



State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



ADMINISTRATIVE ORDER DHC-1140

Texaco Exploration & Production, Inc.
3300 North Butler Avenue
Farmington, New Mexico 87401

Attention: Ted A. Tipton

RECEIVED
JUL - 3 1995

OIL CON. DIV.
DIST. 3

*H.J. Loe⁶ Federal ~~1~~ Well No. 3
Unit M, Section 23, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico.
Fulcher Kutz Pictured Cliffs (Gas) and Basin Dakota (Prorated Gas) Pools*

Dear Mr. Tipton:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the two zones is hereby placed in abeyance.

In accordance with the provisions of Rule 303-C-4., total commingled oil production from the subject well shall not exceed 30 barrels per day, and total water production shall not exceed 60 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's San Juan Basin Gas Proration Schedule.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

Fulcher Kutz Pictured Cliffs (Gas)	Oil 0%	Gas 50%
Blanco Mesaverde (Prorated Gas) Pool	Oil 100%	Gas 50%

VILLAGRA BUILDING - 408 Galisteo
Forestry and Resources Conservation Division
P.O. Box 1948 87504-1948
827-5830
Park and Recreation Division
P.O. Box 1147 87504-1147
827-7465

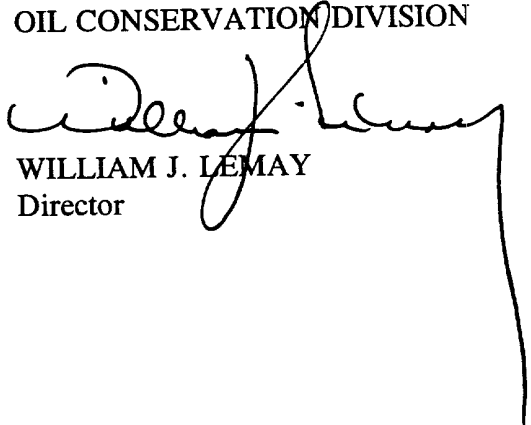
2040 South Pacheco
Office of the Secretary
827-5950
Administrative Services
827-5925
Energy Conservation & Management
827-5900
Mining and Minerals
827-5970
Oil Conservation
827-7131

FURTHER: The operator shall notify the Aztec District Office of the Division upon implementation of the commingling process.

Pursuant to Rule 303-C-5, the commingling authority granted by the order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Approved at Santa Fe, New Mexico on this 2nd day of June, 1995.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
Director

S E A L

WJL/BES

cc: Oil Conservation Division - Aztec ✓
Bureau of Land Management - Farmington

Ernie Busch

From: Ernie Busch
To: David Catanach
Cc: Ben Stone
Subject: TEXACO (DHC) H.J.LOE FED B #3
Date: Friday, June 09, 1995 11:04AM
Priority: High

H. J. LOE FEDERAL B #3
M-23-29N-12W
RECOMMEND: APPROVAL



COMMON FUNCTIONS OF ONGARD

- * SECURITY
- * INDUSTRY ACCESS
- * NOTICE MANAGEMENT
- * COMMON NAME/ADDRESS FILE

ONGARD
SYSTEM



Texaco Exploration and Production Inc

3300 N. Butler
Farmington NM 87401

May 19, 1995

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505

Attention: David Catanach

RE: **Application for exception to NMOCD Rule 303-A: Downhole Commingle of
H.J. Loe Federal B No. 3 890' FSL & 790' FWL, Unit M, Sec. 23-T29N-
R12W, NMPM, San Juan County, New Mexico**

Dear Mr. Catanach:

Texaco Exploration and Production Inc. respectfully requests administrative approval to downhole commingle the Fulcher Kutz Pictured Cliffs Gas Pool and the Basin Dakota Gas Pool within the referenced well. Approval of this application would require an exception to NMOCD Rule 303-A. Please accept the attached information in your consideration of this matter. All offset operators and the BLM were notified of this request by certified mail (copy of return receipt cards attached).

Production methods are limited due to the 4-1/2" production casing the well is completed with. This size of casing does not offer sufficient room to run adequately sized tubing strings to each formation. The downhole commingling of these zones will offer an economic method of production without reservoir damage, waste reserves, or violation of correlative rights.

If you have and questions concerning this matter please contact Mr. Robert Schaffitzel at (505) 325-4397, ext. 27. Your attention to this matter is greatly appreciated.

