t-BUTYL ETHER		UG/L	<2.5	<2.5	<2,5
SURRO	GATE:					
BROMO	FLUOROBENZENE (1)			131*	92	90

^{*}OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

ATI I.D. : 601347 : STEX, MTBE (EPA 8020) TEST : AQUEOUS MATRIX : 011796 BLANK I.D. DATE EXTRACTED : NA : RHINO ENVIRONMENTAL CLIENT DATE ANALYZED : 01/17/96 PROJECT # : (NONE) DILUTION FACTOR : 1 PROJECT NAME : BAKER-OIL MARLAND UNITS PARAMETER <0.5 UG/L BENZENE <0.5 TOLURNE UG/L <0.5 ETHYLBENZENE UG/L TOTAL XYLENES UG/L <0.5 <2.5 UG/L METHYL-t-BUTYL ETHER

SURROGATE:

EROMOFLUOROBENZENE (1)

91

GAS CHROMATOGRAPHY - QUALITY CONTROL

RHINO

MSMSD

TEST : BTEX, MIBE (EPA 8020)

MSMSD # : 011796 ATI 1.D. : 601347

CLIENT: RHINO ENVIRONMENTAL DATE EXTRACTED: NA

PROJECT # : (NONE) DATE ANALYZED : 01/17/96

PROJECT NAME : BAKER-OIL MARLAND SAMPLE MATRIX : AQUEOUS

REF. I.D. : 011796 UNITS : UG/L

PARAMETER	Sample Result	CONC SPIKE	SPIKED Sample	t REC	DUP SPIK E	DUP % REC	RPD
BENZENE	<0.5	10.0	8.9	89	9.1	91	2
TOLUENE	<0.5	10.0	9.1	91	9.3	93	2
ethylbenzene	<0.5	10.0	9.1	91	9.3	93	2
TOTAL XYLENES	<0.5.	30.0	27.4	91	28.0	93	2
METHYL-t-BUTYL ETHER	<2.5	20.0	_ 17.1	86	18.0	90	5

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Lab Name: Analytical Technologies of Colorado, Inc.

Client Name: ATI-NM

Client Project ID: Baker Oil-Marland: RES

Lab Sample ID: 96-01-081-01

5053924498

Sample Matrix: Water

Cleanup: N/A

Sample ID

MW-1

Date Collected: 1-11-96 Date Extracted: 1-16-96

Date Analyzed: 1-19-96

Sample Volume: 1000 mL

Final Volume: 1 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthelene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	ND	0.050
Anthracene	ND	0.10
Flouranthrene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND ND	0.10
Benzo(k)fluoranthrene	ND	0.650
Benzo(a)pyrene	ND	0.050
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	85	15 - 117

ND = Not Detected at or above client requested detection limit.

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Lab Name: Analytical Technologies of Colorado, Inc.

Client Name: ATI-NM

Client Project ID: Baker Oil-Marland: RES

Lab Sample ID: 96-01-081-02

5053924498

Sample Matrix: Water

Cleanup: N/A

Sample ID

MW-2

Date Collected: 1-11-96 Date Extracted: 1-16-96 Date Analyzed: 1-19-96

Sample Volume: 1000 mL

Final Volume: 1 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	0.020 J	0.050
Anthracene	ND	0.10
Flouranthrene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Benzo(a)pyrene	ND	0.050
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits	
2-Chlorounthracene	89	15 - 117	

ND - Not Detected at or above client requested detection limit.

POLYNUCLEAR AROMATIC HYDROCARBONS Method 8310

RHINO

Lab Name: Analytical Technologies of Colorado, Inc.

Client Name: ATI-NM

Client Project ID: Baker Oil-Marland: RES

Lab Sample ID: 96-01-081-03

5053924498

Sample Matrix: Water

Cleanup: N/A

Sample ID

E-WM

Date Collected: 1/11/96
Date Extracted: 1/16/96
Date Analyzed: 1/19/96

Sample Volume: 1000 mL

Final Volume: 1 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	0.74 J	1.0
Acenaphthene	ND	1.0
Fluorene	0.11	0.10
Phenanthrene	0.40	0.050
Anthracene	ND	0.10
Flouranthrene	0.073 J	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Benzo(a)pyrene	ND	0.050
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	84	15 - 117

ND = Not Detected at or above client requested detection limit.

J = Estimated value.

POLYNUCLEAR AROMATIC HYDROCARBONS Method 8310

Lab Name: Analytical Technologies of Colorado, Inc.

Client Name: ATI-NM

Client Project ID: Baker Oil-Marland: RES

Lab Sample ID: 96-01-081-04

Sample Matrix: Water

Cleanup: N/A

Sample ID

Date Collected: 1-11-96
Date Extracted: 1-16-96
Date Analysis 1 22 96

Date Analyzed: 1-22-96

Sample Volume: 1000 mL Final Volume: 100 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	140	50
Acenaphthylene	ND	100
1-Methylnaphthalene	170	100
2-Methylnaphthalene	180	100
Acenaphthene	ND	100
Fluorene	5.8 J	10
Phenanthrone	ND	5.0
Anthracene	ND	10
Flouranthrene	ND	10
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthrene	ND	10
Benzo(k)fluoranthrene	ND	5.0
Benzo(a)pyrene	ND	5.0
Dibenzo(a,h)enthracens	ND	10
Benzo(g,h,i)perylene	ND	10
Indeno(1,2,3-c,d)pyrene	ND	10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	Ţ	15 - 117

ND = Not Detected at or above client requested detection limit.

J - Estimated value.

I - Surrogate recovery not reported due to high level of sample dilution.

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Lab Name: Analytical Technologies of Colorado, Inc.

Client Name: ATI-NM

Client Project ID: Beker Oil-Marland: RES

Lab Sample ID: 96-01-081-05

Sample Matrix: Water

Cleanup: N/A

Sample ID

WW-1

Date Collected: 1-11-96
Date Extracted: 1-16-96
Date Analyzed: 1-19-96

Sample Volume: 1000 mL

Final Volume: 1 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
		0.60
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	0.027 J	0.050
Anthracene	ND	0.10
Flouranthrene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Веп20(а)рутеле	ND	0.050
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits	
2-Chlorosnthracene	85	15 - 117	

ND = Not Detected at or above ellent requested detection limit.

J = Estimated value.

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Lab Name: Analytical Technologies of Colorado, Inc.

Client Name: ATI-NM

Client Project ID: Baker Oil-Marland: RBS

Lab Sample ID: WRB1 01/16/96

Sample Matrix: Water

Cleanup: N/A

Sample ID

Reagent Blank

Date Collected: N/A
Date Extracted: 1-16-96
Date Analyzed: 1-19-96

Sample Volume: 1000 mL

Final Volume: 1 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnsphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	ND	0.050
Anthracene	ND	0.10
Flouranthrene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Benzo(a)pyrene	ND	0.050
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	92	15 - 117

ND = Not Detected at or above olient requested detection limit.

POLYNUCLEAR AROMATIC HYDROCARBONS BLANK SPIKE Method 8310

Lab Name: Analytical Technologies of Colorado, Inc.

Lab Sample ID: WBS1,2 01/16/96

Client Name: ATI-NM

NM Date Extracted: 1/16/96

Client Project ID: Baker Oil-Marland: RBS

Date Analyzed: 1/19/96

Sample Matrix: Water

Cleanup: N/A

Sample Volume: 1,000 mL

Final Volume: 1 mL

			TUBE VOICE I	11111
Analyte	Spike Added (ug/L)	BS Concentration (ug/L)	BS Percent Recovery	QC Limits % Rec
Acenaphthylene	10.0	6.52	65	23 - 122
Phenanthrene	1.00	0.768	77	34 - 112
Pyrene	1.00	0.672	67	35 - 116
Dibenzo(a,h)anthracene	1.00	0.779	78	33 - 123
Benzo(k)fluoranthene	0.250	0.240	96	39 - 119

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10.0	6.74	67	3	20
Phenanthrene	1.00	0.776	78	1	20
Pyrene	1.00	0.690	69	3	20
Dibenzo(a,h)anthracene	1.00	0.782	78	0.4	20
Benzo(k)fluoranthene	0.250	0.244	97	1	20

SURROGATE RECOVERY BS/BSD

Analyte	% Recovery BS	% Recovery BSD	% Rec Limits
2-Chloroanthracene	92	93	15 -117

CHAIN OF CUSTODY

AndiyicaiTechnologies of New Mostoo, Inc., Abuquerque, NN

LGOPS: ATLAbs: Ser Diego (619) 458-9141 - Phoenic (602) 486-4400 - South (205) 228-8305 - Persacala (904) 474-1001 - Portand (500) 884-0447 - Minuperque (506) 344-3777 DISTRIBUTIONS White, Carany - ATI

3 PCRA Metals by TCLP (Method :311) HCRA Metals (8) Target Analyte List Metals (23) (C1) elateM Instulicy wholy Printed Norm Signature Company General Chemistry Beso/Neutral/Acid Compounds GCAMS (625/8270) (0318/313) sebloidneH Pesticides/PC8 (608/6060) ž Voletile Organica (8280) GC/MS Volatile Organica (624/8240) GC/MS rinted Nam (0158/013) estimony restornytod ズングス ED8 1 D8Cb (NORMAL) JEZ WEEK Chloringted Hydrocarbone (601/8010) STEX/MTBE/EDC & EDS (8020/8010/Short) BTEX & Chloringtod Arometics (602/8020) BIXEMIBE (8050) DATE 1-11-96 GESOILINGTEX & MIBE (MOOTS/8020) GENT & egruPlead (8108M) (NOD.6015) DiseasiOinectiniect HART (1.814) anodisocribyH muelorie9 San Otago - Phoesia - Saethe - Pansacote - P. Collins - Purland - Albuque ruse - Archange **70** CERTIFICATION REQUIRED. [] NO. METHANOL PRESERVATION • PRUSHO :: 24h Contra 6 Rosec PHOLINAE BAKEL O'L - MACADO Ar 132 PROJECT MANIAGER: COMPANY COMPLUY ADDRESS **设工服** PEDE AN OHALAN PROJ. IEO.: ¥ PLEASE FILL THIS FORM IN COMPLETELY. PAGE TOF

DATE

Analytical Technologies of New Mexico, Inc.

36.01.0XI interlab Chain of Custody

N OF CONTRACTOR Ė 70 PT: (748) ななべ SICES AIGH SECIE PELBACINSHED BY 10-14 Company (HEL AJOT) OYSE Seco (TCLP 1311) ZHE Polynuciaer Arometics (610/6310) IS Of Now Marketon Inc. 2 AMALYSIS RECORES Sessivieum Acid Compounds GC/MS (625/8270) (03/3/3/9) seciolateH ğ Ę RELINDURSHED BY: (0806/808) BOT-keebbilee-PECENED BY 000 September Section **BOD** Airho Ne DEBOTO DAS IIO Gen Chemistry SAMPLES SOUTH 201 XOI ALCOURS PENSACOLA PORTLAND SAN DIEGO PHOENEX PER CONT (ITEI) 9JOT AS BEST A STOR Mertele - RCRA C 197 44 - SISTOM AT - BEIGH TOTAL NUMBER OF CONTAINERS SAMPLERICEPT MECENNED GOOD CONDUCTOR アスド ٥ 8 Š 70 CHURNOF CLISTODY SEALS ō Analytical Technologies of Mew Maxico, Inc. 1000 th ton 1849 にに LIB REMIDES METWORK PROJECT MANAGER: KINDERLY D. MENERL 2709-D Pan American Freeway, NE 1054 1141 1019 到 Z wATCH PROJECT HOME CAIDER OIL-Marland : CES Albuquerque, NWA B7107 kin reNeil PROJECT NUMBER (01347) CLESS PROJECT IMMIGER Ş H.C. 70-3 20-~ (5 601347-01 ï OCIENE: (SE) FISH SUNCHMOE STANDARD OC REDUMENT COMPANY ADDRESS DUE DATE: 91/91 d

OCREGA ATT Lake: San Diego (619) 458-9141 • Primariz (500) 496-4100 • Seathe (205) 228-83.55 • Pensacrite (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary • ATT Phit • OFFICIALITY 13m

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SPECIAL CENTIFICATION REQUIPED.

108

CLENY DISCOUNT

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Abuquerque, New Mexico

ITA



GIL CONSERVATION DIVISION RECEIVED

105 110 9 911 8 52

1 November, 1995

Mr. William Olson, Hydrogeologist State of New Mexico Energy, Mineral and Natural Resources Department Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

Dear Mr. Olson:

Baker Oil Tools is submitting the second required monitoring in response to the NMOCD request of June 20, 1995 to provide quarterly monitoring data for groundwater contamination in the direct vicinity of the former disposal pit on the property located at 2800 W. Marland in Hobbs, New Mexico. The NMOCD requested the following three items from BOT for each monitoring session:

1. A brief description of all monitoring activities which occurred during the quarter.

BOT performed sampling on October 19 and 20, 1995. Each well was bailed of three volumes and allowed to equalize prior to sampling except for WW-1 which is a 125' deep water well. The wells were gauged for elevation and depth then bailed on the 19th and subsequently sampled on the 20th. The Hobbs district office of the NMOCD was notified prior to sampling as required. Samples were packaged and submitted to the laboratory for analysis.

2. A summary of the laboratory analytical results of water quality sampling of the monitoring wells. The data will be presented in tabular form showing past and present sampling results.

Tables 1a through 1g present the sampling data.

Table 1a BENZENE (µg/L)

- 49/						
Well ID	Previous	Guaria	Quarter 2	Ouarter 3 - Ouarter 4		
	and the second	July 17, 1995	October 20, 1995	-		
	No. 17, 1994		CONTRACTOR OF THE STATE OF THE			
Trip Blank	<0.5 l	<2	<2			
		-				
MW-1	<0.5	<2	- 2			
MW-2	<0.5	<2	<2			
MW-3	< 0.5	<2	<2			
WW-1	260	51	<2 ⋅			
AA AA-T	400	21	74			
R-i	< 0.5	- 2	<20			

Table 1b TOLUENE (μg/L)

Well ID	Previous	Quarer 1	Quarter 2	Quarter 5	Quarter 4
Trip Blank	<0.5	<i>941</i> , 19, 1905 <2.	Cottober 24, 1995 <2		
MŴ-I	<0.5	<2	<2 □		
MW-2 MW-3	0.5 <0.5	<2 <2	<2		
WW-1	1.9	<2	₹2		
R-1	3.0	<2	<20		

Table 1c ETHYL BENZENE (µg/L)

Well ID	Preноих Хан 17, 1994	Quarter I sup 11 1995	Quarter 2 October 20, 1995	Quarter 3	Quarter 4
Trip Blank	<0.5	<2	<2		
MW-1	<0.5	<2	2		
MW-2	<0.5	<2	<2		
MW-3	<0.5	<2	<2		
WW-1	180	<2	<2		
R-1	49	52	46		

Table 1d XYLENE (µg/L)

	ATELINE (agu)						
Well 10	Province	Quarter I	Ouarter 2	Quarier 3	Charter 4		
	No. of total	fulle 17 1805	October 20, 1995				
Trip Blank	<0.5	<2	<2				
MW-1	1.2	<2	Q				
MW-2	0.5	<2	<2		l		
MW-3	0.8	<2	- 2				
WW-1	7.0	<2	<2 <2		İ		
R-1	94	64	72				

Table 1e MTBE (µg/L)

