



Texaco Exploration and Production Inc

3300 N Butler
Farmington NM 87401

OIL CONSERVATION DIVISION

RECEIVED

May 19, 1995 09 08 52

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

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).

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

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

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

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 #3	
Unit Letter M	Section 23	Township 29N	Range 12W	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 hachure marks on the plat below.

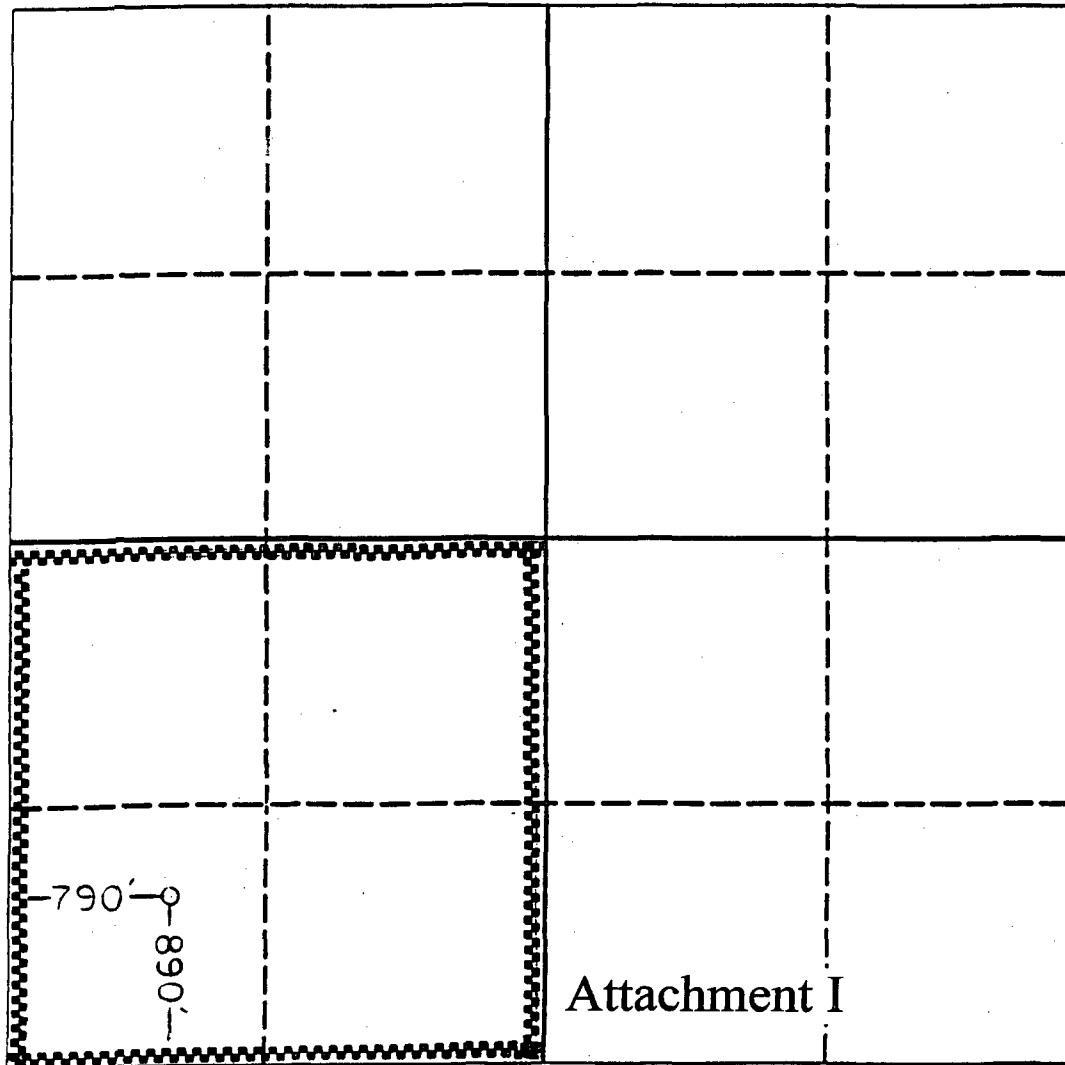
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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.



OPERATOR CERTIFICATION

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

Signature

Ted A. Tipton

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.

Attachment I

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

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

15	14	13
22 BHP PETROLEUM	TEXACO E&P, INC 23 #3 	24
27 BHP PETROLEUM	BHP PETROLEUM	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

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

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 or Operator **TEXACO E & P INC.** Address **3300 NORTH BUTLER FARMINGTON, NM 87401** Zip **87401** For Month, Year **02 1995** Page **39** of **125**

POOL NAME (Underline) Lease Name	WELL STATUS	INJECTION		PRODUCTION			DISPOSITION OF GAS			DISPOSITION OF OIL							
		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
4.P. NO. WELL NO. UNIT SEC. TWP. RNG.																	
BASIN DAKOTA (PRORATED GAS) ----- LOE, H. J. FEDERAL "B" -----																	
30-045-24554 2E 23 28N 12W S		0	0	0	0	0	0										
30-045-22163 2R 23 28N 12W P		0	0	35	6	7180	28										
30-045-07855 3 23 28N 12W P		0	0	56	0	0	28										
30-045-24555 3E 23 28N 12W P		0	0	104	89	2860	28										
		0		195	95	10040		9725	TEP	315	U	404	159	MOI		0	440