Sincerely,

Ted A. Tipton
Operating Unit Manager

RFS/s

Attachments
NMOCD-Aztec
file

RECEIVED
MAY 23 1995
OIL CON. DIV.
DIST. 3

Application for Exception to Rule 303-Segregation of Production From Pools

- (1) **Name and address of the operator:** Texaco Exploration and Production
3300 N. Butler Suite 100
Farmington, NM 87401

- (2) **Lease name, well number, well location, name of the pools to be commingled.**

Lease Name: H.J. Loe Federal B
Well Number: 3
Well Location: 890' FSL & 790' FWL, Unit M, Sec. 23
T29N-R12W, NMPM
San Juan County, New Mexico

Pools to Commingle: Fulcher Kutz, Pictured Cliffs
Basin, Dakota

- (3) **A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.**

Attached (Attachment I, II, III, IV)

- 4) **A current (within 30 days) 24-hour productivity test on Division C-116 showing the amount of oil, gas and water produced from each zone.**

The C-115 for H.J. Loe Federal B 3 Basin Dakota and Fulcher Kutz Pictured Cliffs are attached (Attachment V, VI).

- (5) **A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)**

Dakota completion: Decline curve attached (Attachment VII), well has effective annual decline of 9.55 % and a calculated GOR of 177,000 SCF/STB.

P.C. completion: Decline curve attached (Attachment VIII), formation was perforated at 1520'-1622' and stimulated on August 14, 1992 with 38,000 GALs of X-linked gel with 179,175 LBS of 20/40 sand.

Currently the Pictured Cliffs is logged off due to insufficient bottom hole pressure, therefore limiting production from the well. (Attachment IX, current completion, Attachment X, proposed completion).

- (6) **Estimated bottomhole pressure for each artificially lifted zone. A current (within 30 days) measured bottomhole pressure for each zone capable of flowing.**

Dakota completion: 450 psig (Attachment XI)
Fulcher Kutz completion: 264 psig (Attachment XI)

The Fulcher Kutz Pictured Cliffs and the Basin Dakota pressures are both shut-in pressures obtained from a State of NM packer leakage test conducted 09-20-93. The pressure differential between the zones will not present a crossflow problem. The proposed method of production is to run a 2-3/8" tubing string to the bottom of the Dakota perforations, run rods and install a pumping unit to pump both zones, this will keep all fluids off of the Dakota and Pictured Cliffs formations.

Application for Exception to Rule 303-Segregation of Production From Pools
Requirements Continued.

- (7) **A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.**

The fluids have no abnormal components that would prohibit commingling, or promote the creation of emulsions or scale (see attachment XII-A,B, produced water analysis from offset currently commingled).

- (8) **A computation showing that the value of the commingled production will not be less than the sum of the individual streams.**

<u>Dakota Production</u>		<u>Fulcher Kutz PC Production</u>	
Oil, BOPD	1	Oil, BOPD	0
Gas, MCFD	100	Gas, MCFD	100
Water, BWPD	1	Water, BWPD	5

The combined production from the PC and Dakota formations will be approximately 200 MCFD, 1 BOPD, and 6 BWPD. The increase in production will occur due to the pressure drop on both formations because the fluid will be pumped out through the 2 3/8" tubing and the gas will flow free of fluid up the 4.5" casing.

- (9) **A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula.**

Using our anticipated rates as shown in item #8 as an example, allocation will be calculated as follows:

	<u>Gas</u>	<u>Oil</u>	<u>Water</u>
Pictured Cliffs	100/200=50%	0/1=0%	5/6=83%
Dakota	100/200=50%	1/1=100%	1/6=17%

- (10) **A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.**

All offset operators and the BLM have been notified. Please find attached, signed return receipt cards from each operator (Attachment XIII).

OIL CONSERVATION DIVISION

**P.O. Box 2088
Santa Fe, New Mexico 87504-2088**

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Texaco Exploration & Production Inc. H.J. Loe Federal "B"		Lease		Well No. #3	
Unit Letter M	Section 23	Township 29N	Range 12W NMPM	County San Juan	
Actual Footage Location of Well: 890 feet from the South line and 790 feet from the West line					
Ground level Elev. 5496'	Producing Formation Pictured Cliffs		Pool Fulcher Kutz		Dedicated Acreage: 160 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
- ☐ Yes ☐ No If answer is "yes" type of consolidation _____
- If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____)
- No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.

790' 890'

RECEIVED
MAY 23 1995
OIL CON. DIV.
DIST. 3

Attachment I

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature _____

Printed Name
Ted A. Tipton

Position
Area Manager

Company **Texaco E & P Inc.**

Date 11-24-92

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed _____

Signature & Seal of
Professional Surveyor

Certificate No. _____

OFFSET OPERATORS
H.J. LOE FEDERAL 'B' #3
SEC. 23 T29N / R12W
FULCHER KUTZ PICTURED CLIFFS

15	14	13
22 B H P PETROLEUM	TEXACO E&P, INC 23 #3	24
27 B H P PETROLEUM	B H P PETROLEUM 26	25

OFFSET OPERATORS
H.J. LOE FEDERAL 'B' #3
SEC. 23 T29N / R12W
BASIN DAKOTA FIELD

15	14	13
UNOCAL 22 AMOCO PROD. CO	TEXACO E&P, INC 23 #3	CONOCO INC. 24 AMOCO PROD. CO
AMOCO PROD. CO 27	AMOCO PROD. CO 26	AMOCO PROD. CO 25