		· · · · · · · · · · · · · · · · · · ·		*********************	
Hall ID		Cirarter i	Utarier 2	Quarter 3 — O	carrer 4
	No. 27 1592	July 27, 1995	October 20, 7995		
77 A 1984 A	_a -		/1		
Trip Blank	<2.5	<2	<2		
from the contraction of the cont					www.co.co.co.
MW-1	Q.5	<2	<2	**************************************	
			•		
MW-2	<2.5 l	<2	<2		
	```	<del></del>			
			Lane I		
MW-3	2.6	<2	<2	4	
WW-1	4.1	<2	- 2		
	•••• <u>••</u> •• • • • • • • • • • • • • • •	~~	**************************************		
R-1	<2.5	21	<20		
	New cod	<del># 1</del>			

Table 1f NAPHTHALENE (µg/L)

Well ID	Previous Sections	Quarter ! Mg 2 1995	Quarter 2	Quarter 3	Quarter 4
Trip Blank	<0.3	<5	not analyzed		
MW-1 MW-2	<0.3 <0.3	<5 <5	<10 <10		
MW-3	<0.3	not available	<10		
WW-1 R-1	46 240	12.9 101	<10 39.4		

^{*}sample broke during shipment

Table 1g 2-METHYL NAPHTHALENE (µg/L)

weard	Previous No. 17 1994	Quarter 1	Quarter 2 George 20, 1995	Quarier 3	Quarter 4
Trip Blank	<0.3	\$	not analyzed		
MW-1 MW-2	<0.3 <0.3	<b>4</b>	<10 <10		
MW-3	1.0	not available*	<10		
WW-1 R-1	14 360	<5 115	<10 56.2		

^{*}sample broke during shipment

3. A ground water elevation map using the water table elevation of the ground water in all monitoring wells.

Figure 1 presents the water elevation data as requested. Table 2 lists the well number, the depth of the well, the depth to the top of the water, the elevation of the well casing and the actual depth to ground water.

Table 2
Ground Water Elevation Data

Well ID	Well Depth	Elevatio H	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
		000000000000000000000000000000000000000	gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth
<b>MW-</b> 1	46.0	100.19	33.2	66.99	32.5	67.69				
MW-2	45.7	99.56	32.5	67.06	32.0	67.56				
MW-3	39.3	99.15	32.7	66.45	32.0	67.15				
WW-1	125.0	99.52	32.3	67.22	31.8	67.72				
R-1	40.0	100.03	33.0	67.03	32.8	67.23		-		

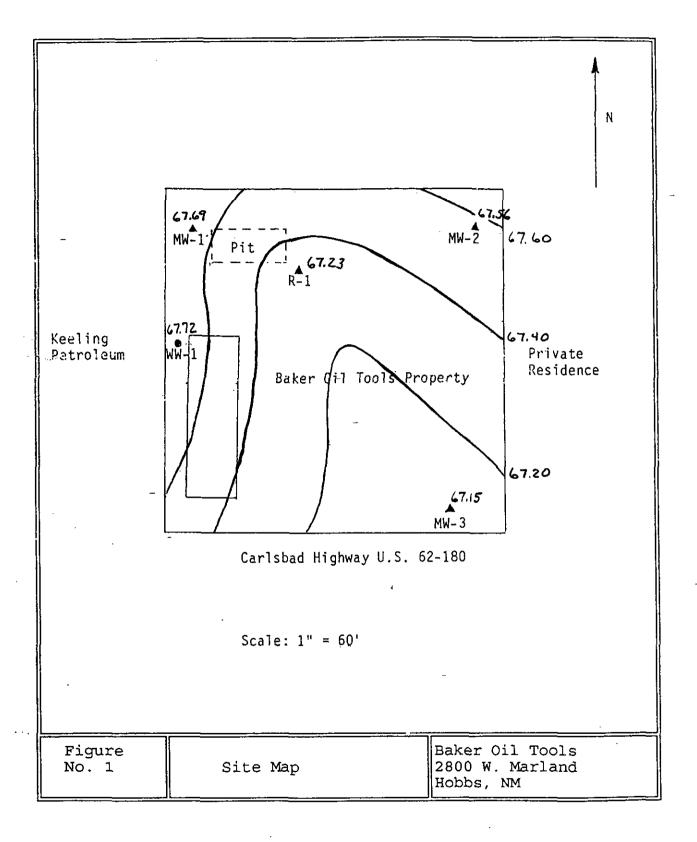
The next scheduled monitoring will occur in January with the report submitted by February 1, 1996. If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely,

For Baker Oil Tools

Thomas V. Stenbeck

Manager of Health, Safety and Environment



,	Name of Site BOT-Hobby NM Date of Sample 14/20/47
	Name of Person Completing Log T. Barrett
	Samples for the Quarter of 19 # Page of
سنسد	
5.7	Monitoring Well Number #/ Date 10/14/91 Time 4:30p
epth	Outage to Static Water Level 45.7 Depth
	Elevation of Top of Casing $31.5'-45.7 = 13.2' \times .66 = 8.79.1 \times 30.00$
	Water Temperature Before Bailing
	Water Volume in Well 8.79al
	Number of Bailer Volumes Removed to Purge Well
	Water Temperature After Bailing
	Quantity of Water Remover to Purge Well
	Static Water Level After Recharge 22.5
	Quantity of Sample Collected /L/IVOA
	Sample Number Sample Sealed By
	Observed Water Recharge Rate Overnight
	Did Well Bail Dry During Purge or Sample
	pH Conductivity
	Notes and Remarks: philond -tak
	Signature

Name of Site BOT - Hold by NM Date of Sample 10/20/47  Name of Person Completing Log 7, Bq. cf  Samples for the Quarter of 19 16 Page of
Monitoring Well Number #2 Date 10/19/95 Time 3:30
Outage to Static Water Level 32-45 = 13 x,66 = 8.58 x 3
Elevation of Top of Casing 32
Water Temperature Before Bailing
Water Volume in Well 8.58 gm
Number of Bailer Volumes Removed to Purge Well 26
Water Temperature After Bailing
Quantity of Water Remover to Purge Well
Static Water Level After Recharge / L//VOA
Quantity of Sample Collected
Sample Number
Observed Water Recharge Rate OVEN NIGHT
Did Well Bail Dry During Purge or Sample // 2
PH Conductivity
Notes and Remarks: ph/cind lah
Signature

<del>-</del> :	Name of Site BOT Hobbs Date of Sample 10/2./9/
	Name of Person Completing Log Jou Barvett
	Samples for the Quarter of 1995 Pageof
VIII.	Monitoring Well Number #3 Date 10/19/95 Time 2144
35	Outage to Static Water Level 32 - 38.5 = 6.5 y.66 = 4.29 gal x
र्श्रभ	Elevation of Top of Casing 12.879
	Water Temperature Before Bailing
	Water Volume in Well 12.87 gd.
	Number of Bailer Volumes Removed to Purge Well
	Water Temperature After Bailing
	Quantity of Water Remover to Purge Well 13 ga / (3 vo/s)
	Static Water Level After Recharge 31.81
	Quantity of Sample Collected /L/1VOA
	Sample Number MW#3 Sample Sealed By
	Observed Water Recharge Rate DUOVATANT
	Did Well Bail Dry During Purge or Sample 110
	pH Conductivity
	Notes and Remarks: ph/csid. p. 1 taken - 62
	Signature

1=	
1	Name of Site 18 Hobbs MM Date of Sample 1. 120/41
ì	Name of Person Completing Log 718
S	Samples for theOuarter of 19 Pageof
_	Monitoring Well Number WW-/ Date 10/11/95 Time 5.3
>	Outage to Static Water Level 31.8'-920 = 93.2 7.66 61
	Elevation of Top of Casing 31,8'
	Water Temperature Before Bailing
Ŧ	Water Volume in Well 6/5 gal
1	Number of Bailer Volumes Removed to Purge Well <u>184</u>
	Water Temperature After Bailing
ζ	Quantity of Water Remover to Purge Well 25 haves 10 b.
	Static Water Level After Recharge 37'
ς	Quantity of Sample Collected /L/10#
2	Sample Number WN-/ Sample Sealed By J. Bavio
	Observed Water Recharge Rate DUCVAIIN
	Did Well Bail Dry During Purge or Sample 1/2
Ι	PH Conductivity
1	Notes and Remarks: 2h //snd - 15h

	Name of Site BOT-Hohbs NM Date of Sample 1-120/95
	Name of Person Completing Log J. Havreff
	Samples for the Quarter of 19 Pageof
س ا هاد	
J. H.	Monitoring Well Number R-1 Date 1/2441 Time 11:00 am
Det.	Outage to Static Water Level 37.8.48 = 15.2 x .17 = 2.55 gal
•	Elevation of Top of Casing $32.9$
	Water Temperature Before Bailing
	Water Volume in Well 2.59 galx 3 volr = 7.75gal x 1280= = 98202 - 4002
	Number of Bailer Volumes Removed to Purge Well 25 bailer
	Water Temperature After Bailing
	Quantity of Water Remover to Purge Well 7.75 graf
	Static Water Level After Recharge 32.3
	Quantity of Sample Collected //////
	Sample Number
	Observed Water Recharge Rate Vapid
	Did Well Bail Dry During Purge or Sample
	pH Conductivity
	Notes and Remarks: Ph/cond = 114
	1st bail clear: subsequent cloudy gray
	Signature
	- -



Dallas Division 1548 Valwood Parkway Suite 118 Carrollton, TX 75006

Tel: (214) 406-8100 Fax: (214) 484-2969

## ANALYTICAL AND QUALITY CONTROL REPORT

Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040

10/27/1995

NET Job Number: 95.07544

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample	Sample Description	Date	Date
<u>Number</u>		<u>Taken</u>	<u>Received</u>
280642 280643 280644 280645 280646 280647	MW-3 MW-2 MW-1 WW-1 R-1 TRIP BLANK	10/20/1995 10/20/1995 10/20/1995 10/20/1995 10/20/1995	10/21/1995 10/21/1995 10/21/1995 10/21/1995 10/21/1995 10/21/1995

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments



Project Coordinator





Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040 10/27/1995

Job No.: 95.07544

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

% Rec

% Rec

% Rec

RLI

RLI

% Rec

Page: 2

Project Name:

BOT, HOBBS, N.M.

Date Received:

Ethylbenzene

Xylenes, Total

2-Methylnaphthalene

SURR: Terphenyl-d14

Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5

SURR: a,a,a-TFT
BASE/NEUTRALS - 8270 AQUEOUS

Toluene

MTBE

10/21/1995

280642

MW-3

Taken:

10/20/1995 09:00

pH	6.5		units
Conductivity EPA 8020-AQ (Preserved)	2,210		umhos/cm
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total _	<2		ug/L
MTBE	<2		ug/L
SURR: a,a,a-TFT	109		% Rec
BASE/NEUTRALS - 8270 AQUEOUS			
2-Methylnaphthalene	<10	RLI	ug/L
Naphthalene	<10	RLI	ug/L
SURR: 2-Fluorobiphenyl	66		% Rec
SURR: Nitrobenzene-d5	78 68		% Rec
SURR: Terphenyl-d14	68		% Rec -
280643 MW-2			-
Taken: 10/20/1995	9:30		
рН	6.7		units
Conductivity	3,800		umhos/cm
EPA 8020-AQ (Preserved)		-	
Benzene	<2		ug/L
	_		<u> </u>

RLI - Reporting Limit Increased, sample volume < method specification

<2

<2

<2

<2

127

<10

57

59

63

<10



Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040 10/27/1995

Job No.: 95.07544

Page: 3

Project Name: BOT, HOBBS, N.M.

Date Received: 10/21/1995

280644

MW-1

200044	Taken:	10/20/1995	09:45		
pH Conductivi	ty Q (Preserved	١	6.8 1,650		units umhos/cm
Benzene Ethylbenze Toluene Xylenes, T MTBE SURR: a,a,	ne otal		<2 <2 <2 <2 <2 <110		ug/L ug/L ug/L ug/L ug/L % Rec
2-Methylna Naphthalen SURR: 2-Fl	phthalene e uorobiphenyl obenzene-d5	<b>2011000</b>	<10 <10 60 72 66	RLI RLI	ug/L ug/L % Rec % Rec % Rec
280645	WW-1 Taken:	10/20/1995	10:00		
pH Conductivi	ty Q (Preserved	,	8.3 289		units umhos/cm
Benzene Ethylbenze Toluene Xylenes, T MTBE SURR: a,a,	ne otal		<2 <2 <2 <2 <2 129		ug/L ug/L ug/L ug/L ug/L % Rec
2-Methylna Naphthalen SURR: 2-Fl	phthalene e uorobiphenyl obenzene-d5	QUEOUS	<10 <10 54 67 64	RLI RLI	ug/L ug/L % Rec % Rec % Rec

RLI - Reporting Limit Increased, sample volume < method specification



Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040

10/27/1995 Job No.: 95.07544

Page: 4

Project Name:

BOT, HOBBS, N.M.

Date Received: 10/21/1995

280646

R-1

Taken:

10/20/1995 10:30

pH Conductivity EPA 8020-AQ (Preserved)	6.6 2,350		units umhos/cm
Benzene Ethylbenzene	<20 46	EDL	ug/L ug/L
Toluene Xylenes, Total	<20 72	EDL	ug/L ug/L
MTBE SURR: a,a,a-TFT	<20 11 <b>4</b>	EDL	ug/L % Rec
BASE/NEUTRALS - 8270 AQUEOUS 2-Methylnaphthalene Naphthalene	56.2 39.4		ug/L ug/L
SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	19 21 19	SU SU SU	% Rec % Rec % Rec
280647 TRIP BLANK Taken:	-		-
EPA 8020-AQ (Preserved) Benzene Ethylbenzene Toluene Xylenes, Total MTBE	<2 <2 <2 <2 <2 <2		ug/L ug/L ug/L ug/L ug/L
SURR: a,a,a-TFT	125		% Rec

EDL - Elevated Detection Limit due to matrix interference. SU - Surrogate outside limits due to matrix interference.



#### QUALITY CONTROL REPORT Continuing Calibration Verification (CCV)

JOB NUMBER:

95.07544

OOD NOIMBER.					ccv		
		DATE		CCV	TRUE		
PARAMETER	ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	₹ REC.	FLAG
	rsd	10/23/1995	SM-4500H.	7.77	8.0	97	NA
pH	des	10/23/1995	E-120.1	1430	1410	101	NA.
Conductivity	ues	10/23/1995	S-8020M	1430	1410	101	445
EPA 8020-AQ (Preserved)		10/04/100F		21	20	105	NA
Benzene	tcc	10/24/1995	S-8020M		20		NA NA
Ethylbenzene	tee	10/24/1995	S-8020M	23		115	
MTBE	tee	10/24/1995	S-8020M	36	40	90	NA
Toluene	tee	10/24/1995	S-8020M	22	20	110	NA
Xylenes, Total	tcc	10/24/1995	S-8020M	67	60	112	NA
EPA 8020-AQ (Preserved)			S-8020M				
Benzene	tcc	10/25/1995	S-8020M	21	20	105	NA
Ethylbenzene	tcc	10/25/1995	S-8020M	22	20	110	NA
MTBE	tcc	10/25/1995	S-8020M	41	40	103	NA
Toluene	tcc	10/25/1995	S-8020M	23	20	115	NA
Xylenes, Total	tec	10/25/1995	S-8020M	69	60	115	NA
EPA 8020-AQ (Preserved)			S-8020M	***	-		
Benzene	dwd	10/26/1995	S-8020M	23	20	115	NA
Ethylbenzene	dwd	10/26/1995	S-8020M	23	20	115	NA
MTBE	dwd	10/26/1995	S-8020M	41	40	103	NA
Toluene	bwb	10/26/1995	S-8020M	23	20	115	NA
Xylenes, Total	bwb	10/26/1995	S-8020M	69	60	115	NA
BASE/NEUTRALS - 8270 AQUEOUS			S-8270				
2-Methylnaphthalene	slw	10/17/1995	S-8270	47.6	50.0	95	NA
- •							

#### Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes",

U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the

Analysis of Pollutants", U.S. EPA, 40CFR, Part 136,

rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA

SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and

Wastewater*, 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and

Wastewater*, 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference



#### QUALITY CONTROL REPORT Continuing Calibration Verification (CCV)

JOB NUMBER:

95.07544

				CCV				
		DATE		ccv	TRUE			
PARAMETER	ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	% REC.	FLAG	
Naphthalene	slw	10/17/1995	S-8270	55.2	50.0	110	NA	
BASE/NEUTRALS - 8270 AQUEOUS			S-8270					
2-Methylnaphthalene	slw	10/11/1995	S-8270	48.1	50.0	96	NA	
Naphthalene	slw	10/11/1995 -	S-8270	54.1	50.0	108	NA	
BASE/NEUTRALS - 8270 AQUEOUS			S-8270	•				
2-Methylnaphthalene	slw	10/20/1995	S-8270	51.8	50.0	104	NA	
Naphthalene	slw	10/20/1995	S-8270	50.0	50.0	100	NA	
BASE/NEUTRALS - 8270 AQUEOUS			S-8270					
2-Methylnaphthalene	slw	10/25/1995	S-8270	53.0	50.0	106	NA	
Naphthalene	slw	10/25/1995	S-8270	54.7	50.0	109	NA	
BASE/NEUTRALS - 8270 AQUEOUS			S-8270					
2-Methylnaphthalene	slw	10/25/1995	S-8270	52.2	50.0	104	NA	
Naphthalene	slw	10/25/1995	S-8270	56.4	50.0	113	NA	

#### Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493:

"Methods for Chemical Analysis of Water & Wastes",

U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625:

"Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136,

rev. 1990.

S-1000 through 9999:

"Test Methods for Evaluating Solid Waste", U.S. EPA

SW-846, 3rd Edition, 1986.

A: "Stand

"Standard Methods for the Examination of Water and

Wastewater", 16th Edition, APHA, 1985.

SM: "Standar

"Standard Methods for the Examination of Water and

Wastewater*, 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference



# QUALITY CONTROL REPORT BLANKS

JOB NUMBER:

95.07544

	DATE			REPORTING	
PARAMETER	ANALYZED	BLANK	UNITS	LIMIT	FLAG
				/s	***
рн	10/23/1995	N/A	units	N/A	,NA
Conductivity	10/23/1995	<5.0	umhos	5.0	NA
EPA 8020-AQ (Preserved)					
Benzene	10/24/1995	<2	ug/L	2	NA
Ethylbenzene	10/24/1995	<2	ug/L	2	NA
