NM2 - 12

GENERAL CORRESPONDENCE YEAR(S):

2007 - 1998

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, March 09, 2007

Brad Jones
NM Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

TEL: (505) 476-3491
FAX (505) 476-3462

RE: Chevron USA

Order No.: 0702247

Dear Brad Jones:

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 2/22/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001

2007 MAR 12 AM 11 25

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Mar-07*

CLIENT:	NM Oil Conservation Division	**Client Sample ID:**	Cell 23 Comp
Lab Order:	0702247	**Collection Date:**	2/21/2007 10:11:00 AM
Project:	Chevron USA	**Date Received:**	2/22/2007
Lab ID:	0702247-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	2/24/2007 2:15:01 AM
Benzene	ND	0.050		mg/Kg	1	2/24/2007 2:15:01 AM
Toluene	ND	0.050		mg/Kg	1	2/24/2007 2:15:01 AM
Ethylbenzene	ND	0.050		mg/Kg	1	2/24/2007 2:15:01 AM
Xylenes, Total	ND	0.10		mg/Kg	1	2/24/2007 2:15:01 AM
Surr: 4-Bromofluorobenzene	89.0	68.2-109		%REC	1	2/24/2007 2:15:01 AM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	1.1	0.30		mg/Kg	1	3/5/2007 2:33:51 PM
EPA METHOD 418.1: TPH						Analyst: **BL**
Petroleum Hydrocarbons, TR	1600	100		mg/Kg	5	2/27/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Mar-07*

CLIENT:	NM Oil Conservation Division	**Client Sample ID:**	Cell 26 Comp
Lab Order:	0702247	**Collection Date:**	2/21/2007 10:35:00 AM
Project:	Chevron USA	**Date Received:**	2/22/2007
Lab ID:	0702247-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	2/24/2007 2:45:07 AM
Benzene	ND	0.050		mg/Kg	1	2/24/2007 2:45:07 AM
Toluene	ND	0.050		mg/Kg	1	2/24/2007 2:45:07 AM
Ethylbenzene	ND	0.050		mg/Kg	1	2/24/2007 2:45:07 AM
Xylenes, Total	ND	0.10		mg/Kg	1	2/24/2007 2:45:07 AM
Surr: 4-Bromofluorobenzene	88.8	68.2-109		%REC	1	2/24/2007 2:45:07 AM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	ND	1.5		mg/Kg	5	3/5/2007 2:51:15 PM
EPA METHOD 418.1: TPH						Analyst: **BL**
Petroleum Hydrocarbons, TR	5000	200		mg/Kg	10	2/27/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: NM Oil Conservation Division
Project: Chevron USA
Work Order: 0702247

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW9056A									
Sample ID: MB-12430		*MBLK*			Batch ID: **12430**		Analysis Date:		3/5/2007 12:14:36 PM
Chloride	ND	mg/Kg	0.30						
Sample ID: LCS-12430		*LCS*			Batch ID: **12430**		Analysis Date:		3/5/2007 12:32:01 PM
Chloride	15.17	mg/Kg	0.30	101	90	110			
Method: E418.1									
Sample ID: MBLK-12399		*MBLK*			Batch ID: **12399**		Analysis Date:		2/27/2007
Petroleum Hydrocarbons, TR	ND	mg/Kg	20						
Sample ID: LCS-12399		*LCS*			Batch ID: **12399**		Analysis Date:		2/27/2007
Petroleum Hydrocarbons, TR	109.6	mg/Kg	20	110	82	114			
Sample ID: LCSD-12399		*LCSD*			Batch ID: **12399**		Analysis Date:		2/27/2007
Petroleum Hydrocarbons, TR	107.1	mg/Kg	20	107	82	114	2.25	20	
Method: SW8021									
Sample ID: MB-12374		*MBLK*			Batch ID: **12374**		Analysis Date:		2/26/2007 3:12:43 PM
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.10						
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-12374		*LCS*			Batch ID: **12374**		Analysis Date:		2/24/2007 1:15:01 AM
Methyl tert-butyl ether (MTBE)	0.3747	mg/Kg	0.10	93.7	67.9	135			
Benzene	0.2740	mg/Kg	0.050	91.3	62.7	114			
Toluene	1.865	mg/Kg	0.050	124	68.2	121			S
Ethylbenzene	0.3780	mg/Kg	0.050	94.5	71.4	115			
Xylenes, Total	2.195	mg/Kg	0.10	110	65	135			
Sample ID: LCSD-12374		*LCSD*			Batch ID: **12374**		Analysis Date:		2/24/2007 1:45:04 AM
Methyl tert-butyl ether (MTBE)	0.3887	mg/Kg	0.10	97.2	67.9	135	3.67	28	
Benzene	0.2787	mg/Kg	0.050	92.9	62.7	114	1.70	27	
Toluene	1.931	mg/Kg	0.050	129	68.2	121	3.47	19	S
Ethylbenzene	0.3843	mg/Kg	0.050	96.1	71.4	115	1.65	10	
Xylenes, Total	2.237	mg/Kg	0.10	112	65	135	1.89	13	

Qualifiers:

- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name NMOCD SF | Date and Time Received: 2/22/2007

Work Order Number 0702247 | Received by AT

Checklist completed by Signature 2/22/07 Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted	☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	1°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☑ Level 4 ☐
Other: _____

Client: ~~NMENRD, OCD~~ Brad Jones

Project Name: Chevron USA

Address: 1220 N. St. Francis Dr. Santa Fe, NM

Project #: ~~NM-12-csc~~ NM-2-12

Project Manager: Brad Jones

Phone #: 505-476-3487

Sampler: Brad Jones / Carl Chávez

Fax #: -3462

Sample Temperature: 1°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: —	HEAL No. 0702247	BTEX + MTBE + TMB's (8021) 1	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1) 1	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	300.1 Cl 1				Air Bubbles or Headspace (Y or N)
2/21/07	10:11	Soil	Cell 23 Comp				—	-1	X			X									X				
2/21/07	10:35	Soil	Cell 26 Comp				—	-2	X			X									X				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	Date
2/22/07	7:13	Carl J. Chavez	Anne Thone	2/22/07
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

0713

Remarks: Land farm soils - weathered

THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

DUE TO

THE CONDITION OF

THE ORIGINAL

CHAIN-OF-CUSTODY RECORD

QA/QC Package: Std ☑ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Brad Jones
Address: 1220 N. St. Francis Dr. Santa Fe, NM
Phone #: 505-476-3487
Fax #: -3462

Project Name: Chevron USA
Project #: ~~NM-1-2~~ etc NM-2-12
Project Manager: Brad Jones
Sampler: Brad Jones/Carl Chávez
Sample Temperature:

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative —	HEAL No.	BTEX + MTBE + TMB's (8021) 1	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1) 1	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides/PCB's (8082)	826OB (VOA)	8270 (Semi-VOA)	300.1 Cl				Air Bubbles or Headspace (Y or N)
2/21/07	10:11	Soil	Cell 23 Comp				—		X			X									X				
2/21/07	10:35	Soil	Cell 26 Comp				—		X			X									X				

Date: 2/22/07 Time: 7:13 Relinquished By: (Signature) Received By: (Signature) 2/22/07

Date: Time: Relinquished By: (Signature) Received By: (Signature)

0713

Remarks: Land farm soils - Weathered

Martin, Ed

To: Cindy Crain

Subject: RE: ChevronTexaco Centralized Waste Management Facility (Permit NM-02-0012), Draft 2004 Annual Monitoring Report

Re: 2004 Annual Monitoring Report
ChevronTexaco Exploration and Production Inc.
Centralized Waste Management Facility (Permit NM-2-0012)
W/2, Section 17, Township 24 south, Range 36 East
Lea County, New Mexico

The New Mexico Oil Conservation Division has received and reviewed the report shown above. In it Larson and Associates requests, on ChevronTexaco's behalf that the landfarm covered under the above permit be deemed temporarily inactive. This request is approved and ChevronTexaco may temporarily suspend sampling and submission of Treatment Zone Monitoring reports.

ChevronTexaco must notify the NMOCD at least 48 hours in advance of the addition of any soil to the facility. ChevronTexaco must then resume sampling of the Treatment Zone and submission of Treatment Zone Monitoring reports stipulated in the permit shown above.

If you have any questions, contact me at (505) 476-3492 or emartin@state.nm.us

Ed Martin

Ed Martin
New Mexico Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505
Phone: 505-476-3492
Fax: 505-476-3462

-----Original Message-----
From: Cindy Crain [mailto:cindy@laenvironmental.com]
Sent: Wednesday, April 13, 2005 11:20 AM
To: Ed Martin
Subject: ChevronTexaco Centralized Waste Management Facility (Permit NM-02-0012), Draft 2004 Annual Monitoring Report

Ed,

Attached is a draft of the 2004 Annual Monitoring Report for the ChevronTexaco Centralized Waste Management Facility (Permit NM-02-0012), that I spoke to you about a few weeks ago.

Corresponding tables are also attached for your review. If you have any questions or concerns, please give me a call. Also, if you need a hard copy mailed to you, please let me know.

Thank you,

Cindy K. Crain, P.G.

Larson and Associates, Inc.
507 N. Marienfeld, Ste.202
Midland, TX 79701

office: (432) 687-0901
fax: (432) 687-0456
cell: (432) 556-8665

April 11, 2005

VIA FACSIMILE: (505) 476-3462

Mr. Ed Martin
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: 2004 Annual Monitoring Report, ChevronTexaco Exploration and Production Inc., Centralized Waste Management Facility (Permit NM-02-0012), W/2, Section 17, Township 24 South, Range 36 East, Lea County, New Mexico

Dear Mr. Martin:

ChevronTexaco Exploration and Production Inc. (ChevronTexaco), as successor to Texaco Exploration and Production Inc. (Texaco), has retained Larson & Associates, Inc. (LA) to perform soil monitoring at its centralized waste management facility (Facility), located in the west half (W/2), Section 17, Township 24 South, Range 36 East, Lea County, New Mexico. The Facility is operated in accordance with a permit (NM-02-0012) issued by the New Mexico Oil Conservation Division (NMOCD) that requires quarterly (4 times per year) monitoring of native soil in the treatment zone, approximately 2 to 3 feet below native ground surface, for total petroleum hydrocarbon (TPH), benzene and total BTEX (sum of benzene, toluene, ethylbenzene and xylene), and annual (once per year) monitoring for metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver), cations (calcium, magnesium, sodium and potassium), and anions (bicarbonate, sulfate and chloride). Results of treatment zone samples are compared to background concentrations that were determined from a soil obtained prior to construction of the Facility. Contaminated soil in treatment cells also requires periodic sampling or TPH and BTEX to ensure that concentrations of these contaminants are below the permitted remediation limits of 10 milligrams per kilogram (mg/kg), 50 mg/kg and 500 mg/kg for benzene, BTEX and TPH, respectively. This report presents the results of quarterly and annual soil monitoring conducted during 2004. Figure 1 presents a topographic map. Figure 2 presents a general location map.

Background

On February 10, 2004, LA submitted a 2003 Annual Monitoring Report to the NMOCD, and on June 3, 2003, ChevronTexaco submitted the laboratory results of lift (contaminated) zone samples that were collected from cells 1 through 16 on November 26, 2002. The benzene, BTEX and TPH results were below regulatory thresholds, and the NMOCD granted ChevronTexaco permission to discontinue maintenance (i.e., tilling), and to place a successive lift of contaminated soil in the cells. Verbal approval was received on July 21, 2003, and written approval was received on July 29, 2003. No additional lifts of soil have been placed in cells 1 through 16.

2004 Monitoring Results

Approximately 64 cubic yards of soil was transported from the ChevronTexaco Buckeye Plant to the Facility during 2004, and placed in cell 26.

Analytical results of soil samples reported in the 2003 Annual Monitoring Report, showed benzene, BTEX and TPH results below regulatory thresholds in cells 17, 19, 20 and 24 at depths of 0-1' below ground surface (bgs) and 2-3' bgs. Maintenance and monitoring was not conducted at these cells during 2004.

On January 8, 2004, LA collected soil samples from the treatment and contaminated zones at cells 18 through 26, excluding cells 19, 20 and 24. The samples were collected using a portable stainless steel hand auger, which was thoroughly washed between events using a solution of laboratory-grade detergent and water, and rinsed with distilled water. Contaminated soil was scraped from the locations, and a surface casing was placed over the native soil to prevent contaminated soil from falling into the hole during sampling. The samples were placed in clean glass sample jars, labeled, chilled in an ice chest, and delivered under chain-of-custody control to Environmental Lab of Texas (ELOT), located in Odessa, Texas. The samples were analyzed for TPH and BTEX using methods SW-846-8015 and SW-846-8021B, respectively. Table 1 presents a summary of TPH and BTEX analysis of the contaminated zone samples. Table 2 presents a summary of the TPH and BTEX analysis of the treatment zone samples. Figure 2 presents a Facility drawing showing the treatment cell locations. Appendix A presents the laboratory reports.

Referring to Table 1, samples collected from the contaminated zone (0-1' bgs) of each cell, reported TPH concentrations above the regulatory threshold (500 mg/kg) except the sample collected from cell 25 (362.12 mg/kg). Concentrations of benzene and BTEX were below the regulatory thresholds of 10 mg/kg and 50 mg/kg, respectively. Referring to Table 2, samples collected from the treatment zone (2-3' bgs) of each cell reported TPH concentrations below the regulatory threshold (100 mg/kg) except the samples from cell 18 (643 mg/kg), cell 21 (188 mg/kg) and cell 26 (275.52 mg/kg). Concentrations of benzene and BTEX were below the regulatory thresholds. Analytical results from the January 8, 2004 samples showed that cell 25 needed no further maintenance.

Due to the possibility that elevated TPH concentrations from treatment zone soil in cells 18, 21 and 26 may have resulted from treated soil entering the auger boring, those cells were re-sampled on January 19, 2004, using direct push technology (Terraprobe®). Samples from each cell were collected from ground surface to a depth of approximately four (4) feet bgs, using a stainless steel core barrel and dedicated sample liners. The sampling equipment was thoroughly cleaned between cell locations with a solution of laboratory-grade detergent and potable water, and rinsed with distilled water. The soil samples were collected in four-foot increments and composite samples from the 2-3' interval of cells 18, 21 and 26 were placed in clean glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to ELOT, and analyzed for TPH by method SW-846-8015. Table 2 presents a summary of the TPH and BTEX analysis of the treatment zone samples. Figure 2 presents a Facility drawing showing the treatment cell locations. Appendix A presents the laboratory reports.

Referring to Table 2, samples collected from the treatment zone of each cell reported TPH concentrations below the regulatory threshold (100 mg/kg).

Maintenance (tilling) of soil continued at cells 18, 21, 22, 23 and 26 until soil samples were collected from the treatment zone (2-3' bgs) of cells 18, 21, 22 and 23 on April 30, 2004. Samples were also collected on May 10, 2004 from the contaminated zone (0-1' bgs) of cells 18, 21, 22 and 23, and from both the contaminated zone (0-1' bgs) and the treatment zone (2-3' bgs) of cell 26. Samples were collected using a Terraprobe® as described above, placed in clean glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to ELOT, where they were analyzed for TPH by method SW-846-8015 and BTEX by EPA method 8021B. Table 1 presents a summary of the TPH and BTEX analysis of the contaminated zone samples. Table 2 presents a summary of the TPH and BTEX analysis of the treatment zone samples. Figure 2 presents a Facility drawing showing the cell locations. Appendix A presents the laboratory reports.

Referring to Table 1, samples collected from the contaminated zone (0-1' bgs) of each cell reported TPH concentrations above the regulatory threshold (500 mg/kg) except the sample collected from cell 22 (392 mg/kg). Concentrations of benzene and BTEX were reported below the test method detection limits in all samples.

Referring to Table 2, soil samples collected from the treatment zone of cells 18, 21, 22 and 23 on April 30, 2004, reported TPH and BTEX concentrations below the regulatory thresholds. The soil sample collected from cell 26 on May 10, 2004, reported TPH and BTEX concentrations below the test method detection limits.

Maintenance (tilling) of soil continued at cells 18, 21, 23 and 26 until soil samples were collected from both the contaminated zone (0-1' bgs) and the treatment zone (2-3' bgs) of each cell on July 12, 2004. Samples were collected using a Terraprobe® as described above, placed in clean glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to ELOT, where they were analyzed for TPH by method SW-846-8015 and BTEX by EPA method 8021B. Table 1 presents a summary of the TPH and BTEX analysis of the contaminated zone samples. Table 2 presents a summary of the TPH and BTEX analysis of the treatment zone samples. Figure 2 presents a Facility drawing showing the cell locations. Appendix A presents the laboratory reports.

Referring to Table 1, samples collected from the contaminated zone (0-1' bgs) of each cell reported TPH concentrations below the regulatory threshold (500 mg/kg) except the sample collected from cell 26 (550 mg/kg). Concentrations of benzene and BTEX were below the test method detection limits.

Referring to Table 2, samples collected from the treatment zone (2-3' bgs) of each cell reported TPH concentrations below the test method detection limit except the sample collected from cell 18 (35.1 mg/kg). Concentrations of benzene and BTEX were below the test method detection limits in all samples.

Maintenance (tilling) of soil continued at cells 18 and 26 until soil samples were collected from both the contaminated zone (0-1' bgs) and the treatment zone (2-3' bgs) of each cell on December 15, 2004. Samples were collected using a Terraprobe® as described above, placed in clean glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to ELOT. Samples were analyzed for TPH, BTEX, anions, cations and total metals by EPA methods. Table 1 presents a summary of the TPH and BTEX analysis of the contaminated zone samples. Table 2 presents a summary of the TPH and BTEX analysis of the treatment zone samples. Table 3 presents a summary of the total metal analysis of the contaminated and treatment zone samples. Table 4 presents a summary of the cation and anion analysis of the contaminated and treatment zone samples. Figure 2 presents a Facility drawing showing the cell locations. Appendix A presents the laboratory reports.

Referring to Table 1, the concentration of TPH was reported below the test method detection limit in the sample from cell 18, but exceeded the regulatory threshold in the sample from cell 26 (6,616.70 mg/kg). Concentrations of benzene and BTEX were reported below the test method detection limits in both samples. Referring to Table 2, the concentrations of TPH, benzene and BTEX, in the samples collected from each cell, were reported below the test method detection limits.

Referring to Table 3, concentrations of total metals from the contaminated zone of each cell (0-1' bgs), were below the background concentrations (6/24/98), with the exception of barium at cell 18 (135 mg/kg) and cell 26 (48.5 mg/kg). Concentrations of total metals from the treatment zone of each cell (2-3' bgs) were below the background concentrations.

Referring to Table 4, the magnesium, potassium, sodium and sulfate concentrations exceeded the background concentrations (6/24/98) of 49 mg/kg, 39 mg/kg, 5.1 mg/kg and 2.2 mg/kg, respectively, in the sample from the contaminated zone (0-1' bgs) of cell 18. In the contamination zone (0-1' bgs) of cell 26, concentrations of potassium (118 mg/kg), chloride (117 mg/kg) and sulfate (481 mg/kg) exceeded the background concentrations (6/24/98) of 39 mg/kg, 10 mg/kg and 2.2 mg/kg, respectively. The sample from the treatment zone (2-3' bgs) of cell 18 reported concentrations of calcium (2,530 mg/kg), magnesium (328 mg/kg), potassium (517 mg/kg), sodium (884 mg/kg), chloride (85.1 mg/kg) and sulfate (264 mg/kg) above the background concentrations of 800 mg/kg, 49 mg/kg, 39 mg/kg, 5.1 mg/kg, 10 mg/kg and 2.2 mg/kg, respectively. The sample from the treatment zone (2-3' bgs) of cell 26 reported concentrations of calcium (4,190 mg/kg), magnesium (244 mg/kg), potassium (356 mg/kg), sodium (605 mg/kg), chloride (74.4 mg/kg) and sulfate (192 mg/kg) above the background concentrations.

On January 10, 2005, a soil sample was collected from the contaminated zone (0-1' bgs) of cell 26, and a background sample was collected from a location approximately 50 feet east of the Facility boundary. Samples were collected using a Terraprobe® as described above, placed in clean glass sample jars, labeled, chilled in an ice chest, and hand delivered under chain-of-custody control to ELOT. The background sample was analyzed for TPH, BTEX, anions, cations and total metals by EPA methods. The sample from cell 26 was analyzed for TPH. Table 1 presents a summary of the TPH and BTEX analysis of the contaminated zone samples. Table 3 presents a summary of the total metal analysis of the contaminated and treatment zone samples. Table 4 presents a summary of the cation and anion analysis of the contaminated and treatment

zone samples. Figure 2 presents a Facility drawing showing the cell locations. Appendix A presents the laboratory reports.
Referring to Table 1, the TPH concentration of the sample collected from cell 26 (27.9 mg/kg) was below the regulatory threshold (500 mg/kg). Referring to Table 3, concentrations of total metals from both the contaminated zone and the treatment zone of each cell were below the background concentrations, with the exception of barium at cell 18 (135 mg/kg) collected on December 15, 2004, and chromium at cell 21 (6.39 mg/kg) collected on October 9, 2003.

Referring to Table 4, analytical results showed concentrations of sulfate above the background concentration in the contaminated zone of cell 18 (81 mg/kg) and concentrations of chloride (117 mg/kg) and sulfate (481 mg/kg) above the background concentrations in the contaminated zone of cell 26. In the samples collected from the treatment zone of each cell, concentrations of calcium, magnesium and potassium were reported above the background concentrations. Concentrations of chloride, sulfate, fluoride and/or nitrate that exceeded the background concentrations were reported in samples from all cells.

As the final samples collected from each cell showed concentrations of TPH and BTEX below the regulatory thresholds, ChevronTexaco requests that the centralized waste management facility be temporarily deemed inactive. ChevronTexaco will notify the NMOCD at least 48 hours in advance of the addition of any soil to the Facility.

Please contact Mr. Larry Williams at (505) 394-1237 or myself at (432) 687-0901 if you have questions. We may also be reached by email at lcwl@chevrontexaco.com or Cindy@laenvironmental.com.

Sincerely,
Larson and Associates, Inc.

Cindy K. Crain, PG
Project Manager

Encl.

cc: Larry Williams, ChevronTexaco
NMOCD District 1 - Hobbs

Table 1
Summary of TPH and BTEX Analysis of Contaminated Soil
ChevronTexaco Centralized Waste Management Facility
Section 17, Township 24 South, Range 36 East
Lea County, New Mexico

Cell	Sample Depth (Feet)	Sample Date	GRO C6-C12 (mg/kg)	DRO >C12-C35 (mg/kg)	TPH C6-C35 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	BTEX (mg/kg)
Background (1/10/05)			**<10**	**<10**	**<20**					
Regulatory Threshold:					**500**	**10**				**50**
17	0 - 1	07-Aug-03	<10.0	186	186	<0.025	<0.025	<0.025	<0.025	<0.10
18	0 - 1	07-Aug-03	<50.0	3,600	3,600	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	09-Oct-03	<100.00	2,610	2,610	<0.025	0.036	0.046	0.059	0.141
	0 - 1	08-Jan-04	<10.0	643	643	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	10-May-04	8.79	1570	1,578.79	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	12-Jul-04	<10.0	107	107	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	15-Dec-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
19	0 - 1	7-Aug-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
20	0 - 1	7-Aug-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
21	0 - 1	07-Aug-03	<50.0	3,130	3,130	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	09-Oct-03	<50.0	1,920	1,920	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	08-Jan-04	4.89	1,220	1,224.89	<0.025	0.0177	0.0213	0.0853	0.1243
	0 - 1	10-May-04	<10.0	1950	1,950	<0.025	<0.0250	0.0164	0.0324	0.0488
	0 - 1	12-Jul-04	<10.0	274	274	<0.025	<0.025	<0.025	<0.025	<0.10

Table 1
Summary of TPH and BTEX Analysis of Contaminated Soil
ChevronTexaco Centralized Waste Management Facility
Section 17, Township 24 South, Range 36 East
Lea County, New Mexico

Cell	Sample Depth (Feet)	Sample Date	GRO C6-C12 (mg/kg)	DRO >C12-C35 (mg/kg)	TPH C6-C35 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	BTEX (mg/kg)
Regulatory Threshold:					**500**	**10**				**50**
22	0 - 1	07-Aug-03	<10.0	672	672	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	09-Oct-03	<50.0	925	925	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	08-Jan-04	8.48	771	779.48	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	10-May-04	<10.0	392	392	<0.025	<0.025	<0.025	<0.025	<0.10
23	0 - 1	07-Aug-03	<50.0	1,060	1,060	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	09-Oct-03	<50.0	1,310	1,310	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	08-Jan-04	<10.0	500	500	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	10-May-04	6.53	2280	2,286.53	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	12-Jul-04	<10.0	70.60	70.60	<0.025	<0.025	<0.025	<0.025	<0.10
24	0 - 1	7-Aug-03	<10.0	166	166	<0.025	<0.025	<0.025	<0.025	<0.10
25	0 - 1	08-Jan-04	9.12	353	362.12	<0.025	0.0202	<0.025	0.0376	0.0578
26	0 - 1	08-Jan-04	<10.0	530	530	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	10-May-04	12.5	953	965.50	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	12-Jul-04	<10.0	550	550.00	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	15-Dec-04	66.7	6550	6,616.70	<0.025	<0.025	<0.025	<0.025	<0.10
	0 - 1	10-Jan-05	<10.0	27.9	27.9	---	---	---	---	---

Notes: Analysis performed by Environmental Lab of Texas, Odessa, Texas
1. Feet: Below top of contaminated soil
2. mg/kg: Milligrams per kilogram
3. <: Less than method detection limit

Table 2
Summary of TPH and BTEX Analysis of Treatment Zone Soil Samples
ChevronTexaco Centralized Waste Management Facility
Section 17, Township 24 South, Range 36 East
Lea County, New Mexico

Cell	*Sample Depth (Feet)	Sample Date	GRO C6-C12 (mg/kg)	DRO >C12-C35 (mg/kg)	TPH C6-C35 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	BTEX (mg/kg)
Background (6/24/98):			<5	--	<5	<0.05	<0.05	<0.05	<0.05	<0.2
Background (1/10/05):			<10	<10	<20					
17	2 - 3	07-Aug-03	<10.0	30.7	30.7	<0.025	<0.025	<0.025	<0.025	<0.10
18	2 - 3	07-Aug-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	09-Oct-03	<10.0	263	263	0.039	0.113	0.125	0.308	0.585
	2 - 3	08-Jan-04	<10.0	643	643	0.0147	0.0375	0.0395	0.1711	0.2628
	2 - 3	19-Jan-04	<10.0	<10.0	<20.0	--	--	--	--	--
	2 - 3	30-Apr-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	12-Jul-04	<10.0	35.1	35.1	<0.025	<0.025	<0.025	<0.025	<0.10
	2-3	15-Dec-04	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.10
19	2 - 3	07-Aug-03	<10.0	67.5	67.5	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	09-Oct-03	<10.0	11.8	11.8	<0.025	<0.025	<0.025	<0.025	<0.10
20	2 - 3	07-Aug-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
21	2 - 3	07-Aug-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	09-Oct-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	08-Jan-04	<10.0	188	188	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	19-Jan-04	<10.0	<10.0	<20.0	--	--	--	--	--
	2 - 3	30-Apr-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	12-Jul-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
22	2 - 3	07-Aug-03	<10.0	170	170	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	09-Oct-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	08-Jan-04	5.49	8.10	13.59	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	30-Apr-04	<10.0	10.7	10.7	<0.025	<0.025	<0.025	<0.025	<0.10
23	2 - 3	07-Aug-03	<10.0	89.9	89.9	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	09-Oct-03	<10.0	70.4	70.4	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	08-Jan-04	<10.0	6.06	6.06	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	30-Apr-04	<10.0	7.83	7.83	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	12-Jul-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
24	2 - 3	07-Aug-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
25	2 - 3	08-Jan-04	4.69	12.1	16.79	<0.025	<0.025	<0.025	<0.025	<0.10
26	2 - 3	08-Jan-04	2.52	273	275.52	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	19-Jan-04	<10.0	20.2	20.2	--	--	--	--	--
	2 - 3	10-May-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	12-Jul-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10
	2 - 3	15-Dec-04	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025	<0.10

Notes: Analysis performed by Environmental Lab of Texas, Odessa, Texas
1. Feet: Below native ground surface
2. mg/kg Milligrams per kilogram
3. <: Less than method detection limit
4. --: No data available

Table 3
Summary of Total Metal Analysis of Contaminated and Treatment Zone Soil Samples
ChevronTexaco Centralized Waste Management Facility
Section 17, Township 24 South, Range 36 East
Lea County, New Mexico

Cell	Depth (Feet)	Sample Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
Background		**6/24/1998**	**<5.0**	**45**	**<2.0**	**6.1**	**<5.0**	**<0.25**	**<5.0**	**<5.0**
Background (0-1')		**1/10/2005**	**1.83**	**69.7**	**1.97**	**10.1**	**3.94**	**<0.025**	**<0.2**	**4.17**
Background (2-3')		**1/10/2005**	**2.6**	**237**	**0.655**	**2.76**	**<0.55**	**<0.025**	**<0.2**	**<0.25**
17	2 - 3	10/09/03	1.44	38.5	0.206	3.76	<0.550	<0.0250	<0.20	<0.10
18	2 - 3	10/09/03	2.05	55.2	0.210	4.36	3.0	<0.0250	<0.20	<0.10
	0-1	12/15/04	4.76	135.0	0.189	4.38	0.74	0.01606	<0.20	<0.25
	2-3	12/15/04	3.09	101.0	0.292	3.98	<0.55	0.01261	<0.20	<0.25
19	2 - 3	10/09/03	1.34	75.0	0.103	4.06	<0.550	<0.0250	<0.20	<0.10
21	2 - 3	10/09/03	2.52	51.2	0.262	6.39	1.05	<0.0250	<0.20	<0.10
22	2 - 3	10/09/03	2.29	54.1	0.260	5.46	1.35	<0.0250	<0.20	<0.10
23	2 - 3	10/09/03	2.02	58.0	0.259	6.0	1.14	<0.0250	<0.20	<0.10
26	0-1	12/15/04	3.15	48.5	0.284	5.39	<0.55	<0.25	<0.20	<0.25
	2-3	12/15/04	2.96	171.0	0.182	2.99	<0.55	0.009112	<0.20	<0.25

Notes:
1. Feet: Below native ground surface
2. mg/kg: Milligrams per kilogram
3. <: Less than method detection limit

Analysis performed by Environmental Lab of Texas, Odessa, Texas

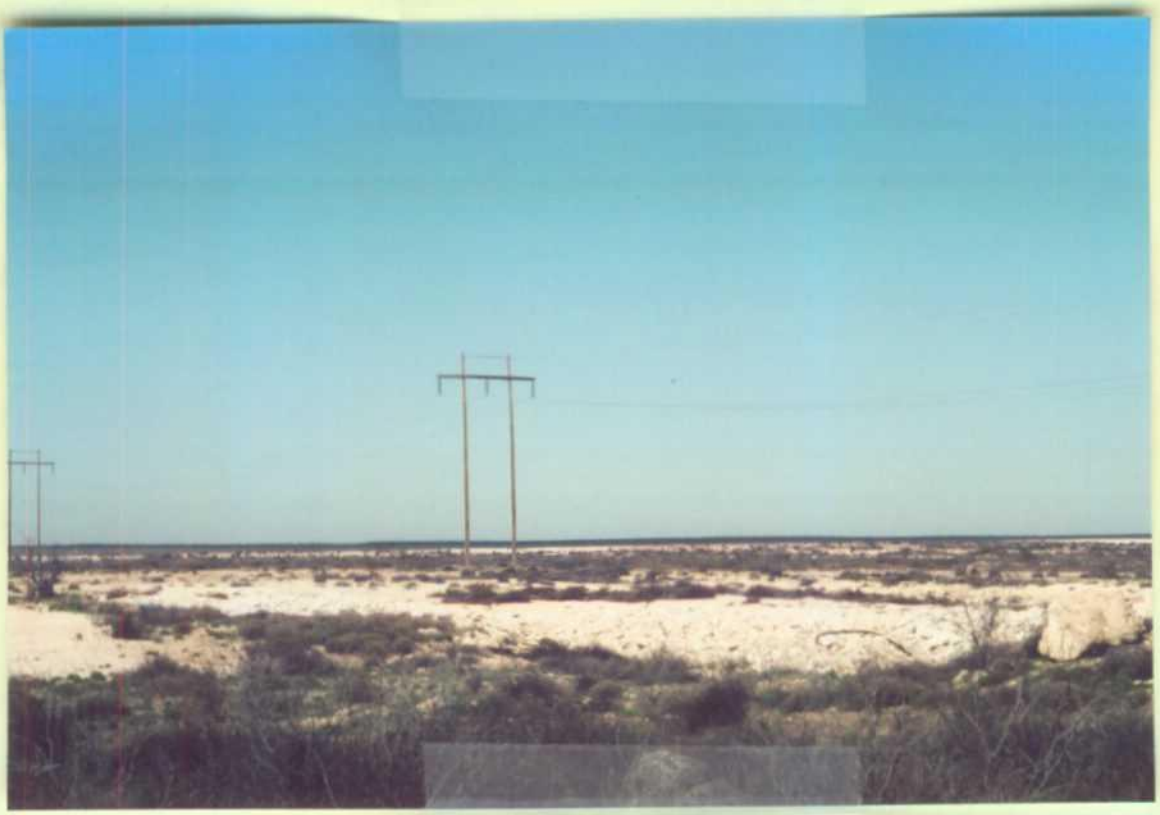
Table 4
Summary of Cation and Anion Analysis of Contaminated and Treatment Zone Soil Samples
ChevronTexaco Centralized Waste Management Facility
Section 17, Township 24 South, Range 36 East
Lea County, New Mexico

Cell	Depth (Feet)	Sample Date	Calcium (mg/kg)	Magnesium (mg/kg)	Potassium (mg/kg)	Sodium (ug/kg)	Bicarbonate (mg/kg)	Carbonate (mg/kg)	Chloride (mg/kg)	Hydroxide (mg/kg)	Sulfate (mg/kg)	Fluoride (mg/kg)	Nitrate - N (mg/kg)
Background (6/24/98):			**800**	**49**	**39**	**5.1**	**3,500**	**80**	**10**		**2.2**	**1.7**	**2.2**
Background (0-1')		**1/10/2005**	**117**	**166**	**238**	**805**	**140**		**<20**		**<2.5**		
Background (2-3')		**1/10/2005**	**2440**	**87.5**	**68.6**	**926**	**240**		**<20**		**69.5**		
17	2 - 3	09-Oct-03	7,010	768	706	321	62.5	<0.25	195	<0.25	75.1	2.84	12.6
18	2 - 3	09-Oct-03	25,400	1,030	893	213	90.0	<0.25	<50.0	<0.25	87.2	2.79	2.50
	0-1	12/15/2004	652	146	219	499	---	---	<20.0	180	81.0	---	---
	2-3	12/15/2004	2,530	328	517	884	---	---	85.1	160	264.0	---	---
19	2 - 3	09-Oct-03	23,600	2,860	714	185	40.0	<0.25	62.0	<0.25	546.0	2.63	2.83
21	2 - 3	09-Oct-03	3,590	1,390	1,160	7.7	45.0	<0.25	<50.0	<0.25	19.8	2.25	4.16
22	2 - 3	09-Oct-03	8,640	1,380	682	48.3	75.0	<0.25	<50.0	<0.25	19.3	2.32	1.69
23	2 - 3	09-Oct-03	4,610	1,270	699	16.1	45.0	<0.25	<50.0	<0.25	305.0	2.24	28.5
26	0-1	12/15/2004	515	61.4	118	575	---	---	117	130	481.0	---	---
	2-3	12/15/2004	4,190	244	356	605	---	---	74.4	180	192.0	---	---

Notes: Analysis performed by Environmental Lab of Texas, Odessa, Texas
1. Feet: Below native ground surface
2. mg/kg: Milligrams per kilogram
3. <: Less than method detection limit


Chevron LANDFARM
W/S SEC. 17, T24S, R36E
LEA COUNTY, NM
(505) 397-0422
TEXACO E&P INC.