Offset Operators
H.J. Loe Federal B No. 3
Sec. 23 T29N/R12W

Amoco Production
200 Amoco Court
Farmington, NM 87401

BHP Petroleum (Americas) Inc.
Box 977
Farmington, NM 87499

CONOCO Inc.
3315 Bloomfield Hwy.
Bloomfield, NM 87413

UNOCAL Corp.
Box 850
Bloomfield, NM 87413

STRICT I

Box 1980, Hobbs, NM 88240

STRICT II

Drawer DD, Artesia, NM 88210

STRICT III

100 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals, and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. BOX 2088
Santa Fe, New Mexico 87504-2088

OPERATOR'S MONTHLY REPORT

Form C-115 - Revised 1/1/99
See Distribution and Code
Information Bottom of Page

Company

Operator TEXACO E & P INC.

3300 NORTH BUTLER

Address FARMINGTON, NM 87401

Zip

For
Month,
Year

02 1995

Page

39 of 125

POOL NAME (Underline) Lease Name		INJECTION			PRODUCTION			DISPOSITION OF GAS			DISPOSITION OF OIL												
NO.	WELL NO.	UNIT	SEC.	TWP.	RNG.	WELL STATUS	VOLUME	PRESS.	BARRELS OIL/COND. PRODUCED	BARRELS OF WATER PRODUCED	GAS PRODUCED (MCF)	DAYS PROD.	SOLD	TRANS-PORTER	OTHER	CODE	OIL ON HAND AT BEG. OF MONTH	BBL. TO TRANS-PORTER	TRANS-PORTER	OTHER	CODE	OIL ON HAND AT END OF MONTH	
SIN DAKOTA (PRORATED GAS)																							
LOE, H. J. FEDERAL "B"																							
-045-24554	2E	23	29N	12W		S	0	0	0	0	0	0											
-045-22163	2R	23	29N	12W		P	0	0	35	6	7180	28											
-045-07855	3	23	29N	12W		P	0	0	56	0	0	28											
-045-24555	3E	23	29N	12W		P	0	0	104	89	2880	28											
							0		195	95	10040		8725	TEP	315	U	404	159	MOI	0		440	

STATUS CODE

F FLOWING

P PUMPING

G GAS LIFT

S SHUT IN

T TEMP. ABANDONED

I INJECTION

D DISCONTINUED

"OTHER" GAS DISPOSITION CODE

X USED OFF LEASE

D USED FOR DRILLING

G GAS LIFT

L LOST (MCF ESTIMATED)

E EXPLANATION ATTACHED

R REPRESSURING OR PRESSURE MAINTENANCE

"OTHER" OIL DISPOSITION CODE

C CIRCULATING OIL

L LOST

S SEDIMENTATION (BS & W)

E EXPLANATION ATTACHED

T THEFT

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

T. A. TIPTON
(TYPED NAME)

AREA MANAGER
(POSITION)

505-325-4397
(PHONE NUMBER)

Attachment V

O Box 1980, Hobbs, NM 88240
STRICT II
 O Drawer DD, Artesia, NM 88211
STRICT III
 0000 Rio Brazos Rd., Aztec, NM 8

**State of New Mexico
Energy, Minerals, and Natural Resources Department**

OIL CONSERVATION DIVISION

**P.O. BOX 2088
Santa Fe, New Mexico 87504-2088**

OPERATOR'S MONTHLY REPORT

Form C-115 - Revised 1/1/9
See Distribution and Code
Information Bottom of Page

Company **TEXACO E & P INC.**
Operator
Address **3300 NORTH BUTLER FARMINGTON, NM 87401** Zip _____
For Month, Year **02 1995** Page **107** of **126**

POOL NAME (Underline)				INJECTION			PRODUCTION			DISPOSITION OF GAS		DISPOSITION OF OIL								
LEASE NAME				VOLUME	PRESS.	BARRELS OIL/COND. PRODUCED	BARRELS OF WATER PRODUCED	GAS PRODUCED (MCF)	DAYS PROD.	SOLD	TRANS-PORTER	OTHER	CODE	OIL ON HAND AT BEC. OF MONTH	BBL. TO TRANS-PORTER	TRANS-PORTER	OTHER	CODE	OIL ON HAND AT END OF MONTH	
POOL NO. WELL NO. UNIT SEC. TWP. RNG. ULCHEK KUTZ PICTURED CLIFF (GAS) LOE, H. J. FEDERAL "B" 0-045-24554 2E 23 29N 12W P 0-045-07955 3 23 29N 12W P 0-045-24555 3E 23 29N 12W S																				
				0		0	0	0	6894	8536 TEP	158 U			0	0				0	