MTBE	10/24/1995	<4	ug/L	4	NA
Toluene	10/24/1995	<2	ug/L	2	NA
Xylenes, Total	10/24/1995	<2	ug/L	2	NA
EPA 8020-AQ (Preserved)					
Benzene	10/25/1995	<2	ug/L	2	NA
Ethylbenzene	10/25/1995	<2	ug/L	2	NA
MTBE	10/25/1995	<4	ug/L	4	NA
Toluene	10/25/1995	<2	ug/L	2	NA
Xylenes, Total	10/25/1995	<2	ug/L	2	NA
EPA 8020-AQ (Preserved)			-		
Benzene	10/26/1995	<2	ug/L	2	NA
Ethylbenzene	10/26/1995	<2	ug/L	2	NA
MTBE	10/26/1995	<4	ug/L	4	NA
Toluene	10/26/1995	<2	ug/L	2	NA
Xylenes, Total	10/26/1995	<2	ug/L	2	NA
BASE/NEUTRALS - 8270 AQUEOUS			•		
2-Methylnaphthalene	10/17/1995	<5	ug/L	5	NA
Naphthalene -	10/17/1995	<5	ug/L	5	NA
BASE/NEUTRALS - 8270 AQUEOUS					
2-Methylnaphthalene	10/25/1995	<b>&lt;</b> 5	ug/L	5	NA
Naphthalene	10/25/1995	<5	ug/L	5	NA
_	•		-		

#### Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.



#### QUALITY CONTROL REPORT Laboratory Control Sample (LCS)

JOB NUMBER:

95.07544

	LCS	TRUE	LCS	
PARAMETER	RESULT	CONC.	* REC.	PLAG
pН	N/A	9.18	NA	
EPA 8020-AQ (Preserved)				
Benzene	30	20	150	
Ethylbenzene	28	20	140	
MTBE	45	40	113	
Toluene	29	20	145	
Xylenes, Total	. 79	60	132	



# QUALITY CONTROL REPORT Matrix Spike / Matrix Spike Duplicate (MS / MSD)

JOB NUMBER:

95.07544

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
EPA 8020-AQ (Preserved)								
Benzene	4	27	26	20	115	110	4.4	
Ethylbenzene	<2	27	⁻ 26	20	135	130	3.8	
MTBE	<4	46	45	40	115	113	2.2	
Toluene	<2	27	28	20	135	140	3.6	
Xylenes, Total	<2	80	80 -	60	133	133	0	

#### Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.



# QUALITY CONTROL REPORT DUPLICATES

JOB NUMBER:

95.07544

				SPIKE				
	SAMPLE	DUPLICATE		SAMPLE	SPIKE	SPIKE		
PARAMETER	RESULT	RESULT	RPD	RESULT	RESULT	AMOUNT	* REC.	FLAG
рн	6.5	6.5	0.0	NA	NA	NA	NA	
рн	5.9	6.1	3.3	NA	NA	NA	NA	
Conductivity	3,150	3,160	0.3	NA	NA	NA	NA	

#### Advisory Control Limits for Spikes

The spike recovery should be 75-125% if the spike amount is greater than or equal to one fourth of the sample result value.

NOTE: Spike Samples may not be samples from this job.

#### Advisory Control Limits for Duplicates

The RPD for the sample and duplicate should be less than 20.

TESTING, INC.	ENVIRONME	NATIONAL PROPERTY.	
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Nois		NATIONAL ENVIRONMENTAL ® TESTING, INC.
SIGNATURE NO STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE	PROJECT NAMEROCATION BOT STUMBER  PROJECT NAMEROCATION BOT STUMBER  PROJECT MANAGER 16 M STUMBER	NOF CUSTODY RECORD  BAKEY THUSES OF LA STELLOS
To assist us in selecting the proper method Is this work being conducted for regulatory compliance monitoring? Is this work being conducted for regulatory Ves No	P.O. NO	REPORT TO: 70 //

METHOD OF SHIPMENT	RELINQUISHED BY: DATE	SAMPLE REMAINDER DISPOSAL:	CONDITION OF SAMPLE: BOTTL						10:30 大!	1000 WW -	Tix MW-	7-MVY 08-6	14.37.000 MN-3	DATE TIME SAMPLE	(PRINT NAME)	(PRINT-MAME)	SAMPLED BY	
REMARKS: TUST	TIME PREEIVED BY:	RETURN SAMPLE REMAINDER TO CLIENT VIA	BOTTLES INTACT? (LES / NO FIELD FILTERED? YES / NO				これがはない。 一般ないできる				CAST CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE CONTROL OF THE C		X M. at Controls	SAMPLE IDIDESCRIPTION  MATRIX  GRAB.  COMP	SIGNATURE	SIGNATURE		PHOJECT MANAGER
ASHPLFAX + Send	RELINQUISHED BY:	SAMPLE REMAINDERS	COC SEALS PRÉSENT AND INTACT? XES (NO VOLATILES PREE OF HEADSPACE (YES) NO					-					XXX	HCI NaOH HNO3 H ₂ SO ₄ OTHER BTC MTB ₂	# and Type of Containers	Nap		EH / VI
d Rsulls to T	BY: DATE	.0/											XXXX	Naph PH Conc		ivit	ANAL	26.5%
OM STANDYCK	TIME PRECEIVED TOWN WHY BYO 2/196 11:00	DATE	Bottles supplied by NETY (YES) NO									76	A REC'D OUT OF H.T.	Other None None	gulato	is this work being conducted for regulatory yes No No	To assist us in selecting the proper method	NET COOLE NO.

BOT Emmore Rd



9100 Emmott Road P.O. Box 40129 Houston, Texas 77240-0129 Tel: 713/466/1322 OF CONSERVATION DIVISION RECEIVED

195 AU - 7 AM 8 52

2 August, 1995

Mr. William Olson, Hydrologist State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

Dear Mr. Olson:

Upon review of the information submitted to you regarding the quarterly monitoring at the Baker Oil Tools facility located at 2800 W. Marland in Hobbs, New Mexico, I realized an item had been unintentionally omitted from the report. I have included under this cover the analytical results from the laboratory. Sorry for the omission.

If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely,

For Baker Oil Tools

Thomas V. Stenbeck

Manager of Health, Safety and Environmental - North America

attachments



Dallas Division 1548 Valwood Parkway Suite 118 Carrollton, TX 75006 Tel: (214) 406-8100

Tel: (214) 406-8100 Fax: (214) 484-2969

### ANALYTICAL AND QUALITY CONTROL REPORT

Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040

07/26/1995

NET Job Number: 95.04703

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample	Sample Description	Date	Date
<u>Number</u>		<u>Taken</u>	<u>Received</u>
268203 268204 268205 268206 268207 268208	TRIP BLANK MW-1 MW-2 ,WW-1 R-1 MW-3	07/19/1995 07/19/1995 07/19/1995 07/19/1995 07/19/1995	07/20/1995 07/20/1995 07/20/1995 07/20/1995 07/20/1995 07/20/1995

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Project Coordinator





Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road 07/26/1995

Job No.: 95.04703

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Houston, TX 77040

HOBB NEW MEXICO

Date Received:

Project Name:

07/20/1995

268203

TRIP BLANK Taken:

EPA 8020-AQ (Preserved) Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS	<2 <2 <2 <2 <2 <2 109	ug/L ug/L ug/L ug/L ug/L % Rec
2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	<5 <5 53 52 66	ug/L ug/L % %
268204 MW-1 Taken: 07/19/1995	14:30	
EPA 8020-AQ (Preserved) Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS 2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	<2 <2 <2 <2 <2 <2 <5 <5 <44 36 57	ug/L ug/L ug/L ug/L % Rec ug/L ug/L %
268205 MW-2 Taken: 07/19/1995	14:00	
EDV 8030-VO (Drocorred)		

EPA 8020-AQ (Preserved)

Benzene <2 ug/L Ethylbenzene <2 ug/L



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Project Name: HOBB NEW MEXICO

Date Received: 07/20/1995

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MW-2

Taken: 07/19/1995 14:00

Taken: 07/19/1995	14:00	
Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS	<2 <2 <2 83	ug/L ug/L ug/L % Rec
2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	<5 <5 46 42 60	ug/L ug/L % %
268206 WW-1 Taken: 07/19/1995	15:00	
EPA 8020-AQ (Preserved) Benzene Ethylbenzene Toluene Xylenes, Total MTBE SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS 2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	51 <2 <2 <2 <2 <2 109 <5 12.9 63 68 79	ug/L ug/L ug/L ug/L % Rec ug/L ug/L %
268207 R-1 Taken: 07/19/1995	14:45	
EPA 8020-AQ (Preserved) Benzene Ethylbenzene Toluene Xylenes, Total MTBE	<2 52 <2 64 21	ug/L ug/L ug/L ug/L ug/L



Tom Stenbeck BAKER OIL TOOLS 9100 Emmott Road Houston, TX 77040

07/26/1995 Job No.: 95.04703

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Project Name: HOBB NEW MEXICO

Date Received: 07/20/1995

260202

268207 R-1 Taken: 07/19/1995	14:45	
SURR: a,a,a-TFT BASE/NEUTRALS - 8270 AQUEOUS	119	% Rec
2-Methylnaphthalene Naphthalene SURR: 2-Fluorobiphenyl SURR: Nitrobenzene-d5 SURR: Terphenyl-d14	115 101 67 56 78	ug/L ug/L % %
268208 : MW-3 Taken: 07/19/1995	13:45	
EPA 8020-AQ (Preserved)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total MTBE	<2 <2	ug/L ug/L
SURR: a,a,a-TFT	117	% Rec
• •		



#### QUALITY CONTROL REPORT Continuing Calibration Verification (CCV)

CCV

JOB NUMBER:

95.04703

				CCV		
	DATE		CCV	TRUE		
ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	% REC.	FLAG
		C-8030M				
	07/21/4005		21	20	105	
	· · · · ·					NA
=-						NA
dwr	07/21/1995	S-8020M	=			NA
dwr	07/21/1995	S-8020M	22	20	110	NA
dwr	07/21/1995	S-8020M	68	60	113	NA
		\$-8020M				
dwr	07/24/1995	S-8020M	20	20	100	NA
dwr	07/24/1995	S-8020M	23	20	115	NA
dwr .	07/24/1995	s-8020M	37	40	93	NA
dwr	07/24/1995	s-8020M	21	20	105	NA
dwr	07/24/1995	S-8020M	64	60	107	NA
		s-8020M				
dwr	07/25/1995	S-8020M	19	20	95	NA
dwr	07/25/1995	\$-8020M	23	20	115	NA
dwr	07/25/1995	S-8020M	36	40	90	NA
dwr	07/25/1995	s-8020M	21	20	105	NA
dwr	07/25/1995	S-8020M	66	60	110	NA
		s-8270				
slw	07/21/1995	s-8270	46.7	50.0	93	NA
slw	07/21/1995	s-8270	45.2	50.0	90	NA
		s-8270				
	dwr dwr dwr dwr dwr dwr dwr dwr dwr dwr	ANALYST         ANALYZED           dwr         07/21/1995           dwr         07/21/1995           dwr         07/21/1995           dwr         07/21/1995           dwr         07/24/1995           dwr         07/24/1995           dwr         07/24/1995           dwr         07/24/1995           dwr         07/24/1995           dwr         07/24/1995           dwr         07/25/1995           slw         07/21/1995	ANALYST ANALYZED METHOD  S-8020M  dwr 07/21/1995 S-8020M  dwr 07/21/1995 S-8020M  dwr 07/21/1995 S-8020M  dwr 07/21/1995 S-8020M  dwr 07/21/1995 S-8020M  dwr 07/24/1995 S-8020M  dwr 07/25/1995 S-8020M  S-8270  SLW 07/21/1995 S-8270	S-8020M   Color	DATE   CCV   TRUE	DATE

#### Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes",

U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the

Analysis of Pollutants", U.S. EPA, 40CFR, Part 136,

rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA

SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and

Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and

Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference



#### QUALITY CONTROL REPORT Continuing Calibration Verification (CCV)

JOB NUMBER:

95.04703

					CCV		
		DATE		CCV	TRUE		
PARAMETER	ANALYST	ANALYZED	METHOD	RESULT	CONCENTRATION	% REC.	FLAG
2-Methylnaphthalene	slw	07/25/1995	s-8270	49.2	50.0	98	NA
Naphthalene	slw	07/25/1995	s-8270	47.7	50.0	95	NA
BASE/NEUTRALS - 8270 AQUEOUS			s-8270				
2-Methylnaphthalene	รโพ	07/26/1995	s-8270	56.8	50.0	114	NA
Naphthalene	รโพ	07/26/1995	s-8270	56.2	50.0	112	NA

#### Method References and Codes

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes",

U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the

Analysis of Pollutants*, U.S. EPA, 40CFR, Part 136,

rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA

SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and

Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and

Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference



#### QUALITY CONTROL REPORT BLANKS

JOB NUMBER:

95.04703

	DATE			REPORTING	
PARAMETER	ANALYZED	BLANK	UNITS	LIMIT	FLAG
EPA 8020-AQ (Preserved)					
Benzene	07/21/1995	<2	ug/L	2	NA
Ethylbenzene	07/21/1995	<2	ug/L	2	NA
MTSE	07/21/1995	<2	ug/L	2	NA
Toluene	07/21/1995	<2	ug/L	2	NA
Xylenes, Total	07/21/1995	<2	ug/L	2	NA
EPA 8020-AQ (Preserved)					
Benzene	07/24/1995	<2	ug/L	2	NA
Ethylbenzene	07/24/1995	<2	ug/L	2	NA
MTBE	07/24/1995	<2	ug/L	2	NA
Toluene	07/24/1995	<2	ug/L	2	NA
Xylenes, Total	07/24/1995	<2	ug/L	2	NA
EPA 8020-AQ (Preserved)		-			
Benzene	07/25/1995	<2	ug/L	2	NA
Ethylbenzene	07/25/1995	<2	ug/L	2	NA
MTBE	07/25/1995	<2	ug/L	2	. NA
Toluene	07/25/1995	<2	ug/L	2	NA
Xylenes, Total :	07/25/1995	<2	ug/L	2	NA
BASE/NEUTRALS - 8270 AQUEOUS					
2-Methylnaphthalene	07/25/1995	<5	ug/L	5	NA
Naphthalene	07/25/1995	<5	ug/L	5	NA

#### Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.



#### QUALITY CONTROL REPORT Laboratory Control Sample (LCS)

JOB NUMBER:

95.04703

LCS	TRUE	LCS	
RESULT	CONC.	% REC.	FLAG
19	20	95	
25	20	125	
39	40	98	
21	20	105	
74	60	123	
93.8	100	94	
52.8	100	53	
	19 25 39 21 74	RESULT CONC.  19 20 25 20 39 40 21 20 74 60  93.8 100	RESULT         CONC.         % REC.           19         20         95           25         20         125           39         40         98           21         20         105           74         60         123           93.8         100         94



# QUALITY CONTROL REPORT Matrix Spike / Matrix Spike Duplicate (MS / MSD)

JOB NUMBER:

95.04703

PARAMETER	SAMPLE RESULT	MS RESULT	MSD Result	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
EPA 8020-AQ (Preserved)								
Benzene	<2	18	19	20	90	95	5.4	
Ethylbenzene	<2	25	26	20	125	130	3.9	
MTBE	<2	39	41	40	98	103	4.9	
Toluene	<2	21	22	20	105	110	4.7	
Xylenes, Total	<2	72	76	60	120	127	5.4	
BASE/NEUTRALS - 8270 AQUEOUS	Insuffici	ent sample w	ithin batch	to perform	spike			

#### Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.

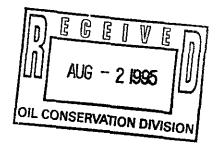
PROJECT NUMBER  PROJECT NUMBER  SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGNATURE SIGN	NATIONA ENVIRON ® TESTING	NATIONAL ENVIRONMENTAL TESTING, INC.	CHAIN OF CUSTODY RECORD COMPANY DAKEY TO SPACE ADDRESS PHONE 7.3 466 2520 FAX PHONE 7.3 466 2520 FAX PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY	RECORD Tools  S. Naw, Wassing	REPORT TO: TOW SHAPECK
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Sport    Annual Library	1:20 MW-1		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	XXX	
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9100 Emmott Road P.O. Box 40129 Houston, Texas 77240-0129 Tel: 713/466/1322