NM-2-012



CHEVRON TEXACO LANDFARM

NM-2-012

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

September 20, 2004

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

Mr. Rodney Bailey
ChevronTexaco
15 Smith Rd.
Midland, TX 79705

Dear Mr. Bailey:

Since the New Mexico Oil Conservation Division (NMOCD) promulgated Rule 50 covering pits and below-grade tanks, there has arisen a need, in certain circumstances, for operators to transport their drill cuttings off-site and dispose of them.

NMOCD Rule 711, as it pertains to landfarms, does not specifically address the issue of exempt oilfield wastes that may be contaminated with salts. Your landfarm application and permit were written with only hydrocarbon-contaminated soils in mind. Salt-contaminated wastes cause the following problems:

1. Lessening the effectiveness of the biodegradation capacity of your landfarm
2. Rapid leachability causing adverse effects on groundwater

If you want to accept salt-contaminated cuttings or any other salt-contaminated wastes, your 711 permit must be modified to ensure that your acceptance of those wastes will not adversely affect public health or the environment.

Please check one of the following:

☐ I have accepted or intend to accept salt-contaminated wastes in my landfarm. An OCD form C-137, applying for a modification to my 711 permit is attached. Included, as an attachment, is a demonstration that the accepted salt-contaminated soils will not adversely affect groundwater in the foreseeable future. (Closure requirements will also require modification to ensure the protection of groundwater. Should your acceptance of salt-contaminated wastes prove detrimental to groundwater, future liability for such damage rests with the landfarm operator).

☐ I do not intend to accept salt-contaminated wastes in my landfarm. Should this condition change, I will submit an OCD Form C-137 for a modification to my 711 permit at that time.

New Mexico Oil Conservation Division
Attn: Ed Martin
1220 S. St. Francis
Santa Fe, NM 87505

This letter must be returned to the above address no later than October 31, 2004. An extension of time may be granted if you contact this office no later than that date.

If you have any questions, contact Ed Martin (505) 476-3492 or emartin@state.nm.us

Signed _____ Date _____

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

March 4, 2004

Mr. Rodney Bailey
ChevronTexaco
15 Smith Road
Midland, TX, 79705

RE: Texaco E &P Inc.,
Surface Waste Management Facility Permits NM-02-0012 and NM –02-0013
W/2 of Section 17, Township 24 South, Range 36 East, NMPM, and the
NE/4 of Section 3, Township 24 South, Range 36 East, NMPM
Lea County, New Mexico
Safeco Insurance Company of America, Bond 5858777

Dear Mr. Bailey:

The New Mexico Oil Conservation Division (OCD) has reviewed Texaco Exploration and Production Inc. permits NM-02-0012 and NM-02-0013 and financial assurance with Safeco Insurance Company of America, Bond 5858777. Currently the OCD has Texaco Exploration and Production Inc. as the permit and bond holder. Please advise if these documents are accurate or if the operator name needs to be changed and financial assurance updated.

I can be reached at (505) 476-3488 or mkieling@state.nm.us.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: OCD Hobbs Office

Larson & Associates, Inc.
Environmental Consultants

June 2, 2003

VIA FACSIMILE: (505) 476-3462

Ms. Martyne J. Kieling
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Summary of Laboratory Analysis of Soil Samples from Centralized Waste Management Facility (Permit NM-02-0012), Texaco Exploration and Production Inc., W/2, Section 17, Township 24 South, Range 36 East, Lea County, New Mexico

Dear Ms. Kieling:
ChevronTexaco Inc. (ChevronTexaco), as successor to Texaco Exploration and Production Inc. (Texaco) has retained Larson & Associates, Inc. (LA) to prepare a response to a letter dated March 11, 2003, from the New Mexico Oil Conservation Division (NMOCD). The letter regarded the laboratory analysis of soil sample collected during 2002 from its centralized waste management facility (land farm) located in the west half of section 17, Township 24 South, Range 36 East, Lea County, New Mexico. Specifically, the NMOCD requested an explanation for the apparent vertical migration of contaminants into the 2 to 3 foot monitoring zone at the land farm, and documentation from ChevronTexaco pertaining to the following:

- Type of equipment used to and depth to which the plow/disc is reaching into the subsurface;
- Sampling procedures and equipment used to take the treatment zone sample;
- Depth at which the treatment zone samples have been taken; and
- Any differences in the laboratory or the analytical methods used.

On May 5, 2003, LA collected a random soil sample from the monitoring zone at each of the sixteen (16) cells from which soil samples were collected during 2002. The soil samples were collected using a stainless steel hand auger, and soil was gently scraped from each location to expose the top of the treatment zone (native soil). The soil was scraped from the sample location to reduce the risk of possible cross-contamination between treated soil and the top of the treatment zone. The hand auger was advanced from approximately 2 to 3 feet into the treatment zone. The hand auger was thoroughly washed with laboratory-grade detergent and rinsed with distilled water between each event. The samples were collected in clean glass laboratory containers, sealed, labeled, chilled in an ice chest, and hand-delivered under chain-of-custody control to Environmental Lab of Texas, located in Odessa, Texas. The samples were analyzed for benzene, toluene, ethylbenzene, xylene (collectively referred to as BTEX) using method 8021B, and total petroleum hydrocarbon (TPH) using method 8015 for gasoline range organics (GRO) and diesel range organics (DRO). Table 1 presents a summary of the laboratory analysis. Attachment A presents the laboratory reports.

Referring to Table 1, all samples reported concentrations of benzene, toluene and ethylbenzene below the test method detection limit of 0.025 milligrams per kilogram

(mg/kg). The sample from cell #6 reported xylene at 0.027 mg/kg. All samples except cell #'s 3, 4, 5, 6, 8, 10, 12 and 13 reported concentrations of TPH below the test method detection limit of 10 mg/kg. The TPH concentrations reported in the above-referenced samples ranged from 20.8 to 3,667 mg/kg. On May 25, 2003, soil samples were collected from cell #5, which reported TPH at 288 mg/kg, and cell #13, which reported TPH at 3,667 mg/kg. The soil samples were collected in the manner presented above, except a surface casing was placed aver the treatment zone soil after soil was scraped from the area to prevent soil from accidentally caving into the open boring. The samples were analyzed for BTEX and TPH using the same methods, which reported no concentrations above the test method detection limits. Please contact Mr. Rodney Bailey (432) 687-7251 or myself at (432) 687-0901 if you have questions.

Sincerely
Larson and Associates, Inc.

Mark J. Larson, CGP, CGWP
President

Encl.

cc: Rodney G. Bailey

TABLES

Table 1
Summary of TPH and BTEX Analysis of Soil Samples
ChevronTexaco Inc. Centralized Landfarm, Permit NM-02-0012
Lea County, New Mexico

Cell	Sample Depth (Feet)	Sample Date	TPH C6-C12 (mg/kg)	TPH >C12-C35 (mg/kg)	TPH Total C6-C35 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)
1	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
2	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
3	2 - 2.5	05-May-03	<10.0	72.3	72.3	<0.025	<0.025	<0.025	<0.025
4	2 - 2.5	05-May-03	<10.0	187	187	<0.025	<0.025	<0.025	<0.025
5	2 - 3	05-May-03	<10.0	288	288	<0.025	<0.025	<0.025	<0.025
	2 - 3	27-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
6	2 - 3	05-May-03	<10.0	20.9	20.9	<0.025	<0.025	<0.025	0.027
7	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
8	2 - 3	05-May-03	<10.0	20.8	20.8	<0.025	<0.025	<0.025	<0.025
9	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
10	2 - 3	05-May-03	<10.0	25.4	25.4	<0.025	<0.025	<0.025	<0.025
11	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
12	2 - 3	05-May-03	<10.0	27.5	27.5	<0.025	<0.025	<0.025	<0.025
13	2 - 3	05-May-03	56.6	3,610	3,667	<0.025	<0.025	<0.025	<0.025
	2 - 3	27-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
14	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
15	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025
16	2 - 3	05-May-03	<10.0	<10.0	<20.0	<0.025	<0.025	<0.025	<0.025

Notes: Analysis performed by Environmental Lab of Texas, Odessa, Texas
1. Feet: Sample depth below native ground surface
2. mg/kg Milligrams per kilogram
3. <: Concentration below test methoddetection limit

P.01

TRANSACTION REPORT

JUN-02-2003 MON 02:18 PM

FOR:

RECEIVE

DATE	START	SENDER	RX TIME	PAGES	TYPE	NOTE	M#	DP
JUN-02	02:17 PM	6877110	1'19"	5	RECEIVE	OK		

To: Martyne

From: Rodney Bailey

Chevron Texaco

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

March 26, 2003

Mr. Rodney Bailey
ChevronTexaco
15 Smith Road
Midland, TX, 79705

RE: Texaco E &P Inc.
OCD Rule 711 Permit Approval NM-02-0012
W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico

Dear Mr. Bailey:

The permit modification for the Texaco E&P Inc. (Texaco) centralized surface waste management landfarm facility located in the W/2 of Section 17, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico, **is hereby approved** in accordance with the New Mexico Oil Conservation Division (OCD) Rule 711 under the conditions contained in the enclosed attachment. **The OCD currently has on file an approved $50,000 blanket financial assurance for all of Texaco's centralized surface waste management facilities.** In the application for modification, dated December 10, 2002, Texaco stated that the depth to ground water at the facility exceeds 200 feet below ground surface and that they will not be hauling the remediated material off site for ground fill. Texaco has proposed only to use the cells for successive lifts once the cells have been remediated down to the authorized permit levels. Additional materials reviewed consists of the original application dated July 29, 1998, and the materials dated October 1, 1998, January 12, 1999, and June 4, 1999 submitted as supplements to the application.

The construction, operation, monitoring and reporting shall be as specified in the enclosed attachment. All modifications and alternatives to the approved landfarming methods must receive prior OCD approval. Texaco is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised that approval of this facility modification does not relieve Texaco E&P Inc. of liability should its operation result in actual pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Texaco E&P Inc. of responsibility for compliance with other federal, state or local laws and/or regulations.

Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered non-hazardous to migratory birds. In addition, OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs or open receptacles.

The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be inspected and reviewed by the OCD no later than five (5) years from the date of this approval.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office within five working days of receipt of this letter.**

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 476-3488.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/mjk

xc with attachments:
Hobbs OCD Office

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

March 11, 2003

Mr. Rodney Bailey
ChevronTexaco
15 Smith Road
Midland, TX, 79705

RE: Texaco E &P Inc.
Permit NM-02-0012
W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico

Dear Mr. Bailey:

The New Mexico Oil Conservation Division (OCD) has received the ChevronTexaco Annual report for 2002 dated July 10, 2002. The OCD has reviewed this report and has some concerns. These concerns were expressed to you during a phone conversation on November 13, 2002. The treatment zone monitoring results for TPH, chloride and some metals appear to be elevated when compared to background results.

Texaco must explain why the samples seem to indicate vertical migration of contaminants into the 2 to 3 foot monitoring zone. Texaco E &P Inc. must document 1) the type of equipment used and depth to which the plow/disc is reaching into the subsurface, 2) the sampling procedures and equipment used to take the treatment zone sample, 3) the depth at which the treatment zone samples have been taken, and 4) any differences in the laboratory or the analytical methods used.

During the next quarterly sampling event Texaco E &P Inc. must sample the soils below the turning depth of the equipment that has been used. Additional care must be taken with the sampling equipment so as to minimize cross contamination and contaminated soil from the surface falling back into the hole.

The next quarterly sampling results must be submitted to the OCD within 30 days from the receipt from the laboratory. If you have any questions please call me at 505-476-3488 or send me an e-mail mkieling@state.nm.us.

Sincerely,

Martyne J. Kieling
Environmental Geologist

cc: Hobbs District

Permian Business Unit
North America Upstream
15 Smith Road
Midland, TX 79705
Tel (915) 687-7251
Fax (915) 687-7110
bailerg@chevrontexaco.com

Rodney Bailey
HES Champion

ChevronTexaco

Date: December 13, 2002

New Mexico Oil Conservation Division
Environmental Bureau
P.O. Box 6429
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: ChevronTexaco Landfarm (#NM-02-0012)

Dear Ms. Kieling;

ChevronTexaco would like to petition the Oil Conservation Division to increase the parts per million of total petroleum hydrocarbon, for closing a cell, from 100ppm to 500ppm. Depth to groundwater in the area exceeds 200ft. and at this time soils from these cells will not be hauled off site for ground fill. It is our pan to use the existing cells for successive lifts of contaminated soils.

If the above mentioned increase in ppm is granted, ChevronTexaco would also like to petition for closure on cells 1,2,3,4,5,6,7,8,9,10,11,12,13,14,and 16 based on analysis stated in the annual report dated July 10, 2002.

If you have any question or additional information is needed please call me at 915-687-7251.

Sincerely,

Rodney Bailey
ChevronTexaco
HES Champion

STATE OF NEW MEXICO
ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

✓ Telephone ____ Personal Time 2:15 Date 11-13-02

Originating Party: Martyne Kieling
Other Parties: Rodney Bailey

Subject: Land Farm Treatment Zone Monitoring Results.

The results For the Treatment Zone Monitoring are curiously Elevated. Need to Check Sampling Method

Discussion: Rodney Said He would Check on the Sampling Methods as Far as Augering and [redacted] if the Contaminated Soil was First cleared away. Check on Depth of Samples and Depth that the Field Equipment is Digging to turn over the Soil. The Contaminated Soil May be Turned over into the Treatment Zone Depth and thus Showing These results.

I asked that they be very careful Next Quarter when Sampling to clear & take Samples below the turning Zone to make Sure they were Seeing the True Profile of the treatment zone monitoring.

Conclusions or Agreements: He would Get back to me. with Some Answers.

Distribution

Signed Martyne Kieling

Make copy

STATE OF NEW MEXICO
ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

✓ Telephone ____ Personal Time ~~7-25-00~~ 10:25 Date 7-25-00

Originating Party: Pat Macasland. For Texaco

Other Parties: Marilyn Kieling

Subject: Pipeline None, only Flow lines. on New Site Sec 3 No Structures Survey Done to begin Construction I.

Discussion: 3 inch Rain Fill up cell Repaired. Nothing left Site

Annual Report will Be a little late. Pat Has Sent Report to Roddy Bixby and he is out of town until 7-27-00 (Report Due Date)

Conclusions or Agreements: I approved that the Report Could be a little late. call was Appreciated

Distribution: Sec 17, Sec 3 Files

Signed: Marilyn Kieling

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

August 5, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-567

Mr. Rodney Bailey
Texaco E&P Inc.
205 East Bender
Hobbs, NM 88240

RE: Texaco E &P Inc.
OCD Rule 711 Permit Approval Letters NM-02-0012 NM-02-0013

Dear Mr. Bailey:

The original permit approval letters for the above referenced permits were returned to Oil Conservation Division by mistake. Please keep the originals for your records.

If you have any questions please contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

July 27, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-527

Mr. Rodney Bailey
Texaco E&P Inc.
205 East Bender
Hobbs, NM 88240

RE: Texaco E &P Inc.
OCD Rule 711 Permit Approval NM-02-0012
W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico

Dear Mr. Bailey:

The permit application for the Texaco E&P Inc. (Texaco) centralized surface waste management landfarm facility located in the W/2 of Section 17, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico, **is hereby approved** in accordance with the New Mexico Oil Conservation Division (OCD) Rule 711 under the conditions contained in the enclosed attachment. **This permit approval is conditional upon the receipt and approval by the Director of financial assurance in the amount of $25,000 for this facility or a $50,000 blanket financial assurance for all of Texaco's centralized surface waste management facilities.** Construction of the facility and/or receipt of contaminated soil shall not commence until the financial assurance has been approved by the Director. The application consists of the original application dated July 29, 1998, and the materials dated October 1, 1998, January 12, 1999, and June 4, 1999 submitted as supplements to the application.

The construction, operation, monitoring and reporting shall be as specified in the enclosed attachment. All modifications and alternatives to the approved landfarming methods must receive prior OCD approval. Texaco is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised approval of this facility does not relieve Texaco E&P Inc. of liability should your operation result in actual pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Texaco E&P Inc. of responsibility for compliance with

other federal, state or local laws and/or regulations.

Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered nonhazardous to migratory birds. In addition, OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs or open receptacles.

The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be inspected and reviewed by the OCD no later than five (5) years from the date of this approval.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office within five working days of receipt of this letter.**

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 827-7153.

Sincerely,

Lori Wrotenbery

Lori Wrotenbery
Director

LR/mjk

xc with attachments:
Hobbs OCD Office

ATTACHMENT TO OCD 711 PERMIT APPROVAL
PERMIT NM-02-0012
TEXACO E&P, INC.
SURFACE WASTE MANAGEMENT FACILITY
W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico
(July 27, 1999)

LANDFARM CONSTRUCTION

1. Construction must be commenced within one (1) year of the permit approval date or the permit will be canceled.

2. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.

3. Contaminated soils may not be placed within one hundred (100) feet of the neighboring property boundary or within twenty-five (25) feet of the facility boundary.

4 Contaminated soils may not be placed within twenty (20) feet of any pipeline or well pad and equipment including existing or former pit locations. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.

5. The portion of the facility containing contaminated soils must be bermed to prevent runoff and runon. A perimeter berm and individual cell berms no less than one and a half (1½) feet above grade must be constructed and maintained such that they are capable of containing precipitation from a one-hundred year flood for the specific region.

LANDFARM OPERATION

1. Disposal may occur only when an attendant is on duty. The facility must be secured when no attendant is present.

2. All contaminated soils received at the facility must be spread and disked within 72 hours of receipt.

3. Soils must be spread on the surface in twelve (12) inch lifts or less.

4. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance

biodegradation of contaminants.

5. Exempt contaminated soils must be placed in the landfarm so that they are physically separate (*i.e.*, bermed) from non-exempt contaminated soils. There may be no mixing of exempt and non-exempt soils.

6. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift is less than 100 parts per million (ppm), the sum of all aromatic hydrocarbons (BTEX) is less than 50 ppm, and benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations must be maintained at the facility. Authorization from the OCD must be obtained prior to application of successive lifts and/or removal of the remediated soils.

7. Moisture must be added as necessary to enhance bioremediation and to control blowing dust. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation must be removed within twenty-four (24) hours of discovery.

8. Enhanced bio-remediation through the application of microbes (bugs) and/or fertilizers requires prior approval from the OCD. Requests for application of microbes or fertilizers must include the location of the area designated for the program, the composition of additives, and the method, amount and frequency of application.

9. Landfarm inspection and maintenance must be conducted on a weekly basis or immediately following a consequential rainstorm or windstorm.

TREATMENT ZONE MONITORING

1. One (1) background soil sample must be taken from the center portion of the landfarm two (2) feet below the native ground surface prior to operation. The sample must be analyzed for total petroleum hydrocarbons (TPH), major cations/anions, volatile aromatic organics (BTEX), and eight (8) RCRA heavy metals using EPA-approved methods.

2. A treatment zone not to exceed three (3) feet beneath the landfarm native ground surface must be monitored. A minimum of one random soil sample must be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample must be taken at two (2) to three (3) feet below the native ground surface.

3. The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major

cations/anions and eight (8) RCRA heavy metals annually.

4. After obtaining the soil samples the boreholes must be filled with an impermeable material such as cement or bentonite.

WASTE ACCEPTANCE CRITERIA

1. The facility is authorized to accept only exempt and "non-hazardous" non-exempt oilfield wastes that are generated in the State of New Mexico by Texaco E&P, Inc.

2. The facility is authorized to accept only:

   a. Oilfield wastes that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403.

   b. "Non-hazardous" non-exempt oilfield wastes on a case-by-case basis after conducting a hazardous waste characterization including corrosivity, reactivity, ignitability, and toxic constituents. The samples for these analyses must be obtained from the wastes prior to removal from the point of origin and without dilution in accordance with EPA SW-846 sampling procedures. The test for hazardous characteristics for a particular waste may be effective for an extended period of time from the date of analysis if approved by the OCD. In addition the generator must certify that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403.

3. At no time may any OCD-permitted surface waste management facility accept wastes that are hazardous by either listing or characteristic testing

4. No free liquids or soils with free liquids may be accepted at the facility.

5. The transporter of any wastes to the facility must supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.

6. Comprehensive records of all material disposed of at the surface waste management facility must be maintained by the permit holder.

REPORTING AND RECORD KEEPING

1. Analytical results from the treatment zone monitoring including a sample location map will be submitted to the OCD Santa Fe office **by July 27 of each year**.

2. Background sample analytical results must be submitted to the OCD Santa Fe office **within thirty (30) days** of receipt from the laboratory.

3. The applicant must notify the **OCD Hobbs District office within 24 hours** of any fire, break, leak, spill, blowout or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.

4. All records of testing and monitoring must be retained for a period of five (5) years.

5. The OCD must be notified prior to the installation of any pipelines or wells or other construction within the boundaries of the facility.

FINANCIAL ASSURANCE

1. Pursuant to OCD Rule 711.B.3.a., financial assurance in a form approved by the Director is required from Texaco E&P, Inc. in the amount of **$25,000** for this facility or **$50,000** for all of Texaco E&P, Inc.'s centralized surface waste management facilities in the state.

2. Financial assurance must be submitted within thirty (30) days of this permit approval or on **August 27, 1999.**

3. The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be reviewed no later than five (5) years from the date of this approval.

CLOSURE

1. The OCD Santa Fe and Hobbs offices must be notified when operation of the facility is discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Upon cessation of landfarming operations for six (6) consecutive months, the operator must complete cleanup of constructed facilities and restoration of the facility site within the following six (6) months, unless an extension of time is granted by the Director.

2. A closure plan to include the following procedures must be submitted to the OCD Santa Fe office for approval:

a. When the facility is to be closed no new material will be accepted.

b. Existing landfarm soils will be remediated until they meet the OCD standards in effect at the time of closure.

c. The treatment zone soils beneath the landfarm cells will be characterized as to the total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content in order to determine potential migration of contamination beneath the facility.

d. The area will be contoured, seeded with native grasses and allowed to return to its natural state. If the landowner desires to keep existing structures, berms, or fences for future alternative uses the structures, berms, or fences may be left in place.

e. Closure will be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

CERTIFICATION

Texaco E&P, Inc., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Texaco E&P, Inc. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

TEXACO E&P, INC.

Signature _____ Title_____ Date _____

Texaco E & P
205 E. Bender Blvd.
Hobbs NM 88240
505 393 7191

Date: June 4, 1999

Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
Martyne J. Kieling
Environmental Geologist

RE: Texaco Exploration and Production, Inc. 711 Facility
W/2 of Section 17, Township 24S, Range 36E, NMPM,
Lea County, New Mexico.

Attached is the original certified affidavit of publication from both the Lovington Daily Leader and the Santa Fe New Mexican for the proposed land farm in section 17, T 24S, R 36E. Also attached is original Return Receipt from letters sent to surface owners of record with in one mile of the proposed facility and to the county commission. The letters sent to surface owners addressed the proposed land farm in section 3, T 24S, R 36E and section 17, T 24S, R 36E. If additional information is needed, please notify me at 505-397-0422. Texaco would appreciate immediate attention to this matter. Thank you.

Sincerely,

Rodney Bailey

Rodney Bailey
SH&E Professional
Texaco, Hobbs Operating Unit

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Deep Wells Ranch
Star Route
Combest Ranch
Jal, NM 88252

4a. Article Number
Z 577 009 065

4b. Service Type
☐ Registered ☑ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
5-27-99

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Kelly Myers

PS Form **3811**, December 1994 102595-98-B-0229 Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Whitten / Lee
4305 N. Garfield
Midland, TX. 79705

4a. Article Number
Z 577 009 062

4b. Service Type
☐ Registered ☑ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
5-26-99 RD

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Suzana Masters

PS Form **3811**, December 1994 102595-98-B-0229 Domestic Return Receipt

Thank you for using Return Receipt Service.

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Co. Extension Serv.
Courthouse
Drawer 10 C
Lovington NM 88260

4a. Article Number
Z 577 009 061

4b. Service Type
☐ Registered ☑ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
5-26-99 SM

5. Received By: *(Print Name)*
Anne Crawley

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Anne Crawley

PS Form **3811**, December 1994 102595-98-B-0229 Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Donald Whitten
Box 1713
Oracle, AZ 85623

4a. Article Number
Z 577 009 060

4b. Service Type
☐ Registered ☑ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
5-27-99 ST

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Donald Whitten

PS Form **3811**, December 1994 102595-98-B-0229 Domestic Return Receipt

Thank you for using Return Receipt Service.

The Santa Fe New Mexican

Since 1849. We Read You.

TEXACO E & P
ATTN: MARK BURT
205 E. BENDER
HOBBS, NM 88240

AD NUMBER: 87154 ACCOUNT: 01001
LEGAL NO: 65469 P.O.#:
151 LINES 1 time(s) at $ 98.21
AFFIDAVITS: 5.25
TAX: 6.47
TOTAL: 109.93

AFFIDAVIT OF PUBLICATION

NOTICE OF PUBLICATION

Notice is hereby given that pursuant to the New Mexico Oil Conservation Division Regulations, the following application has been submitted to the Director of the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

Texaco Exploration and Production Inc., Rodney Bailey, EH & S Coordinator, 205 East Bender, Hobbs, New Mexico, 88240, has submitted for approval an application to construct and operate a Rule 711 centralized landfarm soils remediation facility located in the W/2 of Section 17, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico. Hydrocarbon contaminated soils associated with Texaco's oil and gas production operations will be remediated by spreading them on the ground surface in 12 inch lifts or less and periodically disking them to enhance biodegradation of contaminants. Ground water most likely to be affected by any accidental discharges at the surface is at a depth of 170 feet to 195 feet with a total dissolved solids concentration of approximately 300 parts per million. The facility is underlain by Quaternary dune sands, alluvium and the Ogallala Formation. The Ogallala Formation rests unconformably upon Triassic and Cretaceous rocks. The permit application addresses the construction, operations, spill/leak prevention and monitoring procedures to be incorporated at the proposed site.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed application, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

If no hearing is held, the Director will approve or disapprove the application based on the information available. If a public hearing is held, the Director will approve the application based on the information in the application and information presented at the hearing.

Legal #65469
Pub. May 28, 1998

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, B Perner being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTE FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a Newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication #65469 a copy of which is hereto attached was published in said newspaper 1 day(s) between 05/28/1999 and 05/28/1999 and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 28 day of May, 1999 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/ Betsy Perner
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 27 day of May A.D., 1999

Notary B Mathie

Commission Expires 3-13-2001

OFFICIAL SEAL
B MATHIE
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled Notice of Publication

was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, for One(1) Day consecutive weeks beginning with the issue of May 26, 1999 and ending with the issue of May 26, 1999

And that the cost of publishing said notice is the sum of $ 49.96 which sum has been (Paid) as Court Costs

Joyce Clemens

Subscribed and sworn to before me this May 26, 1999

Notary Public, Lea County, New Mexico

My Commission Expires June 22, 2002

LEGAL NOTICE
NOTICE OF PUBLICATION

Notice is hereby given that pursuant to the New Mexico Oil Conservation Division Regulations, the following application has been submitted to the Director of the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

Texaco Exploration and Production Inc., Rodney Bailey, EH & S Coordinator, 205 East Bender, Hobbs, New Mexico, 88240, has submitted for approval an application to construct and operate a Rule 711 centralized landfarm soils remediation facility located in the W/2 of Section 17, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico. Hydrocarbon contaminated soils associated with Texaco's oil and gas production operations will be remediated by spreading them on the ground surface in 12 inch lifts or less and periodically disking them to enhance biodegradation of contaminants. Ground water most likely to be affected by any accidental discharges at the surface is at a depth of 170 feet to 195 feet with a total dissolved solids concentration of approximately 300 parts per million. The facility is underlain by Quaternary dune sands, alluvium and the Ogallala Formation. The Ogallala Formation rests unconformably upon Triassic and Cretaceous rocks. The permit application addresses the construction, operations, spill/leak prevention and monitoring procedures to be incorporated at the proposed site.

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If no hearing is held, the Director will approve or disapprove the application based on the information available. If a public hearing is held, the Director will approve the application based on the information in the application and information presented at the hearing.
Published in the Lovington Daily Leader May 26, 1999.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 29, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-508

Mr. Rodney Bailey
Texaco E & P, Inc.
205 East Bender
Hobbs, NM 88240

RE: Public Notice for Texaco Exploration and Production, Inc. 711 Facility W/2 of Section 17, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico.

Dear Mr. Bailey:

The New Mexico Oil Conservation Division (OCD), has received the Texaco Exploration and Production, Inc. (Texaco) application for a 711 waste management facility dated July 29, 1998. The application proposes the construction of a landfarm 711 facility. The facility is to be located in W/2 of Section 17, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico.

Based on the information provided with the application Form C-137 and additional information dated October 1,1998 and January 12, 1999, the OCD has prepared a public notice statement that Texaco must published in the Lovington Daily Leader and in the Santa Fe New Mexican newspapers. Texaco must send the original certified affidavit of publication from both the Lovington Daily Leader and the Santa Fe New Mexican to the OCD Santa Fe office and a copy to the appropriate District office.

If you have any questions please do not hesitate to contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

Attachments
xc: Hobbs OCD Office

NOTICE OF PUBLICATION

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NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 29, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-508

Mr. Rodney Bailey
Texaco E & P, Inc.
205 East Bender
Hobbs, NM 88240

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Sincerely,

Martyne J. Kieling
Environmental Geologist

Attachments
xc: Hobbs OCD Office

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Highlander Environmental Corp.
Midland, Texas

January 12, 1999

Ms. Martyne J. Kieling
Environmental Bureau
New Mexico EMNRD Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

RE: Request for Additional Information, Texaco Exploration and Production Inc., Centralized Landfarm Permit Application, West half of Section 17, T24S, R36E, Lea County, New Mexico

Dear Ms. Kieling,

Texaco Exploration and Production, Inc., (Texaco) has requested Highlander Environmental Corp. (Highlander) to respond to your request for additional information dated January 7, 1996. Attachment A presents a copy of the New Mexico Oil Conservation Division correspondence. The enclosed information is in response to your request for additional information. The items in particular which are addressed in this reply are as follows.