Attachment VI

DISTRIBUTION

Original OCD Santa Fe
 e Copy OCD Dist Office
 in which lease is located
 e Copy to Transporter (s)

TE DUE
 be postmarked by 24th day
 of each month

STATUS CODE

FFLOWING
 PPUMPING
 GGAS LIFT
 SSHUT IN
 TTEMP. ABANDONED
 IINJECTION
 DDISCONTINUED

"OTHER" GAS DISPOSITION CODE

XUSED OFF LEASE
 DUSED FOR DRILLING
 GGAS LIFT
 LLOST (MCF ESTIMATED)
 EEXPLANATION ATTACHED
 RREPRESSURING OR
 PRESSURE MAINTENANCE

"OTHER" OIL DISPOSITION CODE

CCIRCULATING OIL
 LLOST
 SSEDIMENTATION (BS & W)
 EEXPLANATION ATTACHED
 TTHEFT

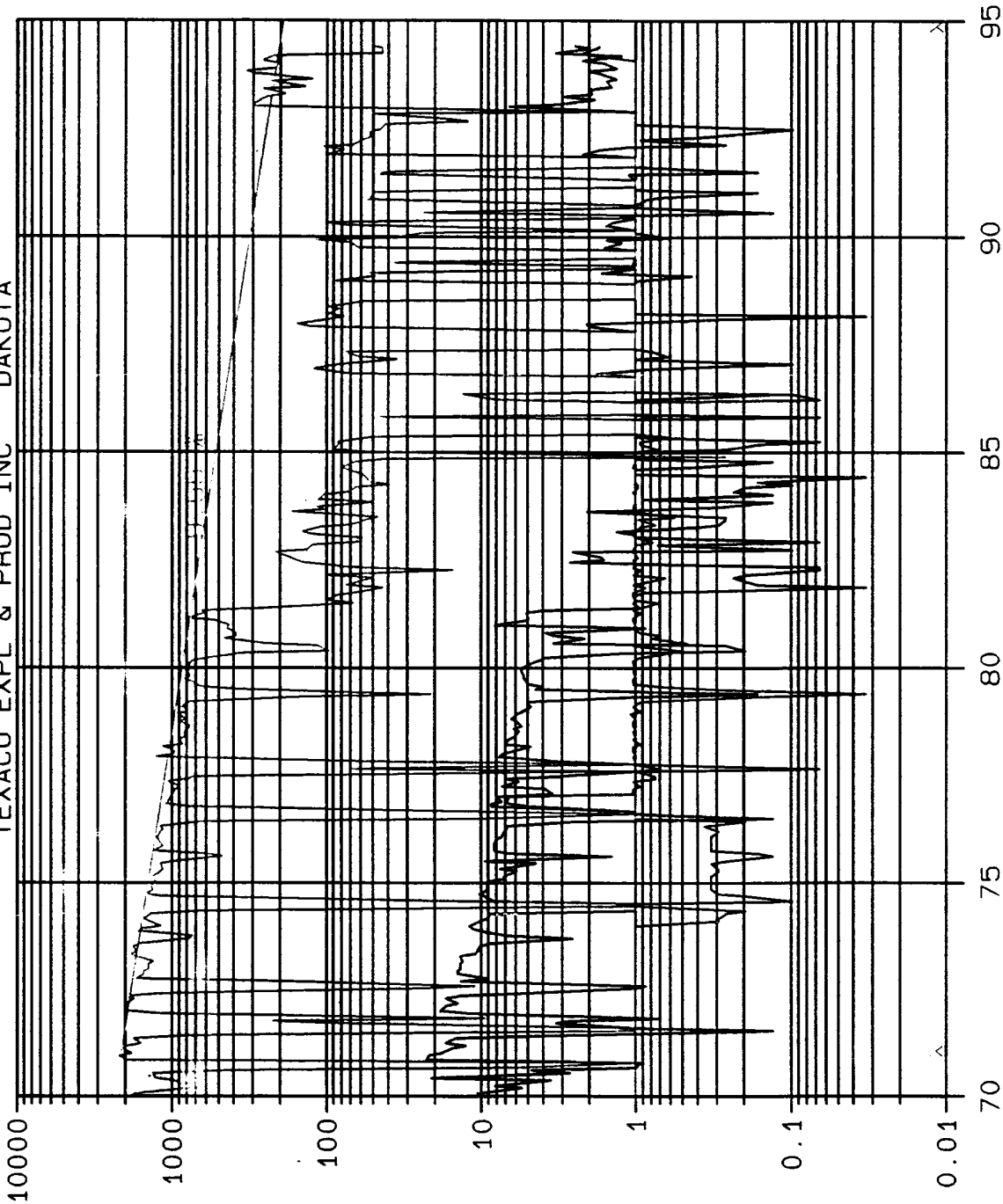
I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