31 July, 1995



Mr. William Olson, Hydrologist
State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe. New Mexico 87505

#### Dear Mr. Olson:

Baker Oil Tools (BOT) is responding to the NMOCD request of June 20, 1995 to submit quarterly monitoring data for groundwater contamination in the direct vicinity of the former pit on the property located at 2800 W. Marland in Hobbs, New Mexico. The NMOCD requested the following 3 items from BOT for each monitoring session:

1. A brief description of all monitoring activities which occurred during the quarter:

BOT conducted the monitoring on 7/19/95. Each well was bailed of three volumes and allowed to equalize except for WW-1 which is a 125' deep water well. The wells were bailed with either a 30 oz or 40 oz bailer. The wells were gauged for depth and ground water elevation, temperature of water taken before and after bailing, sampled and a monitoring well sampling log completed for each well. (A copy of the sampling log for each well is included as Appendix 1.) Your Hobbs district office was notified of the sampling and stated they would come out to the location if schedule allowed. The local inspector did not make it to the location while we were sampling. Samples were packed and sent for laboratory analysis.

2. A summary of the laboratory analytic results of water quality sampling of the monitoring wells. The data will be presented in tabular form showing past and present sampling results.

Tables 1a through 1g, below presents the sampling data for this quarter. The 1 liter sample bottle for MW-3 broke during shipment to the laboratory so only the BTEX and MTBE analyses were performed on the sample.

Table 1a BENZENE (μg/L)

Well ft	of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se	Gaarter 1977 17 1888	Quarter 2	Guarter S	Quarter 4
Trip Blank	<0.5	<2			
MW-1	<0.5	<2			
MW-2	<0.5	<2			
MW-3 WW-1	<0.5 260	<b>42</b>			
R-1	200 <0.5	51 <2			

Table 1b
TOLUENE (μg/L)

		10202112 (88,2)
17772470	Brentonia.	Quarter 1 Quarter 2 Quarter 3 Quarter 4
		July 17, 1996
		VALY 24, 1940
Trip Blank	<0.5	<b>42</b>
MW-1	<0.5	<2
MW-2	0.5	- 2
MW-9	<0.5	42
WW-1	1.9	- 22
R-1	3.0	<2

Table 1c ETHYL BENZENE (μg/L)

	Production Supply 1984	Garrener I July 17, 1895	Quarter ?	Quarter 4
Trip Blank	<0.5	<2		
MW-1	<0.5	<2		
MW-2	<0.5	<2		
MW-3	<0.5	<2		
WW-1	180	<2		
R-1	49	52		

Table 1d XYLENE (µg/L)

			<u> </u>	<u> </u>	
Well III		Guarter I 808-17, 1988	Quarter 2	Quarter 3	Quarter 4
Trip Blank	<0.5 1.2	<2 <2			
MW-2 MW-3	0.5 0.8	<2 <2			
WW-1 R-1	7.0 94	<2 64			

Table 1e MTBE (µg/L)

				A014A004114A114A0044A004A00000000000000	**************************************
	330000000000000000000000000000000000000	Guarter !	Constant	Guerter S	
		1616 17, 1936			
Trip Blank	<2.5	<2.0			
MW-1	<2.5	<2.0			
		امہ			
MW-2	<2.5	<2.0			
MW-3	2.6	<2.0			
******		<2.0 ∣			
WW-1	4.1	\$2.U			
** *	<2.5	21			
R-1	5.4.0	4L			<u> </u>

Table 1f NAPHTHALENE (µg/L)

					AND ALCOHOLOGICAL PROPERTY AND AND AND AND AND AND AND AND AND AND
1001/01/01/01	1247997000	Qui cirilor de	Quarter 2	Quarter 8	Guarterd
		340 27 1955			
Trip Blank	<0.3	<5			
MW-1	<0.3	<5			
MW-2	<0.3	<5			
MW-3	<0.8	not available*			
WW-1	46	12.9			
R-1	240	101			

^{*}sample broke during shipment

Table 1g

2-METHYL NAPHTHALENE (µg/L) Presiens Van 13, 1994 Courter I Trip Blank < 0.3 <5 <5 < 0.3 MW-1 MW-2 <0.3 <5 not available* 1.0 MW-8 14 <5 WW-1 115 R-1 360

3. A water table elevation map using the water table elevation of the ground water in all monitoring wells.

Figure 1 presents the water elevation data as requested. Table 8 below lists the well number, the depth of the well, the depth to top of water, the elevation of the well casing and the actual depth to groundwater.

^{*}sample broke during shipment

#### Table 8 GROUNDWATER DATA

Well ID	Well Depth	Elevation	Qua	rter i	Qua	ter 2	Quar	ter 3	Quai	ter 4
	AND STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, ST		gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth	gauged depth	actual depth
MW-1	46.0'	100.19	33.2'	66.99	•	***************************************				
MW-2	45.7'	99.56	32.5'	67.06						
MW-3	39.3'	99.15	32.7'	66.45			<b>*</b>			***************
WW-1	125.0'	99.52	32.3'	67.22		***************************************				
R-1	40.0'	100.03	33.0'	67.03						

Additionally BOT has included maps indicating the contaminant concentrations at each well location for the site. These are included as figures 1a-1g.

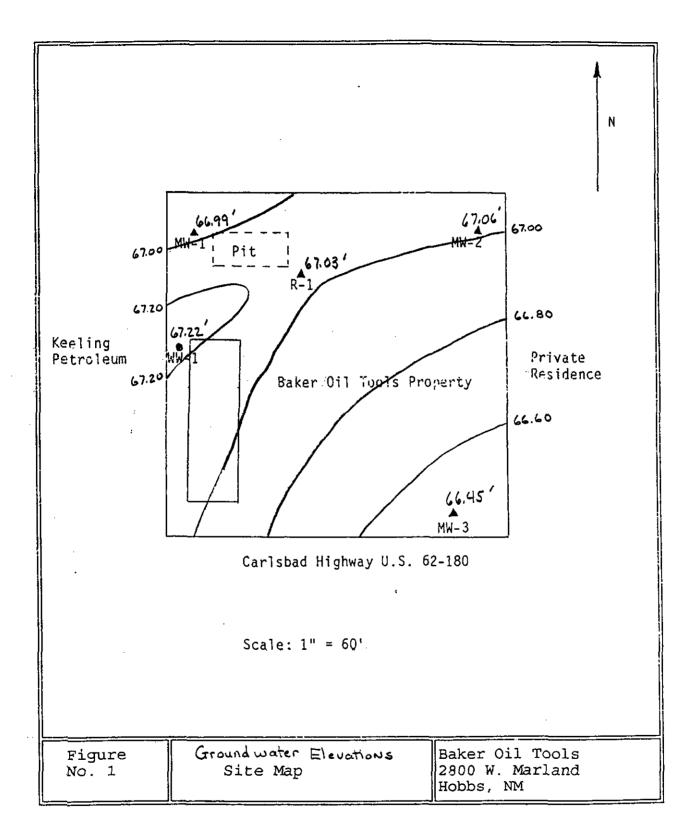
The next monitoring is scheduled for October with the report submitted by November 1, 1995. If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

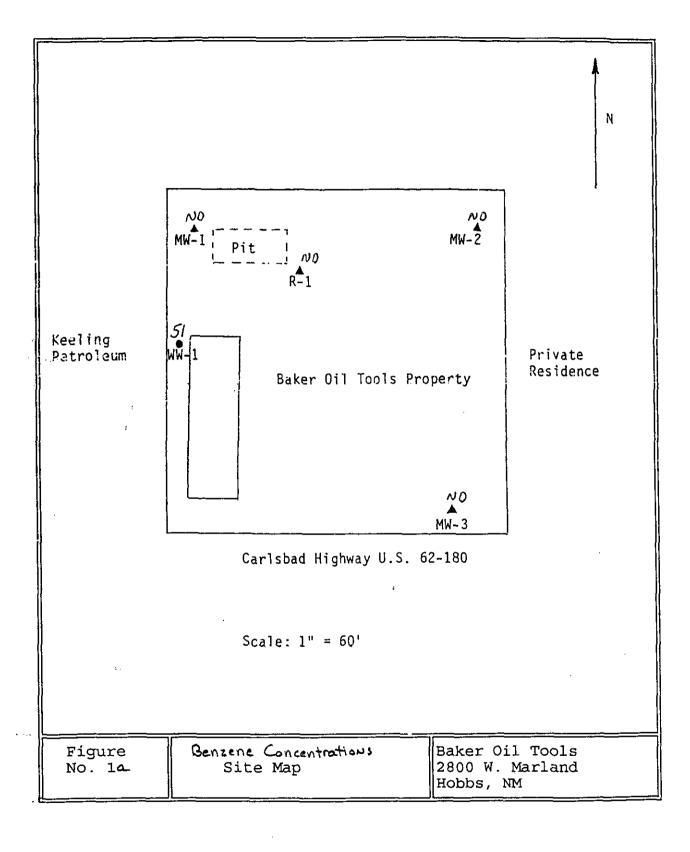
Sincerely,

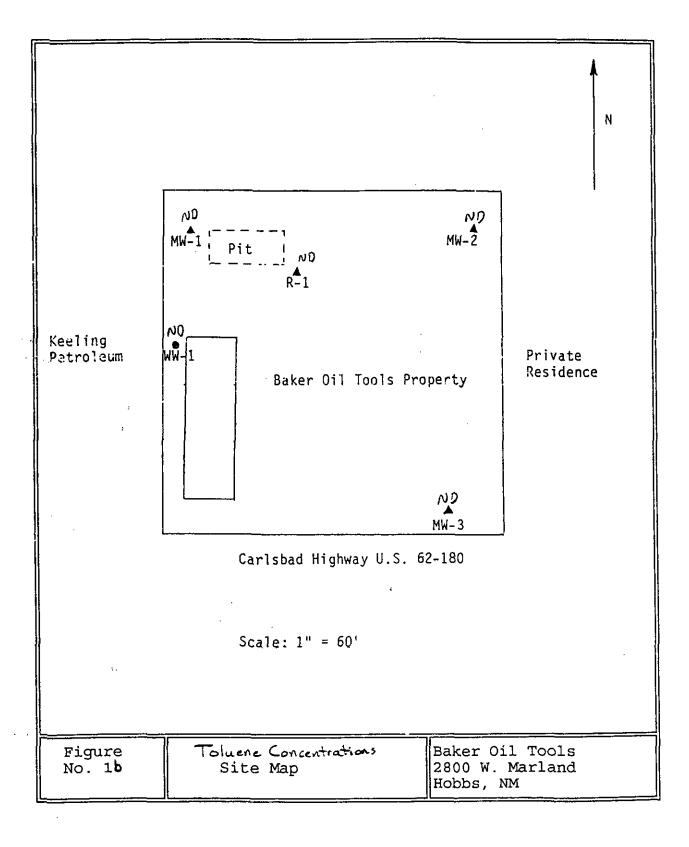
For Baker Oil Tools

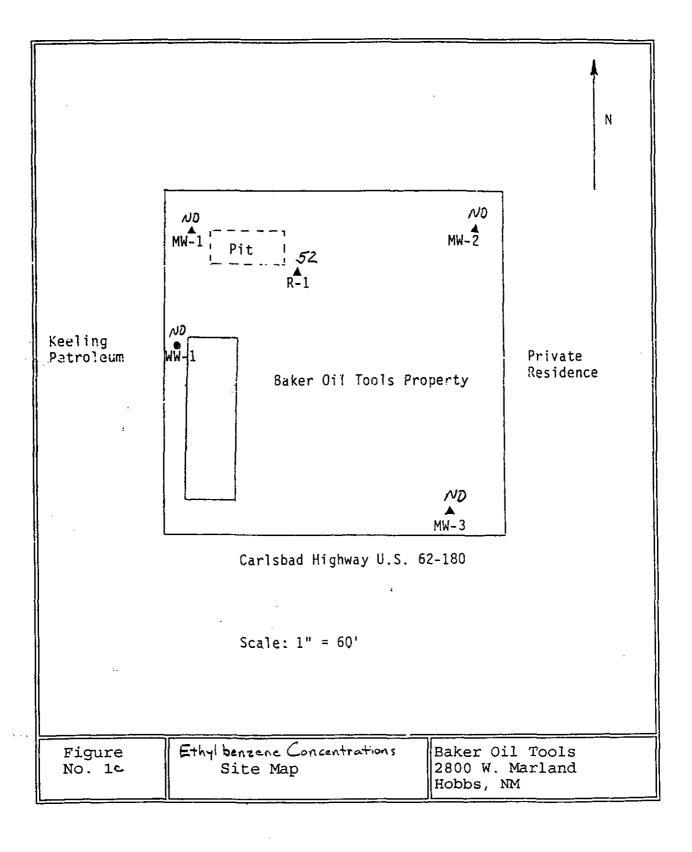
Thomas V. Stenbeck

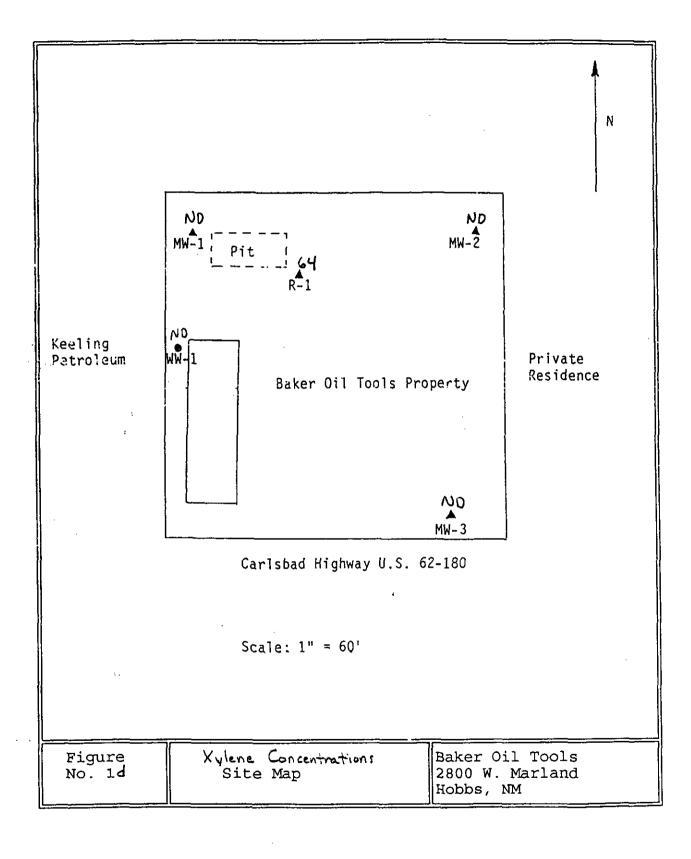
Manager of Health, Safety and Environmental - North America

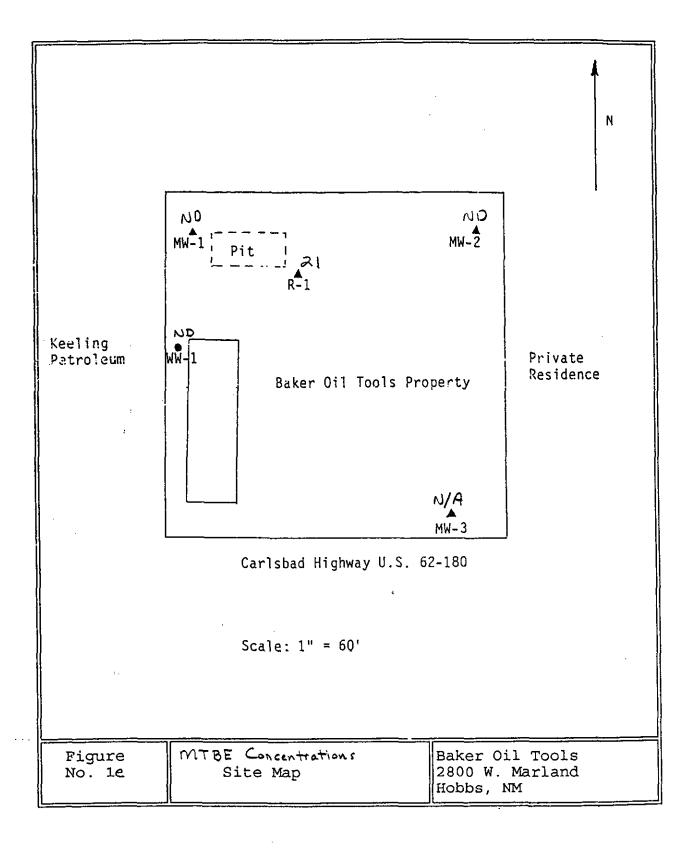


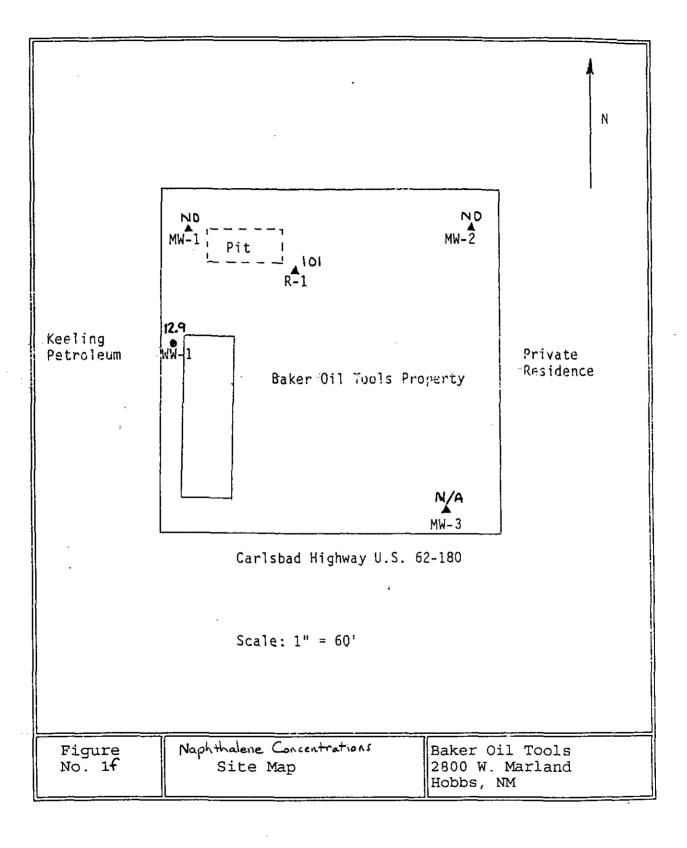


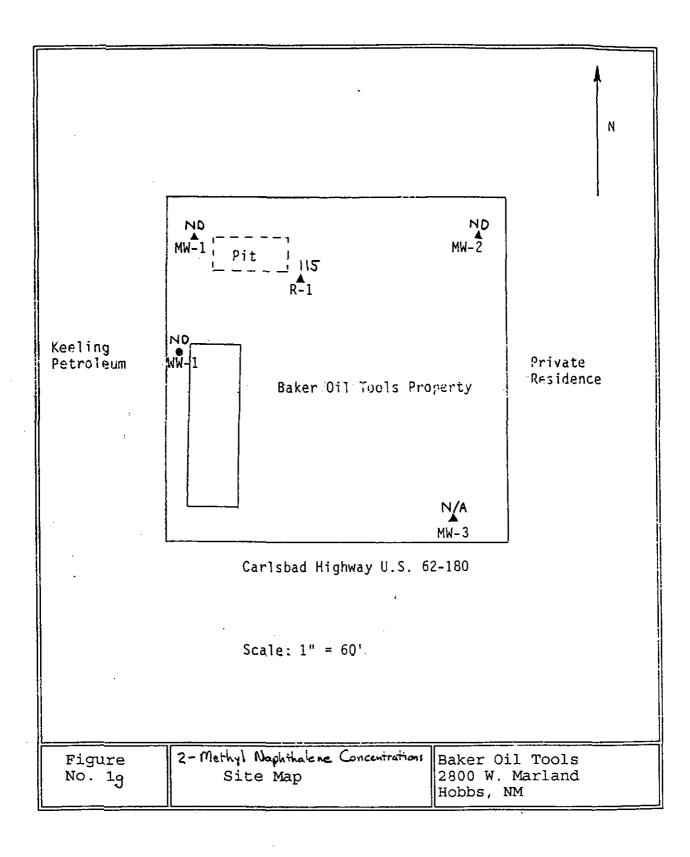












#### STATE OF NEW MEXICO



#### ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA EE NEW MEYICO 97505

SANTA FE, NEW MEXICO 87505 (505) 827-7131

June 20, 1995

## CERTIFIED MAIL RETURN RECEIPT NO. P-667-242-277

Mr. Thomas V. Stenbeck
Baker Oil Tools
P.O. Box 40129
9100 Emmott Rd.
Houston, Texas 77240-0129

RE: BAKER OIL TOOLS HOBBS FACILITY

Dear Mr. Stenbeck:

The New Mexico Oil Conservation Division (OCD) has completed a review of Baker Oil Tools, Inc. (BOT) April 12, 1995 correspondence providing a plan to address ground water contamination at BOT's oilfield service company facility located at 2800 West Marland in Hobbs, New Mexico. This document proposes to defer ground water remedial actions for napthalenes at the site until petroleum contaminants which have migrated onsite from the upgradient Keeling Petroleum facility are addressed. BOT instead proposes interim monitoring of ground water quality from all of the site monitor wells on a quarterly basis.

The above referenced interim ground water monitoring plan is approved with the following conditions:

- 1. BOT will submit quarterly reports on the site ground water monitoring to the OCD by February 1, May 1, August 1 and November 1 of each respective year with the first report due on August 1, 1995. The reports will contain:
  - a. A description of all monitoring activities which occurred during the quarter.
  - b. A summary of the laboratory analytic results of water quality sampling of the monitor wells. The data will be presented in tabular form showing past and present sampling results.
  - c. A water table elevation map using the water table elevation of the ground water in all monitor wells.

Mr. Thomas V. Stenbeck June 20, 1995 Page 2

- 2. BOT will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
- BOT will submit all original documents to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve BOT of liability if contamination exists which is beyond the scope of the In addition, OCD approval does not relieve BOT of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson

Hydrogeologist

Environmental Bureau

Jerry Sexton, OCD Hobbs District Supervisor

Wayne Price, OCD Hobbs Office

Shelda Mendoza, Acting NMED UST Bureau Chief

d at	S Form 380 Postmark or Date	TOTAL Postage	Return Receipt Showing to Whom.  Date, & Address of Delivery	Return Receipt Showing to Whom & Date Delivered	Restricted Delivery Fee	Special Delivery Fee	Certified Fee	Postage	P.O., State & ZIP Code	Street & No.	Sent to	Certified No Insurance Do not use to
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#### **Bill Olson**

From: To: Bill Olson

Cc:

Jerry Sexton Wayne Price Baker Oil Tools

Subject: Date:

Wednesday, June 14, 1995 2:56PM

**Priority:** 

High

Attached is a draft approval letter for Baker Oil Tools recent ground water monitoring plan. Please provide me with any comments by 6/16/95. Thanks!

< File Attachment: REMEDY2.APR>>

Bill Olson

From: To: POSTOFFICE Bill Olson

Subject:

Registered: Wayne Price

Date:

Thursday, June 15, 1995 7:07AM

[013]

***** CONFIRMATION OF REGISTERED MAIL *****

Your message:

TO: Wayne Price

DATE: 06-14-95

SUBJECT: Baker Oil Tools

TIME: 14:59

Was accessed on 06-15-95 07:07

#### Bill Olson

From:

Jerry Sexton

Date sent:

Friday, June 16, 1995 7:53AM

To:

Bill Olson

Subject:

Registered: Jerry Sexton

Your message

To: Subject: Jerry Sexton Baker Oil Tools

Date: was accessed on

Date:

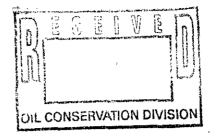
Friday, June 16, 1995 7:53AM

Wednesday, June 14, 1995 2:56PM



9100 Emmott Road P.O. Box 40129 Houston, Texas 77240-0129 Tel: 713/466/1322

12 April, 1995



Mr. William Olsen, Hydrologist State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

#### Dear Mr. Olsen:

Baker Oil Tools (BOT) is responding to your request to submit a plan to address the contamination in the direct vicinity of the former pit on the property located at 2800 W. Marland in Hobbs, New Mexico. BOT proposes to defer any remedial actions on the naphthalene present in the groundwater until the contamination which is coming onto the property from up gradient is addressed. The health risk posed by the offsite sourced BTEX (which includes a known carcinogen) contamination in the groundwater is far greater than the risk posed by the naphthalene present in the groundwater which may have arisen due to BOT activities. BOT proposes to defer remedial action because any remedial actions on BOT's part could actually increase the amount of up-gradient sourced contamination being brought onto the BOT property.

The monitoring wells with contaminants believed to have an off-site (i.e.) upgradient source are listed below.

Contaminant	Maximum Concentration Detected (ug/l)	Well(s) where detected
Benzene	260.0	WW-1, R-1
Toluene	3.0	WW-1, MW-2, R-1
Ethylbenzene	180.0	WW-1, R-1
Xylene	94.0	WW-1, MW-1, MW-2, MW-3, R-1
MTBE	4.1	WW-1, MW-3
2-Methylnaphthalene	14.0	WW-1
Naphthalene	46.0	WW-1
Acenaphthylene	6.3	WW-1
1-Methylnaphthalene	10.0	WW-1

BOT proposes to sample the monitoring wells at the BOT property according to the following schedule for the first year, to document the levels of the naphthalene and address the question: "is the naphthalene contaminant spreading outward to adjacent properties?".

SOMODIUM	WELLS	00/201000/0	OTHER
	MONITORED	SAMPLED	ACTIVITUES
June 95	MW-1, MW-2, MW-3, R-1, WW-1	BTEX, MTBE, 2- methylnaphthalene, naphthalene	Groundwater elevations
September 95	MW-1, MW-2, MW-3, R-1, WW-1	BTEX, MTBE, 2- methylnaphthalene, naphthalene	Groundwater elevations
December 95	MW-1, MW-2, MW-3, R-1, WW-1	BTEX, MTBE, 2- methylnaphthalene, naphthalene	Groundwater elevations
March 96	MW-1, MW-2, MW-3, R-1, WW-1	BTEX, MTBE, 2- methylnaphthalene, naphthalene	Groundwater elevations

If the first year data indicates the levels of the naphthalene contamination are remaining somewhat constant, BOT will propose to sample selected wells on a semi-annual basis instead of quarterly. This request will be submitted to the New Mexico Oil Conservation Division after the results of the March 96 sampling are known.

In summary, BOT proposes to perform additional sampling at the 2800 W. Marland site in Hobbs, New Mexico, to define the levels of contaminants which may have been sourced from onsite activities as well as better define the levels of higher risk contaminants which are continuing to impact the property from an offsite (i.e. up gradient) source. BOT is presenting a proposed monitoring schedule for the site, as well as a proposed list of constituents to analyze for. Should this plan prove acceptable to your office, please notify me and BOT will proceed with the implementation of this plan with the first scheduled monitoring to take place in June 1995. Upon receipt of the analytical data, BOT will submit the data to your office for review. If you have any questions or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely,

For Baker Oil Tools

Thomas V. Stenbeck

Manager of Health, Safety and Environmental - North America

OF CONSERVE ON DIVISION RECEIVED

#### NMOCD Inter-Correspondence

To:

Chris Eustice-Environmental Geologist

From:

Wayne Price-Environmental Engineer District I

Date:

April 5, 1995

Reference:

Baker Oil Tools- Hobbs old yard

Subject:

Solid Waste

Comments:

Dear Chris,

This material has been generated at the Baker Oil Tools old yard which is located at 2800 W. Marland, Hobbs, NM. Please note that Bill Olson is handling the ground water contamination issue. You should also be aware that the NMED is involved at the site next to Baker, which is Keeling Petroleum, and Roger Anderson has corresponded with NMED on the groundwater issue.

cc: Jerry Sexton-District I Supervisor Bill Olson-Hydrogeologist

Attachments-1

#### STATE OF NEW MEXICO

#### ENERGY, MINERALS AND NATURAL RESOURCE

**OIL CONSERVATION DIVISION** 

2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

March 8, 1995