Item No. 2. Section three (3) Application Form C-137

A. On the original form C-137 submitted earlier, the legal description on the application was incorrectly given as W/2 of Sec. 17, Township 24 South, Range 34 East. Please find enclosed revised form C-137 of permit application with the corrected legal description as Range 36 East.

Item No. 4. Section five (5) Application Form C-137

A. Attached is a revised Figure 4 showing the surface owners within a one-mile radius of the proposed landform perimeter. Also included is a list of the names and addresses of the landowners of record.

MK 1-20-99

Landowners of Record within 1 mile

1) C. D. Woolworth Heirs
Jal Library
P. O. Box 178
Jal, New Mexico 88252

Sec. 7, 19, 20, 21

2) Whitten-Lee Ltd.
4305 N. Garfield, Suite 203
Midland, Texas 70705

Sec. 8, 9, 16 and SE/4,SE/4, Sec. 17

3) Texaco Exploration and Production
205 East Bender
Hobbs, New Mexico 88240

All of Sec. 17 (except SE/4, SE/4), 18 and NW/4, NE/4, Sec. 20

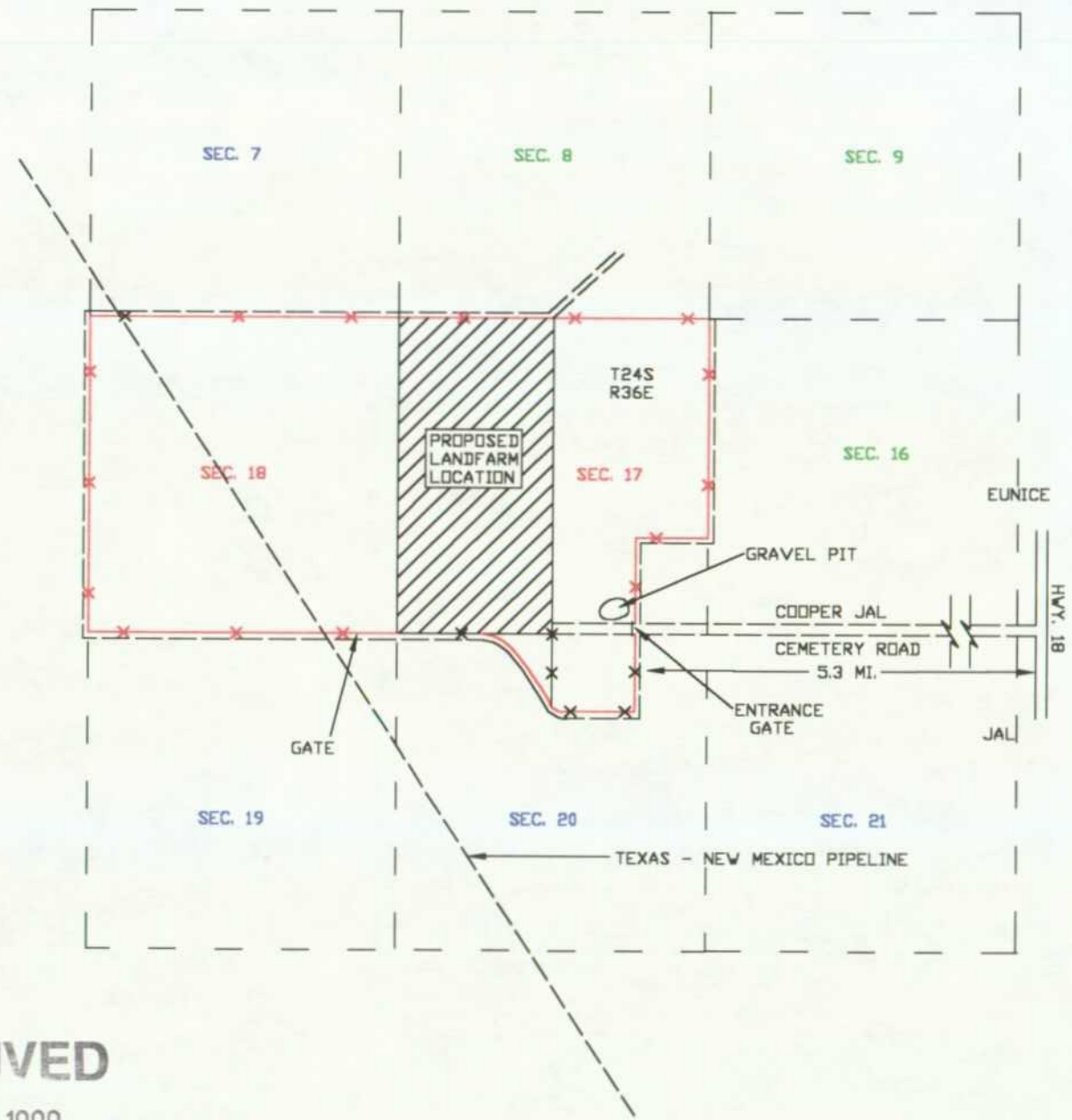
Please review the above information and call me at (915) 682-4559 if you have any questions or need additional information.

Sincerely,
Highlander Environmental Corp.

Michael A. Jacobs
Hydrogeologist

Encl

cc: Mr. Chris Williams, OCD District I, Hobbs, NM
Mr. Rodney Bailey, Texaco E&P, Inc., Hobbs, NM



LANDOWNERS OF RECORD WITHIN 1 MILE

C.D. WOOLWORTH HIERS
JAL LIBRARY
SEC. 7, 19, 20, 21

WITTEN-LEE LTD.
SEC. 8, 9, 16, & SE/4,SE/4, SEC. 17

TEXACO EXPLORATION & PRODUCTION
ALL OF SEC. 17 (EXCEPT SE/4,SE/4),
18 AND NW/4,NE/4, SEC. 20

NOT TO SCALE

DATE: 1/12/99
DWN. BY: JDA
FILE: C:\TEXACO\1026 VICINITY-MAP

FIGURE 4

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION & PRODUCTION, INC.

SITE VICINITY MAP

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 07, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-500

Mr. Rodney Bailey
Texaco E&P Inc.
205 East Bender
Hobbs, NM 88240

RE: Texaco E &P Inc. Landfarm Application Review
W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico

Dear Mr. Bailey:

The New Mexico Oil Conservation Division (OCD) has received and is in the process of reviewing the above referenced application for an oil field related commercial solids landfarm located in the W/2 of Section 17, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico. The following comments and requests for additional information are based on review of Texaco E&P Inc. application, dated August 29, 1998 and additional information provided.

In order for the review process to continue the OCD requires Texaco E&P Inc. to submit the additional information requested in Attachment 1. Submission of the requested information will allow the review process to continue.

If you have any questions please do not hesitate to contact me at (505) 827-7153.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc with attachments:
Hobbs OCD Office

ATTACHMENT 1
REQUEST FOR ADDITIONAL INFORMATION
JANUARY 07, 1999
TEXACO E&P, INC.
W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico.

1. Sections one, two, (1 and 2) Application Form C-137

   A. Texaco E&P Inc. (Texaco) has completed sections one and two (1 and 2).

2. Section three (3) Application Form C-137.

   A. Please specify the correct legal location there are two Ranges listed 34 East and 36 East.

3. Section four (4) Application Form C-137.

   A. Texaco has completed section four (4).

4. Section five (5) Application Form C-137.

   A. Please attach the names and addresses of all landowners of record within one mile of the site perimeter. There are only the landowners with in a ½ mile listed in Texaco's application.

5. Section six (6) Application Form C-137;

   A. Texaco has completed section six (6).

6. Section seven (7) Application Form C-137;

   A. The facility will be authorized to accept only exempt and "non-hazardous" non-exempt oilfield wastes that are generated in the State of New Mexico by Texaco E&P, Inc.

   B. The facility will be authorized to accept only:

      a. Oilfield waste that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403.

b. "Non-hazardous" non-exempt oilfield waste on a case-by-case basis after conducting a hazardous waste characterization including corrosivity, reactivity, ignitability, and toxic constituents and receiving OCD approval. The test for hazardous characteristics for a particular waste may be effective for an extended period of time from the date of analysis if approved by the OCD. In addition, the generator must certify that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403.

7. Section eight (8) Application Form C-137;

A. Texaco has completed section eight, nine, ten, and eleven (8, 9, 10, and 11).

8. Section twelve (12) Application Form C-137

A. Texaco shall give written notice of application to the surface owners of record within one (1) mile of the facility and the county commission where the facility is proposed to be located. A copy and proof (certified return receipts) of such notice will be furnished to the Division.

B. Texaco shall issue public notice in a form written by the Division in the Santa Fe New Mexican and the Lovington Daily Leader. The publication of notice will begin the 30 day public comment period.

9. Section Thirteen (13) Application Form C-137

A. Texaco has completed section thirteen (13).

10. Section fifteen (15) Application Form C-137

A. Texaco has completed section fifteen (15).

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 07, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-500

Mr. Rodney Bailey
Texaco E&P Inc.
205 East Bender
Hobbs, NM 88240

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W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico

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Sincerely,

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Environmental Geologist

xc with attachments:
Hobbs OCD Office

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REQUEST FOR ADDITIONAL INFORMATION
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TEXACO E&P, INC.
W/2 of Section 17, Township 24 South, Range 36 East, NMPM,
Lea County, New Mexico.

1. Sections one, two, (1 and 2) Application Form C-137

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2. Section three (3) Application Form C-137.

   A. Please specify the correct legal location there are two Ranges listed 34 East and 36 East.

3. Section four (4) Application Form C-137.

   A. Texaco has completed section four (4).

4. Section five (5) Application Form C-137.

   A. Please attach the names and addresses of all landowners of record within one mile of the site perimeter. There are only the landowners with in a ½ mile listed in Texaco's application.

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9. Section Thirteen (13) Application Form C-137

A. Texaco has completed section thirteen (13).

10. Section fifteen (15) Application Form C-137

A. Texaco has completed section fifteen (15).

Texaco

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 8:30	Date 1-12-99
Originating Party		**Other Parties**
(915)-682-4559 Highlander Environmental Mark Larson Mike Jacobs		Martyne Kicling

Subject Texaco Land Farm Permit Application

Discussion Answer Questions pertaining to the OCD Jan 7, 1999 Letter to Rodney Bailey

Clarifation of what was Asked For - H. will Reply with letter I can then write Public Notice.

Conclusions or Agreements

Distribution

Signed Martyne Kicling

Highlander Environmental Corp.
Midland, Texas

October 1, 1998

Fluid level on Northern Windmill 190' from surface

Mr. Rodney Bailey
EH&S Coordinator
Texaco E&P Inc.
205 East Bender
Hobbs, New Mexico 88240

RE: Whitten Sinkhole Investigation, Lea County, New Mexico.

Dear Mr. Bailey,

Texaco E & P Inc., contacted Highlander Environmental Corp. to sample water wells in the close vicinity of the recently formed sinkhole near Jal, Lea County, New Mexico. This sinkhole was reported to have been formed during the first week of September 1998. The sinkhole is located approximately 13 miles northwest of Jal, New Mexico in the NW/4, SW/4 of Section 9, Township 24 South, Range 36 East. The topographic map extract of the site location is shown in Figure 1.

On September 16, 1998 Highlander visited the sinkhole site. The approximate diameter of the sinkhole was estimated at 125 feet. The bottom of the sinkhole could not be seen from the sinkhole sides to estimate the depth. Texaco E & P Inc., installed fence around the sinkhole. The sinkhole appeared to be active at the time of the visit. A plugged oil & gas well marker was found at 75 feet west of the sinkhole.

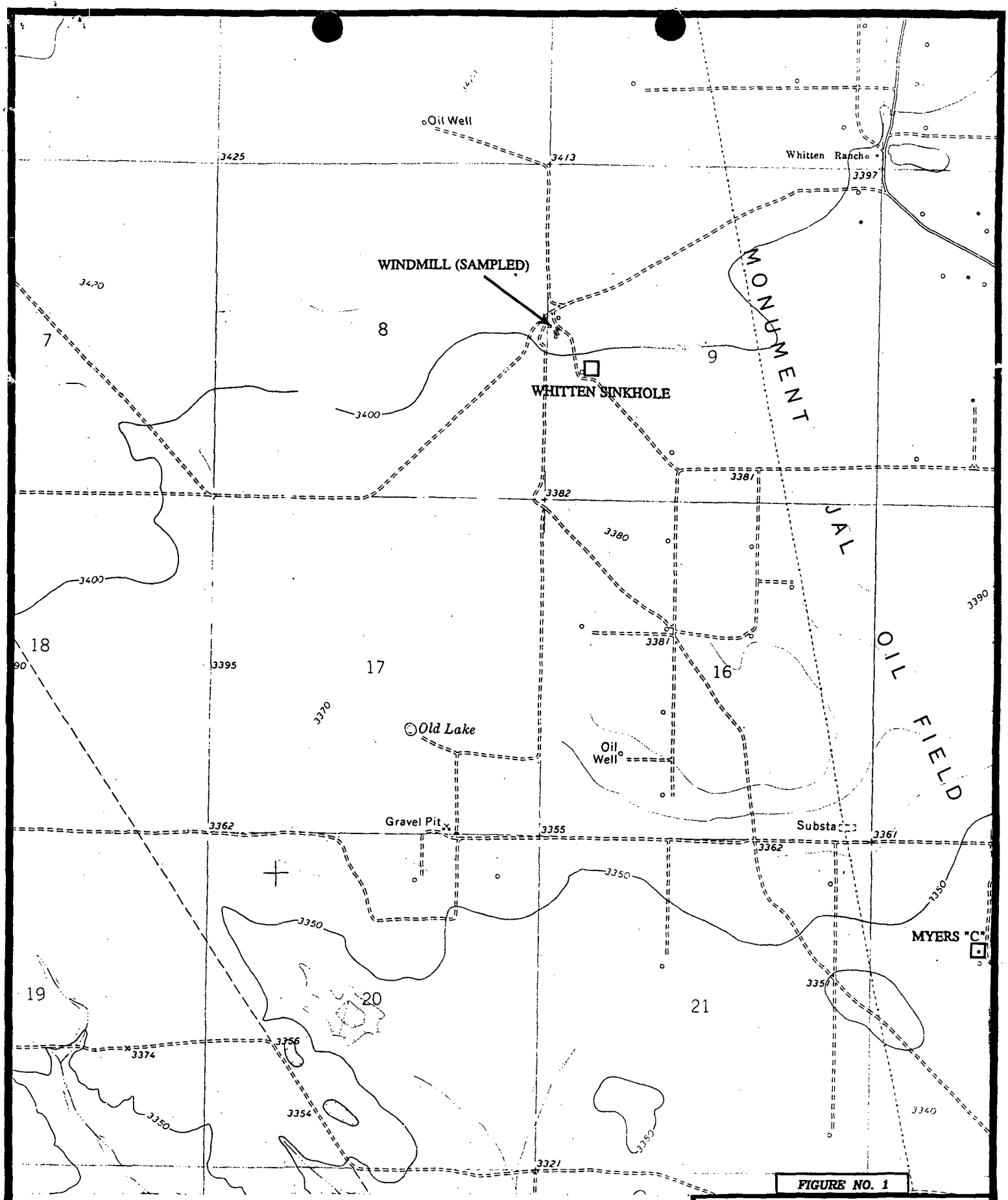
An abandoned cattle yard with abandoned windmills and a stock tank was found approximately 800 feet northwest of the sinkhole. The stock tank is 20 feet in diameter and was filled with water. This stock tank receives water from a water well at the Whitten Ranch house. The two abandoned windmills are located 30 feet apart. The windmill to the north was sampled on September 16, 1998 for benzene, toluene, ethylbenzene, and xylene (BTEX), and major ions. The sample results did not show any detectable levels of BTEX. The total dissolved solids (TDS) content of 240 mg/l was reported for the windmill sample. The laboratory reports and chain of custody documents are attached.

The fresh groundwater in the general area of the site occurs in the Ogallala formation. The groundwater depth at the windmill was measured at 189 feet below the top of the casing. The sample results did not show any impact on the regional groundwater quality because of the sinkhole.

Sincerely,

V. Jay Kurki

Vijay K. Kurki, P.E., REP
Environmental Engineer



TAKEN FROM U.S.G.S.
CUSTER MOUNTAIN, NM
7.6' QUADRANGLE

SCALE: 1"=2000'

FIGURE NO. 1

LEA COUNTY, NEW MEXICO

TEXACO

EXPLORATION & PRODUCTIION INC.

WHITTEN SINKHOLE TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention Vijay Kurki
1910 N. Big Spirng St.
Midland TX 79705

Date: Sep 30, 1998
Date Rec: 9/18/98
Project: 1184
Proj Name: Whitten Sink Hole Investigation
Proj Loc: N/A

Lab Receiving # : 9809000322
Sampling Date: 9/16/98
Sample Condition: Intact and Cool
Sample Received By: VW

TA#	Field Code	MATRIX	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
107613	WM-North	Water	<0.001	<0.001	<0.001	<0.001	<0.001
Method Blank			<0.001	<0.001	<0.001	<0.001	
Reporting Limit			0.001	0.001	0.001	0.001	
QC			0.108	0.107	0.110	0.322	
Regs —			.01	.75	.75	.62	
RPD			4	4	4	5	
% Extraction Accuracy			112	110	114	113	
% Instrument Accuracy			108	107	110	107	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTEX	EPA 5030	9/17/98	EPA 8021B	9/17/98	CS	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

9-30-98
Date

Sent By: TRACEANALYSIS; 7941298; 30 Sep '98 2:25PM; Job 412; Page 4/4

TRACEANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

September 30, 1998
Receiving Date: 09/18/98
Sample Type: Water
Project No: 1184
Project Location: NA

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Vijay Kurki
1910 N. Big Spring Street
Midland, TX 79705

Sampling Date: 09/16/98
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco E & P
Project Name: Whitten Sink Hole Investigation

		Regs —	1.6	250	600	10 (nitrate)			1000
TA#	FIELD CODE	pH* (s.u.)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)	N03-N (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03	TDS (mg/L)
T107613	WM - North	7.9	0.39	83	2.0	<0.01	68	<1.0	240
ICV		7.0	2.2	11	11	0.113	1,220	1,140	---
CCV		7.0	2.2	11	11	0.132	1,200	1,100	---
RPD		0	4	1	1	4	0	0	1
% Extraction Accuracy		---	90	88	87	99	---	---	---
% Instrument Accuracy		100	90	91	93	85	96	96	102
REPORTING LIMIT		---	0.5	0.5	0.5	0.01	1.0	1.0	10
PREP DATE		09/18/98	09/23/98	09/23/98	09/23/98	09/23/98	09/22/98	09/22/98	09/22/98
ANALYSIS DATE		09/18/98	09/23/98	09/23/98	09/23/98	09/23/98	09/22/98	09/22/98	09/22/98

***NOTE: Out of holding time.**

METHODS: EPA 150.1, 300.0, 353.3, 310.1, 160.1.
CHEMIST: pH: SA FLUORIDE/CHLORIDE/SULFATE/N03-N: JS ALKALINITY/TDS: RS
FLUORIDE SPIKE: 12.5 mg/L FLUORIDE.
FLUORIDE CV: 2.5 mg/L FLUORIDE.
CHLORIDE SPIKE: 62.5 mg/L CHLORIDE.
CHLORIDE CV: 12.5 mg/L CHLORIDE.
SULFATE SPIKE: 62.5 mg/L SULFATE.
SULFATE CV: 12.5 mg/L SULFATE.
N03-N SPIKE: 1.333 mg/L N03-N.
N03-N CV: 1.333 mg/L N03-N.

Director, Dr. Blair Leftwich

9-30-98
Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

September 30, 1998
Receiving Date: 09/18/98
Sample Type: Water
Project No: 1184
Project Location: NA

ANALYTICAL RESULTS FOR
HIGHLANDER SERVICES CORP.
Attention: Vijay Kurki
1910 N. Big Spring Street
Midland, TX 79705

Prep Date: 09/22/98
Analysis Date: 09/22/98
Sampling Date: 09/16/98
Sample Condition: Intact & Cool
Sample Received by: VW
Client Name: Texaco E & P
Project Name: Whitten Sink Hole Investigation

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)	HARDNESS (mg/L CaC03)
T107613	WM - North	12	6.3	27	46	93
ICV		25	25	25	25	---
CCV		25	24	24	24	---
Reporting Limit		0.50	0.50	0.50	0.50	---
RPD		0	2	2	1	---
% Extraction Accuracy		114	110	110	109	---
% Instrument Accuracy		100	96	96	96	---

METHODS: EPA 200.7, SM 2340B.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM
CV: 25 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM

BH

Director, Dr. Blair Leftwich

5-30-98

Date

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: Texaco E&P

SITE MANAGER: VIJAY KURKI

PROJECT NO.: 1184 (1182)

PROJECT NAME: Whitten Sink hole investigation

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST: BTEX 8020/602	MTBE 8020/602	TPH	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Cations & Anions
	9/16/97	3:15 PM	W	✓		WM - North	2		✓		✓		✓																	
	9/16/97	3:15 PM	W	✓		WM - North	2				✓	✓																	✓	

RELINQUISHED BY: (Signature) [illegible] Date: 9/17/97 Time: 2:35 PM
RECEIVED BY: (Signature) Helen Shelton Date: 9/17/97 Time: 2:35 PM
SAMPLED BY: (Print & Sign) VIJAY KURKI Date: 9/16/97 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL # OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace Analysis
ADDRESS:
CITY: Lubbock STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

HIGHLANDER CONTACT PERSON: VIJAY KURKI

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

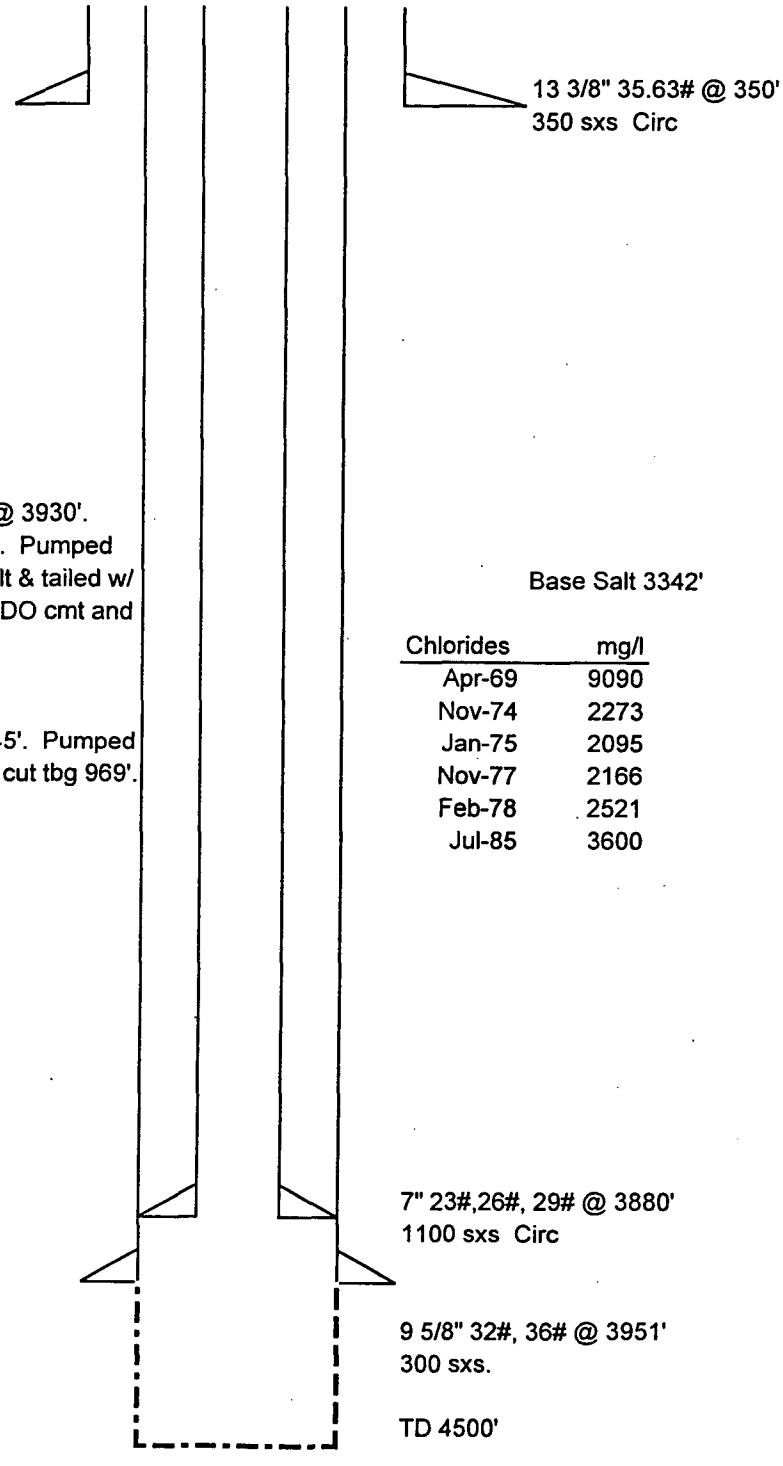
REMARKS: Please RUSH - ASAP

4 samples - HS

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

Jal Water System #1
Unit M 1313 FSL, 1310 FWL
Sec 16, T24 S, R36 E

Original TD OH 3951'-4500'



13 3/8" 35.63# @ 350'
350 sxs Circ

8/11/67 - Spudded
Dec-73 Reda Failure
Apr-74 Reda Failure
Jun-74 Reda Failure
Aug-74 Reda Failure
Jan-75 Reda Failure
Jun-76 Reda Failure
Jul-76 Reda Failure
Nov-76 Reda Failure
Jun-78 Reda Failure
Sep-78 Reda Failure
Sep-79 Ran 9 5/8" DV Bridge Basket @ 3930'. Plugged back OH. Ran 7" csg. Pumped 800 sxs HOWCO lite w/10# salt & tailed w/ 300 sxs Class H w/ 2% CaCl. DO cmt and CO to 4500'. Set REDA 1882'
Oct-79 Reda Failure
Oct-80 Cable burnt. Pump set 3092'.
Feb-81 Reda Failure. Pump stuck 1045'. Pumped 4000# Castic Soda. Chemical cut tbg 969'. Recut 950'. Jarred out.
Mar-81 Reda failed.
Apr-81 Reda failed.
Aug-81 Reda failed.
Dec-81 Reda failed.
Apr-82 Reda failed.
Apr-84 Reda failed.
Mar-88 Reda failed.

Base Salt 3342'

Chlorides	mg/l
Apr-69	9090
Nov-74	2273
Jan-75	2095
Nov-77	2166
Feb-78	2521
Jul-85	3600

7" 23#,26#, 29# @ 3880'
1100 sxs Circ

9 5/8" 32#, 36# @ 3951'
300 sxs.

TD 4500'

Jal Water System #2
Unit L 1980 FSL, 660 FWL
Sec 9, T24 S, R36 E

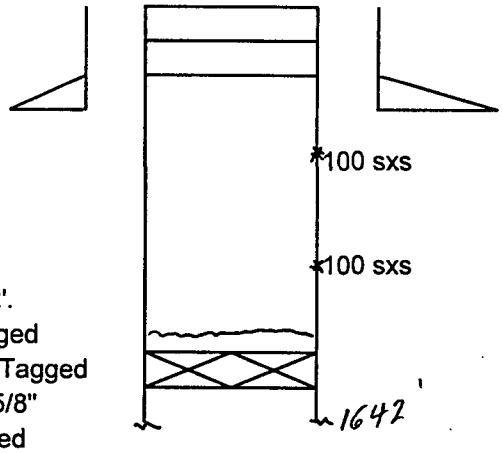
OH 3890'-4500'

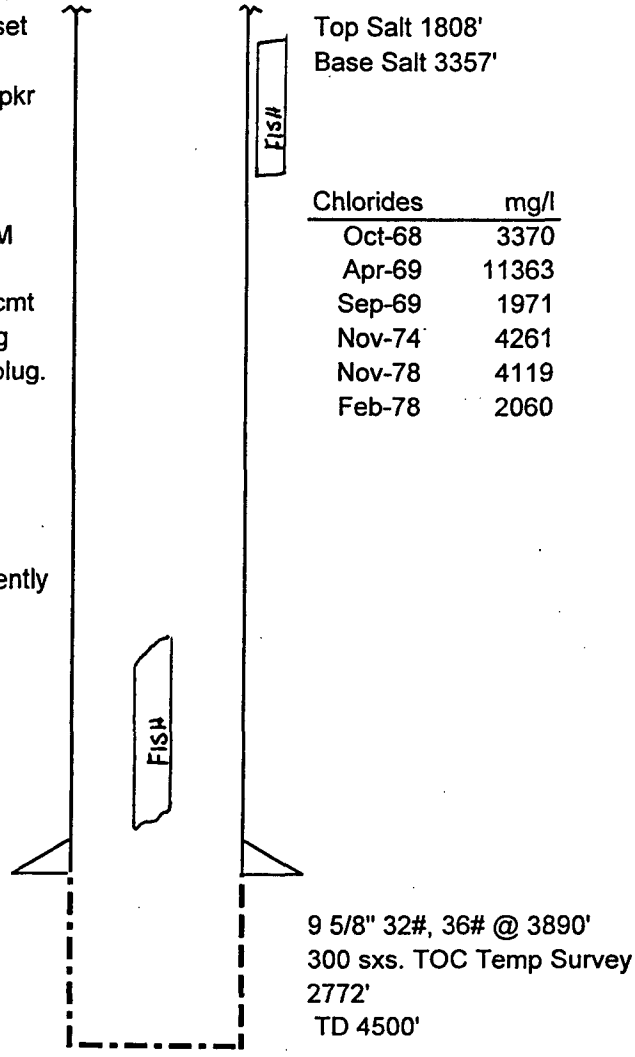
10/3/67 - Spudded -

Jul-77 Reda failure
Nov-77 Reda failure
Aug-69 Ran impression block. Tagged 1632'. Ran swage and tagged 1632'. Swaged 1640'. Stopped. Ran 6" lead block. Tagged 1642'. Show collapsed csg. Ran 8 5/8" concave mill and tagged 1605'. Milled to 1693'. Hanging up. Ran 4 1/2" taper mill and tagged 1693'. Tan 9 5/8" CIBP and set 1550'. Loaded hole and spotted 50 sxs cmt 1550-1418. Perf 2 holes 1250'. Ran pkr and set 1140'. Pumped 4.5 bbls at 400#, 100sxs Class c w/ 2% CaCL. Displaced 1190'. Perf 2 holes 400'. Ran pkr 323'. Pumped 40 bbls into perfs at 400 at 5 BPM with good blow out Bradenhead. Pumped 100sxs Class C w/2% CaCL. Displaced cmt to 364'. WOC 3 hrs. Pumped 100sxs plug 414-74. Tagged @ 72'. Spotted 10' cmt plug. Installed PA marker.

Left in hole

Reda pump, motors @ 4433'
1'- 2 7/8" tbf sub and set of
hydraulic jars and impression block apparently outside of 9 5/8" csg at approx 1778'.