T. A. TIPTON
 (TYPED NAME)
AREA MANAGER
 (POSITION)

505-325-4387
 (PHONE NUMBER)

Attachment VI

H J LOE B FEDERAL 000003 BASIN (DAKOTA) DK
TEXACO EXPL & PROD INC DAKOTA



BOPD BWPD MCFPD

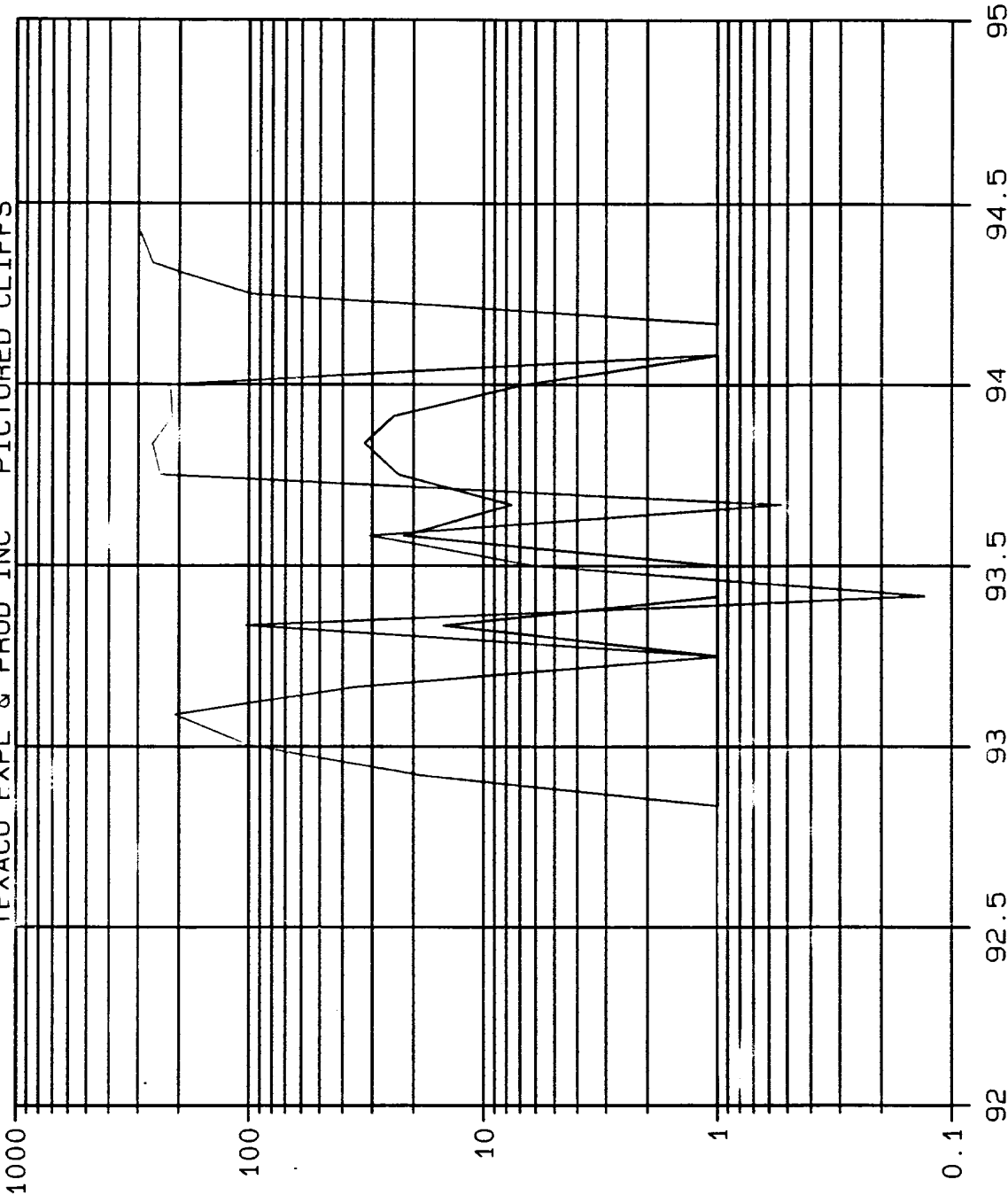
Attachment VII

LEASE DATA
LSE 29N12W23MOOI
FLD 8004974
OPER 158628
ZONE DAKOTA
29N-12W-23
COUNTY 045
STATE 30
300450795500
STATUS 5-94
CO 60 MBO
CG 7493 MMCF
CW 4 MBW
BOPD 2
BWPD 2
MCFPD 50
WELLS 1
CI 0 MBWI
BWIPD 0