#### CERTIFIED MAIL RETURN RECEIPT NO. P-667-242-219

Mr. Thomas V. Stenbeck Baker Oil Tools P.O. Box 40129 9100 Emmott Rd. Houston, Texas 77240-0129

BAKER OIL TOOLS HOBBS FACILITY RE:

Dear Mr. Stenbeck:

The New Mexico Oil Conservation Division (OCD) has completed a review of Baker Oil Tools, Inc. (Baker) January 13, 1995 "SITE ASSESSMENT REPORT, BAKER OIL TOOLS, 2800 W. MARLAND, HOBBS, NM". This document contains the results of Baker's investigation of ground water contamination at Baker's oilfield service company facility located at 2800 West Marland in Hobbs, New Mexico.

While the OCD approves of the investigation work performed, the investigation does show high levels of napthalenes directly adjacent to the former pit location and high levels of benzene in well WW-1. It appears that the high levels of benzene in well WW-1 are a result of contamination migrating from the upgradient Keeling Petroleum site and the OCD has referred the contamination in this well to the New Mexico Environment Department for action. However, the naphtalenes in the ground water and high soil TPH levels in the former pit appear to result from Baker's pit disposal activities.

Therefore, the OCD requests that Baker submit a plan to address the contamination in the direct vicinity of the former pit. submit the plan to the OCD Santa Fe Office with a copy provided to the OCD Hobbs Office.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

Wĭlliam C. Olson Hydrogeologist

Environmental Bureau

Jerry Sexton, OCD Hobbs District Supervisor Wayne Price, OCD Hobbs Office

P 667 242 219

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#### Bill Olson

From:

Bill Olson

To: Cc:

Jerry Sexton Wayne Price

Subject:

Baker Oil Tools Site Investigation

Date:

Wed, Mar 8, 1995 3:51PM

Priority:

High

Attached is a letter providing a review of Baker's Investigation report. Please provide me with any written comments by 4:00 pm on 3/10/95. Thanks.

< < File Attachment: REMEDY1.REQ > >

#### **Bill Olson**

From:

Date sent:

Jerry Sexton Wed, Mar 8, 1995 3:57PM

To:

Bill Olson

Subject:

Registered: Jerry Sexton

Your message

To:

Jerry Sexton

Subject:

Baker Oil Tools Site Investigation Wed, Mar 8, 1995 3:51PM

Date:

was accessed on

Date:

Wed, Mar 8, 1995 3:57PM

#### Bill Olson

From: To:

**POSTOFFICE** Bill Olson

Subject:

Registered: Wayne Price

Date:

Thu, Mar 9, 1995 5:52PM

[013]

***** CONFIRMATION OF REGISTERED MAIL *****

Your message:

TO: Wayne Price

DATE: 03-08-95

SUBJECT: Baker Oil Tools Site Investigation

TIME: 15:56

Was accessed on 03-09-95 17:52





### ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

#### OIL CONSERVATION DIVISION

2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

#### **MEMORANDUM**

TO:

James Bearzi, NMED Underground Storage Tank Bureau Chief

Marcy Leavitt, NMED Ground Water Protection and

Remediation Bureau Chief

FROM:

Roger C. Anderson, NMOCD Environmental Bureau Chief

DATE:

March 8, 1995

RE:

**KEELING PETROLEUM** 

HOBBS, NEW MEXICO

Enclosed you will find a copy of an investigation report for the Baker Oil Tools site in Hobbs, New Mexico. The results of the investigation have shown that an upgradient monitor well on Baker's property has high levels of benzene and also contains MTBE. Keeling Petroleum's site on the Carlsbad Highway U.S. 62-180 in Hobbs is directly upgradient of Baker's site and appears to be the source of these contaminants.

The OCD is working with Baker to address contaminants related to their disposal practices (ie. napthalenes in ground water and TPH in soils). However, since the benzene, toluene, ethlybenzene, xylene and MTBE contamination appear to be from the Keeling Petroleum site which is not regulated by the NMOCD, the OCD refers the investigation and remediation of these contaminants to the NMED.

If you have any questions, please contact Bill Olson of my staff at (505) 827-7154.



BIL GONSERVE - IN DIVISION RECEIVED

*95 JAN 18 AM 8 52

9100 Emmott Road P.O. Box 40129 Houston, Texas 77240-0129 Tel: 713/466-1322

13 January, 1995

Mr. William C. Olson State of New Mexico - Energy, Minerals and Natural Resources Department Oil Conservation Division P.O. Box 2088 State Land Office Building Santa Fe, New Mexico 87504

Dear Mr. Olson:

In response to your request dated October 6, 1994 for additional information at the Baker Oil Tools, Inc. (Baker), 2800 West Marland, Hobbs, New Mexico facility, Baker is submitting the following information provided to Baker by Rhino Environmental Services, Inc. (Rhino). I believe the report addresses all information requested in items 1-3 of your October 6, 1994 letter. Should you have any questions about the report or require additional information, please do not hesitate in contacting me at (713)466-2520.

Sincerely

For Baker Oil Tools, Inc.

Thomas V. Stenbeck

Manager of Health, Safety and Environmental - North America

Site Assessment Report
Baker Oil Tools
2800 W. Marland
Hobbs, NM

# RECEIVED

**JAN 1 8 1995** 

OIL CONSERVATION DIV. SANTA FE

#### **HISTORY**

On October 6, 1994, Rhino Environmental Services installed a 2" monitor well (R-1) down gradient of the former wastewater disposal pit at the Baker Oil Tools Site located at 2800 W. Marland in Hobbs, NM. Figure No. 1 is a Site Map. The monitor well was requested by the Oil Conservation Division (OCD) to determine if the pit had contaminated groundwater. This work was in addition to a site investigation performed by Simon Hydro-Search in late 1991 and early 1992. Rhino's scope of work consisted of installing and sampling monitor well R-1, sampling the three monitor wells installed by Simon and sampling the existing water well. Rhino also sampled the drums of water and soils on-site that were generated during the Simon investigation. The results of this investigation are presented below.

#### MONITOR WELL R-1 INSTALLATION

Rhino contracted Techna Environmental Drilling to install monitor well R-1. The location of R-1 is shown in Figure No. 1. Techna used a CME-75 hollow stem auger rig to install the well. Soil samples were taken every 5 feet. The samples were retrieved with a split spoon sampler. The soil samples were split. One sample was sent to ATI Laboratory and one sample was tested in the field by the Vapor Headspace Method using a MINI-RAE photoionization detector. The samples were analyzed by the lab for Total Petroleum Hydrocarbon (TPH) by EPA Method 418.1 and for BTEX/MTBE by EPA Method 8020. The TPH results are summarized in Table No. 1. All the BTEX/MTBE results were non-detect except for sample R1-30

TABLE NO. 1 SUMMARY OF SOIL TESTING						
SAMPLE ID	DEPTH (FT)	TPH (PPM)	TOTAL XYLENES (PPM)	HEADSPACE (PPM)		
R1-5′	5	<20	non-detect	non-detect		
R1-10'	10	55	non-detect	non-detect		
R1-15′	15	<20	non-detect	non-detect		
R1-20'	20	<20	non-detect	non-detect		
R1-25′	no sample due to rock					
R1-30'	30	1400	0.066	245		
R1-35′	35	49	non-detect	18		

which had a Total Xylenes of 0.066 ppm. Copies of the analytical reports are shown in Appendix A. R-1 was complete as a 2" monitor well using 2" flush thread casing. The depth to water was 32.36 feet. The well was screened from a depth of 25 feet to 40 feet. A monitor well completion diagram is shown in Figure No. 2.

#### GROUNDWATER SAMPLING

On November 17, 1994, Rhino surveyed, gauged and sampled R-1, MW-1, MW-2, MW-3 and WW-1. The local OCD office was notified prior to the sampling event. However, due to a scheduling conflict, Rhino was told to proceed even though they would not be able to be on site during the sampling. The groundwater elevations are summarized in Table No.2. Each well was purged of three well

TABLE NO. 2 SUMMARY OF GROUNDWATER ELEVATION DATA (all data in feet)							
WELL NO.	TOP OF CASING	DEPTH TO WATER	DEPTH TO PRODUCT	GROUNDWATER ELEVATION			
R1	100.03	32.36	ND	67.67			
MW-1	100.19	32.40	ND	67.79			
MW-2	99.56	32.02	ND	67.54			
MW-3	99.15	31.66	ND	67.49			
WW-1	99.52	31.76	ND	67.76			

casing volumes prior to sampling. Samples were retrieve using "VOSS" disposable bailers. The samples were placed in laboratory supplied containers, packaged and shipped via UPS to ATI Laboratory in Albuquerque, NM. The wells were analyzed as per the following:

ANALYSIS	<u>R-1</u>	<u>MW-1</u>	<u>MW-2</u>	<u>MW - 3</u>	<u>ww-1</u>
BTEX/MTBE	x	x	х	x	X
Chlorinated Volatiles (8010)	х				
Major Cations	x				
Major Anions	х				
Semivolatile Organics (8270)	х		·		
Polynuclear Aromatics (8310)		X	X	X	х
Ion Balance	х				•
Total Dissolved Solids	х				
RCRA Metals	х		,		

The positive results from the analyses are shown in Table No. 3.

TABLE NO. 3 SUMMARY OF ANALYTICAL RESULTS						
ANALYTE/ PARAMETER	R-1	MW-1	MW - 2	MW-3	WW-1	
Benzene: ug/l	1.5				260.0	
Toluene: ug/l	3.0		0.5		1.9	
Ethylbenzene:	49.0			:	180.0	
Total Xylenes: ug/l	94.0	1.2	0.5	0.8	7.0	
MTBE: ug/l				2.6	4.1	
Arsenic: mg/l	0.038					
Barium: mg/l	10.1					
Calcium: mg/l	155	, , , , , , , , , , , , , , , , , , ,				

	Γ	T	<del></del>		<u> </u>
Cadmium: mg/l	0.0006				
Chromium: mg/l	0.505				
Mercury: mg/l	<0.0002				
Potassium: mg/l	24.4				
Magnesium: mg/l	40.9				
Sodium: mg/l	170				
Lead: mg/l	0.028				
Phenanthrene: ug/l				0.60	
Flouranthene:				0.15	
Pyrene: ug/l				0.04	
2- Methylnaphthal ene: ug/l	360.0			1.0	14.0
Naphthalene: ug/l	240.0			-	46.0
Acenaphthylene : ug/l	,				6.3
1- Methylnaphthal ene: ug/l					10.0
Dibenzofuran: ug/l	; 25.0				
Bis(2- ethylhexyl)pht halate: ug/l	28.0				
Bicarbonate: mg/l	462				
Total Alkalinity: mg/l	462				
Chloride: mg/l	340				
Flouride: mg/l	1.61				
Sulfate: mg/l	42				

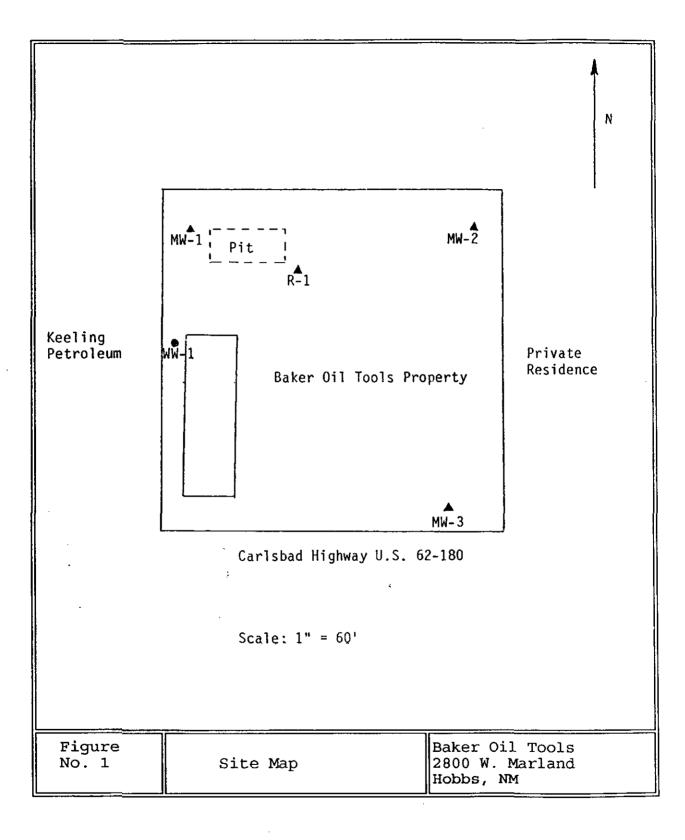
Total Dissolved Solids: mg/l	1100		
Calcium: mg/l	155		
Potassium: mg/l	24.4		
Magnesium: mg/l	40.9		
Sodium: mg/l	170		

#### GROUNDWATER GRADIENT

The groundwater gradient flows in the southeast direction. The groundwater elevations are shown in Table No. 2. Figure No. 3 is a Groundwater Gradient Map.

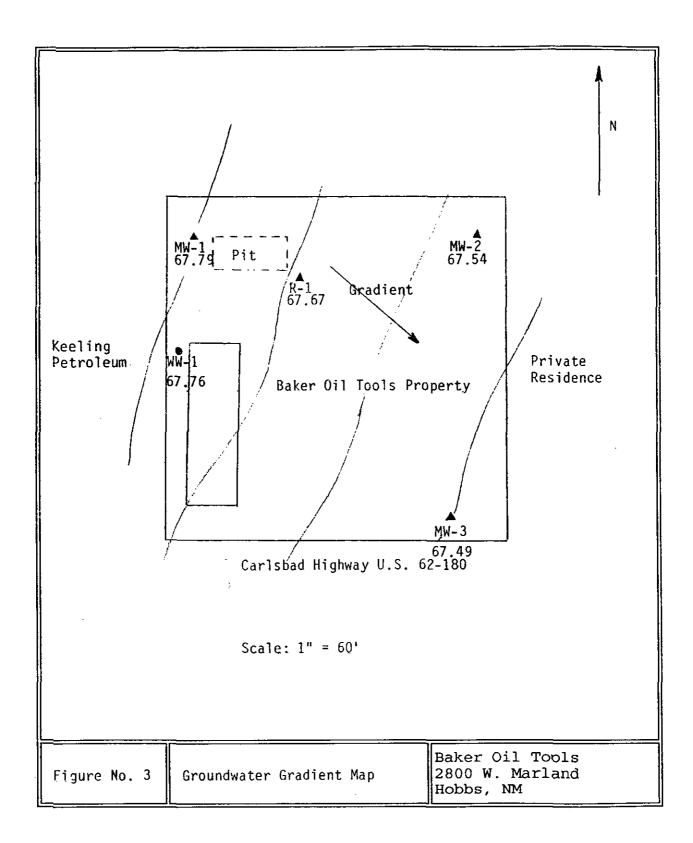
#### DRUM SAMPLING

On November 17, 1994, Rhino took a composite sample from the water drums and a composite sample from the soil drums that were generated during the Simon investigation. The soil drums were analyzed for TPH. The water drums were analyzed for halogenated volatiles (8010). The TPH for the soil drums was 1200 ppm. No positive results were shown in the water sample. The analytical results are shown in Appendix A.



	MON]	MONITOR WELL DETAILS		
DEPTH FT		ERIAL CRIPTION	DEPTH FT	LOCKING PLUG CONCRETE FILL MW COVER
5		2': Brown top soil 22': Light tan		Casing—Bentonite Grout
-20- -25- -30- -35- -40-	sandst 28 - 3 black, sands	32': Moist, contaminated	-20- -25- -30- -35- -40-	Bentonite Plug  Sand Pack 2" Screen
Figu No.		Monitor Well Construction	2800	r Oil Tools W. Marland s, NM

٠.



APPENDIX A ANALYTICAL LABORATORY RESULTS

2709-D Pan American Freeway, NE Albuquerque, NM 87107 Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 410342

October 18, 1994

Rhino Environmental P.O. Box 2327 Hobbs, NM 88240

Project Name/Number: BAKER OIL TOOLS

Attention: Royce Cooper

On 10/07/94, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze non-aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.

Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D. Laboratory Manager

RECEIVED OCT 1 9 1994



CLIENT

: RHINO ENVIRONMENTAL

DATE RECEIVED

:10/07/94

PROJECT #

: (NONE)

PROJECT NAME

:BAKER OIL TOOLS

REPORT DATE

:10/18/94

ATI ID: 410342

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	R1-5'	NON-AQ	10/06/94
02	R1-10'	NON-AQ	10/06/94
03	R1-15'	NON-AQ	10/06/94
04	R1-20'	NON-AQ	10/06/94
05	R1-30'	NON-AQ	10/06/94
06	R1-35'	NON-AQ	10/06/94

---TOTALS---

MATRIX NON-AQ #SAMPLES

#### ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



#### GENERAL CHEMISTRY RESULTS

CLIENT

: RHINO ENVIRONMENTAL

ATI I.D.

: 410342

PROJECT #

: (NONE)

DATE RECEIVED

: 10/07/94

PROJECT NAME

: BAKER OIL TOOLS

DATE ANALYZED

: 10/11/94

 PARAMETER
 UNITS
 01
 02
 03
 04

 PETROLEUM HYDROCARBONS, IR
 MG/KG
 <20</td>
 55
 <20</td>
 <20</td>



#### GENERAL CHEMISTRY RESULTS

CLIENT

: RHINO ENVIRONMENTAL

ATI I.D.

: 410342

PROJECT #

: (NONE)

DATE RECEIVED

: 10/07/94

PROJECT NAME

: BAKER OIL TOOLS

DATE ANALYZED

: 10/11/94

PARAMETER

UNITS

05

06

PETROLEUM HYDROCARBONS, IR MG/KG 1400 49



#### GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT

: RHINO ENVIRONMENTAL

ATI I.D.

: 410342

PROJECT # : (NONE)

SAMPLE MATRIX

: NON-AQ

PROJECT NAME : BAKER OIL TOOLS

UNITS

: MG/KG

		SAMPLE	DUP.	•	SPIKED	SPIKE	%
PARAMETER	ATI I.D.	RESULT	RESULT	RPD	SAMPLE	CONC.	REC
PETROLEUM HYDROCARBONS	41034801	<20	<20	NA	190	150	126



TEST : BTEX, MTBE (EPA 8020)

CLIENT

: RHINO ENVIRONMENTAL ATI I.D.: 410342

PROJECT #

: (NONE)

PROJECT NAME : BAKER OIL TOOLS

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	R1-5'	NON-AQ	10/06/94	10/14/94	10/14/94	1
02	R1-10'	NON-AQ	10/06/94	10/14/94	10/14/94	1
03	R1-15'	NON-AQ	10/06/94	10/14/94	10/14/94	1
PARAME	TER		UNITS	01	02	03
BENZEN	E		MG/KG	<0.025	<0.025	<0.025