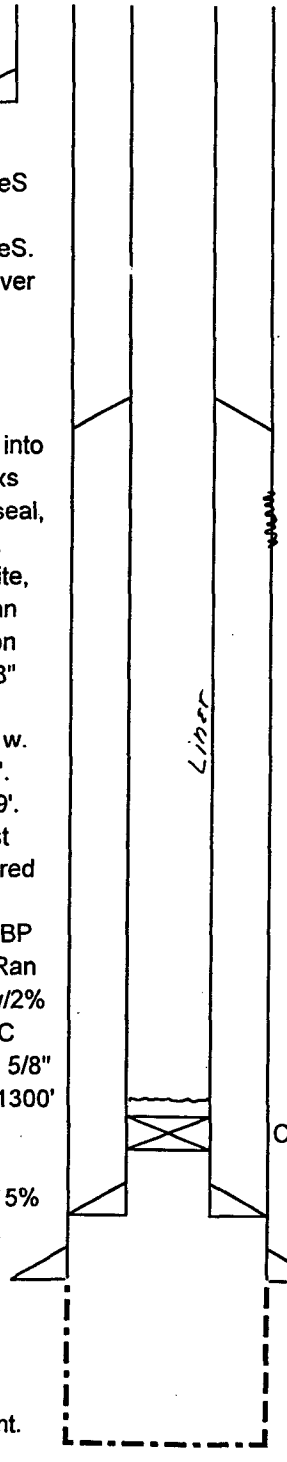
Top Salt 1808'
Base Salt 3357'

Chlorides	mg/l
Oct-68	3370
Apr-69	11363
Sep-69	1971
Nov-74	4261
Nov-78	4119
Feb-78	2060

Jal Water System #3
Unit N 1313 FSL, 1327 FWL
Sec 4, T24 S, R36 E

Original OH 3875'-4500'

1/30/68 Spudded
Sep-71 CO 3552'-4500'. Recovered silt, sand, FeS
Aug-73 CO 3875'-4500'. Set pump 1859'.
Apr-78 CO 3880'-4500'. Recovered sand, silt, FeS. Spotted 2000 gals 28% ISA-ASOL acid over OH. Swabbed. Pumped 3200 gals 15% LT-ISA acid, 4000 gals wtr pad, 500 gals corrosion inhibitor and 1500# rock salt. Set REDA 1854'.
Jun-78 Casing leak found 1851'-1871'. Pumped into 150 bbls fresh at 5 BPM. Pumped 500 sxs Halite, 15% salt, 15# Gilsonite, 1/2# flowseal, 300 sxs Class c 2/ 2% CaCl. Still leaked. Pumped 300 sxs w/.3% CaCL, 5# Gilsonite, 1/4# flowseal @ 6BPM. DO to 3004'. Ran 8 3/4" impression block. Tagged restricion 3004'. Swaged in casg found. Ran 8 5/8" teppered milled to 3013'. Milled to 3016'. Hit tight spot. Workstring parted. Fished w. overshot, Ran new mill and tagged 3016'. Milled to 3019'. Found csg. Pinched 3019'. Ran cutrite shoe and milled to 3024'. Lost Circ. Found fishing neck on BP. Recovered BP. Ran Reda 1723'.
Jun-79 Tagged fill 3875'. Co to 3939. Set 9 5/8' BP 3847'. Dumped sand and cmt to 3830'. Ran 7" csg to 3818'. Cmt w.700sxs Class H w/2% CaCL and 8sxs flocele. Temp Survey TOC 1600'. Cmt w/200 sxs Class C down 7"-9 5/8" annulus on vacuum. TOC Temp Survey 1300' Tested annulus to 750# . Held.
Sep-79 Reda failure.
Jan-80 CaCO3 scale in OH. Acidi w/ 5000 gals 15%
Sep-80 Spotted 2700 gals 15% & 1900 gals 15%.
Dec-81 CaCO3 scale. Motor burnt.
Dec-83 Motor burnt.
Jul-84 Reda failure.
Apr-85 Reda failure.
Apr-86 Reda failure.
May-95 Ran CIBP @ 3790' and capped w/ 35" Cmt. Tested to 500# for 30 Min.



13 3/8" 35.63# @ 350'
275 sxs Circ

TOC 1300' Temp Survey

Leaks on 9 5/8" 1851-1871
Sq 1100 sxs.

Base Salt 3320'

Chlorides	mg/l
Jun-69	3871
Sep-69	3871
Jan-75	4580
Dec-77	18465
Feb-78	165474

CIBP @ 3790'. Capped 35' Cmt.

7" 20# @ 3818'
700 sxs TOC 1300' TS

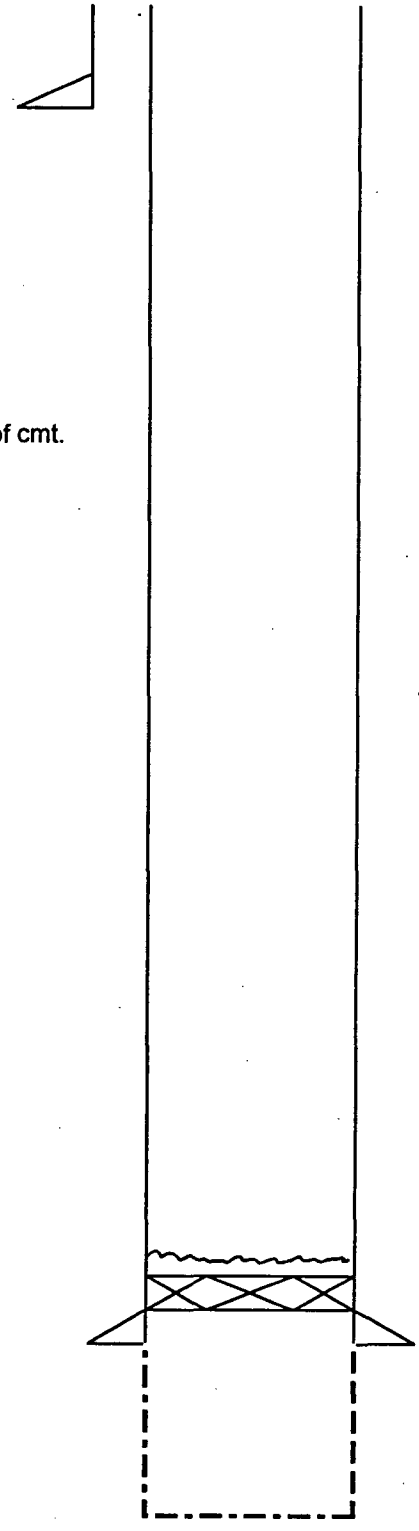
9 5/8" 32#, 36# @ 3875'
300 sxs.TOC 2375' TS

TD 4500'

Jal Water System #4
Unit B 1313 FNL, 1327 FEL
Sec 16, T24 S, R36 E

OH 3849'-4500'

3/28/72 Spudded
Jun-78 Reda Failure
May-79 Reda Failure
Apr-80 Reda Failure
Sep-80 Ran new 5 1/2" csg for tubing
Feb-82 Reda Failure
May-83 Reda Failure
Aug-84 Reda Failure
May-95 Set CIBP 3734' and capped w/ 35' of cmt.
Tested 500# for 30 min.



13 3/8" 48# @ 359'
400 sxs Circ

Base Salt 3283'

Chloride	mg/l
Nov-77	3977
Feb-78	4261
Jun-79	3409

CIBP 3734' capped w/ 35' cmt.

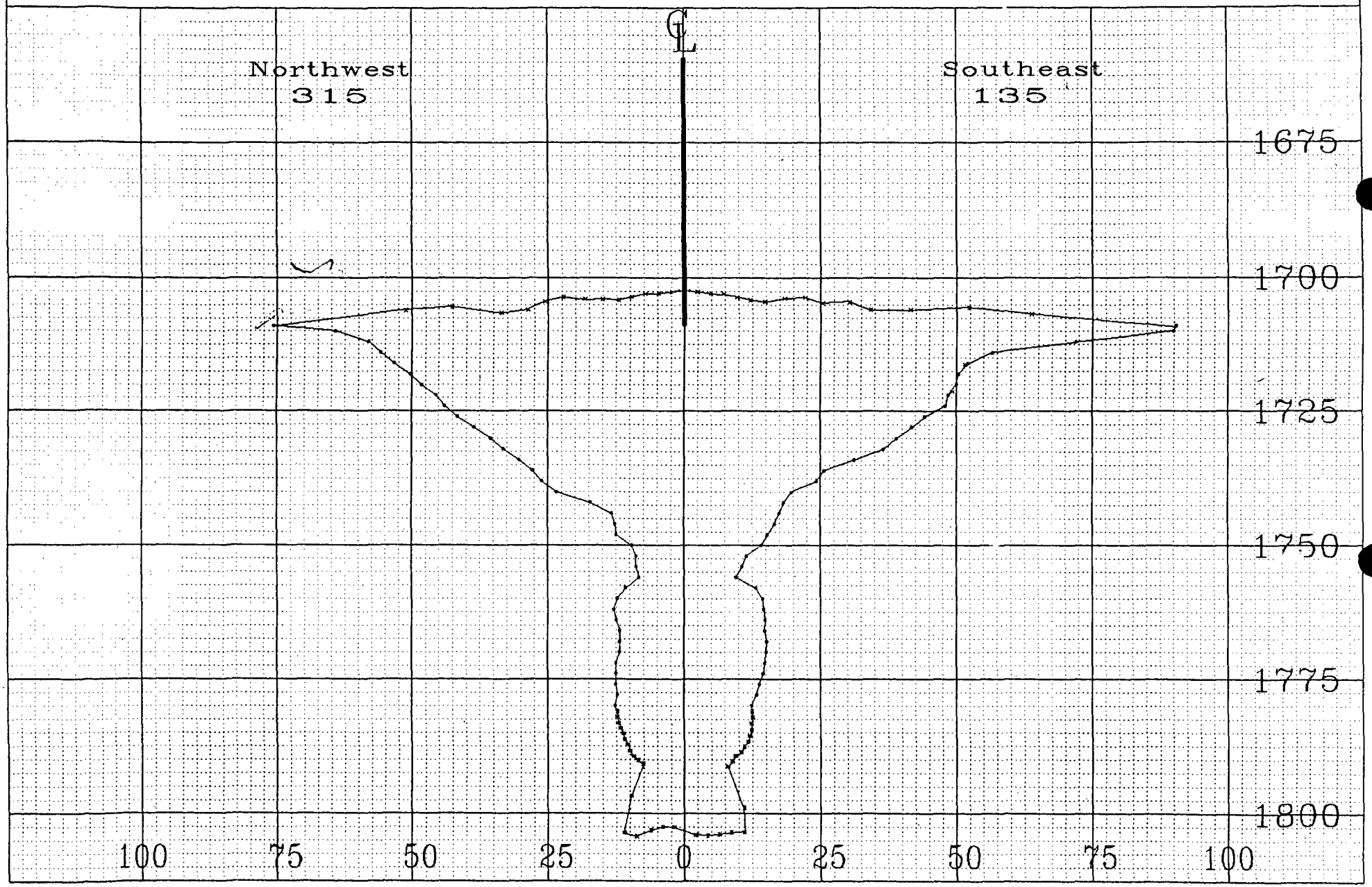
9 5/8" 40#, 36# @ 3849'
1340 sxs. Circ.

TD 4500'

Texaco E & P Inc.
Well No: 5

VERTICAL CROSS SECTION

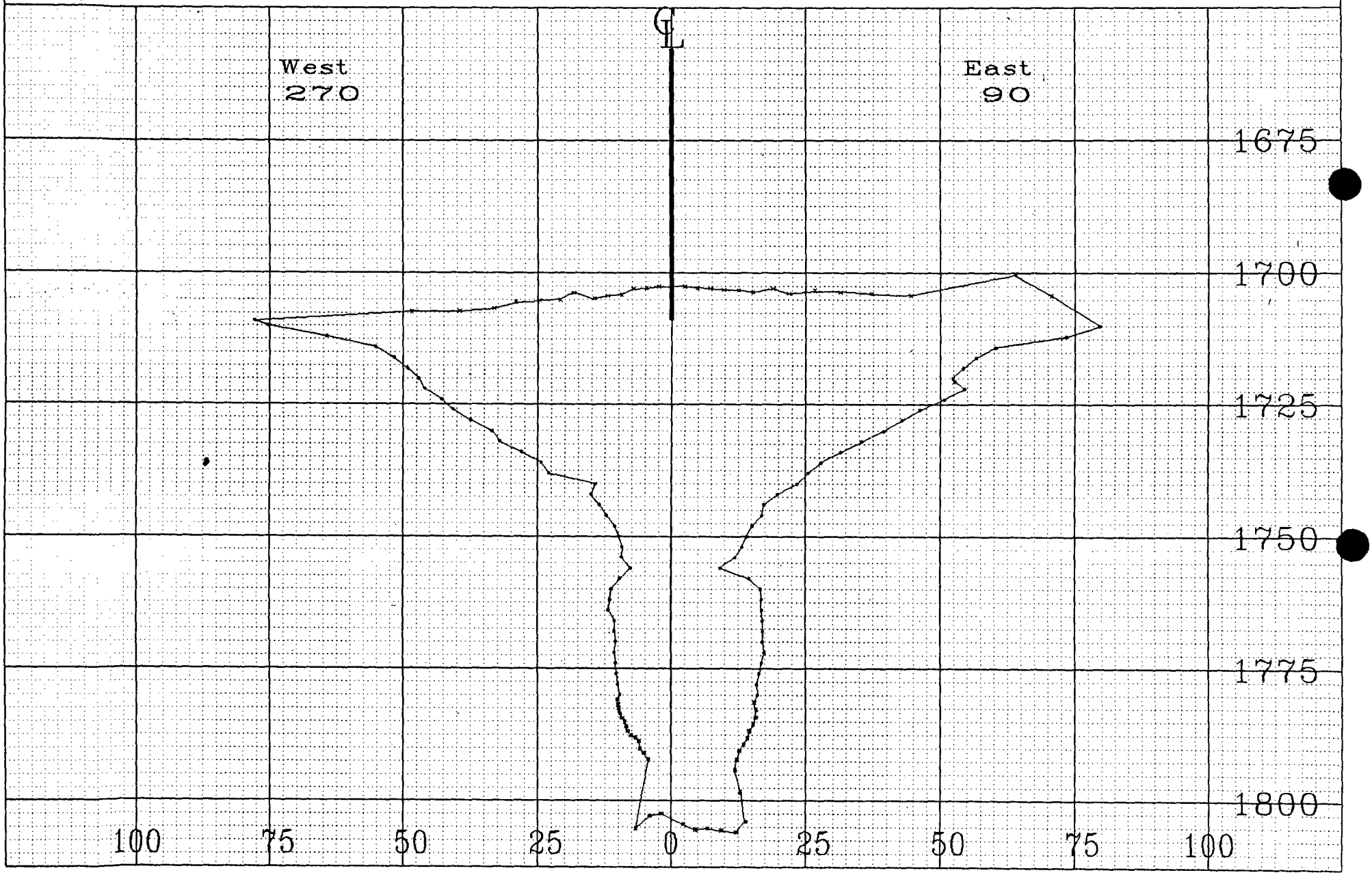
Jal Water System Water Source
May 22,1995
Job Number - 4376



Texaco E & P Inc.
Well No: 5

VERTICAL CROSS SECTION

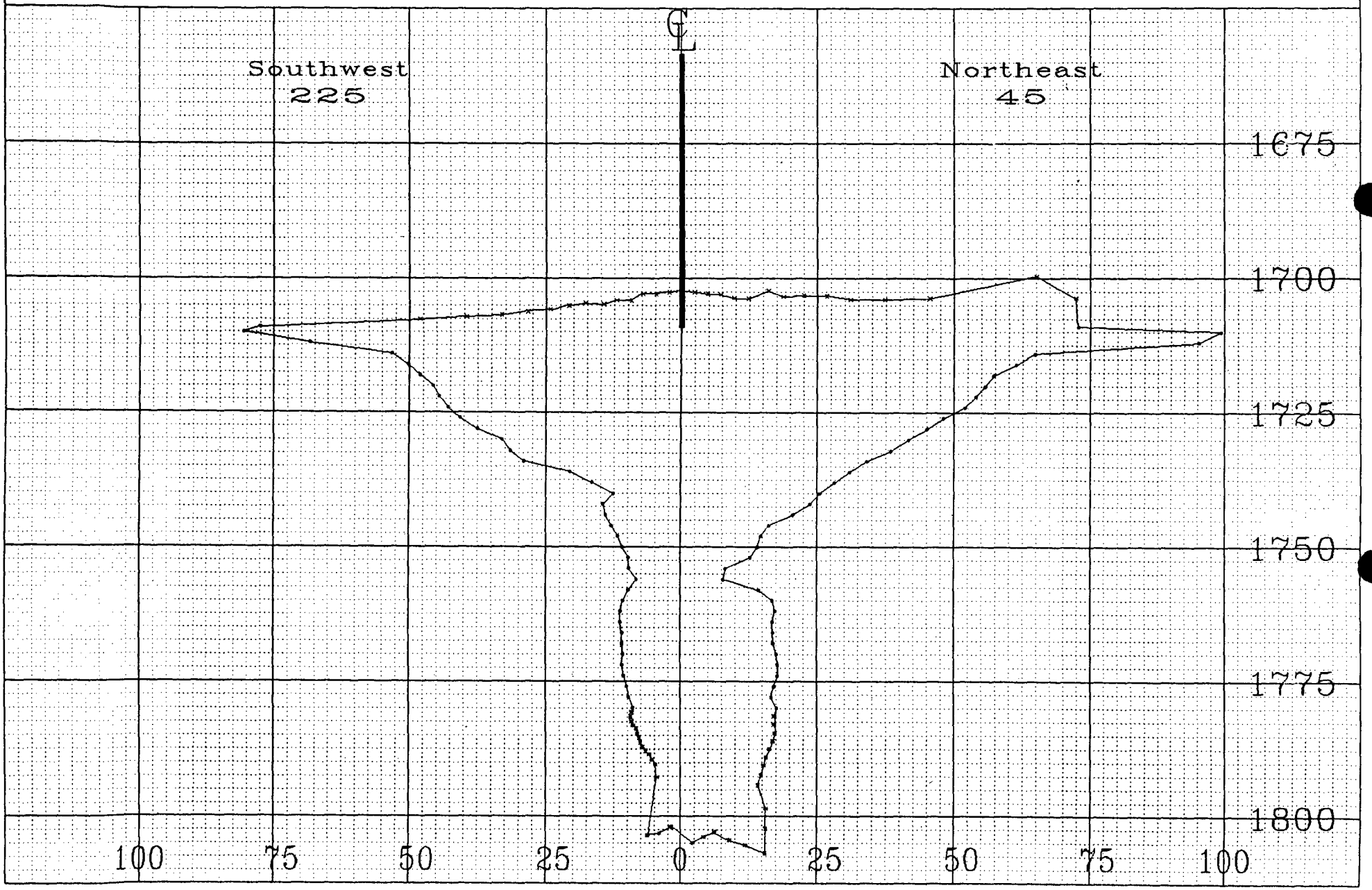
Jal Water System Water Source
May 22,1995
Job Number - 4376



Texaco E & P Inc.
Well No: 5

VERTICAL CROSS SECTION

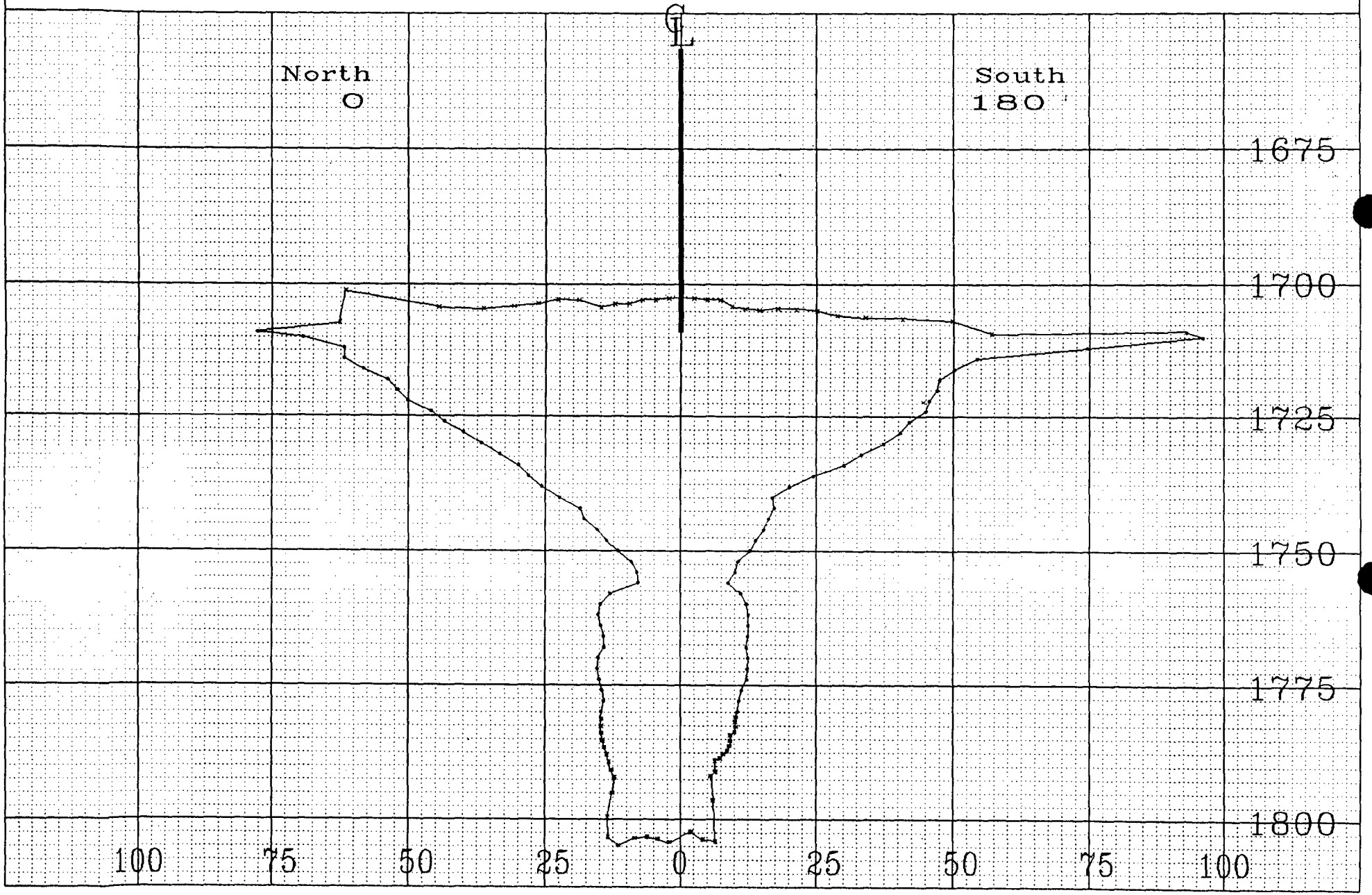
Jal Water System Water Source
May 22,1995
Job Number - 4376



Texaco E & P Inc.
Well No: 5

VERTICAL CROSS SECTION

Jal Water System Water Source
May 22,1995
Job Number - 4376



TEXACO E&P INC
Jal Water System #5
API #30-025-20852
660 FNL & 1980 FWL Unit Letter C
SEC 16, TWN 24 S, Range 36 E
Elevation: 3374' GL
Completion Date: 9-04-64
****

TD: 4,500' PBTD: 3,833'
Comp. Interval: 3,733'--41' & 3,743'--47' (7 rvrs)
TRT: 500 gal mud acid
IP: 318 BOPD, 210 BWPD thru 24/64" chk
FIP-400#
***

9-28-70 SQZD 7 RVRS w/200sx cmnt.
deepened to 4500'.
Openhole 3870 - 4500 (Capitan Ree
TRT: None
IP: 19,200 BWPD (PMP @ 2012')

6-30-79 HIT @ 371'; Bad PMP; Replaced and set @ 1817'.

3/80 HIT 1 jt above bleeder. Repaired PMP and set @ 1816'

3/80 Another HIT @ 1273'. Repaired PMP and set @ 1816'

4/'80 Flat cable burnt and sliced. Repaired and set @ 1816'

7/'80 Protector & Cable bad. Repaired and set PMP @ 1829'

8/'80 Cable spliced in two

10/'80 HIT @ 657'. Placed pmp @ 1820'.

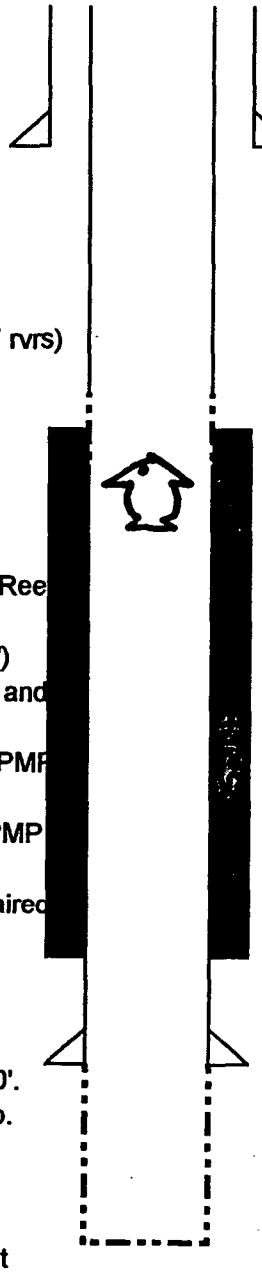
11/'81 Motor Burnt & shaft twisted in two. PMP back at previous depth

10/'83 thrust bearing out and pump tight

1/'84 Motor Burnt, pmp tight, cable bad

7/'84 PMP pulled apart at collar. Left at 1759'. Ram impression block, indicated rip in casing @ 1714'. Ran tbg OE to tag pmp at 1759'. Ran string mill & milled 1-1/2' and quit. POH left 7' stinger in hole.

4/'95 Attempted to pull pmp but failed. Left 4-DC's, jars, & mill in hole



13-3/8"; 38#; J-55 set @ 350'
300 sx cement, 100' est TOC

1,700' - 1,806' 20" OD hole
30' + Washout
1,730' Top of Salt

3,340' Bottom of Salt

9-5/8"; 36#; J-55 set @ 3,870'
300 sx, TOC by TS @ 2,740'

8-3/4" OH to 4,500'

SWS #1
Fluid level
23 Jts.
756.

DATE: 9/17/98

To. ROGER ANDERSON / BILL OLSON

.....

From

WAYNE PRICE - ENVIRONMENTAL ENGR. - NMOCD DISTRICT I

Energy & Minerals Department

Telephone Number 505-393-6161 FAX # 505-393-0720

- [X] For Your Files
- [ ] Prepare a Reply for My Signature
- [ ] For Your Review and Return
- [ ] For Your Information
- [ ] For Your Handling
- [ ] For Your Approval
- [ ] As Per Your Request
- [ ] For Your Signature
- [X] Please Advise
- [X] For Your Attention

JAL - SINKHOLE NEAR PROPOSED TEXACO LANDFARM !

TOTAL # of PAGES INCL. COVER 3

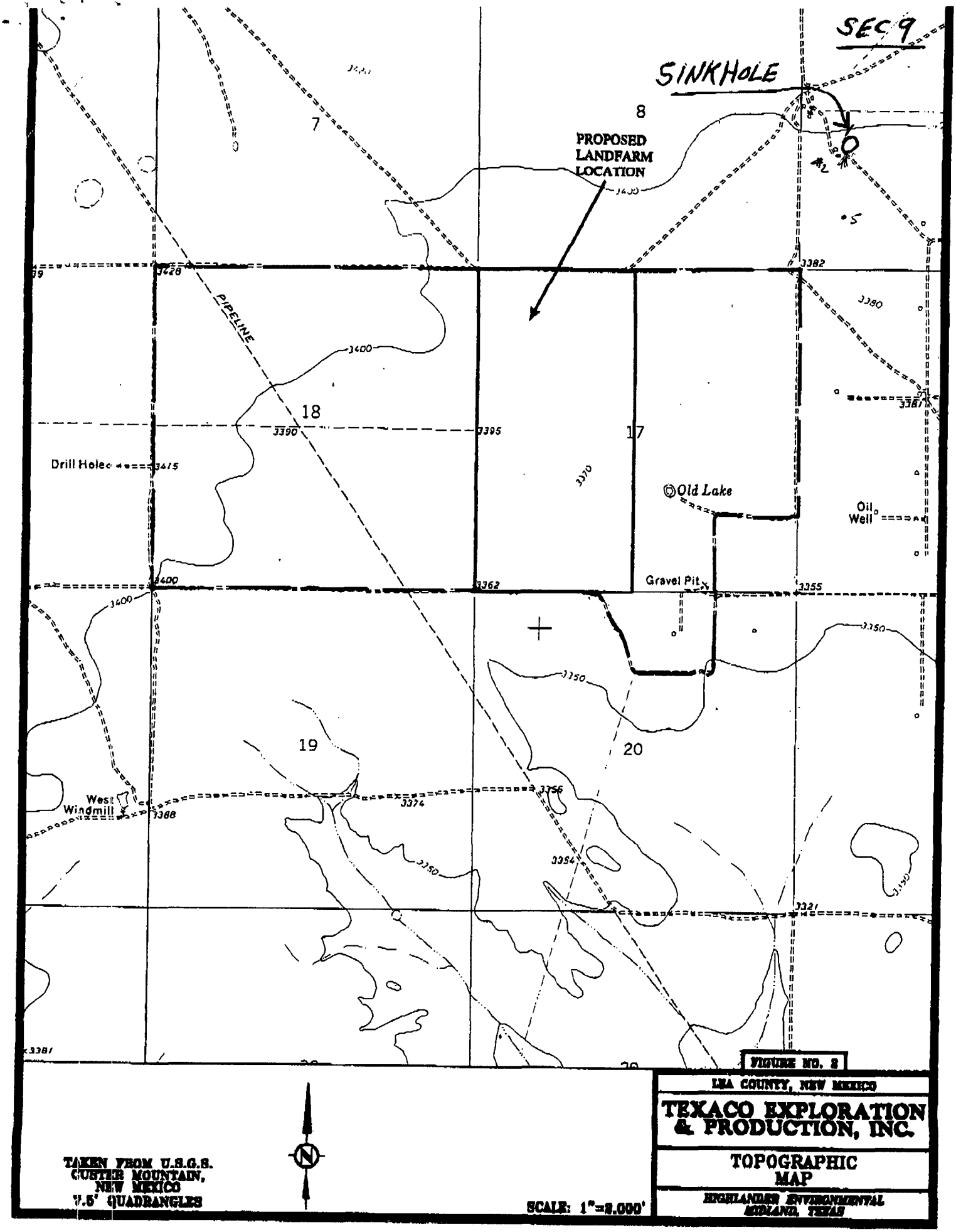


FIGURE NO. 2

LEA COUNTY, NEW MEXICO

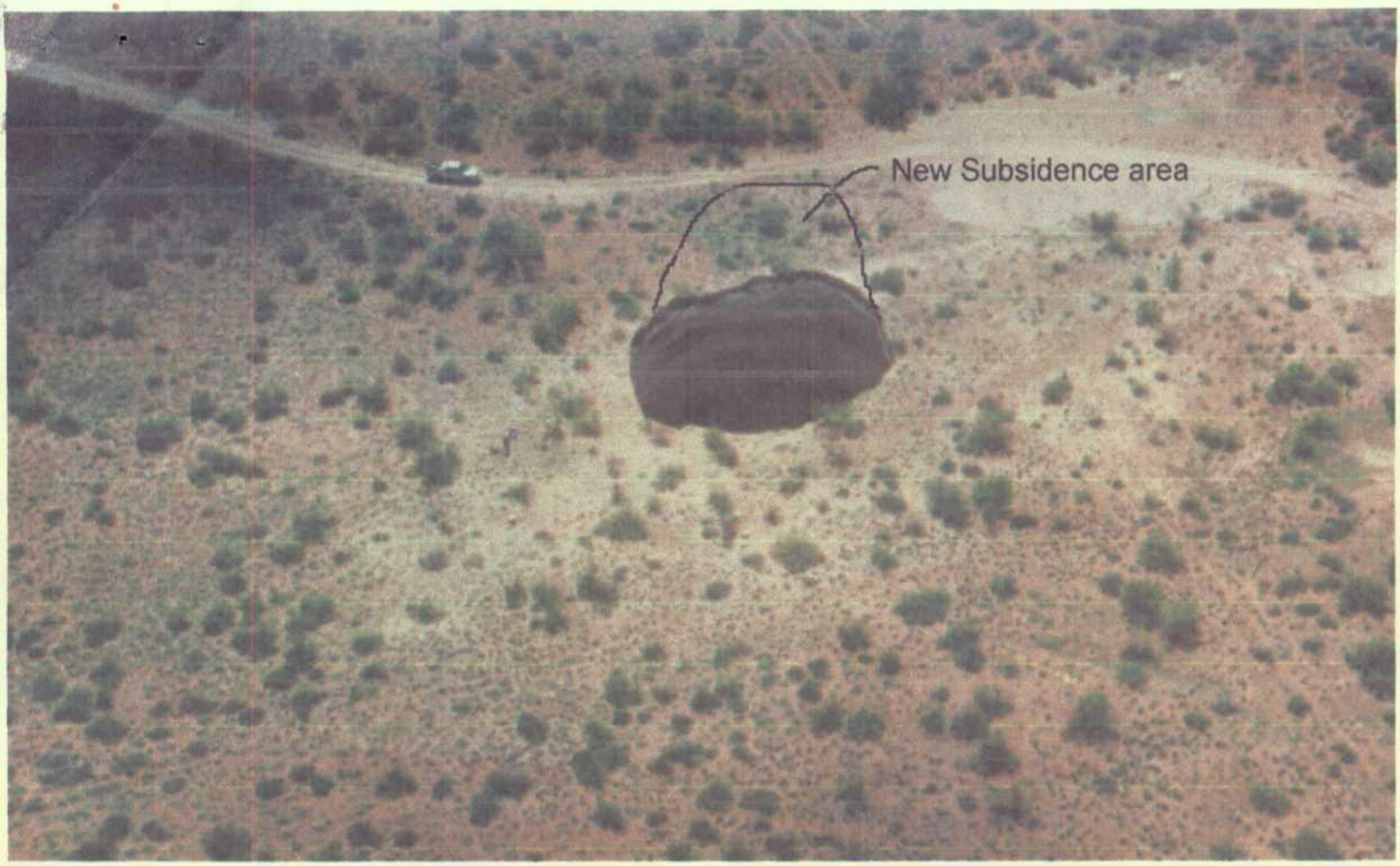
TEXACO EXPLORATION & PRODUCTION, INC.

TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

TAKEN FROM U.S.G.S.
CUSTER MOUNTAIN,
NEW MEXICO
7.5' QUADRANGLES

SCALE: 1"=2,000'



To Martyne
From Paul Kautz

Texaco Data
on WSW's
near sink hole

Highlander Environmental Corp.

Midland, Texas

July 29, 1998

Mr. Roger Anderson
Environmental Bureau
New Mexico EMNRD Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

RE: Texaco E&P Inc., Centralized Landfarm Permit Application
West half of Section 17, T24S, R34E
Lea County, New Mexico

R36E

Dear Mr. Anderson,

Please find enclosed Form C-137 for the above-referred centralized landfarm site. This application and associated documentation was forwarded to you on behalf of Texaco Exploration and Production, Inc. An original and copy of the Form C-137 documentation has been enclosed.

Please call if you need more information.

Sincerely,
Highlander Environmental Corp.

Vijay Kurki

Vijay K. Kurki, P.E., REP
Environmental Engineer

Enol

cc: Mr. Wayne Price, OCD District I, Hobbs, NM
Mr. Rodney Bailey, Texaco E&P, Inc., Hobbs, NM

RECEIVED
Hobbs OCD

Please Deliver This Fax To:

BJ Kurk?

(915) 682-3946

From:

Martyne Kieling

(505) 827-7153

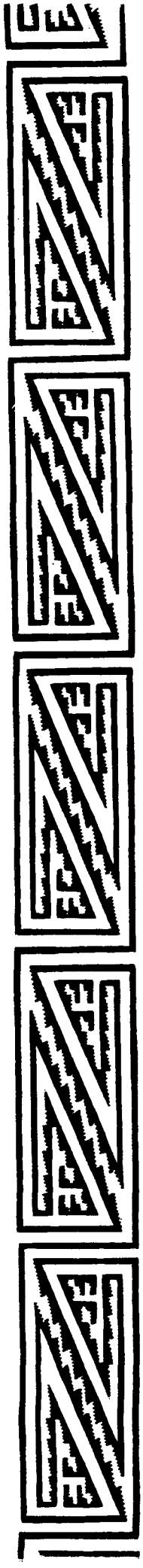
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505
(505) 827-7131 Office
(505) 827-8177 Fax

Date: 6-25-98

Pages: 1 of 6

Subject: Precipitation For Jal NM

(If you have trouble receiving this fax, please call the phone number above.)



NMERDI 2-72-4523

NEW MEXICO CLIMATE MANUAL: SOLAR AND WEATHER DATA

Principal Investigators:
W. Scott Morris
Keith W. Haggard

Contributors:
Raymond J. Bahm
Earl K. Fosdick
Loren W. Crow

November 1985

New Mexico Energy Research and Development Institute

Most of the temperature and precipitation data are taken from the "Monthly Climate Summaries" furnished by the Office of the State Climatologist. The standard deviations of monthly mean temperatures were taken from NCDC records: 1951-1980. The design temperatures were developed from the most recent 25 years of NCDC weather records using the graphical method proposed by Loren W. Crow in "Study of Weather Design Conditions for ASHRAE, Inc.," Research Project No. 23, 1963.

SECTION II: DESCRIPTION OF PRECIPITATION DATA

The precipitation data are given as long-term, means and extremes on a monthly and annual basis. The data are derived from the daily weather observations recorded at 63 stations in New Mexico. Except for El Paso, these were furnished by the New Mexico State Climatologist in the "Monthly Climate Summaries."

TOTAL PRECIPITATION - MEAN

Definition These data consist of the long-term means of monthly and annual total precipitation. Total precipitation refers to accumulated precipitation amounts over the specified period (i.e., month or year). Precipitation refers to all types of hydrometeors, such as snow, hail, rain, etc. It is the measure of the liquid water content of all hydrometeors. For example, ten inches of snow is equal to approximately one inch of liquid water. Units are inches of liquid water.

Data Source The means of total precipitation are derived from the daily totals measured by a properly exposed raingauge.

Accuracy Wind and local obstructions can introduce uncertainty in precipitation measurements. The use of these values at sites other than where they were measured can result in significant errors, especially in the mountainous areas of the state.

TOTAL PRECIPITATION - HIGH

Definition These data consist of the highest monthly and annual values of total precipitation. These values represent the wettest months and year on record.

Total precipitation refers to accumulated precipitation amounts over the specified period (i.e. month or year). Precipitation refers to all types of hydrometeors, such as snow, hail, rain, etc. It is a measure of the liquid water content of all hydrometeors. For example, ten inches of snow is approximately equal to one inch of liquid water. Units are inches of liquid water.

Data Source Monthly and annual values of total precipitation are derived from the daily totals measured by a properly exposed raingauge.

Accuracy Winds and local obstructions can introduce uncertainty in all precipitation measurements. The use of these values at sites other than where they were measured can sometimes result in significant errors, especially in the mountainous areas of the state.

TOTAL PRECIPITATION - 24-HR MAX

Definition These data consist of the greatest total precipitation amount measured over a 24-hour period for the month and the greatest 24-hour amount within the several years of records used.

Total precipitation refers to accumulated precipitation amounts over the specified period (i.e. month or year). Precipitation refers to all types of hydrometeors, such as snow, hail, rain, etc. It is a measure of the liquid water content of all hydrometeors. For example, ten inches of snow, in most cases, is approximately equal to one inch of liquid water. Units are inches of liquid water.

Data Source These extreme values are derived from the daily totals of precipitation measured by a properly exposed raingauge.

Accuracy Winds and local obstructions can introduce uncertainty in all precipitation measurements. The use of these values at sites other than where they were measured can sometimes result in significant errors, especially in the mountainous areas of the state.

Application In sizing rain gutters and storm drainage systems, designers require the greatest rainfall intensity that can be expected at a particular building site. The maximum 24-hour precipitation total should not be used to represent the greatest rainfall intensities, since the 24-hour totals will usually have fallen in a time period much less than 24 hours. For example, during a severe summer rainstorm at Las Cruces on August 29, 1935, 6.49 inches fell in 24 hours. Of that 6.49 inches, 1.06 inches came down in ten minutes: a very high intensity.

Rainfall intensities for durations shorter than 24 hours can be estimated using a procedure described in Precipitation -Frequency Atlas of the Western United States: Volume IV - New Mexico. This report is published by the National Oceanic and Atmospheric Administration (NOAA).

TOTAL SNOWFALL - MEAN

Definition These data consist of the long-term means of monthly and annual, total snowfall. "Total snowfall" refers to the total amount of fresh snowfall over the specified period (i.e., month or year). The depth of fresh snow is measured after each snowfall, and later totaled for the month or year. Units are inches of fresh snow.

"Snowfall" should not be confused with "snowdepth", which is the depth of accumulated snow on the ground.

For most New Mexico locations, fresh snow usually does not remain on the ground for more than a few days. However, at locations near 8,000 feet or higher, snow begins to accumulate on the ground over the winter season.

Data Source The mean total snowfall values are tabulated from daily snowfall totals. Daily snowfall is measured with either a raingauge stick or ruler.

TABLE 34 CLIMATE DATA SUMMARY

FOR JAL

LATITUDE: 32° 06'

LONGITUDE: 103° 12'

ELEVATION: 3060 ft.

PERIOD OF RECORD: 1932-1981
Period applies to the temperature and precipitation data. For information on data sources, see p.85.

PRECIPITATION

MONTH	TOTAL PRECIPITATION (INCHES WATER) MEAN	HIGH	24-HR MAX	TOTAL SNOWFALL (INCHES) MEAN	HIGH
JAN	0.45	3.30	0.95	2	12
FEB	0.39	2.13	0.78	1	7
MAR	0.37	1.76	1.08	1	6
APR	0.67	3.15	2.20	0	0
MAY	1.34	3.21	2.47	0	0
JUN	1.22	3.45	2.21	0	0
JUL	1.62	5.73	2.09	0	0
AUG	1.81	6.06	3.99	0	0
SEP	1.93	7.64	4.00	0	0
OCT	1.22	6.90	5.64	0	0
NOV	0.41	3.30	0.84	1	16
DEC	0.38	2.12	0.54	1	8
ANN	11.86	21.00	5.64	5	17

TEMPERATURE (°F)

MONTH	LONG-TERM AVERAGES MAX	MIN	MEAN	STANDARD DEVIATION OF MEANS	HEATING DEG.-DAYS (base 57°F)	HEATING DEG.-DAYS (base 65°F)	COOLING DEG.-DAYS (base 70°F)	COOLING DEG.-DAYS (base 75°F)	ALL-TIME EXTREMES HIGH	LOW	MONTHLY MEAN EXTREMES HIGH	LOW
JAN	60	28	44	3.45	411	652	0	0	85	-11	52	35
FEB	66	32	49	3.40	243	451	0	0	89	-6	56	43
MAR	73	38	56	3.41	129	298	6	0	98	10	62	49
APR	82	48	65	2.84	13	89	29	7	102	22	70	58
MAY	89	56	73	2.08	0	5	122	40	107	34	78	69
JUN	97	65	81	2.07	0	0	331	189	112	40	86	76
JUL	97	68	83	2.39	0	0	404	256	112	50	86	78
AUG	96	66	81	2.15	0	0	343	197	110	50	85	77
SEP	89	60	75	2.49	0	0	171	78	108	38	80	67
OCT	81	48	65	2.63	11	86	26	6	100	20	69	59
NOV	69	36	52	3.31	191	396	0	0	88	8	61	46
DEC	62	29	46	2.77	346	589	0	0	84	3	51	40
ANN	80	48	64		1344	2566	1432	773	112	-11	65	62

SUMMER DESIGN TEMPERATURES

DESIGN DRY BULB (°F) 0.1%	0.5%	2.0%	DAILY TEMPERATURE RANGE	DESIGN WET BULB (°F) 0.1%	0.5%	2.0%	MEDIAN SUMMER WET BULB
105	102	99	29	74	72	71	67

WINTER DESIGN TEMPERATURES

MEDIAN OF ANNUAL EXTREMES	DESIGN DRY BULB 0.2%	0.6%	COINCIDENT WIND SPEED
8	13	17	L

NOTE: The percentage levels are based on the total number of hours in a 365 day year (8760 hours).

For explanations of this table see: p.86 for precipitation; p.90 for temperature; and p.98 for design temperatures.

STATE OF
NEW MEXICO

OIL
CONSERVATION
DIVISION

WM-2-12

Please Return 1 of 1

MARTYNE J. KIELING
ENVIRONMENTAL GEOLOGIST

1220 SOUTH ST. FRANCIS DRIVE
SANTA FE, NM 87505
OFFICE: (505) 476-3488
FAX: (505) 476-3462
E-MAIL: mkieling@state.nm.us
WEB: http://www.emnrd.state.nm.us/ocd

Highlander Environmental Corp.

Midland, Texas

July 29, 1998

Mr. Roger Anderson
Environmental Bureau
New Mexico EMNRD Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

RE: Texaco E&P Inc., Centralized Landfarm Permit Application
West half of Section 17, T24S, R34E
Lea County, New Mexico —R36E mk

Dear Mr. Anderson,

Please find enclosed Form C-137 for the above-referred centralized landfarm site. This application and associated documentation was forwarded to you on behalf of Texaco Exploration and Production, Inc. An original and copy of the Form C-137 documentation has been enclosed.

Please call if you need more information.

Sincerely,
Highlander Environmental Corp.

Vijay Kurki

Vijay K. Kurki, P.E., REP
Environmental Engineer

Encl

cc: Mr. Wayne Price, OCD District I, Hobbs, NM
Mr. Rodney Bailey, Texaco E&P, Inc., Hobbs, NM

1910 N. Big Spring • Midland, Texas 79705 • (915) 682-4559 • Fax (915) 682-3946

District I - (505) 393-6161
P.O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C-137
Originated 8/8/95

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to appropriate
District Office

APPLICATION FOR WASTE MANAGEMENT FACILITY

(Refer to the OCD Guidelines for assistance in completing the application)

☐ Commercial ☒ Centralized

1. Type: ☐ Evaporation ☐ Injection ☐ Other
   ☒ Solids/Landfarm ☐ Treating Plant
2. Operator: TEXACO E & P INC.
   Address: 205 East Bender, Hobbs, NM 88240
   Contact Person: Rodney Bailey Phone: (505)397-0422
3. Location: ~~—~~ W/2 Section 17 Township 24South Range 34 East
   Submit large scale topographic map showing exact location
4. Is this a modification of an existing facility? ☐ Yes ☒ No
5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.
6. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.
7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.
8. Attach a contingency plan for reporting and clean-up for spills or releases.
9. Attach a routine inspection and maintenance plan to ensure permit compliance.
10. Attach a closure plan.
11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.
12. Attach proof that the notice requirements of OCD Rule 711 have been met.
13. Attach a contingency plan in the event of a release of H_2S.
14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.
15. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Rodney Bailey Title: EH & S Coordinator

Signature: Rodney Bailey Date: 4-29-98

SOIL REMEDIATION/LANDFARM FACILITY
LEA COUNTY, NEW MEXICO

TABLE OF CONTENT

APPLICATION FOR WASTE MANANAGEMENT FACILITY
SOIL REMEDIATION/LANDFARM FACILITY
LEA COUNTY, NEW MEXICO

OWNED AND OPERATED BY:
TEXACO EXPLORATION AND PRODUCTION, INC.

1.0 TYPE OF OPERATION

A Centralized Soil remediation/landfarm facility

2.0 OPERATOR:

Texaco E & P, Inc.
205 East Bender
Hobbs, New Mexico 88240

Contact Person: Rodney Bailey
Phone Number: (505) 397-0422

3.0 LOCATION OF LANDFARM

The proposed waste management facility is located in southern Lea County, New Mexico approximately 13 miles northwest of Jal, NM. Figure 1 and 2 show the site location on 15 minute and 7 ½ minute quadrangle topographic maps respectively.

The landfarm facility will be located in the west half (W/2) of Section 17, Township 24 South, Range 36 East. An aerial photograph of the general vicinity of the site is shown in Figure 3.

Drive-to-Direction to the facility: From the intersection of Hwy. 128 and Hwy. 18 in Jal, NM go 6.2 miles north on Hwy. 18. Turn west and drive 5.3 miles on Jal Cooper Cemetery road to the proposed location.

4.0 EXPANSION REQUEST

This application is for a new facility, not an expansion request.

5.0 LAND & OWNERSHIP

Texaco E & P, Inc.
205 East Bender
Hobbs, New Mexico 88240

Texaco E & P Inc., owns Section 17 (except the SE/4 of SE/4), Section 18 and approximately 45 acres of Section 20 adjoining Sec. 17 (see Figure 4). The area owned by Texaco is fenced all around.

Landowners of Record Within ½ Mile

1) C.D. Woolworth Heirs
   Jal Library
   Box 178
   Jal, New Mexico 88252
   Sec. 7, 19 & 20

2) Witten-Lee Ltd.
   4305 N. Garfield, Suite 203
   Midland, Texas 79705
   Sec. 8 & 16

Section 16 STATE MINERALS

There are no residences, public buildings or facilities within one mile of the site. Topographic map extract of the site location is included as Figure 1 and Figure 2. The aerial photograph of the site location is included as Figure 3.

6.0 FACILITY DESCRIPTION

The proposed facility will be a centralized waste management facility. Only EPA exempted, non-hazardous oilfield contaminated soils will be accepted at this facility. All accepted soil will be remediated by using landfarm techniques.

Figure 4 shows the proposed landfarm site ownership boundaries. Figure 5 shows the proposed arrangement of landfarm cells in the west half of Section 17. The cells will be accessed by 20 feet wide roads as shown on Figure 5. The facility property is fenced, with gated entrance. All the gates will be locked when an attendant is not present at the facility.

There are no pipeline crossings within the proposed landfarm area. A pipeline crossing can be spotted in Section 18 on the topographic map extract in Figure 1 and 2. This pipeline belongs to Texas-New Mexico Pipeline Co.

There will be no office or storage buildings in the proposed landfarm area. This proposed landfarm does not store any chemical onsite. This waste management facility will only be used to remediate oilfield-contaminated soils.

7.0 FACILITY CONSTRUCTION/OPERATION

A. Facility Construction

1) Location: The facility will be constructed on nearly flat ground in the west half of Section 17 as shown in Figure 4. A total of 56 cells are proposed for landfarming at the facility. Each cell will measure 650 feet x 330 feet or approximately 4.9 acres. The cell size will not be more than 5 acres. Each cell will be bermed around the perimeter.

2) Fences & Signs: The site is fenced. After permit approval, a sign will be posted at the entrance consisting of facility name, legal description and emergency phone number.

3) Facility Buffer Zone: A minimum of 100 feet distance will be maintained between the landfarm cells and the property boundary.

4) Pipeline Buffer Zone: There are no pipeline crossings within the landfarm area. The closest pipeline in the area is more than 500 feet from the southwest corner of the landfarm. The surface markers are in place to identify this pipeline.

5) Facility Berming: Each landfarm cell will be bermed with soil available at the site to prevent runoff and runon. The berms will be constructed with sufficient height to contain a 100-year flood event.

   A 100-year flood event of 6.0 inches has been reported for a 24-hour duration storm (See Appendix A). Hence, minimum height of the berm should be more than six inches. However, a berm height of 24 inches will be maintained for each cell. The flood event data was obtained from the City of Hobbs Engineering Department. Annual rainfall for the area is reported to be less than 10 inches.

   Proposed cell dimension: 650 feet x 330 feet
   Cell area: 4.92 acre
   Berm height (proposed): 2 feet (min)
   Each cell can hold: 3.2 M gal of storm water
   (Approximately 4 times the 100-year flood volume collected in a cell)

6) Treatment Zone Monitoring: A background soil sample from the center portion of the proposed landfill site was collected on June 24, 1998. A borehole was installed using a hand auger to a depth of 2 to 2.5 feet below the native ground surface. The sample was analyzed for total petroleum hydrocarbons (TPH), major cation/anions, volatile

aromatic organics (BTEX), and heavy metals using EPA approved methods. The laboratory report copies along with the chain of custody documentation are enclosed in Appendix B. The analytical results are summarized below:

Background Sample Results

TPH and BTEX Results
Concentrations in mg/kg

Sample ID	TPH (GRO)	Benzene	Toluene	Ethyl-benzene	Xylene
BH-1(2-2.5')	<5.00	<0.05	<0.05	<0.05	<0.05

Cations/Anions Results
Concentrations in mg/kg

Sample ID	K	Mg	Ca	Na	F	Cl	NO_3	SO_4	HCO_3	CO_3
BH-1 (2-2.5')	39.0	49.0	800.0	5.1	1.7	10.0	2.2	15.0	3500	80.0

Total Metals Results
Concentrations in mg/kg

Sample	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
BH-1	<5.0	<5.0	<2.0	6.1	<5.0	<5.0	45.0	<0.25

Treatment zone monitoring will consist of collecting one random soil sample from each individual cell. Monitoring will be performed six months after the first contaminated soils are received and then quarterly thereafter. The sample will be collected at 2 to 3 feet below the native ground surface using a stainless steel bucket type hand auger. The auger holes will be back filled after obtaining soil samples.

All sampling equipment will be decontaminated between sampling. Soil samples collected for monitoring will be analyzed for TPH and BTEX on a quarterly basis and for major cations/anions and heavy metals annually by using EPA methods.

The analytical results from the treatment zone will be submitted to the OCD Santa Fe office for review on a semi-annual basis.

7) Double-Lined System: The treatment zone at the proposed location is composed of uncemented material hence a double lined system is not proposed for this site.

B. Facility Operation

The facility will be operated in such way that operation of this landfarm will not adversely impact groundwater, surface water, public health or the environment. The facility operating procedures will involve the following:

1. Disposal of waste will occur only under the supervision of an attendant on duty. The facility will be secured when no attendant is present.
2. All contaminated soils received at the facility will be spread and disked within 72 hours of receipt.
3. Soils will be spread on the surface in 6 to 12-inch lifts. Texaco has access to tractors that can disk soil deeper than 12 inches. The equipment manufacturer specification indicating disking capacity is enclosed.
4. Soils will be disked every two weeks to enhance biodegradation of contaminants.
5. There will be no mixing of exempt and nonexempt soils.
6. A new layer of contaminated soil will not be spread over an existing layer until the TPH is less than 100 mg/kg and the sum of all aromatic hydrocarbons (BTEX) is less than 50 mg/kg and benzene is less than 10 mg/kg in the existing layer. Laboratory analysis and a sampling location record will be maintained at the facility. Authorization from the OCD will be obtained prior to application of successive lifts.
7. Moisture will only be added to enhance bioremediation or to control dust when necessary. Any ponding of precipitation water will be removed within 72 hours of discovery.
8. Enhanced bio-remediation through addition of microbes or fertilizers will not be practiced at this landfarm.
9. No free liquids or soils with free liquids will be accepted at the facility.
10. Comprehensive records of all material disposed of at the facility will be maintained. The records for each load will include: 1) generator name, 2) the origin (location), 3) date received, 4) quantity, 5) certification of exempt status or analysis for hazardous constituents if non-exempt, 6) exact cell number/location where soil disposed and any addition of moisture, etc.

C. Characterization & Tracking of Wastes

The proposed landfarm will accept only oilfield contaminated soils which are exempt from RCRA Subtitle C (hazardous waste) regulations. Tests for hazardous characteristics will be performed if non-hazardous, non-exempt oilfield contaminated solids needs to be disposed at the proposed landfarm. The OCD approval will also be sought prior to non-exempt oilfield contaminated soil disposal. At no time will the landfarm accept hazardous waste. All loads received at the facility will be accompanied by a "Certification of Waste Status" signed by a Texaco personnel.

Waste characterization for non-exempt waste will be done prior to removal of waste from the generator's facility in accordance with the EPA SW-846 sampling procedures.

The wastes transported from the generator will be moved to the landfarm without additional materials being added during the transport. A certificate from the transporter stating that no additional materials have been added will be collected.

8.0 SPILL/LEAK PREVENTION & REPORTING

No spills are anticipated at the facility since no liquid wastes are accepted at the proposed landfarm. The only time water will be used is for dust control or to enhance remediation. In case of any break, spill, blow out, or undesirable event Texaco will notify the OCD in accordance with Rule 116.

9.0 INSPECTION, MAINTENANCE & REPORTING

Berms, fences and the remediation area will be inspected frequently. Any repairs or general maintenance will be performed immediately. Inspection records including date, kinds of inspections, and type of repairs made will be maintained. A berm height of 2 feet will be maintained all around the cell at all times to prevent runoff or run-on. Berms and cells will be inspected after any significant rainfall or windstorms. During dry and windy months, water will be added periodically to the soil in the cell to prevent blowing dirt.

The waste material transported by the truck will not be accepted without the proper documentation. The procedure as discussed in Characterization and Tracking of Wastes, above will be followed before transporter delivery is accepted. Contaminated soil received at the facility will be spread and disked within 72 hours of receipt. Soils will be spread on the surface in 6 to 12 inch lifts and disked every 2 weeks to enhance remediation of contaminants. Once the soil is laid over the cell, periodic

cell material will be performed to monitor the remediation progress. This periodic sampling consists of collecting one composite sample from each cell for TPH and BTEX. Enhancing cell remediation by addition of moisture will be considered depending on the remediation progress. Additional lifts of soils will not be spread until laboratory tests on previous lift are below the OCD recommended levels. The OCD recommended remediation levels are 100 mg/kg for TPH, 50 mg/kg for total BTEX and 10 mg/kg for benzene. Records of sampling results and location will be forwarded to the OCD and approval to add new lifts will be requested. If tank bottoms or miscellaneous hydrocarbons are to be remediated at the proposed landfarm Form C-117-A will be filed.

Comprehensive records of all materials accepted at the facility will be documented and logged as described in the Facility Operation section above. All required analytical results and OCD forms will be submitted to the OCD as referenced in the guidelines. The treatment zone will be monitored on a quarterly basis starting six months after commissioning of the cell as discussed in the Treatment Zone Monitoring section above. The treatment zone monitoring results will be submitted to the OCD on a semi-annual basis.

10.0 CLOSURE PLAN

Texaco will notify the OCD of cessation of operations at the landfarm facility one-month in advance. After such notification to the OCD, no new material will be accepted at the landfarm facility. Existing soil at the facility will be remediated to meet the OCD requirements in effect at the time of closure and other state and federal regulations. The landfarm area will then be re-seeded with natural grasses and allowed to return to its natural state.

Six months after the cessation of disposal operations, Texaco will complete the cleanup of constructed facilities and restoration of the facility site within the following six months, unless an extension is granted by the Director.

11.0 SITE CHARACTERISTICS

The site is located in southern edge of the Eunice Plain physiographic subdivision. The Eunice Plain is underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand. In some places the underlying surface consists of alluvial sediments most commonly calcareous silt in buried valleys or Quaternary lake basins.

Annual average precipitation over the site is reported to be between 9 to 10 inches. There are no major surface drainage features within the close

vicinity of the site. The ground surface of the area is flat to gently sloping. The altitude of the site's ground surface varies from 3370 to 3395 feet above mean sea level (MSL). The natural ground surface slopes to the southeast.

Soils:
Soils belonging to Pyote, Simona and Berino series were observed in the vicinity of the site. Typically, the surface layer is light-brown fine sand about 12 inches thick. In places it is loamy fine sand. The subsoil is pale brown fine sandy loam. The substratum is white, platy, indurated caliche.

Hydrology:
The groundwater around the vicinity of the study area is obtained from the Dockum group, the Ogallala formation and Quaternary alluvium. In some parts of southern Lea County, Ogallala and Quaternary form a continuous water table aquifer. Water well data in the vicinity of the area collected from the State Engineers Office is enclosed in Appendix C.

Sediments of Quaternary age can be observed in southern Lea County in the form of alluvial deposits, probably of both Pleistocene and Recent age, and dune sands of Recent age. The alluvium seems to have deposited in topographically low areas where the Ogallala formation had been stripped away. The dune sands mantle the older alluvium and the Ogallala formation over most of the area. At the surface it is generally calcareous silt, probably derived from reworked caliche.

The Ogallala formation consists chiefly of sediments deposited by streams that had their headwaters in the mountainous regions to the west and northwest. The Ogallala formation rests unconformably upon an erosional surface of the underlying Triassic and Cretaceous rocks. The Ogallala is made of beds and lenses of clay, silt, sand, and gravel. Caliche occurs as a secondary deposit in many places over Ogallala formation. Altitude of the water table in Ogallala is reported at 3,200 feet MSL at the proposed landfarm site. The water table slopes southeastward.

Uncontaminated water from the Ogallala formation is high in silica (49 to 73 ppm), contains moderate concentrations of calcium and magnesium. The dissolved solids content is relatively low, being typically less than 1,100 ppm. The West Windmill located approximately one-mile southwest of the proposed site, was sampled for cations and anions in June 1998. A total dissolved solids (TDS) less than 300 mg/l was detected for this windmill sample.

The hydrogeologic data presented in this section was derived from Ground Water Report 6, "Geology and Ground Water Conditions in Southern Lea

County, New Mexico," published by New Mexico Institute of Mining & Technology (1961).

12.0 PROOF OF NOTICE

Texaco is seeking this permit for construction of a centralized landfarm facility. Notice requirements do not apply for centralized facilities as per OCD Rule 711.

13.0 H_2S CONTINGENCY PLAN

The H_2S contingency plan is not applicable, as H_2S is not generated at the landfarm facility.

14.0 ADDITIONAL INFORMATION

Texaco E & P, Inc. will furnish the OCD with a $25,000 bond upon approval of this centralized landfarm permit as per Rule 711.

FIGURE NO. 1

TAKEN FROM U.S.G.S.
HOBBS, NEW MEXICO
7.5' QUADRANGLES

SCALE: 1" = 4 MILES

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION & PRODUCTION, INC.

REGIONAL TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

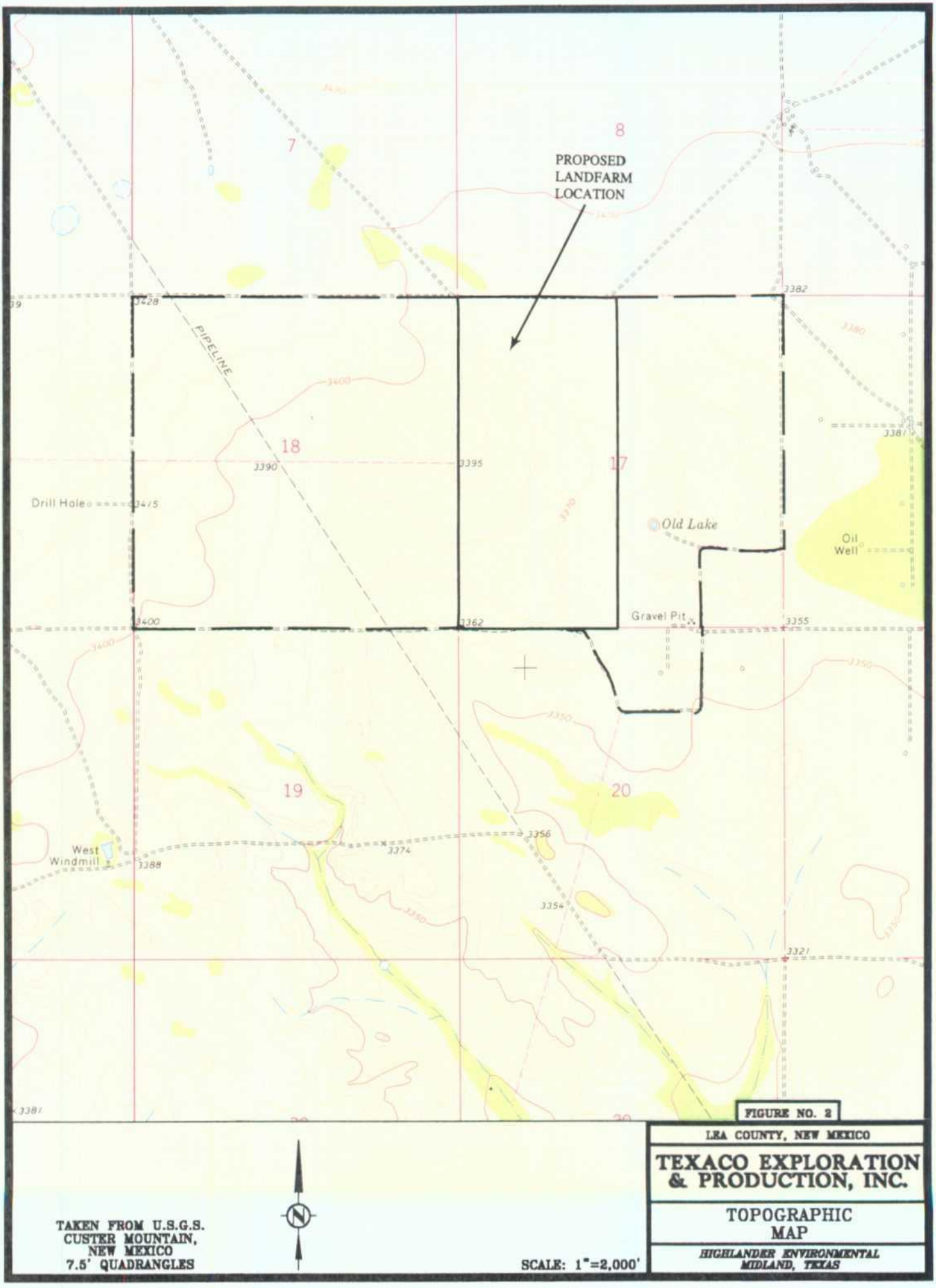


FIGURE NO. 2

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION & PRODUCTION, INC.

TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

TAKEN FROM U.S.G.S.
CUSTER MOUNTAIN,
NEW MEXICO
7.5' QUADRANGLES

SCALE: 1"=2,000'

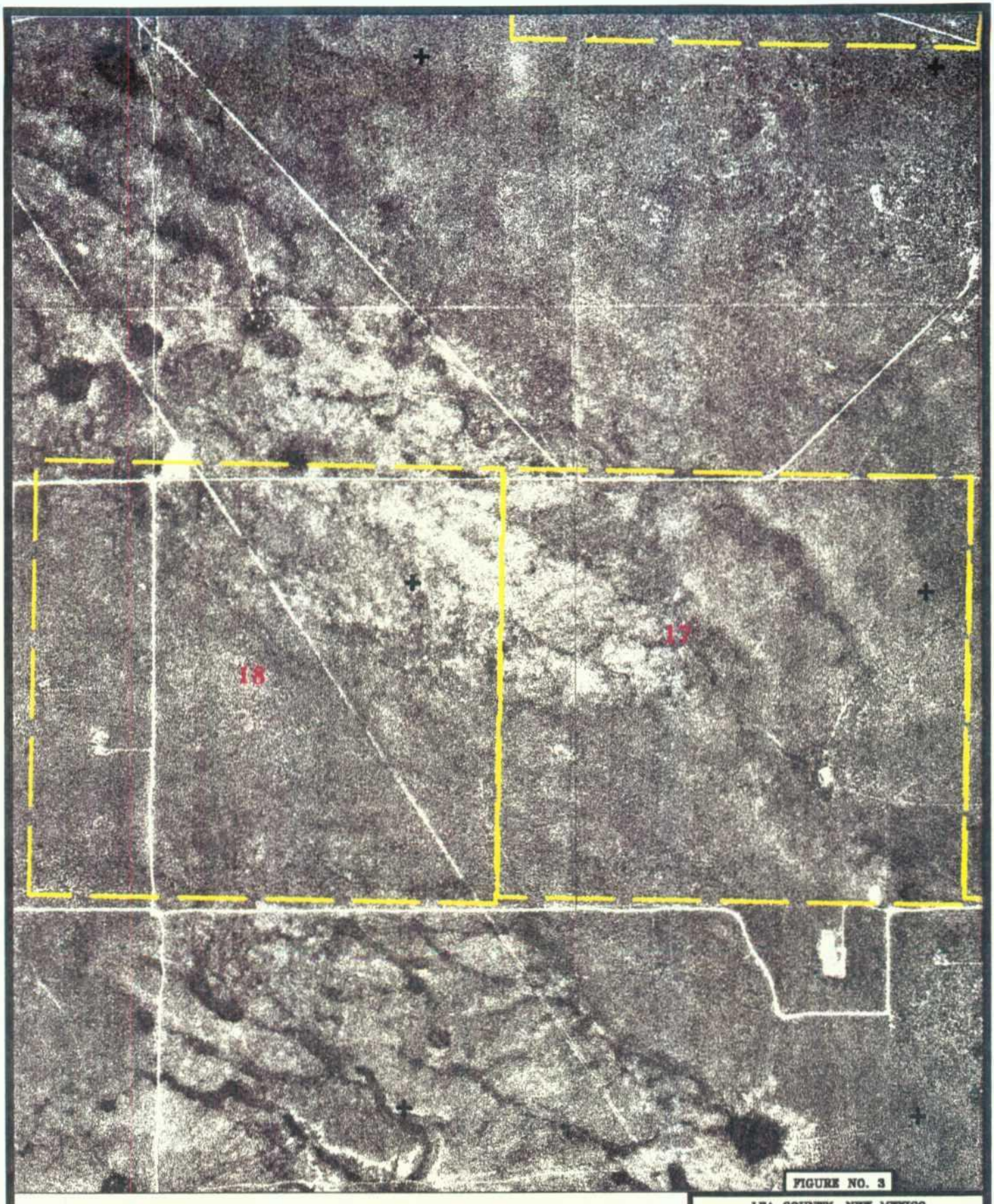


FIGURE NO. 3

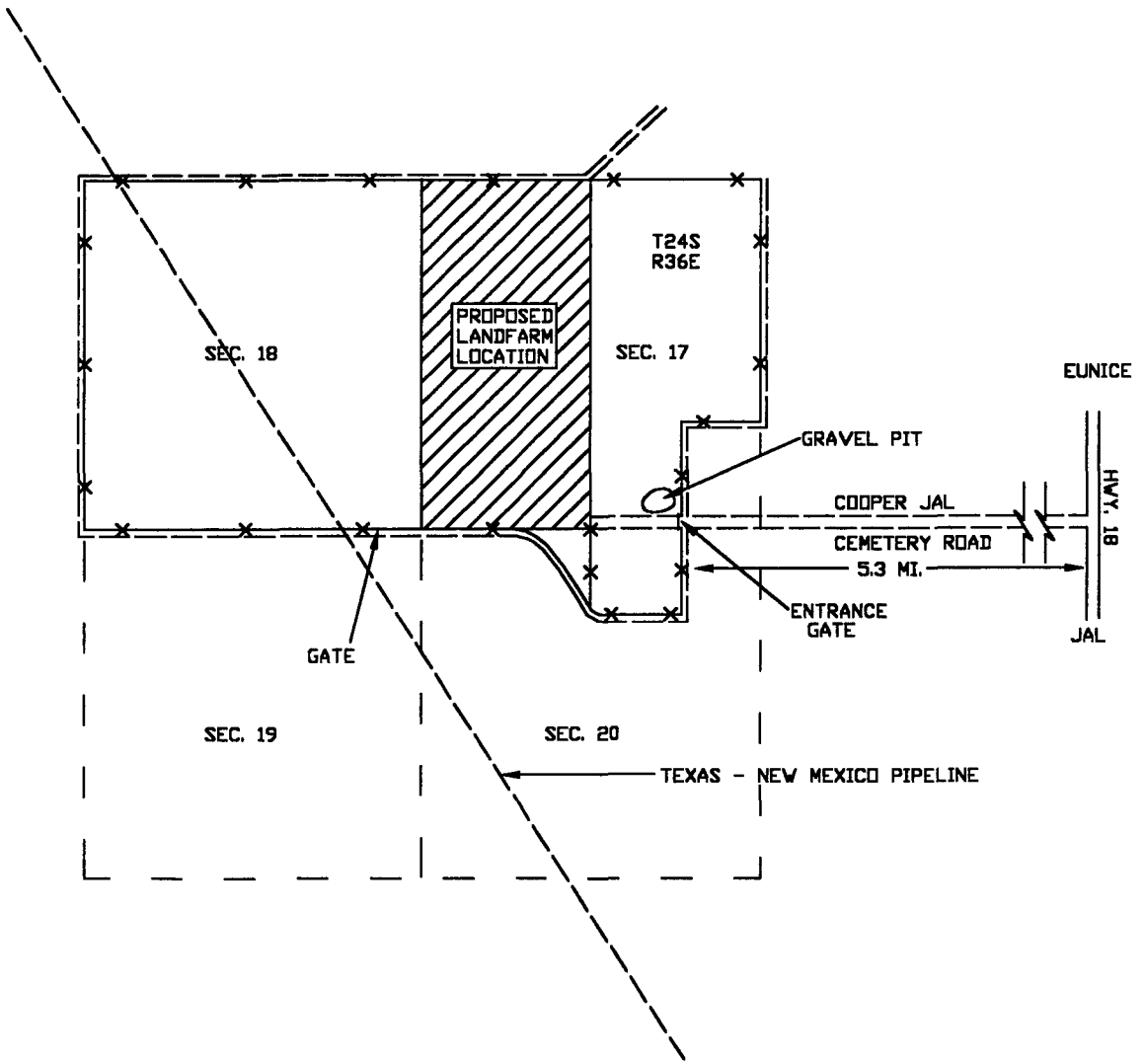
LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION & PRODUCTION, INC.

AERIAL PHOTOGRAPH OF SITE VICINITY (1981)

HIGHLANDER ENVIRONMENTAL MIDLAND, TEXAS

SCALE: 1" = 1667'



NOT TO SCALE

DATE: 7/13/98
DWN. BY: JDA
FILE: C:\TEXACO\1039 VICINITY-MAP

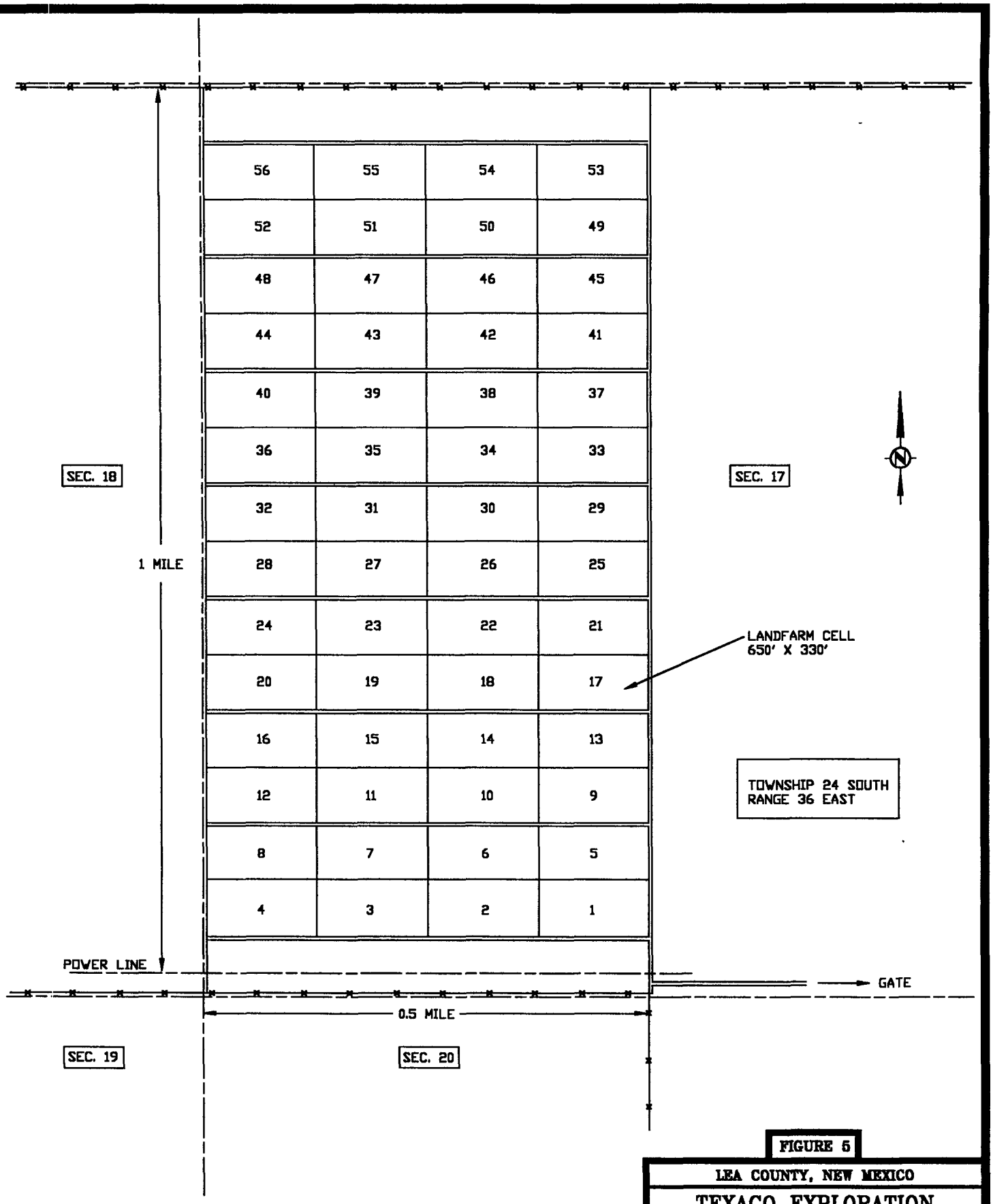
FIGURE 4

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION & PRODUCTION, INC.

SITE VICINITY MAP

HIGHLANDER ENVIRONMENTAL MIDLAND, TEXAS



NOTE: ALL ROADS ARE 20' WIDE
EACH CELL IS 650' X 330'

NOT TO SCALE

DATE: 7/13/98
DRN. BY: JDA
FILE:

FIGURE 5

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION & PRODUCTION, INC.

PROPOSED LANDFARM CELL ARRANGEMENT

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

City of Hobbs Engineer's Office

Based on discussions with the City of Hobbs, it was determined that the runoff associated with the 5-,25-,and 100-year frequency storm events under both the 6-hour and 24-hour durations would be analyzed.

Point rainfall intensities were obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 2, Volume IV, New Mexico 1973. Point rainfall intensities utilized for this analysis are included in Table III-1.

Table III-1
Point Rainfall Intensities

Rainfall Event	6-Hour Duration	24-Hour Duration
5-year	2.8 inches	3.5 inches
25-year	3.8 inches	4.8 inches
100-year	4.7 inches	6.0 inches

To be consistent with the methodology used for the FEMA Flood Insurance Study, the Huff rainfall distribution for a first quartile storm was utilized. Figure III-1 shows a mass diagram for this type rainfall distribution under the 50 per cent probability. This type storm distribution pattern was developed from the analysis of numerous western watersheds with characteristics similar to the Hobbs study area. Using the first quartile storm produces a rainfall peak early in the rainfall distribution pattern, similar to the passage of the intense pre-frontal squall lines associated with thunderstorms. More detail on the precipitation data used in this analysis may be found in Appendix A.

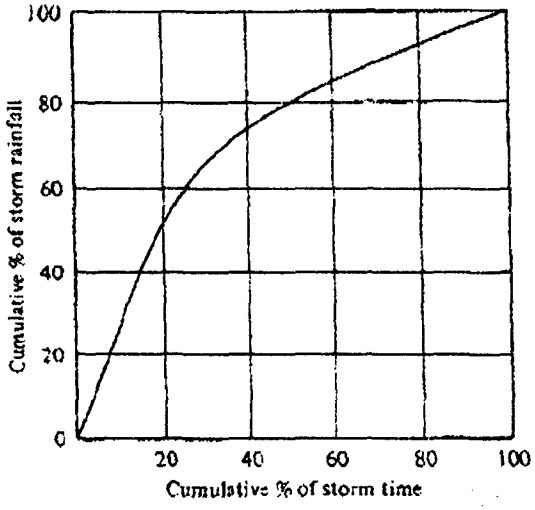


Figure III-1 *Time distribution of storm rainfall, median first quartile curve for point rainfall. (After F. A. Huff, "Time Distribution of Rainfall in Heavy Storms," Water Resources Research, 3, No. 4 (1967): 1007-1019.)*

NMERDI 2-72-4523

NEW MEXICO CLIMATE MANUAL: SOLAR AND WEATHER DATA

Principal Investigators:
W. Scott Morris
Keith W. Haggard

Contributors:
Raymond J. Bahm
Earl K. Fosdick
Loren W. Crow

November 1985

New Mexico Energy Research and Development Institute

Most of the temperature and precipitation data are taken from the "Monthly Climate Summaries" furnished by the Office of the State Climatologist. The standard deviations of monthly mean temperatures were taken from NCDC records: 1951-1980. The design temperatures were developed from the most recent 25 years of NCDC weather records using the graphical method proposed by Loren W. Crow in "Study of Weather Design Conditions for ASHRAE, Inc.," Research Project No. 23, 1963.

SECTION II: DESCRIPTION OF PRECIPITATION DATA

The precipitation data are given as long-term, means and extremes on a monthly and annual basis. The data are derived from the daily weather observations recorded at 63 stations in New Mexico. Except for El Paso, these were furnished by the New Mexico State Climatologist in the "Monthly Climate Summaries."

TOTAL PRECIPITATION - MEAN

Definition These data consist of the long-term means of monthly and annual total precipitation. Total precipitation refers to accumulated precipitation amounts over the specified period (i.e., month or year). Precipitation refers to all types of hydrometeors, such as snow, hail, rain, etc. It is the measure of the liquid water content of all hydrometeors. For example, ten inches of snow is equal to approximately one inch of liquid water. Units are inches of liquid water.

Data Source The means of total precipitation are derived from the daily totals measured by a properly exposed raingauge.

Accuracy Wind and local obstructions can introduce uncertainty in precipitation measurements. The use of these values at sites other than where they were measured can result in significant errors, especially in the mountainous areas of the state.

TOTAL PRECIPITATION - HIGH

Definition These data consist of the highest monthly and annual values of total precipitation. These values represent the wettest months and year on record.

Total precipitation refers to accumulated precipitation amounts over the specified period (i.e. month or year). Precipitation refers to all types of hydrometeors, such as snow, hail, rain, etc. It is a measure of the liquid water content of all hydrometeors. For example, ten inches of snow is approximately equal to one inch of liquid water. Units are inches of liquid water.

Data Source Monthly and annual values of total precipitation are derived from the daily totals measured by a properly exposed raingauge.

Accuracy Winds and local obstructions can introduce uncertainty in all precipitation measurements. The use of these values at sites other than where they were measured can sometimes result in significant errors, especially in the mountainous areas of the state.

TOTAL PRECIPITATION - 24-HR MAX

Definition These data consist of the greatest total precipitation amount measured over a 24-hour period for the month and the greatest 24-hour amount within the several years of records used.

Total precipitation refers to accumulated precipitation amounts over the specified period (i.e. month or year). Precipitation refers to all types of hydrometeors, such as snow, hail, rain, etc. It is a measure of the liquid water content of all hydrometeors. For example, ten inches of snow, in most cases, is approximately equal to one inch of liquid water. Units are inches of liquid water.

Data Source These extreme values are derived from the daily totals of precipitation measured by a properly exposed raingauge.

Accuracy Winds and local obstructions can introduce uncertainty in all precipitation measurements. The use of these values at sites other than where they were measured can sometimes result in significant errors, especially in the mountainous areas of the state.

Application In sizing rain gutters and storm drainage systems, designers require the greatest rainfall intensity that can be expected at a particular building site. The maximum 24-hour precipitation total should not be used to represent the greatest rainfall intensities, since the 24-hour totals will usually have fallen in a time period much less than 24 hours. For example, during a severe summer rainstorm at Las Cruces on August 29, 1935, 6.49 inches fell in 24 hours. Of that 6.49 inches, 1.06 inches came down in ten minutes: a very high intensity.

Rainfall intensities for durations shorter than 24 hours can be estimated using a procedure described in Precipitation -Frequency Atlas of the Western United States: Volume IV - New Mexico. This report is published by the National Oceanic and Atmospheric Administration (NOAA).

TOTAL SNOWFALL - MEAN

Definition These data consist of the long-term means of monthly and annual, total snowfall. "Total snowfall" refers to the total amount of fresh snowfall over the specified period (i.e., month or year). The depth of fresh snow is measured after each snowfall, and later totaled for the month or year. Units are inches of fresh snow.

"Snowfall" should not be confused with "snowdepth", which is the depth of accumulated snow on the ground.

For most New Mexico locations, fresh snow usually does not remain on the ground for more than a few days. However, at locations near 8,000 feet or higher, snow begins to accumulate on the ground over the winter season.

Data Source The mean total snowfall values are tabulated from daily snowfall totals. Daily snowfall is measured with either a raingauge stick or ruler.

TABLE 34 CLIMATE DATA SUMMARY

FOR JAL

LATITUDE: 32° 06'

LONGITUDE: 103° 12'

ELEVATION: 3060 ft.

PERIOD OF RECORD: 1932-1981
Period applies to the temperature and precipitation data. For information on data sources, see p.85.

PRECIPITATION

MONTH	TOTAL PRECIPITATION (INCHES WATER) MEAN	HIGH	24-HR MAX	TOTAL SNOWFALL (INCHES) MEAN	HIGH
JAN	0.46	3.30	0.95	2	12
FEB	0.39	2.13	0.78	1	7
MAR	0.37	1.76	1.08	1	6
APR	0.67	3.15	2.20	0	0
MAY	1.34	3.21	2.47	0	0
JUN	1.22	3.45	2.21	0	0
JUL	1.62	5.73	2.09	0	0
AUG	1.81	6.06	3.99	0	0
SEP	1.93	7.64	4.00	0	0
OCT	1.22	6.90	5.64	0	0
NOV	0.41	3.30	0.84	1	16
DEC	0.38	2.12	0.54	1	8
ANN	11.86	21.00	5.64	5	17

TEMPERATURE (°F)

MONTH	LONG-TERM AVERAGES MAX	MIN	MEAN	STANDARD DEVIATION OF MEANS	HEATING DEG.-DAYS (base 57°F)	HEATING DEG.-DAYS (base 65°F)	COOLING DEG.-DAYS (base 70°F)	COOLING DEG.-DAYS (base 75°F)	ALL-TIME EXTREMES HIGH	LOW	MONTHLY MEAN EXTREMES HIGH	LOW
JAN	60	28	44	3.45	411	652	0	0	85	-11	52	35
FEB	66	32	49	3.40	243	451	0	0	89	-6	56	43
MAR	73	38	56	3.41	129	298	6	0	98	10	62	49
APR	82	48	65	2.84	13	89	29	7	102	22	70	58
MAY	89	56	73	2.08	0	5	122	40	107	34	78	69
JUN	97	65	81	2.07	0	0	331	189	112	40	86	76
JUL	97	68	83	2.39	0	0	404	256	112	50	86	78
AUG	96	66	81	2.15	0	0	343	197	110	50	85	77
SEP	89	60	75	2.49	0	0	171	78	108	38	80	67
OCT	81	48	65	2.63	11	86	26	6	100	20	69	59
NOV	69	36	52	3.31	191	396	0	0	88	8	61	46
DEC	62	29	46	2.77	346	589	0	0	84	3	51	40
ANN	80	48	64		1344	2566	1432	773	112	-11	65	62

SUMMER DESIGN TEMPERATURES

DESIGN DRY BULB (°F) 0.1%	0.5%	2.0%	DAILY TEMPERATURE RANGE	DESIGN WET BULB (°F) 0.1%	0.5%	2.0%	MEDIAN SUMMER WET BULB
105	102	99	29	74	72	71	67

WINTER DESIGN TEMPERATURES

MEDIAN OF ANNUAL EXTREMES	DESIGN DRY BULB 0.2%	0.6%	COINCIDENT WIND SPEED
8	13	17	6

NOTE: The percentage levels are based on the total number of hours in a 365 day year (8760 hours).

For explanations of this table see: p.86 for precipitation; p.90 for temperature; and p.98 for design temperatures.

WALTON CONSTRUCTION CO., INC.

P.O. BOX 478 • 314 W. MARLAND
HOBBS, NEW MEXICO 88241-0478
(505) 393-3174

FAX (505) 393-8943

N.M.S.C.C. 0864744

July 15, 1998

Highlander Environmental Corp.
1910 N. Big Springs
Midland, TX 79705
ATTN: Vijay K. Kurki

Dear Mr. Kurki:

The equipment to be used at the Texaco White Star Land Farm facility will be a 12' - 6" offset disc. The tractor pulling the disc will be an I.H. 1468 with 140 horse power and hydraulics.

Sincerely,

Max Hudson

THE REPRODUCTION OF

THE

FOLLOWING

DOCUMENT (S)

CANNOT BE IMPROVED

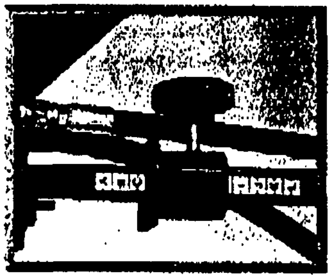
DUE TO

THE CONDITION OF

THE ORIGINAL

You can level the 670 Disk fore and aft with this simple crank. It's easy – no tools required.

Mechancial hitch adjustment (top) is standard. It lets you easily adjust line of draft for varying soil conditions. Convenient hydraulic adjust (below) is optional.



To set depth, just loosen this knob, slide the collar, and tighten the knob back down. The 670 will return to your preset depth, pass after pass.

Combination scrapers self-adjust to clean sticky soils from blades. They can be set in rigid position to reduce blade wear in light, sandy, or dry soils. Rigid scrapers are also available.

...l furrow filler
...ather out your
...y eliminating
...ft by the front
...ing.

SPECIFICATIONS

(Specifications and design subject to change [illegible])

670 OFFSET DISK

Frames
Mainframes .... 3x7-in. (76x178-mm) tubular steel
Gong frames .... 4x6-in. (102x152-mm) tubular steel
Blades .... 24 or 26 in. (610x660 mm)

Gang angle adjustment
Front .... 16 or 19 degrees
Rear .... 18, 21, or 24 degrees

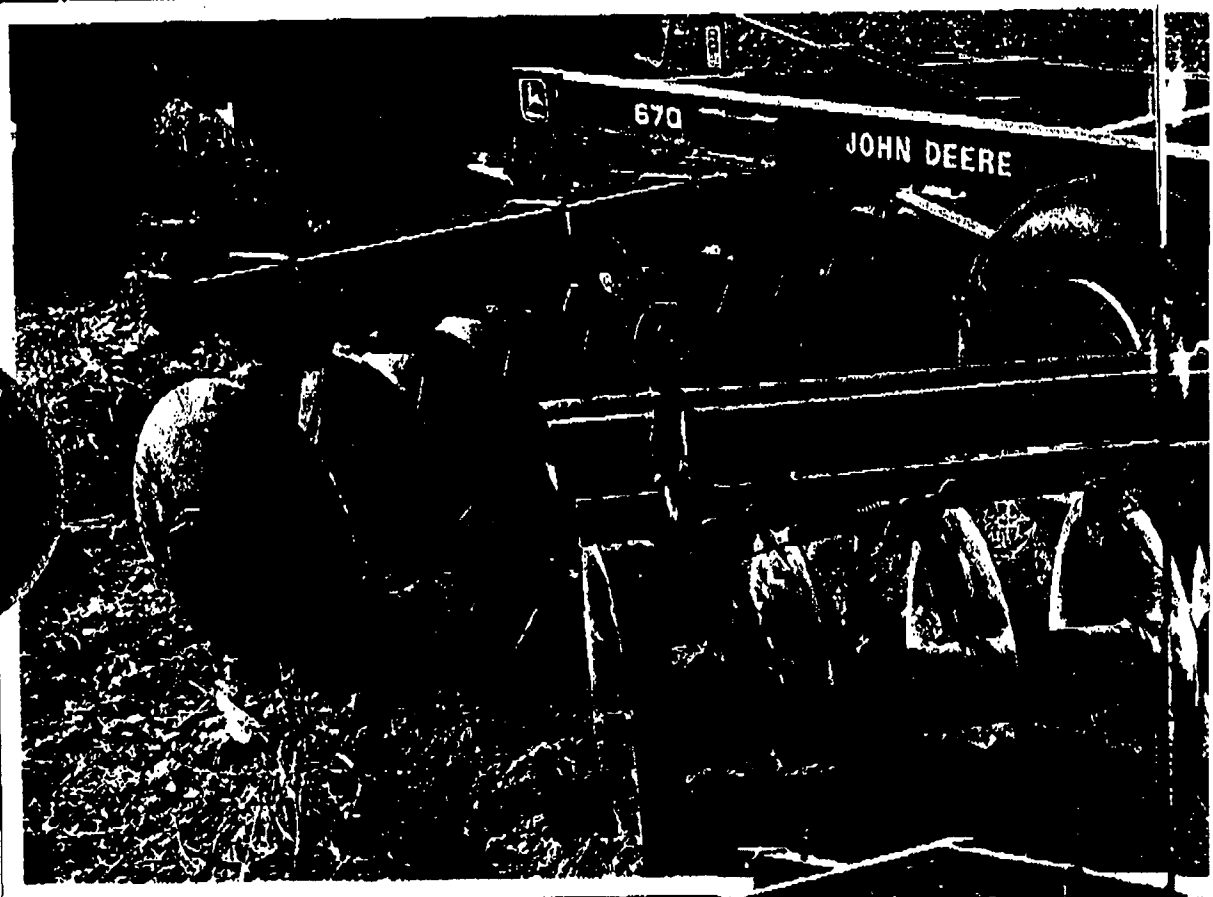
Furrow filler .... 18 in. (457 mm), integral, part of gang
Scrapers .... Combination
Bearing .... Dura-Flex 3+1 bearings enclosed in a flange housing
Depth gauging .... Single point depth control
Gang bolts .... 1¼ in. (31.75 mm), square
Hitch clevis plate hole size .... 1 7/16 x 1 15/16-in. slot (37x49 mm)
Transport dimensions (approximate) .... When raised for transport, the largest 670 Disk has an overall length of 28 ft. 4 in. (8.6 m); overall width is 11 in. (279 mm) [illegible] than the working width [illegible] blades and ground is [illegible]
Attachments .... Be[illegible] warning [illegible]

6.'0 OFFSET DISK — RECOMMENDED PTO HORSEPOWER												
WORKING WIDTH	11-ft. 11-in.	12-ft. 6-in.	13-ft. 4-in.	13-ft. 5-in.	14-ft. 9-in.	15-ft. 2-in.	16-ft. 2-in.	16-ft. 11-in.	18-ft. 4-in.	18-ft. 7-in.	20-ft. 4-in.	20-ft. 5-in.
BLADE SPACING	9-in.	11-in.	9-in.	11-in.	9-in.	11-in.	9-in.	11-in.	11-in.	9-in.	11-in.	9 in.
LIGHT DRAFT	115	115	115	115	140	140	140	140	160	140	185	160
MEDIUM DRAFT	125	125	125	125	150	150	150	150	170	150	215	170
HEAVY DRAFT	140	140	140	140	160	160	160	160	185	160	250	185

Light draft: heavy soils, dry/hard conditions, level terrain.
Medium draft: average conditions.
Heavy draft: light or sandy soils, medium moisture, rolling terrain.

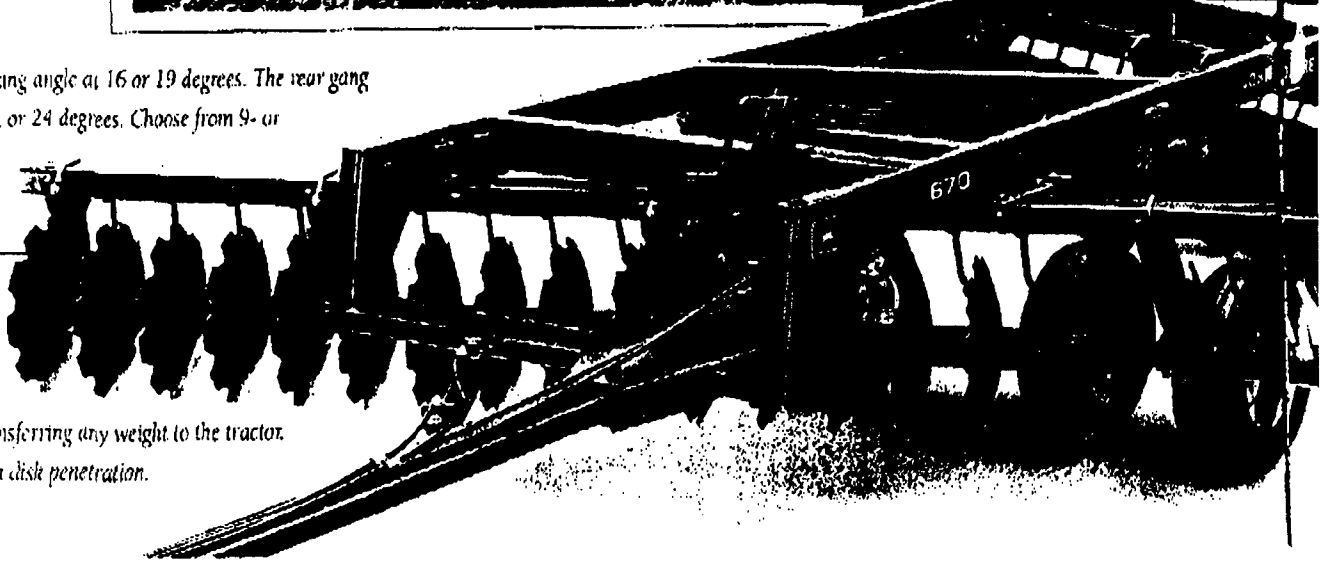
)r

With a weight per blade of 135- to 174-pounds, a 670 Offset Disk fits well with tractors from 115 to 250 horsepower.



t can set the front gang angle at 16 or 19 degrees. The rear gang adjustable to 18, 21, or 24 degrees. Choose from 9- or -inch blade spacing

is self-leveling ch provides level ld work and level nsport, without transferring any weight to the tractor. u also get maximum disk penetration.



TRACEANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

July 13, 1998
Receiving Date: 06/26/98
Sample Type: Water
Project No: 1036
Project Location: NA

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Vijay Kurki
1910 N. Big Spring Street
Midland, TX 79705

Prep Date: 06/29/98
Prep Date: 07/08/98
Prep Date: 06/24/98
Sample Condition: Intact & Cool
Sample Received by: NG
Client Name: Texaco E & P, Inc.
Project Name: Texaco Landfarm
Lea County, NM

TA#	Field Code	TOTAL POTASSIUM (mg/L)	TOTAL MAGNESIUM (mg/L)	TOTAL CALCIUM (mg/L)	TOTAL SODIUM (mg/L)
T101256	West Windmill	5.3	15	56	28
ICV		50	55	54	51
CCV		50	51	50	51
Reporting Limit		0.50	0.50	0.50	0.50
METHOD BLANK		<0.50	<0.50	<0.50	<0.50
RPD		2	3	3	2
% Extraction Accuracy		99	95	99	93
% Instrument Accuracy		100	106	104	102

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/kg POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
CV: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

7-13-98
Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES

July 13, 1998
Receiving Date: 06/26/98
Sample Type: Water
Project No: 1036
Project Location: NA

Attention: Vijay Kurki
1910 N. Big Spring Street
Midland, TX 79705

Sampling Date: 06/24/98
Sample Condition: Intact & Cool
Sample Received by: NG
Client Name: Texaco E & P, Inc.
Project Name: Texaco Landfarm
Lea County, NM

TA#	FIELD CODE	FLUORIDE (mg/L)	CHLORIDE (mg/L)	N03-N (mg/L)	SULFATE (mg/L)	ALKALINITY (mg/L as CaCo3) HC03	C03
T101256	West Windmill	0.97	37	6.8	27	210	<1.0
ICV		2.6	12	5.2	12	1,140	1,080
CCV		2.5	12	5.1	12	1,180	1,100
RPD		0	0	2	2	0	0
% Extraction Accuracy		106	98	108	106	---	---
% Instrument Accuracy		104	100	105	101	---	---
REPORTING LIMIT		0.1	0.5	0.2	0.5	1.0	1.0
PREP DATE		07/01/98	06/26/98	06/26/98	06/26/98	07/01/98	07/01/98
ANALYSIS DATE		07/02/98	06/26/98	06/26/98	06/26/98	07/01/98	07/01/98

METHODS: EPA 310.1, 300.0, 160.1.
CHEMIST: FLUORIDE/CHLORIDE/N03-N/SULFATE: JS ALKALINITY: RS
SPIKE: 12.5 mg/L FLUORIDE; 31.25 mg/L CHLORIDE, SULFATE; 12.5 mg/L N03-N.
CV: 2.5 mg/L FLUORIDE; 12.5 mg/L CHLORIDE, SULFATE; 5.0 mg/L N03-N.