YEARS

H J LOE B FEDERAL 000003 FULCHER KUTZ (PICTURED CLIFFS) PC

TEXACO EXPL & PROD INC PICTURED CLIFFS



LEASE DATA
 LSE 29N12W23MOOF
 FLD 8029874
 OPER 158628
 ZONE PICTURED CLI
 29N-12W-23
 COUNTY 045
 STATE 30
 300450795500
 STATUS 5-94
 CO 0 MBO
 CG 63 MMCF
 CW 4 MBW
 BOPD 0
 BWPD 0
 MCFPD 294
 WELLS 1
 CI 0 MBWI
 BWIPD 0

Attachment VIII

YEARS



11/18/92

H. J. LOE FEDERAL B No. 3

CURRENT COMPLETION

LOCATION:

Unit M, 890' FSL & 790' FWL
Sec. 23, T29N, R12W
San Juan County

SPUD DATE: 9/18/60

COMPL DATE: 10/10/60

FORMATION TOPS:

Pictured Cliffs 1505'
Mesa Verde 3070'
Mancos 4240'
Gallup 5137'
Greenhorn 5874'
Dakota 5970'

PICTURED CLIFFS PERFORATIONS:

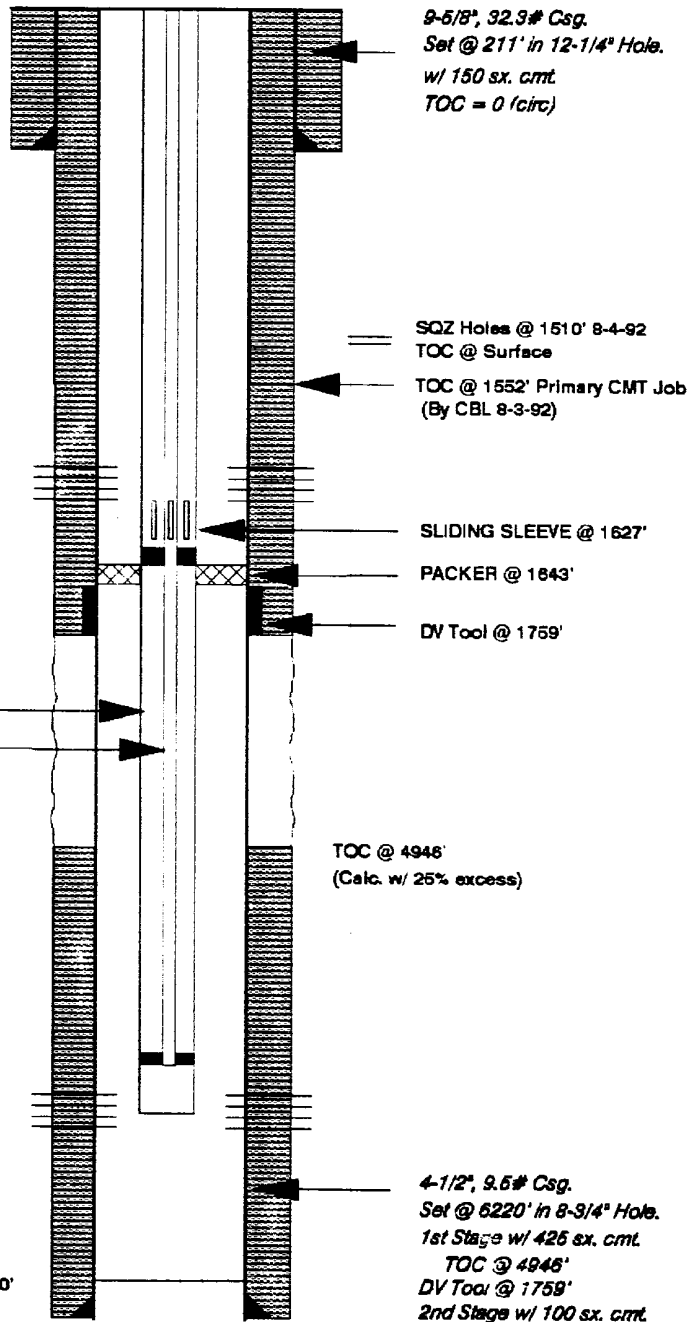
1520' - 1622'

2-3/8" TBG @ 5998'
1-1/4" TBG (inside 2-3/8" TBG)
@ 5976'

DAKOTA PERFS:

5970' - 6068'

PBTD - 6220'
TD - 6220'





4/27/95

H. J. LOE FEDERAL B No. 3

PROPOSED COMPLETION

LOCATION:

Unit M, 890' FSL & 790' FWL
Sec. 23, T29N, R12W
San Juan County

SPUD DATE: 9/16/60

COMPL DATE: 10/10/60

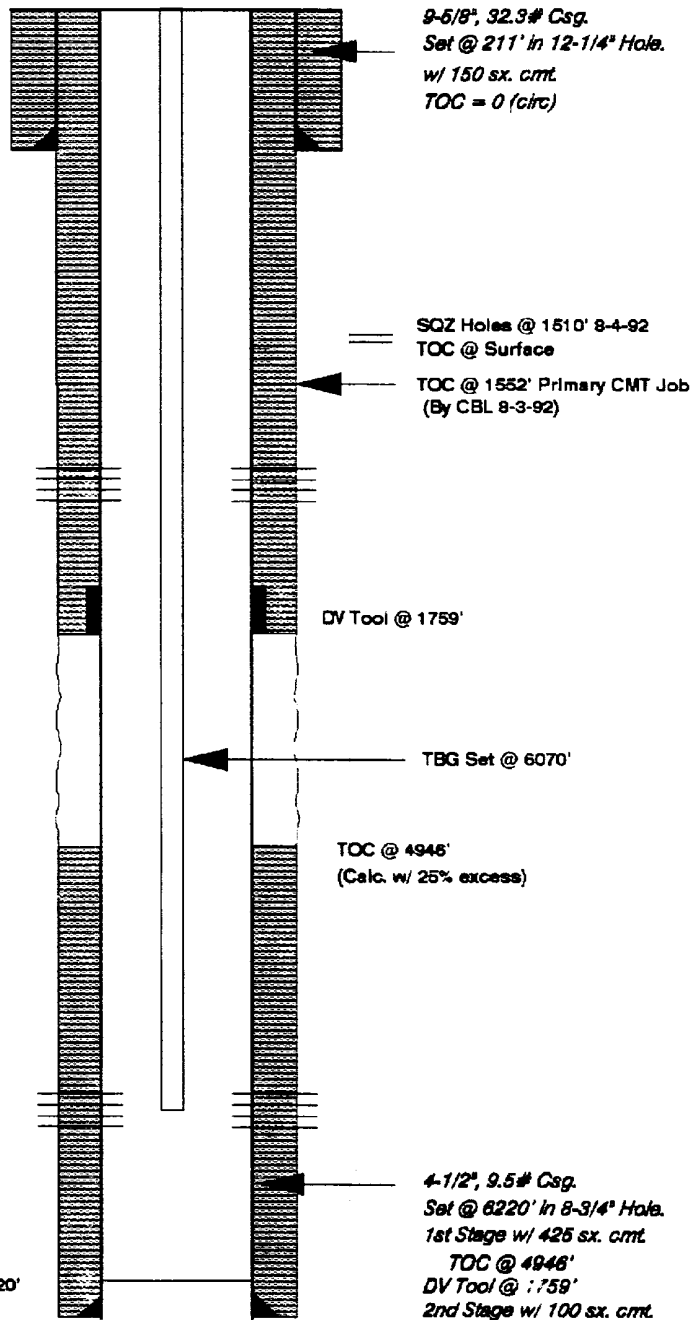
FORMATION TOPS:

Pictured Cliffs 1505'
Mesa Verde 3070'
Mancos 4240'
Gallup 5137'
Greenhorn 5874'
Dakota 5970'

PICTURED CLIFFS
PERFORATIONS:
1620' - 1622'

DAKOTA PERFS:
5970' - 6068'

PBTD - 6220'
TD - 6220'



Attachment X

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator TEXACO E & P INC. Lease H.J.LOE B FEDERAL Well No. 3Location of Well: Unit M Sec. 23 Twp. 29N Rge. 12W County SAN JUAN

	NAME OF RESERVOIR OR POOL	TYPE OF PROD. (OIL OR GAS)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
Upper Completion	FULCHER KUTZ PICTURED CLIFFS	GAS	FLOW	TBG
Lower Completion	BASIN DAKOTA	GAS	FLOW	TBG.

PRE-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)
Lower Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)

FLOW TEST NO. 1

Commenced at (hour, date)*				Zone producing (Upper or Lower)	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower completion		
8-7-93	24 HRS.	255	440		
8-8-93	48 HRS.	257	445		BOTH ZONES SHUT IN
8-9-93	72 HRS.	260	448		
8-10-93	96 HRS.	262	451		
8-11-93	120 HRS.	263	453		
8-12-93	144 HRS.	264	105		UPPER SHUT IN; LOWER ZONE FLOW
8-13-93	168 HRS.	264	90		UPPER SHUT IN; LOWER ZONE FLOW

Production rate during test

Oil _____ BOPD based on _____ Bbls. in _____ Hours _____ Grav _____ GOR _____
Gas _____ MCFPD; Tested thru (Orifice or Meter): _____

MID-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)
Lower Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)

UNICHEM INTERNATIONAL
P.O. BOX 61427 4312 County Road 1298 S.
Midland, Texas 79711