TOLUEN	E		MG/KG	<0.025	<0.025	<0.025
ETHYLB	ENZENE		MG/KG	<0.025	<0.025	<0.025
TOTAL	XYLENES		MG/KG	<0.025	<0.025	<0.025
METHYL	-t-BUTYL ETHER		MG/KG	<0.12	<0.12	<0.12
SURROG	ATE:					
BROMOF	LUOROBENZENE (%)			114	117	117



TEST

: BTEX, MTBE (EPA 8020)

CLIENT

: RHINO ENVIRONMENTAL ATI I.D.: 410342

PROJECT # : (NONE)

PROJECT NAME : BAKER OIL TOOLS

SAMPI	ne.		DATE	DATE	DATE	DIL.	
ID. #	—	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR	
04	R1-20'	NON-AQ	10/06/94	10/14/94	10/14/94	1	
05	R1-30'	NON-AQ	10/06/94	10/14/94	10/14/94	1	
06	R1-35'	NON-AQ	NON-AQ 10/06/94		10/14/94	1	
PARAM	METER		UNITS	04	05	06	
BENZI	NE		MG/KG	<0.025	<0.025	<0.025	
TOLUE	ENE		MG/KG	<0.025	<0.025	<0.025	
ETHYI	LBENZENE		MG/KG	<0.025	<0.025	<0.025	
TOTAI	L XYLENES		MG/KG		0.066	<0.025	
METHY	YL-t-BUTYL ETHER		MG/KG	<0.12	<0.12	<0.12	
SURRO	OGATE:						
BROMO	OFLUOROBENZENE (%)			107	116	98	



#### REAGENT BLANK

TEST : BTEX, MTBE (EPA 8020) ATI I.D. : 410342
BLANK I.D. : 101494 MATRIX : NON-AQ
CLIENT : RHINO ENVIRONMENTAL DATE EXTRACTED : 10/14/94

PROJECT # : (NONE) DATE ANALYZED : 10/14/94

PROJECT NAME : BAKER OIL TOOLS DILUTION FACTOR : 1

PARAMETER	UNITS		
BENZENE	MG/KG	<0.025	
TOLUENE	MG/KG	<0.025	
ETHYLBENZENE	MG/KG	<0.025	
TOTAL XYLENES	MG/KG	<0.025	
METHYL-t-BUTYL ETHER	MG/KG	<0.12	

SURROGATE:

BROMOFLUOROBENZENE (%) 106



#### GAS CHROMATOGRAPHY - QUALITY CONTROL

#### MSMSD

TEST : BTEX, MTBE (EPA 8020)

MSMSD # : 41033902 ATI I.D. : 410342

CLIENT : RHINO ENVIRONMENTAL DATE EXTRACTED : 10/14/94

PROJECT # : (NONE) DATE ANALYZED : 10/14/94

PROJECT NAME : BAKER OIL TOOLS SAMPLE MATRIX : NON-AQ

REF. I.D. : 41033902 UNITS : MG/KG

	SAMPLE	CONC	SPIKED	%	DUP	DUP	
PARAMETER	RESULT	SPIKE	SAMPLE	REC	SPIKE	% REC	RPD
BENZENE	<0.025	1.0	0.99	99	0.99	99	0
TOLUENE	<0.025	1.0	0.96	96	0.96	96	0
ETHYLBENZENE	<0.025	1.0	0.94	94	0.94	94	0
TOTAL XYLENES	<0.025	3.0	3.0	100	2.9	97	3
METHYL-t-BUTYL ETHER	<0.12	2.0	2.0	100	2.0	100	0

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	LAB USE ONLY.	ARE FOR	ED AREAS	IDAHS .	OMPLETELY	HIS FORM IN C	PLEASE FILL T

San Diego · Phoenix · Seattle · Pensacola · Ft. Collins · Portland · Albuquerque Analytical Technologies, Inc., Albuquerque, NM

CHAIN

1 PF PAGE DATE: 10-6-57

ATILABID. CUSTODY

CHENIATIO HEBMUN TE DE HCRA Metals by TCLP (1311) HCRA Metals by Total Digestion Ë. Date: RELINQUISHED BY: RECEIVED BY: (L'AB) The 13 Priority Pollutant Metals Printed Name: SDWA Secondary Standards - Federal Signature: Company: SDWA Primary Standards - Federal snozhA - sbrabnat2 yrabnooe2 AWGS SDWA Primary Standards - Arizona ANALYSIS REQUEST ij. Polynuclear Aromatics (610/8310) Date: Date: RELINGUISHED BY: Volatile Organics GC/MS (624/8240) Base/Neutral/Acid Compounds GC/MS (625/8270) (0218/3150) sebioidaeH Printed Name: Printed Name: Signature: Signature: Company: Pesticides/PCB (608/8080) SAMPLED & RELINQUISHED BY: 1. SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg. 0000 26901 Juga Aromatic Hydrocarbona (602/8020) 76% Chlorinated Hydrocarbons (601/8010) Date: Time: Date (OSO8) 38TM/3XT8 X × ス Printed Name: Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020) Signature: (MOD 8015) Gas/Diesel Petroleum Hydrocarbons (418.1) DATE TIME MATRIX LABID ನ 63 P) N/NA 70 (NORMAL) TO WEEK S 17  $\mathcal{R}$ SAMPLE RECEIPT PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS Zi.L (In spainted in the NO. CONTAINERS CUSTODY SEALS RECEIVED INTACT RECEIVED COLD Copel 77.0 12:21 /159.01 10:11 0.7 22 511/2-25 7257 169.01 176.99 16 3.01 Since 1.5911 1670 O1 WEEK KURL OBOX 1110 PROJECT INFORMATION PROJ. NAME: BOYER CIC. SAMPLEID PROJECT MANAGER: _ ₽ (RUSH) 124hr COMPANY: COMPANY: ADDRESS: ADDRESS: 7 SHIPPED VIA: BILL TO: PHONE: 104-12 R1-30' R1-35-1 0/-Comments: PROJ. NO.: FA: P.O. NO.:

DISTRIBUTION: White, Canary - ATI . Pink - ORIGINATOR ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Pontand (503) 584-0447 • Albuquerque (505) 344-3777

Сопрапу:

Company.

Analytical Technologies, Inc.



2709-D Pan American Freeway, NE Albuquerque, NM 87107 Phone (505) 344-3777 FAX (505) 344-4413

ATT T.D. 411377

December 13, 1994

Rhino Environmental P.O. Box 2327 Hobbs, NM 88240

Project Name/Number: BAKER OIL TOOLS

Attention: Royce Cooper

On 11/18/94, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze aqueous and non-aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

For EPA Method 8270 analysis, sample "R-1" had a corrupt file for the neat run so a 1:10 dilution is reported. There was insufficient sample for a Matrix Spike/Matrix Spike Duplicate to be analyzed.

Ignitiability, Reactivity and Corrosivity analyses were performed by Analytical Technologies, Inc., 5550 Morehouse Drive, San Diego, CA.

EPA Method 8310 & 8270 analyses were performed by Analytical Technologies, Inc., 225 Commerce Drive, Fort Collins, CO.

EPA Method 418.1, 8010 and 8020 analyses were performed by Analytical Technologies, Inc., Albuquerque, NM.

All other analyses were performed by Analytical Technologies, Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.

Project Manager

H. Mitchell Rubenstein, Ph.D.

Laboratory Manager

MR:jt Enclosure



CLIENT

: RHINO ENVIRONMENTAL

DATE RECEIVED: 11/18/94

PROJECT #

: (NONE)

PROJECT NAME

:BAKER OIL TOOLS.

REPORT DATE : 12/13/94

ATT ID: 411377

		WIT ID: AIIDII		
	ATI SAN DIEGO ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	411377-01	R-1	AQUEOUS	11/17/94
02	411377-02	MW1	AQUEOUS	11/17/94
03	411377-03	MW2	AQUEOUS	11/17/94
04	411377-04	MW3	AQUEOUS	11/17/94
05	411377-05	WW-1	AQUEOUS	11/17/94
06	411377-06	DRUM COMPOSITE-W	AQUEOUS	11/17/94
07	411377-07	DRUM COMPOSITE-SOIL	NON-AQ	11/17/94
08	411377-08	TRIP BLANK	AQUEOUS	11/09/94

#### ---TOTALS---

MATRIX #SAMPLES AQUEOUS 7 NON-AQ 1

#### ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



TEST

: BTEX, MTBE (EPA 8020)

CLIENT

: RHINO ENVIRONMENTAL

ATI I.D.: 411377

PROJECT #

: (NONE)

PROJECT NAME : BAKER OIL TOOLS

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	R-1	AQUEOUS	11/17/94	NA	11/21/94	1
02	MW1	AQUEOUS	11/17/94	NA	11/19/94	1
03	MW2	AQUEOUS	11/17/94	NA	11/19/94	1
PARAME	TER		UNITS	01	02	03
BENZEN	Е		UG/L	1.5	<0.5	<0.5
TOLUEN	E		UG/L	3.0	<0.5	0.5
ETHYLB	ENZENE		UG/L		<0.5	<0.5
TOTAL	XYLENES		UG/L		1.2	0.5
METHYL	-t-BUTYL ETHER		UG/L	<2.5	<2.5	<2.5
SURROG	ATE:					
BROMOF	LUOROBENZENE (%)			119	98	99



TEST

: BTEX, MTBE (EPA 8020)

CLIENT

: RHINO ENVIRONMENTAL

ATI I.D.: 411377

PROJECT #

: (NONE)

PROJECT NAME : BAKER OIL TOOLS

SAMPLE		MAMDTV	DATE	DATE EXTRACTED	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	NA NA	ANALYZED	FACTOR
04	MW3	AQUEOUS	AQUEOUS 11/17/94		11/19/94	1
05	WW-1	AQUEOUS	11/17/94	NA	11/19/94	1
80	TRIP BLANK	AQUEOUS	11/09/94	NA	11/19/94	1
PARAMETER		·····	UNITS		05	08
BENZENE			UG/L		260 D(10)	<0.5
TOLUEN	TOLUENE		UG/L		1.9	<0.5
ETHYLB	ENZENE	UG/L		<0.5	180	<0.5
TOTAL	XYLENES	UG/L		0.8	7.0	<0.5
METHYL-t-BUTYL ETHER		UG/L		2.6	4.1	<2.5
SURROGATE:						
BROMOF	LUOROBENZENE (%)			104	101	99

D(10)=DILUTED 10X, ANALYZED 11/21/94



BROMOFLUOROBENZENE (%)

## GAS CHROMATOGRAPHY RESULTS

## REAGENT BLANK

ATI I.D. : 411377 : BTEX, MTBE (EPA 8020) TEST MATRIX : AQUEOUS BLANK I.D. : 111994 CLIENT : RHINO ENVIRONMENTAL DATE EXTRACTED : NA : 11/19/94 PROJECT # : (NONE) DATE ANALYZED PROJECT NAME : BAKER OIL TOOLS DILUTION FACTOR : 1 PARAMETER UNITS UG/L <0.5 BENZENE UG/L <0.5 TOLUENE UG/L <0.5 ETHYLBENZENE UG/L <0.5 TOTAL XYLENES METHYL-t-BUTYL ETHER UG/L <2.5 SURROGATE:

100



## GAS CHROMATOGRAPHY - QUALITY CONTROL

#### MSMSD

TEST : BTEX, MTBE (EPA 8020)

MSMSD # : 41137702 ATI I.D. : 411377

CLIENT : RHINO ENVIRONMENTAL DATE EXTRACTED : NA

CDIDIT : INITIO DIVITION/INITID DIVID DIVITION IN INC.

PROJECT # : (NONE) DATE ANALYZED : 11/19/94
PROJECT NAME : BAKER OIL TOOLS SAMPLE MATRIX : AQUEOUS

REF. I.D. : 41137702 UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.5	10	8.3	83	8.0	80	4
TOLUENE	<0.5	10	10	100	8.5	85	16
ETHYLBENZENE	<0.5	10	8.9	89	8.6	86	3
TOTAL XYLENES	1.2	30	31	99	28	89	10
METHYL-t-BUTYL ETHER	<2.5	20	19	95	19	95	0

(Sample Result - Duplicate Result)

RPD (Relative Percent Difference) = ----- X 100

Average Result



## GAS CHROMATOGRAPHY RESULTS

TEST

: PURGEABLE HALOCARBONS (EPA 8010)

CLIENT

: RHINO ENVIRONMENTAL

ATI I.D.: 411377

PROJECT #

: (NONE)

PROJECT NAME : BAKER OIL TOOLS

SAMPLE	7	10020	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	R-1	AQUEOUS	11/17/94	NA NA	11/30/94	1
06	DRUM COMPOSITE-W	AQUEOUS	11/17/94	NA NA	11/29/94	1
		=	• •		• •	
08	TRIP BLANK	AQUEOUS	11/09/94	NA	11/29/94	1
PARAME	ETER		UNITS	01 ·	06	08
BROMOL	DICHLOROMETHANE	·	UG/L	<0.2	<0.2	<0.2
BROMOR	FORM		UG/L	<0.5	<0.5	<0.5
BROMON	METHANE		UG/L	<1.0	<1.0	<1.0
CARBON	1 TETRACHLORIDE		UG/L	<0.2	<0.2	<0.2
CHLORO	DBENZENE		UG/L	<0.5	<0.5	<0.5
	DETHANE		UG/L	<0.5	<0.5	<0.5
CHLORO	FORM		UG/L	<0.5	<0.5	<0.5
	OMETHANE		UG/L	<1.0	<1.0	<1.0
DIBROM	MOCHLOROMETHANE		UG/L	<0.2	<0.2	<0.2
1,2-DI	(BROMOETHANE (EDB)		UG/L	<0.2	<0.2	<0.2
	CHLOROBENZENE		UG/L	<0.5	<0.5	<0.5
1,3-D]	CHLOROBENZENE		UG/L	<0.5	<0.5	<0.5
•	CHLOROBENZENE		UG/L	<0.5	<0.5	<0.5
	CCHLOROETHANE		UG/L	<0.2	<0.2	<0.2
	CHLOROETHANE (EDC)		UG/L	<0.5	<0.5	<0.5
	CHLOROETHENE		UG/L	<0.2	<0.2	<0.2
	2-DICHLOROETHENE		UG/L	<0.2	<0.2	<0.2
	-1,2~DICHLOROETHENE		UG/L	<1.0	<1.0	<1.0
	CHLOROPROPANE		UG/L	<0.2	<0.2	<0.2
CIS-1,	3-DICHLOROPROPENE		UG/L	<0.2	<0.2	<0.2
	-1,3-DICHLOROPROPENE		UG/L	<0.2	<0.2	<0.2
	LENE CHLORIDE		UG/L	<2.0	<2.0	<2.0
1,1,2,	, 2-TETRACHLOROETHANE		UG/L	<0.2	<0.2	<0.2
TETRAC	CHLOROETHENE		UG/L	<0.5	<0.5	<0.5
1,1,1-	-TRICHLOROETHANE		UG/L	<1.0	<1.0	<1.0
1,1,2-	TRICHLOROETHANE		UG/L	<0.2	<0.2	<0.2
	LOROETHENE		UG/L	<0.2	<0.2	<0.2
	LOROFLUOROMETHANE		UG/L	<0.2	<0.2	<0.2
VINYL	CHLORIDE		UG/L	<0.5	<0.5	<0.5
SURRO						
BROMO	CHLOROMETHANE (%)			95	101	98



## GAS CHROMATOGRAPHY RESULTS - QUALITY CONTROL

## REAGENT BLANK

TEST : EPA 8010 BLANK I.D. : 112994 CLIENT : RHINO ENVIRONMENTA PROJECT # : (NONE) PROJECT NAME : BAKER OIL TOOLS	AL	ATI I.D. MATRIX DATE EXTRACTED DATE ANALYZED DIL. FACTOR	: 411377 : AQUEOUS : NA : 11/29/94 : 1
PARAMETER	UNITS		
BROMODICHLOROMETHANE	UG/L	<0.2	
BROMOFORM	UG/L	<0.5	
BROMOMETHANE	UG/L	<1.0	
CARBON TETRACHLORIDE	UG/L	<0.2	
CHLOROBENZENE	UG/L	<0.5	
CHLOROETHANE	UG/L	<0.5	
CHLOROFORM	UG/L	<0.5	
CHLOROMETHANE	UG/L	<1.0	
DIBROMOCHLOROMETHANE	UG/L	<0.2	
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2	
1,2-DICHLOROBENZENE	UG/L	<0.5	
1,3-DICHLOROBENZENE	UG/L	<0.5	
1,4-DICHLOROBENZENE	UG/L	<0.5	
1,1-DICHLOROETHANE	UG/L	<0.2	
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5	
1,1-DICHLOROETHENE	UG/L	<0.2	
CIS-1,2-DICHLOROETHENE	UG/L	<0.2	
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0	
1,2-DICHLOROPROPANE	UG/L	<0.2	
CIS-1,3-DICHLOROPROPENE	UG/L	<0.2	
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2	
METHYLENE CHLORIDE	UG/L	<2.0	
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.2	
TETRACHLOROETHENE	UG/L	<0.5	
1,1,1-TRICHLOROETHANE	UG/L	<1.0	
1,1,2-TRICHLOROETHANE	UG/L	<0.2	
TRICHLOROETHENE	UG/L	<0.2	
TRICHLOROFLUOROMETHANE	UG/L	<0.2	
VINYL CHLORIDE	UG/L	<0.5	
SURROGATE:			
BROMOCHLOROMETHANE (%)		97	



## GAS CHROMATOGRAPHY RESULTS - QUALITY CONTROL

# REAGENT BLANK

TEST : EPA 8010 BLANK I.D. : 113094 CLIENT : RHINO ENVIRONMENTA PROJECT # : (NONE) PROJECT NAME : BAKER OIL TOOLS	L	ATI I.D. MATRIX DATE EXTRACTED DATE ANALYZED DIL. FACTOR	: 411377 : AQUEOUS : NA : 11/30/94 : 1
PARAMETER	UNITS		
BROMODICHLOROMETHANE	UG/L	<0.2	
BROMOFORM	UG/L	<0.5	
BROMOMETHANE	UG/L	<1.0	
CARBON TETRACHLORIDE	UG/L	<0.2	
CHLOROBENZENE	UG/L	<0.5	
CHLOROETHANE	UG/L	<0.5	
CHLOROFORM	UG/L	<0.5	
CHLOROMETHANE	UG/L	<1.0	
DIBROMOCHLOROMETHANE	UG/L	<0.2	
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2	
1,2-DICHLOROBENZENE	UG/L	<0.5	
1,3-DICHLOROBENZENE	UG/L	<0.5	
1,4-DICHLOROBENZENE	UG/L	<0.5	
1,1-DICHLOROETHANE	UG/L	<0.2	
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5	
1,1-DICHLOROETHENE	UG/L	<0.2	
CIS-1,2-DICHLOROETHENE	UG/L	<0.2	
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0	
1,2-DICHLOROPROPANE	UG/L	<0.2	
CIS-1,3-DICHLOROPROPENE	UG/L	<0.2	
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2	
METHYLENE CHLORIDE	UG/L	<2.0	
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.2	
TETRACHLOROETHENE	UG/L	<0.5	
1,1,1-TRICHLOROETHANE	UG/L	<1.0	
1,1,2-TRICHLOROETHANE	UG/L	<0.2	
TRICHLOROETHENE	UG/L	<0.2	
TRICHLOROFLUOROMETHANE	UG/L	<0.2	
VINYL CHLORIDE	UG/L	<0.5	
SURROGATE:			
BROMOCHLOROMETHANE (%)		102	



## GAS CHROMATOGRAPHY - QUALITY CONTROL

#### MSMSD

TEST : PURGEABLE HALOCARBONS (EPA 8010)

MSMSD # : 41138201 ATI I.D. : 411377

CLIENT : RHINO ENVIRONMENTAL DATE EXTRACTED : NA

PROJECT # : (NONE) DATE ANALYZED : 11/29/94

11/30/94

PROJECT NAME : BAKER OIL TOOLS SAMPLE MATRIX : AQUEOUS

REF. I.D. : 41138201 UNITS : UG/L

	SAMPLE	CONC	SPIKED	%	DUP	DUP	
PARAMETER	RESULT .	SPIKE	SAMPLE	REC	SPIKE	% REC	RPD
CHLOROBENZENE	<0.5	10	8.8	88	8.8	88	0
1,1-DICHLOROETHENE	<0.2	10	9.0	90	9.6	96	6
TRICHLOROETHENE	<0.2	10	9.2	92	9.6	96	4



## GENERAL CHEMISTRY RESULTS

Client : ANALYTICAL TECHNOLOGIES, INC.
Project # : 411377
Project Name: RHINO