Director, Dr. Blair Leftwich

7-13-98
Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Vijay Kurki
1910 N. Big Spring Street
Midland, TX 79705

July 13, 1998
Receiving Date: 06/26/98
Sample Type: Soil
Project No: 1036
Project Location: NA

Sampling Date: 06/24/98
Sample Condition: Intact & Cool
Sample Received by: NG
Client Name: Texaco E & P, Inc.
Project Name: Texaco Landfarm
Lea County, NM

		Extractable					
						ALKALINITY (mg/kg as CaCo3)	
TA#	FIELD CODE	FLUORIDE (mg/kg)	CHLORIDE (mg/kg)	N03-N (mg/kg)	SULFATE (mg/kg)	HC03	C03
T101255	BH-1 (2'-2.5')	1.7	10	2.2	15	3,500	80
ICV		2.7	12	5.2	13	1,140	1,080
CCV		2.6	12	5.2	13	1,180	1,100
RPD		1	0	2	1	0	0
% Extraction Accuracy		108	99	101	107	---	---
% Instrument Accuracy		108	100	104	105	---	---
REPORTING LIMIT		0.1	0.5	0.1	0.5	1.0	1.0
PREP DATE		07/01/98	07/01/98	07/01/98	07/01/98	07/01/98	07/01/98
ANALYSIS DATE		07/03/98	07/03/98	07/03/98	07/03/98	07/01/98	07/01/98

METHODS: EPA 310.1, 300.0.
CHEMIST: FLUORIDE/CHLORIDE/N03-N/SULFATE: JS ALKALINITY: RS
SPIKE: 12.5 mg/kg FLUORIDE; 62.5 mg/kg CHLORIDE, SULFATE; 25 mg/kg N03-N.
CV: 2.5 mg/L FLUORIDE; 12.5 mg/L CHLORIDE, SULFATE; 5.0 mg/L N03-N.

Director, Dr. Blair Leftwich

7-13-98
Date

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E-Mail: lab@traceanalysis.com

July 13, 1998
Receiving Date: 06/26/98
Sample Type: Soil
Project No: 1036
Project Location: NA

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Vijay Kurki
1910 N. Big Spring Street
Midland, TX 79705

Prep Date: 06/29/98
Prep Date: 07/08/98
Prep Date: 06/24/98
Sample Condition: Intact & Cool
Sample Received by: NG
Client Name: Texaco E & P, Inc.
Project Name: Texaco Landfarm
Lea County, NM

		EXTRACTABLE			
TA#	Field Code	POTASSIUM (mg/kg)	MAGNESIUM (mg/kg)	CALCIUM (mg/kg)	SODIUM (mg/kg)
T101255	BH-1 (2'-2.5')	39	49	800	5.1
ICV		50	55	54	51
CCV		50	51	50	51
Reporting Limit		0.50	0.50	0.50	0.50
METHOD BLANK		<0.50	<0.50	<0.50	<0.50
RPD		2	3	3	2
% Extraction Accuracy		99	95	99	93
% Instrument Accuracy		100	106	104	102

METHODS: EPA 200.7.
CHEMIST: RR
SPIKE: 100 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.
CV: 50 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

7-13-98
Date

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E-Mail: lab@traceanalysis.com

July 13, 1998
Receiving Date: 06/26/98
Sample Type: Soil
Project No: 1036
Project Location: NA

ANALYTICAL RESULTS FOR
HIGHLANDER ENVIRONMENTAL SERVICES
Attention: Vijay Kurki
1910 N. Big Spring St.
Midland, TX 79705

Sampling Date: 06/24/98
Sample Condition: Intact & Cool
Sample Received by: NG
Client Name: Texaco E & P, Inc.
Project Name: Texaco Landfarm, Lea County, NM

TOTAL METALS (mg/kg)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ag	Ba	Hg
T101255	BH-1 (2'-2.5')	<5.0	<5.0	<2.0	6.1	<5.0	<5.0	45	<0.25
ICV		1.0	0.96	0.99	1.0	0.98	0.20	0.97	5.1
CCV		0.98	1.0	0.99	1.0	0.99	0.20	0.96	5.2
Reporting Limit		5.0	5.0	2.0	5.0	5.0	5.0	5.0	0.25
RPD		3	2	2	1	1	0	7	0*
% Extraction Accuracy		89	89	91	97	90	80	88	100*
% Instrument Accuracy		99	98	99	100	98	100	96	103
PREP DATE		06/29/98	06/29/98	06/29/98	06/29/98	06/29/98	06/29/98	06/29/98	06/30/98
ANALYSIS DATE		06/29/98	06/29/98	06/29/98	06/29/98	06/29/98	06/29/98	06/29/98	07/01/98

***NOTE: LCS used due to concentration of sample in MS/MSD.**

CHEMIST: As, Se, Cd, Cr, Pb, Ag, Ba: RR Hg: HC
METHODS: EPA SW 846-3051, 6010B, 7471.
TOTAL METALS SPIKE: 200 mg/kg As, Se, Cd, Cr, Pb, Ba; 25 mg/kg Ag; 2.5 mg/kg Hg.
TOTAL METALS CV: 1.0 mg/L As, Se, Cd, Cr, Pb, Ba; 0.20 mg/L Ag; 5.0 mg/L Hg.

Director, Dr. Blair Leftwich

7-13-98
Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention Vijay Kurki
1910 N. Big Spirng St.
Midland TX 79705

Date: Jul 03, 1998
Date Rec: 6/26/98
Project: 1036
Proj Name: Texaco/Lea County
Proj Loc: N/A

Lab Receiving # : 9806000467
Sampling Date: 6/24/98
Sample Condition: Intact and Cool
Sample Received By: NG

TA#	Field Code	MATRIX	GRO (mg/Kg)
101255	BH-1 2-2.5'	Soil	<5.00
	Method Blank		<0.100
	Reporting Limit		5
	QC		1.03
	RPD		6
	% Extraction Accuracy		99
	% Instrument Accuracy		103

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
GRO	EPA 5030	6/29/98	EPA 8015B	6/29/98	JG	1	50

Director, Dr. Blair Leftwich

7-3-98
Date

TRACE ANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
Highlander Environmental Services
Attention Vijay Kurki
1910 N. Big Spirng St.
Midland TX 79705

Lab Receiving # : 9806000467
Sampling Date: 6/24/98
Sample Condition: Intact and Cool
Sample Received By: NG

Date: Jun 30, 1998
Date Rec: 6/26/98
Project: 1036
Proj Name: Texaco/Lea County
Proj Loc: N/A

TA#	Field Code	MATRIX	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M,P,O XYLENE (mg/Kg)	TOTAL BTEX (mg/Kg)
101255	BH-1 2-2.5'	Soil	<0.050	<0.050	<0.050	<0.050	<0.050
Method Blank			<0.050	<0.050	<0.050	<0.050	
Reporting Limit			0.05	0.05	0.05	0.05	
QC			0.105	0.105	0.106	0.301	
RPD			3	3	4	4	
% Extraction Accuracy			109	109	110	103	
% Instrument Accuracy			105	105	106	100	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
BTEX	EPA 5030	6/29/98	EPA 8021B	6/29/98	JG	0.100 ea	5 ea

BR
Director, Dr. Blair Leftwich

6-30-98
Date

101255-56 467/468

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

ANALYSIS REQUEST (Circle or Specify Method No.)

CLIENT NAME: Texaco EXP Inc

SITE MANAGER: Vijay Kurki

PROJECT NO.: 1036

PROJECT NAME: Texaco Landfarm, Lea co. NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH Modified 8015	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Cations & Anions
101255	6/24/98		S	✓ B		BH-1 (2' - 2.5')	6	-			✓		✓		✓		✓													✓
101256	6/24/98		W	✓		West Windmill	1	N			✓	✓																		✓
						101256																								
						Na Ca Mg K																								
						Cl SO4 CO3 HCO3 F NO3																								
						101255 Na Ca Mg K																								
						F Cl SO4 CO3 HCO3 NO3																								

RELINQUISHED BY: (Signature) Vijay Kurki Date: 6/25/98 Time: 4:50
RECEIVED BY: (Signature) J Thomas Date: 6/25/98 Time: 4:50

RELINQUISHED BY: (Signature) J Thomas 6/25 5:30 P Date: Time:
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) Vijay Kurki VIJAY KURKI Date: 6/24/98 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL # HAND DELIVERED UPS OTHER:

RECEIVING LABORATORY: Trace Laboratory
ADDRESS:
CITY: Lubbock STATE: Tx ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: TIME:

HIGHLANDER CONTACT PERSON: Vijay Kurki

Results by:

RUSH Charges Authorized: Yes (No) BW 7/3/98

SAMPLE CONDITION WHEN RECEIVED: -2°

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS: Nell Green P Greyhound 155758 9528

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ROSWELL

THOMAS C. TURNEY
State Engineer

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

July 15,1998

Vijay Kurki
Highland Environment
1910 N. Big Spring St.
Midland, Texas 79705

Dear Mr. Kurki,

Here is the information you requested. As I told you on the phone yesterday there is not very much information in either Drill logs, Water quality, or Water levels. I have tried to highlight the material for you to make it easier.

Thank you for your patience in this particular instance. We are short staffed and doing double duty in some cases. As before, there is a fee statement for services rendered attached to this cover letter. If I can be of any more assistance please let me know.

Sincerely,

D. Renee Romero

D. Renee Romero

HIGHEST 217.71 MAR 20, 1981
LOWEST 223.90 MAR 29, 1953

SITE ID: 321352103214201
LOC: 24S.35E.10.11000
OTID 12726
ELEV: 3361.10
USE: U
DEPTH: 1250
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
OCT 28, 1965	274.49	DEC 09, 1970	273.98	JAN 15, 1976	271.70

HIGHEST 271.70 JAN 15, 1976
LOWEST 274.49 OCT 28, 1965

SITE ID: 321335103214901
LOC: 24S.35E.10.13333
OTID 12727
ELEV: 3360.10
USE: S
DEPTH: 190
GEO. UNIT: 110AVMB

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
OCT 21, 1965	159.17	DEC 09, 1970	158.79	MAR 19, 1981	162.96	MAY 23, 1991	164.15
JUN 12, 1968	157.82	JAN 15, 1976	156.35	MAR 07, 1986	161.69	MAR 07, 1996	164.43 S

HIGHEST 156.35 JAN 15, 1976
LOWEST 164.43 MAR 07, 1996

SITE ID: 321249103211101
LOC: 24S.35E.15.234
OTID
ELEV: 3360.00
USE:
DEPTH:
GEO. UNIT:

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
JUN 12, 1968	1.45	DEC 09, 1970	6.27	JAN 16, 1976	9.83

HIGHEST 1.45 JUN 12, 1968
LOWEST 9.83 JAN 16, 1976

SITE ID: 321141103184701
LOC: 24S.35E.24.42432
OTID 12729
ELEV: 3384.30
USE: S
DEPTH:
GEO. UNIT: Z31CHNL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
OCT 21, 1965	131.41 R	DEC 14, 1970	127.65 R	MAR 19, 1981	131.16 R	MAY 23, 1991	129.38
JUN 12, 1968	131.16 R	JAN 15, 1976	127.22	MAR 04, 1986	128.01	MAR 07, 1996	129.12 S

HIGHEST 127.22 JAN 15, 1976
LOWEST 129.38 MAY 23, 1991

SITE ID: 321039103243401
LOC: 24S.35E.30.34233
OTID 12730
ELEV: 3322.80
USE: S
DEPTH: 176
GEO. UNIT: Z31CHNL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
NOV 27, 1953	139.56	NOV 02, 1965	140.99	JUN 12, 1968	140.52	DEC 08, 1970	138.58

HIGHEST 138.58 DEC 08, 1970
LOWEST 140.99 NOV 02, 1965

SITE ID: 321039103243402
LOC: 24S.35E.30.342331
OTID 12731
ELEV: 3323.90
USE: S
DEPTH: 176
GEO. UNIT: Z31CHNL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
DEC 08, 1970	139.81	JAN 15, 1976	139.18	MAR 20, 1981	139.60

HIGHEST 139.18 JAN 15, 1976
LOWEST 139.81 DEC 08, 1970

SITE ID: 321031103211501
LOC: 24S.35E.34.14100
OTID 12732
ELEV: 3257.70

USE: S
DEPTH: 112
GEO. UNIT: 110AVMB

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	
OCT 21, 1965	98.40	P

SITE ID: 321008103212701
LOC: 24S.35E.34.14100
OTID 13605
ELEV: 3257.70
USE: S
DEPTH:
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
OCT 21, 1965	98.40	DEC 08, 1970	147.04	MAR 20, 1981	147.47		
JUN 12, 1968	146.52	JAN 09, 1976	146.48				

HIGHEST 98.40 OCT 21, 1965
LOWEST 147.47 MAR 20, 1981

SITE ID: 321444103152801
LOC: 24S.36E.03.114112
OTID 10580
ELEV: 3401.20
USE: U
DEPTH:
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 12, 1953	181.17	DEC 01, 1970	176.15	MAR 19, 1981	179.47	MAY 23, 1991	180.74
OCT 21, 1965	175.60	JAN 15, 1976	178.16	MAR 04, 1986	179.92	MAR 06, 1996	180.99 B

HIGHEST 175.60 OCT 21, 1965
LOWEST 181.17 MAR 12, 1953

SITE ID: 321442103151801
LOC: 24S.36E.03.114244
OTID 10581
ELEV: 3404.40
USE: U
DEPTH:
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
OCT 21, 1965	182.01	MAR 26, 1968	178.96	DEC 01, 1970	176.81	JAN 15, 1976	181.69

HIGHEST 176.81 DEC 01, 1970
LOWEST 182.01 OCT 21, 1965

SITE ID: 321418103153801
LOC: 24S.36E.03.31130
OTID 10582
ELEV: 3410.40
USE: U
DEPTH:
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
OCT 21, 1965	188.23	MAR 26, 1968	187.60	JAN 15, 1976	189.25

HIGHEST 187.60 MAR 26, 1968
LOWEST 189.25 JAN 15, 1976

SITE ID: 321402103153901
LOC: 24S.36E.03.333334
OTID 10584
ELEV: 3393.90
USE: C
DEPTH: 530
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 12, 1953	182.10	MAR 26, 1968	173.80	JAN 15, 1976	176.58	MAR 04, 1986	178.45
OCT 20, 1965	170.24	DEC 01, 1970	174.89	MAR 19, 1981	177.57		

HIGHEST 170.24 OCT 20, 1965
LOWEST 182.10 MAR 12, 1953

SITE ID: 321402103153701
LOC: 24S.36E.03.333343
OTID 10583
ELEV: 3396.90
USE: C
DEPTH: 550
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS

OCT 12, 1967 175.39 DEC 01, 1970 175.62 JAN 15, 1976 177.45

HIGHEST 175.39 OCT 12, 1967
LOWEST 177.45 JAN 15, 1976

SITE ID: 321402103154101
LOC: 24S.36E.04.44440
OTID 10585
ELEV: 3378.10
USE: H
DEPTH:
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS		DATE	WATER LEVEL MS	
OCT 20, 1965	187.56	R	DEC 01, 1970	175.84	

HIGHEST 175.84 DEC 01, 1970
LOWEST 175.84 DEC 01, 1970

SITE ID: 321335103163901
LOC: 24S.36E.09.13333
OTID 12828
ELEV: 3403.00
USE: U
DEPTH: 230
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS
MAR 06, 1953	194.98

SITE ID: 321335103163B01
LOC: 24S.36E.09.133334
OTID 10586
ELEV: 3399.80
USE: S
DEPTH:
GEO. UNIT: 231SNRS

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS		DATE	WATER LEVEL MS		DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
OCT 20, 1965	192.38	R	DEC 01, 1970	191.70	R	MAR 19, 1991	189.50	MAY 23, 1991	188.40
MAR 26, 1968	193.61	R	JAN 16, 1976	189.84		MAR 04, 1986	188.67	MAR 06, 1996	188.22 S

HIGHEST 188.22 MAR 06, 1996
LOWEST 193.61 MAR 26, 1968

SITE ID: 321218103124601
LOC: 24S.36E.13.44342
OTID 10587
ELEV: 3319.90
USE: S
DEPTH: 151
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 26, 1968	134.38	JAN 14, 1976	133.19	MAR 04, 1986	131.73		
DEC 02, 1970	133.90	MAR 19, 1981	132.36	MAY 22, 1991	131.17		

HIGHEST 131.17 MAY 22, 1991
LOWEST 134.38 MAR 26, 1968

SITE ID: 321308103145101
LOC: 24S.36E.15.22121
OTID 10588
ELEV: 3392.80
USE: H
DEPTH: 200
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS	DATE	WATER LEVEL MS
MAR 12, 1953	181.33 R	MAR 26, 1968	176.23	JAN 14, 1976	178.19	MAR 04, 1986	179.62
OCT 19, 1965	176.61	DEC 01, 1970	177.15	MAR 19, 1981	178.83		

HIGHEST 176.23 MAR 26, 1968
LOWEST 179.62 MAR 04, 1986

SITE ID: 321309103144601
LOC: 24S.36E.13.221212
OTID 12848
ELEV: 3383.00
USE: H
DEPTH: 251
GEO. UNIT: 1210GLL

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL MS
JAN 14, 1976	178.27

SITE ID: 321217103135701
LOC: 24S.36E.23.21212
OTID 12827
ELEV: 3346.20
USE: U

06/03/98

BASIN	FILE_NO	FIL_SUF	REF_BAS	REF_NO	REF_SUF	OWNERSHIP	DEPTH	WBF	DATECLTD	CLTR	USE	LOCATION	LSELEV	PT_CLTN	CHLORIDES	CONDUCT	TDS	TEMP	ADD_DATA	CARD_DATE	SOURCE	DPN	METER
C						PAN AM PET CORP.	871	PRC	97/08/20	SEO	STK	24S.31E.28.443122	3471.00	TANK	80	2790	0	0		1097			
C							550	TRC	69/05/02	OCC	STK	24S.32E.03.32124	3660.00	DP	25	680	0	0			0	25-12971	0
C							550	TRC	79/12/19	SEO	DOM	24S.32E.03.32124	3660.00	DP	22	690	0	0				25-12971	0
C							550	TRC	84/12/11	SEO	DOM	24S.32E.03.32124	3660.00	DP	17	696	0	70		0185		25-12971	0
C							550	TRS	87/07/16	SEO	STK	24S.32E.03.32124	3660.00	DP	19	707	0	72		0887		25-12971	0
C						JAMES CHARLES	550	TRS	90/08/22	SEO	STK	24S.32E.03.32124	3660.00	DP	25	732	0	70		1290		25-12971	0
C						JAMES CHARLES	550	TRS	92/04/01	SEO	STK	24S.32E.03.32124	3660.00	SBBLR	32	790	0	0		0892		25-12971	0
C						BEARDEN. J.	550	TRS	95/11/09	SEO	STK	24S.32E.03.32124	3660.00	DP	24	670	0	69		0796		25-12971	0
C							60	QAL	69/05/02	OCC	STK	24S.32E.10.344333	3589.00	TANK	21	330	0	0			0	25-12712	0
C							60	QAL	79/12/19	SEO	DOM	24S.32E.10.344333	3589.00	DP	8	586	0	0				25-12712	0
C						BEARDEN. J.	60	QAL	95/11/08	SEO	STK	24S.32E.10.344333	3589.00	DP	23	640	0	0		0796		25-12712	0
						BEARDEN. J.	360		95/11/09	SEO	STK	24S.32E.12.121441	3598.00	DP	230	1300	0	70		0796			0
C	01932					JAMES CHARLES F	492		87/07/16	SEO	STK	24S.32E.12.133221	0.00	DP	410	2029	0	70		0887			0
C							367	TRC	69/05/02	OCC	STK	24S.32E.33.42241	3499.00	DP	312	5800	0	0			0	25-12713	0
							367	TRC	87/07/16	SEO	NOT	24S.32E.33.42241	3499.00	TS@339	472	4313	0	0		ABND		25-12713	0
						ROBBINS B	367	TRC	92/04/01	SEO	STK	24S.32E.33.42241	3499.00	DP	660	4550	0	0		0892		25-12713	0
C						J. ROBBINS	367	TRC	97/08/13	SEO	NOT	24S.32E.33.42241	0.00	TS@338	298	3880	0	0		1097		25-12713	
13							0	TOB	69/05/02	OCC	STK	24S.33E.09.234112	3567.00	DP	23	1420	0	0			0		0
13							36	TOB	69/05/02	OCC	STK	24S.33E.10.13123	3589.00	DP	89	2600	0	0			0	25-12714	0
13							36	TOB	76/10/20	SEO	STK	24S.33E.10.13123	3589.00	SBBLR	68	2696	0	65				25-12714	0
13							36	TOB	84/12/06	SEO	STK	24S.33E.10.13123	3589.00	TS@23	190	2981	0	0		0185		25-12714	0
13							0	TOB	69/05/02	OCC	COM	24S.33E.17.444414	3569.00	DP	36	760	0	0			0	25-05059	0
13							0	TOB	79/12/12	SEO	COM	24S.33E.17.444414	3569.00	DP	40	850	0	72				25-05059	0
13							0	TOB	84/12/06	SEO	COM	24S.33E.17.444414	3569.00	DP	37	863	0	70		0185		25-05059	0
						JOHNSON CARL	0	TOB	90/08/21	SEO	COM	24S.33E.17.444414	3569.00	DP	435	2130	0	0		1290		25-05059	0
						JOHNSON. CARL	0	TOB	95/11/07	SEO	COM	24S.33E.17.444414	3569.00	DP	43	830	0	70		0796		25-05059	0
13							0	QAL	79/12/20	SEO	STK	24S.33E.24.44444	3514.00	DP	76	3579	0	0				25-12716	0
13							0	QAL	84/12/07	SEO	STK	24S.33E.24.44444	3514.00	DP	145	3769	0	0		0185		25-12716	0
						MADERA	0	TOB	90/08/21	SEO	STK	24S.33E.24.44444	3514.00	DP	165	3400	0	0		1290		25-12716	0
13							0	TRS	79/12/12	SEO	DOM	24S.33E.33.23231	3466.00	DP	278	2414	0	66				25-12717	0
13							0	TRS	84/12/11	SEO	STK	24S.33E.33.23231	3466.00	DP	365	2817	0	68		0185		25-12717	0
						JOHNSON CARL	0	TOB	90/08/21	SEO	STK	24S.33E.33.23231	3466.00	DP	395	3020	0	68		1290		25-12717	0
						JOHNSON. CARL	0	TOB	95/11/07	SEO	D&S	24S.33E.33.23231	3466.00	DP	352	2660	0	68		0796		25-12717	0
13							630	TRS	66/05/17	SEO	PPP	24S.34E.04.21431	3550.00	TANK	37	750	0	0				25-12719	0
							90	TOB	79/12/19	SEO	STK	24S.34E.07.22222	3597.00	DP	184	1384	0	0				25-12721	0
							90	TOB	84/12/11	SEO	STK	24S.34E.07.22222	3597.00	DP	199	1402	0	60		0185		25-12721	0
						MADERA	90	TOB	90/07/19	SEO	STK	24S.34E.07.22222	3597.00	DP	185	1361	0	69		1290		25-12721	0
						PITCHFORK CATTLE CO.	90	TOB	95/10/20	SEO	NOT	24S.34E.07.22222	3597.00	TS @85	194	1320	0	0		0796		25-12721	0
13							0	TOB	65/11/02	SEO	STK	24S.34E.10.11221	3528.00	DP	461	2515	0	68				25-12722	0
13							0	TOB	79/12/20	SEO	STK	24S.34E.11.112313	3484.00	DP	614	3103	0	0				25-12972	0
13							0	TOB	84/12/11	SEO	STK	24S.34E.11.112313	3484.00	DP	618	3108	0	68		0185		25-12972	0
						MADERA	0	TOB	90/07/19	SEO	STK	24S.34E.11.112313	3484.00	DP	500	2516	0	69		1290		25-12972	0
						PITCHFORK CATTLE CO.	0	TOB	95/10/20	SEO	STK	24S.34E.11.112313	3484.00	DP	582	2760	0	70		0796		25-12972	0
13							257	TRB	79/12/20	SEO	STK	24S.34E.35.12411	3409.00	DP	28	1016	0	0				25-12725	0
13							257	TRS	84/10/31	SEO	STK	24S.34E.35.12411	3409.80	DP	39	1020	0	71		1284		25-12725	0
						MADERA ROBERT	257	TOB	90/07/18	SEO	STK	24S.34E.35.12411	3409.00	DP	45	1005	0	72		1290		25-12725	0
						PITCHFORK CATTLE CO.	257	TOB	95/10/20	SEO	STK	24S.34E.35.12411	3409.00	DP	26	1010	0	69		0796		25-12725	0
CP	00365						190	QAL	65/10/21	SEO	STK	24S.35E.10.13333	3360.00	DP	55	800	0	71	*			25-12727	0
CP							0	TRC	65/10/21	SEO	STK	24S.35E.24.42432	3384.00	DP	5	480	0	69					0
CP							176	TRC	65/11/02	SEO	STK	24S.35E.30.34233	3322.00	YT	70	1505	0	0	*			25-12730	0
CP							176	TRC	76/10/06	SEO	STK	24S.35E.30.34233	3322.00	DP	19	642	0	70				25-12730	0
CP							176	TRC	80/01/04	SEO	STK	24S.35E.30.34233	3322.00	DP	20	638	0	69				25-12730	0
CP							176	TRC	65/11/02	SEO	STK	24S.35E.30.342331	3323.00	TANK	29	635	0	0				25-12731	0

06/03/98

BASIN	FILE_NO	FIL_SUF	REF_BAS	REF_NO	REF_SUF	OWNERSHIP	DEPTH	WBF	DATECLTD	CLTR	USE	LOCATION	LSELEV	PT	CLTN	CHLORIDES	CONDUCT	TDS	TEMP	ADD_DATA	CARD_DATE	SOURCE	DPW	METER
CP							176	TRC	84/10/31	SED	STK	24S.33E.30.342331	3323.00	DP		26	630	0	71		1284		25-12731	0
CP							176	TRC	90/07/19	SED	DOM	24S.33E.30.342331	3324.00	YT		95	631	0	0		1290		25-12731	0
CP						PITCHFORK CATTLE CO.	176	TRC	95/10/20	SED	D&S	24S.33E.30.342331	3324.00	DP		24	690	0	0		0796		25-12731	0
CP							112	QAL	65/10/21	SED	STK	24S.33E.34.14100	3257.00			77	1075	0	68				25-12732	0
CP							112	QAL	80/01/04	SED	STK	24S.33E.34.14100	3257.00	DP		64	1041	0	68				25-12732	0
13							0	QAL	84/12/12	SED	DOM	24S.33E.34.14141	0.00	YT		123	1647	0	0		0185			0
							0		90/07/19	SED	DOM	24S.33E.34.14141	0.00	YT		200	1670	0	0		1290			0
						TEXAS 10 RANCH	0		95/11/07	SED	D&S	24S.33E.34.32424	3252.00	YT		108	1680	0	0		0796			0
CP	00327						540	TRS	65/10/20	SED	COM	24S.36E.03.333331	3395.00	YT		53	580	0	69					0
CP	00327	X2	CP	00327			530	TRS	65/10/20	SED	COM	24S.36E.03.333334	3395.00	DP		66	425	0	70				25-10584	0
CP	00327	X				WITTEN W P	550	TRS	90/07/11	SED	DWD	24S.36E.03.333343	3397.00	DP		102	722	0	0		1290		25-10583	0
CP	00327					WHITTEN or WITTEN. W.P.	550	TRS	95/10/11	SED	DWD	24S.36E.03.333343	3397.00	DP		74	560	0	70		0796		25-10583	0
CP	00511						4500	PCP	74/10/30	ONR	SRD	24S.36E.04.214444	3412.00			2592	0	0	0	X		P		0
CP	00435						4500	PCP	68/03/02	ONR	SRD	24S.36E.04.341111	3416.00			4240	0	0	0	X		P		0
CP	00435						4500	PCP	68/06/10	ONR	SRD	24S.36E.04.341111	3416.00			4900	0	0	68	X		P		0
CP	00435						4500	PCP	74/11/19	ONR	SRD	24S.36E.04.341111	3416.00			4686	0	0	0	X		P		0
CP	00435						4500	PCP	75/05/28	ONR	SRD	24S.36E.04.341111	3416.00			5682	0	0	0	X		P		0
CP	00435						4500	PCP	76/08/30	ONR	SRD	24S.36E.04.341111	3416.00			5468	0	0	0	X		P		0
CP	00435						4500	PCP	78/09/18	ONR	SRD	24S.36E.04.341111	3416.00			3551	0	0	0			P		0
CP	00435						4500	PCP	79/09/19	ONR	SRD	24S.36E.04.341111	3416.00	DP		2486	0	0	0	X	1279	P		0
CP	00435						4500	PCP	84/10/18	SED	SRD	24S.36E.04.341111	3416.00	DP		3210	12073	0	0		1084			0
CP	00510						4500	PCP	74/11/09	ONR	SRD	24S.36E.04.414444	3408.00			2272	0	0	0	X		P		0
CP							0	TRS	65/10/20	SED	STK	24S.36E.04.44440	3398.00	YT		50	565	0	70				25-10585	0
CP							0	TRS	84/10/18	SED	STK	24S.36E.04.44440	3398.00	DP		79	670	0	0		1284		25-10585	0
CP							0	TRS	65/10/20	SED	STK	24S.36E.09.311112	3400.00	DP		75	655	0	70					0
CP							0	TRS	84/10/18	SED	STK	24S.36E.09.311112	3400.00	DP		67	640	0	73		1084			0
CP	00435	X					4500	PCP	67/10/27	ONR	SRD	24S.36E.09.311444	3396.00			6200	0	0	68	X		P		0
CP	00435	X					4500	PCP	68/02/26	ONR	SRD	24S.36E.09.311444	3396.00			2700	0	0	68	X		P		0
CP	00435	X					4500	PCP	68/06/10	ONR	SRD	24S.36E.09.311444	3396.00			4300	0	0	68	X		P		0
CP	00435	X					4500	PCP	74/11/07	ONR	SRD	24S.36E.09.311444	3396.00			4261	0	0	0	X		P		0
CP	00435	X					4500	PCP	75/05/16	ONR	SRD	24S.36E.09.311444	3396.00			4190	0	0	0	X		P		0
CP	00435	X					4500	PCP	76/08/30	ONR	SRD	24S.36E.09.311444	3396.00			4829	0	0	0	X		P		0
CP	00103						151	TOB	65/10/27	SED	STK	24S.36E.13.44342	3319.00	DP		28	600	0	70				25-10587	0
CP							200	TOB	65/10/19	SED	DOM	24S.36E.15.22121	3392.00	DP		56	550	0	70				25-10588	0
CP							200	TOB	79/12/11	SED	DOM	24S.36E.15.22121	3392.00	DP		144	1736	0	67				25-10588	0
CP							200	TOB	84/11/09	SED	DOM	24S.36E.15.22121	3392.00	TS@195		225	1140	0	69		1284		25-10588	0
CP	00559						251	TRS	84/10/18	SED	DOM	24S.36E.15.221212	3383.00			174	1440	0	0		1284		25-12848	0
CP	00482						4500	PCP	74/11/19	ONR	SRD	24S.36E.16.12000	3378.00			4970	0	0	0	X		P		0
CP	00482						4500	PCP	75/05/23	ONR	SRD	24S.36E.16.12000	3378.00			4971	0	0	0	X		P		0
CP	00482						4500	PCP	76/08/30	ONR	SRD	24S.36E.16.12000	3378.00			5682	0	0	0	X		P		0
CP	00482						4500	PCP	78/09/22	ONR	SRD	24S.36E.16.12000	3378.00			5682	0	0	0			P		0
CP	00482						4500	PCP	79/09/19	ONR	SRD	24S.36E.16.12000	3378.00	DP		6670	0	0	0	X	1279	P		0
CP	00435	X2					4500	PCP	74/12/13	ONR	SRD	24S.36E.16.214444	3379.00			3693	0	0	0	X		P		0
CP	00435	X2					4500	PCP	75/05/16	ONR	SRD	24S.36E.16.214444	3379.00			3835	0	0	0	X		P		0
CP	00435	X2					4500	PCP	76/08/30	ONR	SRD	24S.36E.16.214444	3379.00			4403	0	0	0	X		P		0
CP	00435	X2					4500	PCP	78/09/18	ONR	SRD	24S.36E.16.214444	3379.00			4190	0	0	0			P		0
CP	00435	X2					4500	PCP	79/09/19	ONR	SRD	24S.36E.16.214444	3379.00	DP		3551	0	0	0	X	1279	P		0
CP	00435	X2					4500	PCP	84/10/18	SED	SRD	24S.36E.16.214444	3379.00	DP		3770	13230	0	0		1284			0
CP	00435	X3					4500	PCP	68/02/26	ONR	SRD	24S.36E.16.332222	3377.00			2800	0	0	68	X		P		0
CP	00435	X3					4500	PCP	68/04/24	ONR	SRD	24S.36E.16.332222	3377.00			2800	0	0	68	X		P		0
CP	00435	X3					4500	PCP	74/11/07	ONR	SRD	24S.36E.16.332222	3377.00			2273	0	0	0	X		P		0
CP	00435	X3					4500	PCP	75/05/23	ONR	SRD	24S.36E.16.332222	3377.00			4261	0	0	0	X		P		0
CP	00435	X3					4500	PCP	76/08/30	ONR	SRD	24S.36E.16.332222	3377.00			2557	0	0	0	X		P		0