Texaco

Report Date: March 8, 1994
Lab In Date: March 8, 1994
Sample Date: March 4, 1994

Listed below please find our water analysis report from H J Lowe - 2E , DK :

Specific Gravity: 1.025
Total Dissolved Solids: 35126
PH: 7.72
Ionic Strength: .602

CATIONS:

		mg/liter
Calcium:	(Ca++)	144
Magnesium:	(Mg++)	136
Sodium:	(Na+)	13176
Iron (Total)	(Fe++)	.60
Barium	(Ba++)	49.50
Manganese:	(Mn++)	0.00
Resistivity:		

ANIONS:

Bicarbonate:	(HCO3-)	1659
Carbonate:	(CO3--)	0
Hydroxide:	(OH-)	0
Sulfate:	(SO4--)	10
Chloride:	(Cl-)	20000

GASES:

Carbon Dioxide:	(CO2)	*****
Oxygen:	(O2)	*****
Hydrogen Sulfide:	(H2S)	*****

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature	CaCO3 SI	CaSO4 SI
86F 30.0C	.57	-66.53
104F 40.0C	.79	-66.81
122F 50.0C	1.03	-66.53
140F 60.0C	1.37	-65.95
168F 70.0C	1.67	-65.09
176F 80.0C	2.01	-63.02

If you have any questions or require further information, please contact us.

Sincerely,

Jeanne McMurkey

Laboratory Technician

cc:

bc: Jerry Woodward

Attachment XII-A

UNICHEM INTERNATIONAL
P.O. BOX 61427 4312 County Road 1298 S.
Midland, Texas 79711

Texaco

Report Date: March 8, 1994
Lab In Date: March 8, 1994
Sample Date: March 4, 1994

Listed below please find our water analysis report from H J Lowe - 2E

, PC

:

Specific Gravity: 1.000
Total Dissolved Solids: 268
PH: 6.51
Ionic Strength: .004

CATIONS:

		mg/liter
Calcium:	(Ca++)	2
Magnesium:	(Mg++)	0
Sodium:	(Na+)	91
Iron (Total)	(Fe++)	19.60
Barium	(Ba++)	1.20
Manganese:	(Mn++)	0.00
Resistivity:		

ANIONS:

Bicarbonate:	(HCO3-)	73
Carbonate:	(CO3--)	0
Hydroxide:	(OH-)	0
Sulfate:	(SO4--)	2
Chloride:	(Cl-)	100

GASES:

Carbon Dioxide:	(CO2)	*****
Oxygen:	(O2)	*****
Hydrogen Sulfide:	(H2S)	*****

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	-2.73	-21.84
104F	40.0C	-2.45	-21.84
122F	50.0C	-2.33	-21.84
140F	60.0C	-2.13	-21.84
168F	70.0C	-2.01	-20.91
176F	80.0C	-1.85	-19.94

If you have any questions or require further information, please contact us.

Sincerely,

Jane McMurry

Laboratory Technician

cc:

bc: Jerry Woodward

Attachment XII-B

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
BHP Petroleum (Amex)
Inc.
Box 977
Fremington NM 87499

4a. Article Number
2 175 054 553

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

7. Date of Delivery
5-4-95

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

Signature (Agent)
Anthony Lopez

Signature (Addressee)

Thank you for using Return Receipt Service

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Unocal Corp
Box 850
Bloomfield NM 87413

4a. Article Number
2 175 054 552

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

7. Date of Delivery
5-4-95

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

Signature (Agent)
Melvin Ober

Signature (Addressee)

Thank you for using Return Receipt Service

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Conoco Inc.
3315 Bloomfield Hwy
Bloomfield NM 87413

4a. Article Number
2 175 054 551

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

7. Date of Delivery
5-4-95

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

Signature (Agent)
Anthony Lopez

Signature (Addressee)

Thank you for using Return Receipt Service

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Amoco Production
800 Amoco Court
Fremington NM 87401

4a. Article Number
2 175 050 041

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

7. Date of Delivery
5-3-95

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

Signature (Agent)
Steve Patton

Signature (Addressee)

Thank you for using Return Receipt Service

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Bureau of Land Management
Fremington Resource Area
1235 La Plata Hwy
Fremington NM 87401

4a. Article Number
2 175 054 512

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

7. Date of Delivery
5-12-95

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

Signature (Agent)
J. Hazzelbeck

Signature (Addressee)

Thank you for using Return Receipt Service

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714

1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Bureau of Land Management
Fremington Resource Area
1235 La Plata Hwy
Fremington NM 87401

4a. Article Number
2 175 054 512

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

7. Date of Delivery
5-12-95

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

Signature (Agent)
J. Hazzelbeck

Signature (Addressee)

Thank you for using Return Receipt Service