ATI I.D.: 411319

Samp	le Client ID	Matrix	Date Sampled	Date Received
1	411377-07	SOIL	17-NoV-94	22-NOV-94
Para	meter	Units 1		

IGNITABILITY

NEGATIVE

рĦ

UNITS 7.6

REACTIVITY

NEGATIVE



## GENERAL CHEMISTRY - QUALITY CONTROL

## DUP/MS

Client : ANALYTICAL TECHNOLOGIES, INC.

Project # : 411377
Project Name: RHINO

ATI I.D. : 411319

Parameters	REF I.D.	Units	Sample Result	Dup Result	RPD	Spiked Sample	Spike Conc	% Rec
IGNITABILITY REACTIVITY PE	411319-01 411319-01 411319-01		NEGATIVE NEGATIVE	NEGATIVE NEGATIVE 7.8	0	n/A n/A n/A	N/A N/A N/A	n/a n/a n/a

% Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration
RPD (Relative % Difference) = (Sample Result - Duplicate Result)*100/Average Result



## GENERAL CHEMISTRY RESULTS

CLIENT

: RHINO ENVIRONMENTAL

ATI I.D.

: 411377

PROJECT #

: (NONE)

DATE RECEIVED

: 11/18/94

PROJECT NAME

: BAKER OIL TOOLS

DATE ANALYZED

: 11/28/94

PARAMETER

UNITS

07

PETROLEUM HYDROCARBONS, IR MG/KG

1200



## GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : RHINO ENVIRONMENTAL

ATI I.D.

: 411377

PROJECT #

: (NONE)

SAMPLE MATRIX

: NON-AQ

PROJECT NAME : BAKER OIL TOOLS

UNITS

: MG/KG

		SAMPLE	DUP.		SPIKED	SPIKE	*
PARAMETER	ATI I.D.	RESULT	RESULT	RPD	SAMPLE	CONC.	REC
PETROLEUM HYDROCARBONS	41138206	<20	<20	NA	170	140	121

(Sample Result - Duplicate Result)

RPD (Relative Percent Difference) = ----- X 100

Average Result



## GENERAL CHEMISTRY RESULTS

ATI I.D.: 411377

CLIENT : RHINO ENVIRONMENTAL DATE RECEIVED : 11/18/94

PROJECT # : (NONE)
PROJECT NAME : BAKER OIL TOOLS REPORT DATE : 12/12/94

Dimen of the too			
PARAMETER	UNITS	01	
CARBONATE (CACO3) BICARBONATE (CACO3) HYDROXIDE (CACO3) TOTAL ALKALINITY (AS CACO3) CHLORIDE (EPA 325.2) FLUORIDE (EPA 340.2) SULFATE (EPA 375.2)	MG/L MG/L MG/L MG/L MG/L MG/L MG/L	<1 462 <1 462 340 1.61 42	
T. DISSOLVED SOLIDS (160.1)	MG/L	1100	·



## GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : RHINO ENVIRONMENTAL

PROJECT # : (NONE)

PROJECT NAME : BAKER OIL TOOLS ATI I.D. : 411377

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE		% REC
CARBONATE BICARBONATE HYDROXIDE TOTAL ALKALINITY	MG/L MG/L MG/L MG/L	41178606	<1 156 <1 156	<1 156 <1 156	NA 0 NA 0	NA NA NA NA	NA NA NA NA	NA NA NA NA
CHLORIDE FLUORIDE SULFATE TOTAL DISSOLVED SOLIDS	MG/L MG/L MG/L MG/L	41138301 41174401 41163931 41136801	0.23	650 0.23 1100 3400	0 0 0 0	1600 0.73 2000 NA	1000 0.50 1000 NA	95 100 90 NA

RPD (Relative Percent Difference) = (Sample Result - Duplicate Result)

Average Result



## METALS RESULTS

ATI I.D.: 411377

DATE RECEIVED : 11/18/94

CLIENT : RHINO ENVIRONMENTAL PROJECT # : (NONE)
PROJECT NAME : BAKER OIL TOOLS REPORT DATE : 12/12/94

PARAMETER	UNITS	01
SILVER (EPA 200.7/6010) ARSENIC (EPA 206.2/7060) BARIUM (EPA 200.7/6010) CALCIUM (EPA 200.7/6010) CADMIUM (EPA 213.2/7131) CHROMIUM (EPA 200.7/6010) MERCURY (EPA 245.1/7470) POTASSIUM (EPA 200.7/6010) MAGNESIUM (EPA 200.7/6010) SODIUM (EPA 200.7/6010) LEAD (EPA 239.2/7421)	MG/L MG/L MG/L MG/L MG/L MG/L MG/L MG/L	<0.020 0.038 10.1 155 0.0006 0.505 <0.0002 24.4 40.9 170
SELENIUM (EPA 270.2/7740)	MG/L	0.028 <0.005
,		



## METALS - QUALITY CONTROL

CLIENT : RHINO ENVIRONMENTAL

PROJECT # : (NONE)

PROJECT NAME : BAKER OIL TOOLS ATI I.D. : 411377

			SAMPLE	DUP.		SPIKED	SPIKE	ક
PARAMETER	UNITS	ATI I.D.	RESULT	RESULT	RPD	SAMPLE	CONC	REC
SILVER	MG/L	41137304	<0.010	<0.010	NA	0.409	0.500	82
ARSENIC	MG/L	41137304		0.105	5	0.150	0.050	80
BARIUM	MG/L	41137304	24.0	23.0	4	34.0	10.0	100
CALCIUM	MG/L	41180506	96.3	94.6	2	141	50.0	89
CADMIUM	MG/L	41137304	<0.0005	<0.0005	NA	0.0046	0.0050	92
CHROMIUM	MG/L	41137304	<0.010	<0.010	NA	0.852	1.00	85
MERCURY	MG/L	41138304	<0.0002	0.0002	NA	0.0048	0.0050	96
POTASSIUM	MG/L	41180506	5.0	5.2	4	50.1	50.0	90
MAGNESIUM	MG/L	41180506	21.9	21.5	2	44.7	25.0	91
SODIUM	MG/L	41180506	131	129	2	176	50.0	90
LEAD	MG/L	41137304		<0.002	NA	0.042	0.050	84
SELENIUM	MG/L	41172302	<0.005	<0.005	NA	0.033	0.050	66

RPD (Relative Percent Difference) = (Sample Result - Duplicate Result)

Average Result



DATE:

12-08-94

## ION BALANCE

ATI ACCESSION NUMBER: SAMPLE IDENTIFICATION:

41137701

R-1

CLIENT:

RHINO ENVIRONMENTAL

CLIENT.		KHINO ENVIK	ONMENTAL	
ANIONS	RESULT MG/L	FACTOR ME/L	TOTAL	
ALKALINITY				
(AS CACO3)	462.000	0.02000	9.24000	
CHLORIDE	340.000	0.02821	9.59140	
FLUORIDE	1.610	0.05254	0.08475	
NITRATE AS N	NA	0.01613	0.00000	
SULFATE	42.000	0.02082	0.87444	
		TOTAL ANION	NS	19.79059
CATIONS	RESULT	FACTOR	TOTAL	
CALCIUM	155.000	0.04990	7.7345	
POTASSIUM	24.400	0.02558	0.62415	
MAGNESIUM	40.900	0.08229	3.36566	
SODIUM	170.000	0.04350	7.39500	
COPPER	NA	0.03147	0.00000	
IRON	NA	0.05372	0.00000	
MANGANESE	NA	0.03640	0.00000	
ZINC	NA	0.03059	0.00000	
		TOTAL CATIO	ons	<b>19</b> .11931
		%RPD (<10%)	)	3.45
TOTAL ANIONS/CATIONS		1051		
TOTAL DISSOLVED SOLIDS ELECTRICAL COND.		1100 NA	%RPD (<15%) TDS/EC RATIO	-4.55
			(0.65+/-0.1)	#DIV/0!
			•	



# POLYNUCLEAR AROMATIC HYDROCARBONS Method 8310

Lab Name: Analytical Technologies Inc. Client Name: Analytical Technologies, Inc.

Client Project ID: Rhino -- 411377 Lab Sample ID: 94-11-253-02

Sample Matrix: Water

Cleanup: N/A

Sample ID

MW1

Date Collected: 11/17/94 Date Extracted: 11/22/94 Date Analyzed: 11/29/94

Sample Volume: 1000 mL

Final Volume: 1 mL

		Detection
Analyte	Conc (ug/L)	Limit (ug/L)
Naphthalene	ND	0.30
Acenaphthylene	ND	0.30
Acenaphthene	ND	0.50
Fluorene	ND	0.040
Phenanthrene	ND	0.030
Anthracene	ND	0.010
Fluoranthene	ND	0.030
Pyrene	ND	0.040
Benzo(a)anthracene	ND	0.010
Chrysene	ND	0.020
Benzo(b)fluoranthene	ND	0.010
Benzo(k)fluoranthene	ND	0.010
Benzo(a)pyrene	ND	0.010
Dibenzo(a,h)anthracene	ND	0.030
Benzo(g,h,i)perylene	ND	0.040
Indeno(1,2,3,c,d)pyrene	ND	0.030
1-Methylnaphthalene	ND	0.30
2-Methylnaphthalene	ND	0.30

## SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits	
2-Chloroanthracene	71	15 - 117	



# POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Lab Name: Analytical Technologies Inc. Client Name: Analytical Technologies, Inc.

Client Project ID: Rhino -- 411377 Lab Sample ID: 94-11-253-03

Sample Matrix: Water

Cleanup: N/A

Sample ID

MW2

Date Collected: 11/17/94 Date Extracted: 11/22/94 Date Analyzed: 11/29/94

Sample Volume: 1000 mL

Final Volume: 1 mL

		Detection
Analyte	Conc (ug/L)	Limit (ug/L)
Naphthalene	ND	0.30
Acenaphthylene	ND	0.30
Acenaphthene	ND	0.50
Fluorene	ND	0.040
Phenanthrene	ND	0.030
Anthracene	ND.	0.010
Fluoranthene	ND	0.030
Pyrene	ND	0.040
Benzo(a)anthracene	ND	0.010
Chrysene	ND	0.020
Benzo(b)fluoranthene	ND	0.010
Benzo(k)fluoranthene	ND	0.010
Benzo(a)pyrene	ND	0.010
Dibenzo(a,h)anthracene	ND	0.030
Benzo(g,h,i)perylene	ND	0.040
Indeno(1,2,3,c,d)pyrene	ND	0.030
1-Methylnaphthalene	ND	0.30
2-Methylnaphthalene	ND	0.30

## SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits	
2-Chloroanthracene	65	15 - 117	



# POLYNUCLEAR AROMATIC HYDROCARBONS Method 8310

Lab Name: Analytical Technologies Inc. Client Name: Analytical Technologies, Inc.

Client Project ID: Rhino -- 411377 Lab Sample ID: 94-11-253-04

Sample Matrix: Water

Cleanup: N/A

Sample ID

MW3

Date Collected: 11/17/94 Date Extracted: 11/22/94 Date Analyzed: 11/29/94

Sample Volume: 1000 mL

Final Volume: 1 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
Analyte	Cone (ug/L)	Limit (ug/L)
  Naphthalene	ND	0.30
Acenaphthylene	ND	0.30
Acenaphthene	ND	0.50
Fluorene	ND	0.040
Phenanthrene	0.60	0.030
Anthracene	ND	0.010
Fluoranthene	0.15	0.030
Pyrene	0.04	0.040
Benzo(a)anthracene	ND	0.010
Chrysene	ND	0.020
Benzo(b)fluoranthene	ND	0.010
Benzo(k)fluoranthene	ND	0.010
Benzo(a)pyrene	ND	0.010
Dibenzo(a,h)anthracene	ND	0.030
Benzo(g,h,i)perylene	ND	0.040
Indeno(1,2,3,c,d)pyrene	ND	0.030
1-Methylnaphthalene	ND	0.30
2-Methylnaphthalene	1.0	0.30

## SURROGATE RECOVERY

Analyte	% Recovery		
2-Chloroanthracene	63	15 - 117	



# POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Lab Name: Analytical Technologies Inc. Client Name: Analytical Technologies, Inc.

Client Project ID: Rhino -- 411377 Lab Sample ID: 94-11-253-05

Sample Matrix: Water

Cleanup: N/A

Sample ID

WW-1

Date Collected: 11/17/94 Date Extracted: 11/22/94 Date Analyzed: 11/30/94

Sample Volume: 1000 mL Final Volume: 10 mL

Analyte	Conc (ug/L)	Detection Limit (ug/L)
NY-141-1	46	3.0
Naphthalene	46	
Acenaphthylene	6.3	3.0
Acenaphthene	ND	5.0
Fluorene	ND	0.40
Phenanthrene	ND	0.30
Anthracene	ND	0.10
Fluoranthene	ND	0.30
Pyrene	ND	0.40
Benzo(a)anthracene	ND	0.10
Chrysene	ND	0.20
Benzo(b)fluoranthene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.30
Benzo(g,h,i)perylene	ND	0.40
Indeno(1,2,3,c,d)pyrene	ND	0.30
1-Methylnaphthalene	10	3.0
2-Methylnaphthalene	14	3.0

## SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	78	15 - 117



## POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Lab Name: Analytical Technologies Inc. Client Name: Analytical Technologies, Inc.

Client Project ID: Rhino -- 411377 Lab Sample ID: WRB1 11/22/94

Sample Matrix: Water

Cleanup: N/A

Sample ID

Reagent Blank

Date Collected: N/A
Date Extracted: 11/22/94
Date Analyzed: 11/29/94

Sample Volume: 1000 mL

Final Volume: 1 mL

		Detection
Analyte	Conc (ug/L)	Limit (ug/L)
Naphthalene	ND	0.30
Acenaphthylene	ND	0.30
Acenaphthene	ND	0.50
Fluorene	ND	0.040
Phenanthrene	ND	0.030
Anthracene	ND	0.010
Fluoranthene	ND	0.030
Pyrene	ND	0.040
Benzo(a)anthracene	ND	0.010
Chrysene	ND	0.020
Benzo(b)fluoranthene	ND	0.010
Benzo(k)fluoranthene	ND	0.010
Benzo(a)pyrene	ND	0.010
Dibenzo(a,h)anthracene	ND	0.030
Benzo(g,h,i)perylene	ND	0.040
Indeno(1,2,3,c,d)pyrene	ND	0.030
1-Methylnaphthalene	ND	0.30
2-Methylnaphthalene	ND	0.30

## SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	67	15 - 117



# POLYNUCLEAR AROMATIC HYDROCARBON BLANK SPIKE Method 8310

Lab Name: Analytical Technologies, Inc.

Lab Sample ID: WBS1, 2 11/22/94

Client Name: Analytical Technologies, Inc.

Date Extracted: 11/22/94

Client Project ID: Rhino -- 411377

Date Analyzed: 11/29/94

Sample Matrix: Water

Instrument ID: HPLC

Analyte	Spike Added (ug/L)	BS Concentration (ug/L)	BS Percent Recovery	QC Limits % Rec
Acenaphthylene	10.0	7.5	75	36-113
Phenanthrene	1.00	0.89	89	30-113
Рутепе	1.00	0.76	76	43-108
Dibenzo(a,h)anthracene	1.00	0.72	72	42-111
Benzo(k)fluoranthene	0.25	0.20	80	35-104

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10	7	70	8	20
Phenanthrene	1.0	0.8	82	8	20
Pyrene	1.0	0.7	72	5	20
Dibenzo(a,h)anthracene	1.0	0.6	62	14	20
Benzo(k)fluoranthene	0.25	0.2	87	9	20

## SURROGATE RECOVERY BS/BSD

Analyte	% Recovery (BS)	% Recovery (BSD)	% Rec Limits
2-Chloroanthracene	69	65	15 - 117



Method 8270

Sample ID

Lab Name: Analytical Technologies, Inc.

Client Name: ATI -NM Client Project: Rhino -- 411377

Client Project: Rhino -- 411377 Lab Sample ID.: 94-11-253-01

Sample Matrix: Water Cleanup: None

R - 1

Date Collected: 11/17/94 Date Extracted: 11/22/94 Date Analyzed: 11/29/94

Sample Volume: 1000 mL Final Volume: 10 mL

		Detection
Analyte	Results (ug/L)	Limit (ug/L)
Di 1	ND	100
Phenol bis (2-Chloroethyl) ether	ND	100
2-Chlorophenol	ND	100
1,3-Dichlorobenzene	ND	100
1,4-Dichlorobenzene	ND	100
Benzyl alcohol	ND	100
1,2-Dichlorobenzene	ND	100
2-Methylphenol	ND	100
bis (2-Chloroisopropyl) ether	ND	100
4-Methylphenol	ND	100
N-Nitroso-di-n-propylamine	ND	100
Hexachloroethane	ND	100
Nitrobenzene	ND	100
Isophorone	ND	100
2-Nitrophenol	ND	100
2,4-Dimethylphenol	ND	100
Benzoic acid	ND	500
bis (2-Chloroethoxy) methane	ND	100
2,4-Dichlorophenol	ND	100
1,2,4-Trichlorobenzene	ND	100
Naphthalene	240	100
4-Chloroaniline	ND	100
Hexachlorobutadiene	ND	100
4-Chloro-3-methylphenol	ND	100
2-Methylnaphthalene	360	100
Hexachlorocyclopentadiene	ND	100
2,4,6-Trichlorophenol	ND	100
2,4,5-Trichlorophenol	ND	500
2-Chloronaphthalene	ND	100
2-Nitroaniline	ND	500
Dimethyl phthalate	ND	100
Acenaphthylene	ND	100
2,6-Dinitrotoluene	ND	100
3-Nitroaniline	ND	500
Acenaphthene	ND	100
2,4-Dinitrophenol	ND	500



Method 8270

Sample ID

Lab Name: Analytical Technologies, Inc.

Lab Sample ID.: 94-11-253-01

R - 1

		Detection
Analyte	Results (ug/L)	Limit (ug/L)
4-Nitrophenol	ND	500
Dibenzofuran	25 J	100
2,4-Dinitrotoluene	ND ND	100
Diethyl phthalate	ND ND	100
4-Chlorophenyl phenyl ether	ND	100
Fluorene	ND	100
4-Nitroaniline	ND	500
4,6-Dinitro-2-methylphenol	ND ND	500
N-Nitrosodiphenylamine	ND	100
4-Bromophenyl phenyl ether	ND	100
Hexachlorobenzene	ND	100
Pentachlorophenol	ND ND	500
Phenanthrene	ND ND	100
Anthracene	ND ND	100
Di-n-butyl phthalate	ND ND	100
Fluoranthene	ND	100
Pyrene	ND ND	100
Butyl benzyl phthalate	ND ND	100
3,3'-Dichlorobenzidine	ND ND	200
Benzo(a)anthracene	ND	100
Chrysene	ND ND	100
Bis(2-ethylhexyl)phthalate	28 J	100
Di-n-octyl phthalate	ND ND	100
Benzo(b)fluoranthene	ND	100
Benzo(k)fluoranthene	ND	100
Benzo(a)pyrene	ND	100
Indeno(1,2,3-cd)pyrene	ND	100
Dibenz(a,h)anthracene	ND ND	100
Benzo(g,h,i)perylene	ND ND	100

## SURROGATE RECOVERIES

Analyte	% Recovery	% Rec Limits
2-Fluorophenol	62	21-110
Phenol-d5	64	10-110
Nitrobenzene-d5	133*	35-114
2-Fluorobiphenyl	90	43-116
2,4,6-Tribromophenol	55	10-123
Terphenyl-d14	45	33-141

^{* =} Outside QC limits