BASIN	FILE_NO	FIL_SUF	REF_BAS	REF_NO	REF_SUF	OWNERSHIP	DEPTH	WBF	DATECLTD	CLTR	USE	LOCATION	LSELEV	PT_CLTN	CHLORIDES	CONDUCT	TDS	TEMP	ADD_DATA	CARD_DATE	SOURCE	DPN	METER
CP	00435	X3					4500	PCP	84/10/18	SED	SRD	24S.36E.16.332222	3377.00	DP	2520	9699	0	93		1084			0
CP	00435	X3					4500	PCP	90/07/11	SED	SRD	24S.36E.16.332222	3377.00	DP	2700	9179	0	0		1290			0
CP	00435	X3				SKELLY OIL CO. JAI WSW #1	4500	PCP	95/10/11	SED	SRD	24S.36E.16.332222	3377.00	DP	3760	7570	0	72		0796			0
CP							172	TOB	78/09/28	SED	STK	24S.36E.23.212120	3346.00	TS@172	600	1912	0	0		ABDN		25-12827	0
CP							172	TOB	65/10/14	SED	DOM	24S.36E.23.212143	3348.00		84	680	0	68				25-10590	0
CP							172	TOB	65/10/14	SED	DOM	24S.36E.23.212144	3348.00	DP	87	680	0	68				25-10589	0
CP							170	TOB	65/10/14	SED	MUN	24S.36E.23.222132	3346.00		23	550	0	66				25-10592	0
CP							170	TOB	84/10/17	SED	MUN	24S.36E.23.222132	3346.00	YT	61	620	0	0		1084		25-10592	0
						JAL CITY OF	170	TOB	90/07/11	SED	MUN	24S.36E.23.222132	3346.00	YT	145	781	0	71		1290		25-10592	0
CP						CITY OF JAL	170	TOB	95/10/11	SED	MUN	24S.36E.23.222132	3346.00	YT	171	880	0	69		0796		25-10592	0
CP	00564						0	TOB	77/09/01	SED	DOM	24S.36E.23.222411	0.00	DP	119	918	0	71		0977			0
CP							0	TOB	79/12/11	SED	DOM	24S.36E.23.222411	0.00	DP	50	638	0	70					0
CP							160	TOB	65/10/21	SED	STK	24S.36E.27.22113	3329.00	DP	90	840	0	71					0
CP							760	TRS	65/10/27	SED	STK	24S.36E.35.231443	3274.00	DP	80	750	0	70					0
CP							760	TRS	79/12/07	SED	STK	24S.36E.35.231443	3274.00	DP	108	921	0	69					0
CP							0	QAL	65/12/17	SED	DMD	24S.37E.01.3224442	3164.00		370	2695	0	67	*			25-13103	0
CP							0	QAL	65/12/13	SED	DMD	24S.37E.01.32244A	0.00	DP	341	2630	0	67					0
							0	QAL	65/12/13	SED	DMD	24S.37E.01.324221	3165.00	DP	375	2635	0	66					0
CP							0	QAL	65/12/17	SED	STK	24S.37E.01.324232	3163.00	DP	375	2675	0	68				25-10596	0
CP							0	QAL	77/08/26	SED	STK	24S.37E.01.324232	3163.00	DP	279	2444	0	69		0977		25-10596	0
CP							0	QAL	84/10/18	SED	STK	24S.37E.01.324232	3163.00	DP	373	2800	0	0		1184		25-10596	0
CP							185	QAL	65/10/27	SED	STK	24S.37E.07.431241	3304.00	DP	54	860	0	72				25-10603	0
CP							185	QAL	77/08/18	SED	STK	24S.37E.07.431241	3304.00	DP	44	766	0	70		0877		25-10603	0
CP							185	QAL	79/12/06	SED	STK	24S.37E.07.431241	3304.00	DP	32	699	0	68				25-10603	0
CP							185	QAL	84/10/17	SED	STK	24S.37E.07.431241	3304.00	DP	38	670	0	72		1284		25-10603	0
CP						RANDOLPH FRANCIS	185	QAL	90/07/11	SED	STK	24S.37E.07.431241	3304.00	DP	95	884	0	71		1290		25-10603	0
CP						RANDOLPH. FRANCIS	185	QAL	95/10/19	SED	STK	24S.37E.07.431241	3304.00	DP	33	590	0	70		0796		25-10603	0
CP	00413						185	QAL	65/10/27	SED	DOM	24S.37E.08.14232	3284.00	DP	71	755	0	66				25-10605	0
CP	00413						185	QAL	76/09/08	OCC	DOM	24S.37E.08.14232	3284.00	YT	43	340	0	0			D	25-10605	0
CP	00413						185	QAL	77/08/18	SED	DOM	24S.37E.08.14232	3284.00	YT	38	692	0	0		0877		25-10605	0
CP	00413						185	QAL	84/10/18	SED	DOM	24S.37E.08.14232	3284.00	YT	43	671	0	0		1184		25-10605	0
CP	00413					HALEY BUXTON HALEY	185	QAL	90/07/11	SED	DOM	24S.37E.08.14232	3284.00	YT	95	665	0	0		1290		25-10605	0
CP	00413					BAKER. H.	185	QAL	95/10/19	SED	DOM	24S.37E.08.14232	3284.00	YT	36	600	0	0		0796		25-10605	0
CP	00443						160	QAL	76/09/08	OCC	STK	24S.37E.08.144221	3287.00	DP	170	600	0	0			D	25-10607	0
CP							0	QAL	77/08/18	SED	STK	24S.37E.09.132311	3253.00	DP	61	657	0	70		0877		25-12849	0
CP							0	QAL	84/10/18	SED	STK	24S.37E.09.132311	3253.00	DP	49	710	0	64		1184		25-12849	0
CP						COOPER CLYDE	0	QAL	90/07/11	SED	STK	24S.37E.09.132311	3254.00	DP	96	669	0	68		1290		25-12849	0
CP							100	QAL	65/10/21	SED	STK	24S.37E.09.132312	3253.00		44	695	0	68					0
CP	00343						747	TRS	53/03/11	USB	COM	24S.37E.10.123222	3247.00		252	2840	0	0	X		U		0
CP							87	QAL	65/10/21	SED	DOM	24S.37E.11.344230	3204.00		63	745	0	67	*			25-10614	0
CP							87	QAL	84/10/17	SED	DOM	24S.37E.11.344230	3204.00	YT	84	859	0	0		1284		25-10614	0
CP							76	QAL	65/10/21	SED	DOM	24S.37E.11.344321	3205.00		75	850	0	67				25-10613	0
CP							76	QAL	77/08/18	SED	DOM	24S.37E.11.344321	3205.00	YT	114	1077	0	0		0877		25-10613	0
CP							80	QAL	76/10/00	OCC	STK	24S.37E.11.34440A	3203.00	DP	128	660	0	0			D	25-10611	0
CP						COOPER CLYDE	80	QAL	90/07/11	SED	STK	24S.37E.11.34440A	3204.00	DP	246	1803	0	68		1290		25-10611	0
CP						COOPER. CLYDE	80	QAL	95/11/01	SED	STK	24S.37E.11.34440A	3204.00	DP	128	1210	0	68		0796		25-10611	0
CP							0	QAL	65/10/21	SED	STK	24S.37E.11.344423	0.00	DP	262	2045	0	67					0
CP							0	QAL	77/08/18	SED	DOM	24S.37E.11.344423	0.00	YT	177	1772	0	0		0877			0
CP	00297						36	QAL	65/10/14	SED	COM	24S.37E.12.144434	3158.00		354	2590	0	65				25-10615	0
CP	00297						36	QAL	76/09/08	OCC	STK	24S.37E.12.144434	3158.00	DP	224	700	0	0			D	25-10615	0
CP	00297						36	QAL	79/12/20	SED	STK	24S.37E.12.144434	3158.00	DP	222	1881	0	0				25-10615	0
CP	00297						36	QAL	84/10/18	SED	STK	24S.37E.12.144434	3158.00	DP	185	1660	0	0		1184		25-10615	0
CP	00331						53	QAL	65/10/20	SED	STK	24S.37E.13.434322	3131.00		312	2000	0	68				25-10616	0

Form WR-23
FIELD ENGR. LOG

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well Skelly Oil Company
Street and Number P. O. Box 730
City Hobbs State New Mexico
Well was drilled under Permit No. ______ and is located in the
___ ¼ NW ¼ SW ¼ of Section 9 Twp. 24-S Rge. 36-E

(B) Drilling Contractor Leatherwood Drlg. Co. License No. WD-452
Street and Number P. O. Drawer N
City Kermit State Texas 79745
Drilling was commenced October 3 1967
Drilling was completed October 15 1967

Elevation at top of casing in feet above sea level 3401 Total depth of well 4500'
State whether well is shallow or artesian Artesian Depth to water upon completion 3900'

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	3900	4500	600	White dolomite
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
13-3/8	35.6		0	350	350			
9-5/8			0	3890	3890			

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
0	350	17-1/2		300	
350	3890	12-1/4		300	

Section 5 PLUGGING RECORD

Name of Plugging Contractor ______ License No. ______
Street and Number ______ City ______ State ______
Tons of Clay used ______ Tons of Roughage used ______ Type of roughage ______
Plugging method used ______ Date Plugged ______ 19___
Plugging approved by:

______
Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

STATE ENGINEER OFFICE
Date Received 1967 OCT 25 AM 8:24

File No. CP-435-X Use S.R.O. Location No. 24.36.9.~~340~~ 311.33 311444

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	300	300	Red & tan	Sand & caliche
300	400	100	Red	Red bed, sand & shale
400	500	100	Red Red	sand & red shale
500	700	200	Red	Red shale
700	950	250	Red & gray	Sand
950	1550	600	Red	Red shale
1550	1650	100	Gray & white	Anhydrite
1650	3000	1350	White	Salt
3000	3300	300	White	Anhydrite & salt
3300	3450	150	Gray & white	Anhydrite & dolomite
3450	3700	250	Buff & gray	Sand & dolomite
3700	3900	200	Buff & white	Dolomite, Anhy. & sand
3900	4500	600	White	Dolomite

Wellhead Elev. 3340'

L.S Elev 3340'

Depth to K Trc 3001'

Elev of K Trc 3101'

Well Schedule - 3.1414

Loc. No. 24.36.9.31133

Hydro. Survey Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet

Determined by Inst. Leveling

Other Sch'l. Rept.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

C B Leatherwood

Well Driller

C. B. Leatherwood, President
Leatherwood Drilling Company

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

FIELD ENGR. LOG

Section 1. GENERAL INFORMATION

(A) Owner of well Getty Oil Company Jal Water S Owner's Well No. Well #2

Street or Post Office Address P.O. Box 730

City and State Hobbs, N.M. 88240

Well was drilled under Permit No. CP-435X and is located in the:

a. ~~NW~~ NE ¼ ~~SW~~ SE ¼ - ¼ - ¼ of Section 9 Township 24S Range 36E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Lea County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

PJB/ll

Section 5. PLUGGING RECORD

Plugging Contractor Getty Oil Company

Address P.O. Box 730, Hobbs, N.M. 88240

Plugging Method Displacement

Date Well Plugged 8/15/79

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1	0	10	13
2	72	400	264
3	400	1250	132
4	1418	1550	66

FOR USE OF STATE ENGINEER ONLY

Date Received January 13, 1981

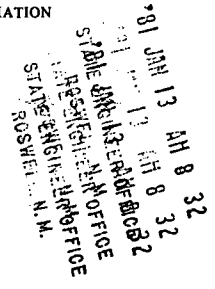
Quad _____ FWL _____ FSL _____

File No. CP-435-X Use Notice of Intention SRO Location No. 24.36.9.311444

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered

Section 7. REMARKS AND ADDITIONAL INFORMATION



The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

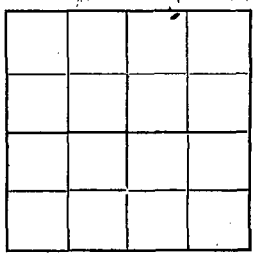
INSTRUCTIONS: This fo ould be executed in triplicate, preferably typewritten, and submitted appropriate district office
of the State Engineer. Al ions, except Section 5, shall be answered as completely and accurate possible when any well is

Form WR-23 STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well WORLD WIDE ENERGY INC. (WESCO DEVL. & OPR.)

Street and Number 1100 WESTERN FED. SAVINGS BLDG.

City DENVER State COLO.

Well was drilled under Permit No. and is located in the NE ¼ NW ¼ NE ¼ of Section 15 Twp. 24S Rge. 36E

(B) Drilling Contractor JUNIE L. WHITE License No. WD 439

Street and Number 708 N3rd

City JAL State N.M.

Drilling was commenced 1-1-75 19 75

Drilling was completed 10- 8 19 75

Elevation at top of casing in feet above sea level 3400 Total depth of well 251

State whether well is shallow or artesian Depth to water upon completion 173'

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	198	248	50	light red quick sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
6"	23	Weld.	1	230	230	none	170	230
5½	18	"	202	251	49	"	230	250

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
					none

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received

File No. Use Location No. 22/212

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
1	5	5	light red	sand rock (hard)
5	198	193	"	" (soft)
198	248	50	"	quick sand and water
248	251	3	red	red bed

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Well Driller

'75 OCT 24 AM 8 39

STATE ENGINEER OFFICE
ROSWELL, N.M.

STATE ENGINEER OFFICE

WELL RECORD

FIELD ENGR. LOG

Section 1. GENERAL INFORMATION

(A) Owner of well Weco Development Corp. Owner's Well No. _____
Street or Post Office Address 1100 western Federal Bldg.
City and State Denver, Col. 80202

Well was drilled under Permit No. CP-559 and is located in the:

NE¼ NW NE¼
a. NW ¼ NE¼ NE ¼ ¼ of Section 15 Township 24-S Range 36** N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor W. L. Van Noy License No. WD-208

Address Box 74 Oil Center, New Mexico 88266

Drilling Began July 6, 1976 (?) Completed July 30, 1976 Type tools spudder Size of hole 10 in.

Elevation of land surface or 3382 at well is _____ ft. Total depth of well 500 ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well 450 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
450	500	50	water sand	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
8	welded		0	245	245	0	0	
6 5/8	welded		0	500	500	0	420	445

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received August 9, 1977

Quad _____ FWL _____ FSL _____

File No. CP-559 Use DOM & STK Location No. 24.36.15.221212

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	5	5	top soil
5	50	45	caliche
50	245	195	loose dry sand
245	450	205	red shale
450	500	50	water sand.

L S Elev 33[illegible]
Depth to K ______ Trc 245
Elev of K ______ Trc 3137

Loc. No. 24.36.15.221.2[illegible]

Hydro. Survey ______ Field Check JDA

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet X

~~Determined by Inst. Leveling~~ ______

Other ______

Section 7. REMARKS AND ADDITIONAL INFORMATION

'77 AUG 9 AM 8 18
[illegible] ER OFFICE
N.M.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

W. [illegible] Driller

INSTRUCTIONS: This fo[illegible] should be executed in triplicate, preferably typewritten, and submitted [illegible] the appropriate district office of the State Engineer. [illegible]tions, except Section 5, shall be answered as completely and accur[illegible] as possible when any well is drilled, repaired or deepene[illegible]. When this form is used as a plugging record, only Section 1(a) and Sectio[illegible] need be completed.

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address _____
City and State _____

Well was drilled under Permit No. _____ and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section _____ Township _____ Range _____ N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 12-16-77

Quad _____ FWL _____ FSL _____

File No. _____ Use Oil Location No. 24.36.15.22000

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	35		Caliche
35	80		Sand
80	90		Lime
90	235		Sand and shells
235	290		Red bed
290	350		Sand and blue shale
350	400		Broken lime
400	470		Sandy lime
470	480		Red bed and shale
480	495		Lime
495	572		Red bed and shale
572	600		Sand
600	670		Sandy lime
670	722		Red bed and sand
722	740		Red bed and lime shells
740	795		Shale and lime shells
795	821		Shale and lime shells
821	840		Lime
840	910		Red bed
			L S Elev ______ [illegible]
			Depth to K______Trc 235'?
			Elev of K______Trc 3133'?

Section 7. REMARKS AND ADDITIONAL INFORMATION

This well record is an excerpt from the Oil Conservation Commission files at Hobbs, New Mexico.

Location: 24.36.15.22000 Elevation: 3380' TC
Owner: Amerada Pet. Corp.
Isbell #2
Record of Casing: 12 1/2" - 235'
9 5/8" - 2813'
Rotary

24.36.15.22000

660FNL 660FEL

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. A[illegible] ions, except Section 5, shall be answered as completely and accurat[illegible] possible when any well is drilled, repaired or deepen[illegible] [illegible]

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address _____
City and State _____

Well was drilled under Permit No. _____ and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section _____ Township _____ Range _____ N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 12-16-77

Quad _____ FWL _____ FSL _____

File No. _____ Use 011 Location No. 24.36.15.42000

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	26		Caliche
26	224		Sand
224	575		Red bed
575	1190		Sand and red bed
			L S Elev _____
			Depth to K_____Trc 2227?
			Elev of K_____Trc 3143?

Section 7. REMARKS AND ADDITIONAL INFORMATION

This well record is an excerpt from the Oil Conservation Commission files at Hohhs, New Mexico.

Location: 24.36.15.42000 CC Elevation: 3367' DF CK
Owner: Continental Oil Co.
Vaughn A-15 Fed. #3
Record of Casing: 10 3/4" - 220'
7 5/8" - 1797'

Rotary

1980' N of SL - 660' W of EL

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All questions, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record only Section 1(a) and Section ... must be completed.

Form WR-23 STATE ENGINEER OFFICE ...D ENGR. LOG

WELL RECORD

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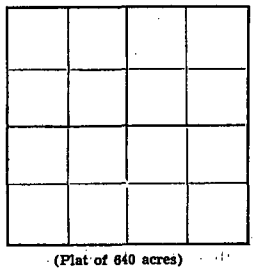
Section 1



(Plat of 640 acres)

(A) Owner of well .....

Street and Number .....

City ..... State .....

Well was drilled under Permit No. ..... and is located in the

..... ¼ ..... ¼ ..... ¼ of Section ..... Twp. ..... Rge. .....

(B) Drilling Contractor ..... License No. .....

Street and Number .....

City ..... State .....

Drilling was commenced ..... 19....

Drilling was completed ..... 19....

Elevation at top of casing in feet above sea level 3388 Total depth of well .....

State whether well is shallow or artesian ..... Depth to water upon completion .....

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used

Section 5 PLUGGING RECORD

Name of Plugging Contractor ..... License No. .....

Street and Number ..... City ..... State .....

Tons of Clay used ..... Tons of Roughage used ..... Type of roughage .....

Plugging method used ..... Date Plugged ..... 19....

Plugging approved by:

..... Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received ..... STATE ENGINEER OFFICE 1970 OCT 13 AM 8:19

File No. C-1-482 Use NOTICE OF INTENTION Location No. 24.36.16.120

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Pool Co by RD Nayer
Well Driller

Form WR-23 STATE ENGINEER OFFICE

OLD ENGR. LOG

WELL RECORD

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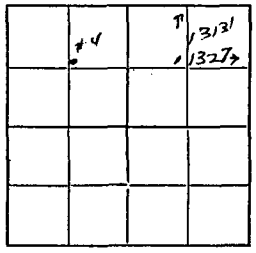
Section 1



(Plat of 640 acres)

(A) Owner of well Skelly Oil Co.

Street and Number Box 1650

City Tulsa State Okla.

Well was drilled under Permit No. and is located in the NE ¼ ¼ ¼ of Section 16 Twp. 24-S Rge. 36-E

(B) Drilling Contractor Leatherwood Drlg. Co. License No. WD 452

Street and Number P. O. Drawer N

City Kermit State Texas

Drilling was commenced March 28, 19 72

Drilling was completed April 11, 19 72

Elevation at top of casing in feet above sea level Total depth of well 4500

State whether well is shallow or artesian Depth to water upon completion 960'

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	3800	4500	700	White & Gray Sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
13 3/8"	48 & 54#	8 rd.	4'under ground	359'	344'	Tex. pattern		
9 5/8"	36 & 40#	8 rd.	8"under ground	3849	3837	FC & GS		

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
0	360	17 1/2		400	Cement circulated
360	3850	12 1/4		1340	Cement circulated
3850	4500	8 3/4			Open hole

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received 1972 MAY -1 AM 8:50

File No. CP-435-X-2 Use SRO Location No. 24.36.16.211144

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	70	70	Gray	Surface Rock
70	250	180	Tan	Sand
250	360	110	Red	Clay
360	1548	1188	Red	Sand & Clay
1548	3142	1594	White & Gray	Salt & Anhy & Gypson
3142	3592	450	Gray & Tan	Lime & Sand
3592	3800	208	Tan	Lime & Dolomite
3800	4500	700	White & Gray	Sand

L S Elev [illegible]
Depth to K [illegible] Trc 250'
Elev of K [illegible] Trc [illegible]

Loc. No. 24.36.16.21444
Hydro. Survey X Field Check

SOURCE OF ALTITUDE GIVEN
Interpolated from Topo. Sheet
Determined by Inst. Leveling X (3777')
Other

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

E. P. Leatherwood

Well Driller

E. P. Leatherwood, President of
Leatherwood Drilling Company

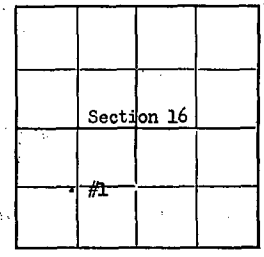
Form WR-23 STATE ENGINEER OFFICE

FIELD ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well Skelly Oil Company

Street and Number P. O. Box 730

City Hobbs State New Mexico 8824

Well was drilled under Permit No. and is located in the

¼ NW ¼ SW/ ¼ of Section 16 Twp. 24S Rge. 36E

(B) Drilling Contractor Leatherwood Drlg. Co. License No. WD-452

Street and Number P. O. Drawer N

City Kermit State Texas 79745

Drilling was commenced August 11 19 67

Drilling was completed August 27 19 67

1313' FSL & 1309.7' FWL.

Elevation at top of casing in feet above sea level 3380' Total depth of well 4500'

State whether well is shallow or artesian Artesian Depth to water upon completion 3955'

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	168	254	86	Gray and white sand
2	3955	4500	545	white dolomite and white sand
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
13-3/8"	35.6	welded	0	350	350	Bell Jt.		
9-5/8"	40.0	8 RD	0	3951	3951	Halliburton		

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
0	350	17-1/4"	3.5 sx gel	350	Halliburton cement circulated
350	3966	12-1/4"	water	300	Halliburton
3966	4500	8-3/4"	water		

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received 1967 SEP -7 AM 8:35

STATE ENGINEER OFFICE

File No. CP-435-X-3 Use STRO Location No. 24.36.16.3000

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	168	168		Surf. caliche and sand
168	254	86	Gray & white	Sand
254	350	96		Red bed
350	1023	673		Sand and red bed
1023	1322	299		Red bed and sand
1322	1592	270		Anhydrite
1592	1777	185		Salt and anhydrite
1777	2140	363		Anhydrite and salt
2140	2307	167		Anhydrite
2307	2727	420		Anhydrite and salt
2727	3129	402		Salt and anhydrite
3129	3342	213		Anhydrite
3342	3384	42		Salt
3384	3502	118		Dolomite
3502	3750	248		Yates sand
3750	3955	205		Lime
3955	4500	545	White	Dolomite and sand

L S Elev 3380 Rept
Depth to K Trc 254
Elev of K Trc 3126

Loc. No. 24.36.16 33222

Hydro. Survey ____ Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet

Determined by Inst. Leveling ____

Other Skelly

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

C. B. Leatherwood
Well Driller

C. B. Leatherwood, President

Form WR-23 STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well J.T. CRAWFORD

Street and Number DRAWER T

City JAL, State N.M.

Well was drilled under Permit No. and is located in the SW ¼ SW ¼ SE ¼ of Section 20 Twp. 24S Rge. 36E

(B) Drilling Contractor WILLIS L. WHITE License No. WD-639

Street and Number 708 N. 3RD.

City JAL State N.M.

Drilling was commenced 11-6 19 74

Drilling was completed 7-1 19 75

Elevation at top of casing in feet above sea level 3300 Total depth of well 127

State whether well is shallow or artesian shallow Depth to water upon completion 97

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1				
2	97	125	28	QUICK SAND only a seap of water maby a quart per min.
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
5" S.W.	14	T&C	1	127	128	C	95	125

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
					none down to 95'
					1/3 sack of aquajell in quick sand, was bailed out when gravel packed

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received

File No. CP-543 Use STK Location No. 24.36.20.3.3.3

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
1	3	3	CLAICHE	ROCK
3	20	17	light red	sand rock
20	43	23	claiche	soft rock
43	87	44	light red	sand rock
87	88	1	tan	quick sand
88	97	9	tan	sand rock
97	125	28	tan	quick sand
125	127	2	red	red bed

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Quinn L White
Well Driller

Revised June 1972

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address _____
City and State _____

Well was drilled under Permit No. _____ and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section _____ Township _____ Range _____ N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 12-15-77

Quad _____ FWL _____ FSL _____

File No. _____ Use Oil Location No. 24.36.22.41000

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	40		Sand and caliche
40	170		Sand
170	180		Sand (showing water)
180	230		Gray shale
230	270		Blue shale
270	280		Red bed
280	290		Blue shale
290	310		Red bed
310	320		Blue shale
320	350		Red bed
350	360		Gray shale
360	445		Red bed
445	450		Blue shale
450	480		Blue shale and lime
480	500		Sand
500	540		Hard sand
540	550		Sand and lime
550	570		Sand
570	590		Red bed
590	615		Water sand
615	625		Sand
625	630		Blue shale
630	650		Red bed
650	695		Shale
695	700		Gravel
700	705		Blue shale
705	715		Lime
715	725		Broken lime
725	1290		Red bed
1290	1313		Anhydrite

1310FSL

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address _____
City and State _____

Well was drilled under Permit No. _____ and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section _____ Township _____ Range _____ N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 2/13/78

Quad _____ FWL _____ FSL _____

File No. CP-366 Use 011 Location No. 24.35.10.11000

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	11		-----
11	610		Sand
610	1250		Red bed

Section 7. REMARKS AND ADDITIONAL INFORMATION

This well record is an excerpt from Oil Conservation Commission files at Hobbs, N.M.

Location: 24.35.10.11000 Elevation: 3681' GrL.
Owner: Gulf Oil Corp.
Lea State "GB" #2
Record of Casing: 8 5/8" 346'

Rotary

660' FNL - 660' FWL

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All questions, except Section 5, shall be answered as completely and accurately as possible when any well is

Revised June 1972

FIELD ENGR. U

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

Cinta Rojo State # 1

(A) Owner of well Getty Oil Co. Owner's Well No. _____

Street or Post Office Address P.O. Box 730

City and State Hobbs, New Mexico 88240

Well was drilled under Permit No. CP-573 and is located in the:

a. _____ ¼ SW ¼ SE ¼ NW ¼ of Section 10 Township 24S Range 35E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____ Subdivision, recorded in Lea County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Abbott Bros. License No. WD-46

Address P.O. Box 637, Hobbs, New Mexico 88240

Drilling Began 9/28/78 Completed 10/12/78 Type tools Cable Size of hole 8¾ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 405 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 300 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
300	405	105	Sand	20

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
5½		Welded	0	406	406	None	355	405

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received October 19, 1978

Quad _____ FWL _____ FSL _____

File No. CP-573 Use OWD Location No. 24.35.10.14311

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	4	4	Topsoil
4	15	11	Caliche
15	122	107	Sand and sandstone
122	350	228	Red bed
350	394	44	Sand and sandstone
394	405	11	Red bed

Section 7. REMARKS AND ADDITIONAL INFORMATION

1978 OCT 19 AM 8:14

STATE ENGINEER OFFICE

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Murrell Abbott
Driller N.B

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well GETTY OIL COMPANY Owner's Well No. _____

Street or Post Office Address P.O. Box 730

City and State Hobbs, New Mexico 88240

Well was drilled under Permit No. CP-573 and is located in the:

a. _____ ¼ SW ¼ SE ¼ NW ¼ of Section 10 Township 24 S Range 35 E N.M.P.M

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ Lea County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor GETTY OIL COMPANY

Address P.O. Box 730, Hobbs, N.M. 88240

Plugging Method Redi-Mix *

Date Well Plugged 11/1/79

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1	Surface	TD	54
2		(406')	
3			
4	*Filled casing with redi-mix concrete		2 yds of

FOR USE OF STATE ENGINEER ONLY

Date Received August 29, 1980

Quad _____ FWL _____ FSL _____

CP-573 QUD

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered

Section 7. REMARKS AND ADDITIONAL INFORMATION

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
'90 AUG 29 AM 8 08

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

[illegible] and submitted to the appropriate district office

Revised June 1972

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address _____
City and State _____

Well was drilled under Permit No. _____ and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section _____ Township _____ Range _____ N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 2/13/78

Quad _____ FWL _____ FSL _____

File No. _____ Use 011 Location No. 24.35.12.23000

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	175		Surface sand
175	745		Red bed
745	1117		Red bed, anhydrite
			L S Elev 3472 ±
			Depth to K Tr 173
			Elev of K Tr 3297 ±

Section 7. REMARKS AND ADDITIONAL INFORMATION

This well record is an excerpt from Oil Conservation Commission files at Hobbs, N.M.

Location: 24.35.12.~~23000~~ 140

Owner: British American Oil Prod. Co.
Federal Fields #1

Record of Casing: 13 3/8" - 313.47'

Elevation: 3466' GL
3479' KB
3461 Topo

Rotary

1980' S of NL - 1980' W of El

1980 FNL 1980 FWL

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address _____
City and State _____

Well was drilled under Permit No. _____ and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section _____ Township _____ Range _____ N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:
_____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 2/13/78

Quad _____ FWL _____ FSL _____

File No. _____ Use 011 Location No. 24.35.13.42000

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	50		No record
50	105		Surface lime
105	1647		Red bed with shells, red rock

Section 7. REMARKS AND ADDITIONAL INFORMATION

This well record is an excerpt from Oil Conservation Commission files at Hobbs, N.M.

Location: 24.35.13.42000 Elevation: 3423' TC
Owner: Bert Fields
Beatz #1
Record of Casing: 13 3/8" - 275.45

Rotary

1980' N of SL - 660' W of EL

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

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Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well _____ Owner's Well No. _____
Street or Post Office Address _____
City and State _____

Well was drilled under Permit No. _____ and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section _____ Township _____ Range _____ N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor _____ License No. _____

Address _____

Drilling Began _____ Completed _____ Type tools _____ Size of hole _____ in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well _____ ft.

Completed well is ☐ shallow ☐ artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received Typed 2/13/78

Quad _____ FWL _____ FSL _____

File No. _____ Use 011 Location No. 24.35.15.23000

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	11		KDB - GRD
11	450		Sand
450	1097		Red bed

Section 7. REMARKS AND ADDITIONAL INFORMATION

This well record is an excerpt from Oil Conservation Commission files at Hobbs, N.M.

Location: 24.35.15.23000 Elevation: 3360' GR
Owner: Gulf Oil Corp.
Lea State "GB" #1
Record of Casing: 8 5/8" 341'

1980' FNL - 1980' FEL

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. ons, except Section 5, shall be answered as completely and accurat possible when any well is