J = Estimated value, analyte found below detection limit



Method 8270

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Client Project: Rhino -- 411377 Lab Sample ID.: WRB1 11/22/94

Sample Matrix: Water

Cleanup: None

Sample ID

Reagent Blank

Date Collected: N/A
Date Extracted: 11/22/94
Date Analyzed: 11/29/94

Sample Volume: 1000 mL

Final Volume: 1 mL

		Detection
Analyte	Results (ug/L)	Limit (ug/L)
Phenol	ND	10
bis (2-Chloroethyl) ether	$\frac{1}{ND}$	10
2-Chlorophenol	ND ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1.2-Dichlorobenzene	ND ND	10
	ND ND	10
2-Methylphenol	ND ND	10
bis (2-Chloroisopropyl) ether	ND ND	
4-Methylphenol N-Nitroso-di-n-propylamine	ND ND	10 10
N-Nitroso-di-n-propylamine Hexachloroethane	ND ND	
	ND ND	10
Nitrobenzene		10
Isophorone	ND	10
2-Nitrophenol	ND	10
2.4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis (2-Chloroethoxy) methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	//D	10
Hexachlorocyclopentadiene	ND	10
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	50
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethyl phthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	. ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50



Method 8270

Lab Name: Analytical Technologies, Inc. Lab Sample ID.: WRB1 11/22/94 Sample ID Reagent Blank

		Detection
Analyte	Results (ug/L)	Limit (ug/L)
4 Nitrophoral	) ID	50
4-Nitrophenol	ND ND	50
Dibenzofuran		10
2,4-Dinitrotoluene	ND	10
Diethyl phthalate	ND	10
4-Chlorophenyl phenyl ether	ND	10
Fluorene	ND	10
4-Nitroaniline	ND	50
4,6-Dinitro-2-methylphenol	ND	50
N-Nitrosodiphenylamine	ND	10
4-Bromophenyl phenyl ether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	50
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butyl phthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butyl benzyl phthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
Bis(2-ethylhexyl)phthalate	ND	10
Di-n-octyl phthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

## **SURROGATE RECOVERIES**

Analyte	% Recovery	% Rec Limits
2-Fluorophenol	88	21-110
Phenol-d5	84	10-110
Nitrobenzene-d5	99	35-114
2-Fluorobiphenyl	94	43-116
2,4,6-Tribromophenol	78	10-123
Terphenyl-d14	94	33-141



## SEMIVOLATILE ORGANICS BLANK SPIKE/BLANK SPIKE DUPLICATE RESULTS Method 8270

Sample ID

Blank Spike

Lab Name: Analytical Technologies, Inc.

Client Name: ATI -NM

Client Project: Rhino -- 411377 Lab Sample ID: WBS 11/22/94 Date Collected: N/A Date Extracted: 11/22/94

Date Analyzed: 11/29/94

Sample Matrix: Water

Cleanup: None

Sample Volume: 1000 mL

Final Volume: 1 mL

	Spike	Sample	BS	BS	QC
	Added	Concentration	Concentration	%	Limit
Analyte	(ug/L)	(ug/L)	(ug/L)	Rec	Recovery
		_			-
Phenol	75	N/A	48.6	65	12-110
2-Chlorophenol	75	N/A	48.6	65	27-123
1,4-Dichlorobenzene	50	N/A	34.6	69	36- 97
N-Nitroso-di-n-propylamine	50	N/A	47.8	96	41-116
1,2,4-Trichlorobenzene	50	N/A	38.9	78	39- 98
4-Chloro-3-methylphenol	75	N/A	49.1	65	23- 97
Acenaphthene	50	N/A	38.1	76	46-118
4-Nitrophenol	75	N/A	48.9	65	10- 80
2,4-Dinitrotoluene	50	N/A	40.0	80	24- 96
Pentachlorophenol	75	N/A	16.2	22	9-103
Pyrene	50	N/A	38.7	77	26-127

	Spike	BSD	BSD		
)	Added	Concentration	%	%	QC LIMITS
Analyte	(ug/L)	(ug/L)	REC#	RPD	RPD REC.
			•		
Phenol	75	45.5	61	7	42   12-110
2-Chlorophenol	75	45.8	61	6	40   27-123
1,4-Dichlorobenzene	50	32.8	66	5	28   36 - 97
N-Nitroso-di-n-propylamine	50	42.8	86	11	38   41-116
1,2,4-Trichlorobenzene	50	37.8	76	3	28   39 - 98
4-Chloro-3-methylphenol	75	47.5	63	3	42 23 - 97
Acenaphthene	50	36.6	73	4	31   46-118
4-Nitrophenol	75	45.8	61	7	50 10 - 80
2,4-Dinitrotoluene	50	37.9	76	5	38 24 - 96
Pentachiorophenol	75	15.1	20	7	50   9 - 103
Рутепе	50	35.7	71	8	31   26-127

	Analytical <b>Technologies,</b> Inc., Albuquerque, NM	CHAIN OF CU
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	PROJECT MANAGER: KOYCE CROPER	

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ATILABI.D. []

PROJECT MANAGER: 104CE	Cooper			ANA	VSIS F	ANALYSIS REQUEST				_	
COMPANY: PHINO EN 20 BOX 22 PHONE: FOS SS	Petroleum Hydrocarbons (418.1), خديم الإنجاع رويخ (MOD 8015) GasyDiesel DieselyGasoline/BTXE/MTBE (MOD 8015/8020) BTXE/MTBE (8020)	Chlorinated Hydrocarbons (601/8010)  Aromatic Hydrocarbons (602/8020)  SDWA Volatiles (502.1,503.1), 502.2 Reg. & Unreg.	70 4 ALK + CL. Posticides/PCB (608/8080) Pesticides/PCB (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/6270)  Volatile Organics GC/MS (624/8240)	Polynudear Aromatics (610(8310))  TDS  SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	slateM tratullo9 vtinoin9 &t edT	ACRA Metals by Total Digestion RCRA Metals by TCLP (1311)	NUMBER ONTAINERS	
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PROJ. NAME: BALER DIL TOOLS	custoby seals (//) N / NA	Printed Name	Date: 11064	Printed Name:		Date:	Printed	Printed Name:	Date:		
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Chain of Custody

Albuquerque, NM

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となる иливея об соитыиеля CANANA - ATI - Pink - RIPIGINATOR (MOD 8015/8020) (AOD 8015/8020) E. J. Date COS, METHANE ,50 + FIA RELINCUISHED BY: MARCOUNTED RADIUM 226/228 MEGENED OY AT38/AH9JA 220FD Printed Name: Сопрапу: Signature: :purpany: **LECAL COLIFORM** TOTAL COLIFORM 800 ANALYSIS DEQUEST **SOTSESA** Uate: NACE Arialytical Technologies, Inc. RECEIVED DY: (LAB) **RELINQUISHED BY:** Organics GC/MS (624/8240) 14.VZC Diesel/Gasoline/ETXE/MTBE/ (MOD 8015/8020) Protod Name: Printed Name; Albuquerque Skjnalure. Company 8540 LLCLP 1311) ZHE 0158/019 SAMPLES SENT TO: 00W 619/619 POPULAND FINERICKLANT FT. COLLINS PEHSACOLA SAN DIEGO PHOENIX essyess mod RENTON שגגעפי (SAEM) STNATOARRUS SULFIDE ORGANIC LEAD COC TOTAL NUMBER OF CONTAINERS XOI SAMPLE RECEIPT RECEIVED GOOD COND.ACOLD LABID CHAIN OF CUSTODY SEALS 上に N) MYKI MATRIX LABNUMBER 2709-D Pan American Freeway, NE Albuquerque, NM 87107 TIME 光丰 \$\frac{1}{2} LETITIA KRAKOWSKI Analytical Technologies, Inc. DATE GC. REGUINED AND MSD BLANK PROJECT INFORMATION PROJECT MANAGER: NETWORK PROJECT MANAGER: **DMIND** HUSIII 100 ≥ (als SAMPLEID RUSH SURCHARGE: CLIENT DISCOUNT:_ STANDARD, PROJECT NUMBER: PROJECT NAME: 411377 OC LEVEL DUE DATE: COMPANY: ADDRESS: CLIENT

Analytical**Technologies,**Inc. Albuquerque, NM

Chain of Custody

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DISTRIBUTION: White, Canary - ATI . Pink - BRIGINATOR 2777 - Albuquerque (503) 344-3777 • Albuquerque (503) 584-0447 • Albuquerque (503) 344-3777 94-1/-253 Chain of Custody Albuquerque, NM

Analytical Technologies, Inc.

Ø 7 NUMBER OF CONTAINERS AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020) 9.45 Date īñe. COS, METHANE .50 - RIA 1-00% RECEIVED BY: (LAB) RELINCUISHED BY: RADIUM 226/228 AT38/AH9JA 220RD Printed Name: Printed Name: Signature: ompany: Company: Signature: FECAL COLIFORM MROTIJOD JATOT **BOD** ANALYSIS REQUEST **ASBESTOS** Date: Analytical Technologies, Inc. NACE RECEIVED BY: (LAB) RELINCUISHED BY: Volstile Organics GC/MS (624/8240) Diesel/Gasoline/8TXE/MTBE/ (MOD 8015/8020) Printed Name: Albuquerque Company: Significial Signature: 8540 (TCLP 1311) ZHE 018810)9 SAMPLES SENT TO OON 619/619 PORTLAND FIBEROUANT FT. COLLINS PENSACOLA SAN DIEGO PHOENIX 632/632 MOD RENTON SURFACTANTS (MBAS) SULFIDE OBGANIC LEAD **301** JOH TX 1125 TOTAL NUMBER OF CONTAINERS XOI SAMPLE RECEIPT RECEIVED GOOD COND.ACOLD CHAIN OF CUSTODY SEALS MATRIX LAB ID Ų 20 S √  $\overline{c}$ C 9 LAB NUMBER INTACT? 2709-D Pan American Freeway, NE Albuquerque, NM 87107 75% 1156 졊 528 TIME 77.75 LETITIA KRAKOWSKI Analytical Technologies, Inc. DATE OC REQUIBER AND BLANK PROJECT INFORMATION IENT PROJECT MANAGER: NETWORK PROJECT MANAGER: 607 107 RUSHI 05 50 ≥ SAMPLEID 4) **RUSH SURCHARGE:** CLIENT DISCOUNT: TAT: STANDARD PROJECT NUMBER: PROJECT NAME: DUE DATE: OC LEVEL: COMPANY: ADDRESS:

----- Albumbinia (505) 344-3477 . Albumbinia (505) 344-3777

DISTRIBUTION: White, Canary - ATI . Pink - ORIGINATOR

Analytical **Technologies,** Inc. Albuquerque, NM

# Chain of Custody

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#### STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OU. CONSERVATION INVISION

INSTRICT III 1000 Rin Brazen Rd. Astec, HM \$1410

INSTRICT IV PO Rex 2008 Santa Fe, RM 87504-2008

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
1. RCRA Exempt; □ Non-Exempt:   □	4. Generator
Verbal Approval Received: Yes □ No □	Baker Oil Tools
2. Destination	5. Name of Originating Site
Controlled Recovery, Inc.	Hobbs Yard
3. Address of Facility Operator	6. Name of Transporter
P.O. Box 369, Hobbs, NM 88241	Petro Thermo
7. Location of Material (Street Address or ULSTR)	8. State
507 West County Road	NM
9. Circle One  A. All requests for approval to accept diffield exempt wastes will be accompanied by a certification of wasta from the R. All requests for approval to accept non-diffield exempt wastes will be accompanied by a certification of wasta statu Mexice Environment Department or other appropriate government agency; two certificates per job.  All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analyses to produce the Generator's certification of origin. No waste classified as hazardous by listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned for transport.	e from the Generator and the New

## BRIEF DESCRIPTION OF THE MATERIAL:

The material is from the facility's sump. The analytical results are on file with your office, and a statement from the generator is attached.

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SIGNATURE Annette Curiel  TYPE OR PRINT NAME	•	Office Manager	DATE 10/31/94  [505) 393-1079
APPROVED BY APPROVED BY APPROVED BY	TITLE _	Geologist IV	DATE 11/7/74  DATE 11/17/94

# BAKER OIL TOOLS P.O. BOX 1828 HOBBS, NM 88241 (505) 393-4147

# STATEMENT OF CONDITION FOR ACCEPTANCE

We are requesting permission to dispose of wasta material from our Hobbs yard at the Controlled Recovery, Inc. facility. The waste is generated from our sump, which is a concrete holding area for water that is used to wash off oil tools at our yard. As a condition of acceptance for disposal, I hereby certify that the analytical results dated March 17, 1994 still reflect the characteristics of this waste. In addition, I certify that no "hazardous waste" has been added or mixed with the sump waste.

BV:	Dennis Collein J.	
	District Montager	
	Title	
<del></del>	10-31-94	
	Date	~
	Robbs yard - 507 West County Road Project Location	

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STATE OF NEW MEXICO



## ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BAUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY

October 6, 1994

POST OFFICE 80X 2088 STATE LAND OFFICE BUILDING SANTA FE. NEW MEXICO 87504 (505) 827-5800

# CERTIFIED MAIL RETURN RECEIPT NO. P-667-242-170

Mr. Victor Bedford
Baker Oil Tools
9100 Emmott Rd.
Houston, Texas 77040

RE: MONITOR WELL INSTALLATION

BAKER OIL TOOLS HOBBS FACILITY

Dear Mr. Bedford:

The New Mexico Oil Conservation Division (OCD) has completed a review of Baker Oil Tools (BOT) October 5, 1994 and September 27, 1994 correspondence which was submitted on behalf of BOT by Rhino Environmental Services, Inc. These documents contain BOT's work plan for installation of an additional monitor well directly downgradient of the former unlined pit at BOT's oilfield service company facility located at 2800 West Marland in Hobbs, New Mexico.

The above referenced monitor well installation work plan is approved with the following conditions:

- In addition to the analyses proposed, ground water from the new monitor well will also be sampled and analyzed for major cations and anions and heavy metals using EPA approved methods.
- Ground water from the previously installed monitoring wells will be sampled and analyzed for benzene, toluene, ethylbenzene, xylene and polynuclear aromatic hydrocarbons using EPA approved methods.
- 3. BOT will submit a report on the site investigations to the OCD by January 14, 1995. The report will contain the results of all investigation activities including a water table elevation map for the site, well logs, monitor well completion diagrams, all soil and ground water sampling analytical results and any other pertinent information.

Mr. Victor Bedford October 6, 1994 Page 2

- 4. BOT will notify the OCD at least 72 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
- 5. All original documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs Office.

Please be advised that OCD approval does not relieve BOT of liability should the investigation activities determine that contamination exists which is beyond the scope of the work plan or if the closure activities fail to adequately determine the extent of contamination related to BOT's activities. In addition, OCD approval does not relieve BOT of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please call me at (505) 827-5885.

Sincerely

William C. Olson

Hydrogeologist

Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor

Wayne Price, OCD Hobbs Office

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