Attachment V

DISTRIBUTION Original OGD Santa Fe 1 Copy OGD Dist. Office in which lease is located 1 Copy to Transporter (s)	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 VVENTER	"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)	505-325-4397 (PHONE NUMBER)
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Attachment V

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

**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 Coding
Information Bottom of Page

Company **TEXACO E & P INC.**
 or Operator
 Address **3300 NORTH BUTLER
 FARMINGTON, NM 87401**
 Zip
 For Month, Year **02 1985** 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- POR- TER	OTHER	CODE	OIL ON HAND AT BEG. OF MONTH	BBL. TO TRANS- PORTER	TRANS- POR- TER	OTHER	CODE	OIL ON HAND AT END OF MONTH
A.P. NO.	WELL NO.	UNIT	SEC.	TWP.	RNG.																
FULCHER KUTZ PICTURED CLIFF (GAS)																					
LOE, H. J. FEDERAL "B"																					
30-045-24554	2E	23	29N	12W	P	0	0	0	0	87	0										
30-045-07855	3	23	29N	12W	P	0	0	0	0	8607	28										
30-045-24555	3E	23	29N	12W	S	0	0	0	0	0	0										
						0		0	0	6694		6536	TEP	158	U	0	0	0	0	0	0

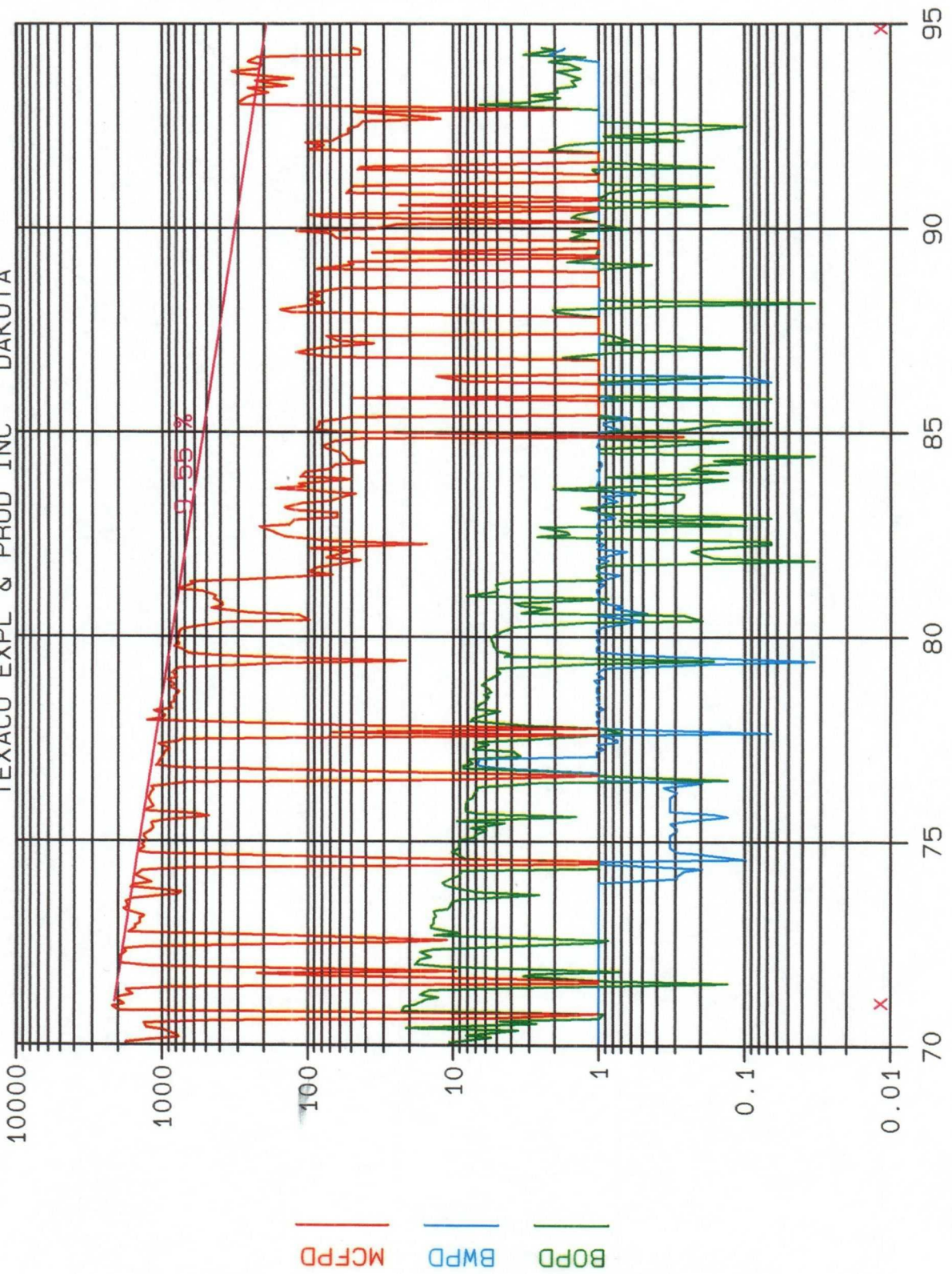
Attachment VI

DISTRIBUTION Original OCD Santa Fe Copy OCD Dist. Office in which lease is located Copy to Transporter (s) DATE DUE	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)	505-325-4397 (PHONE NUMBER)
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Attachment VI

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

LEASE DATA
 LSE 29N12W23M00C
 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



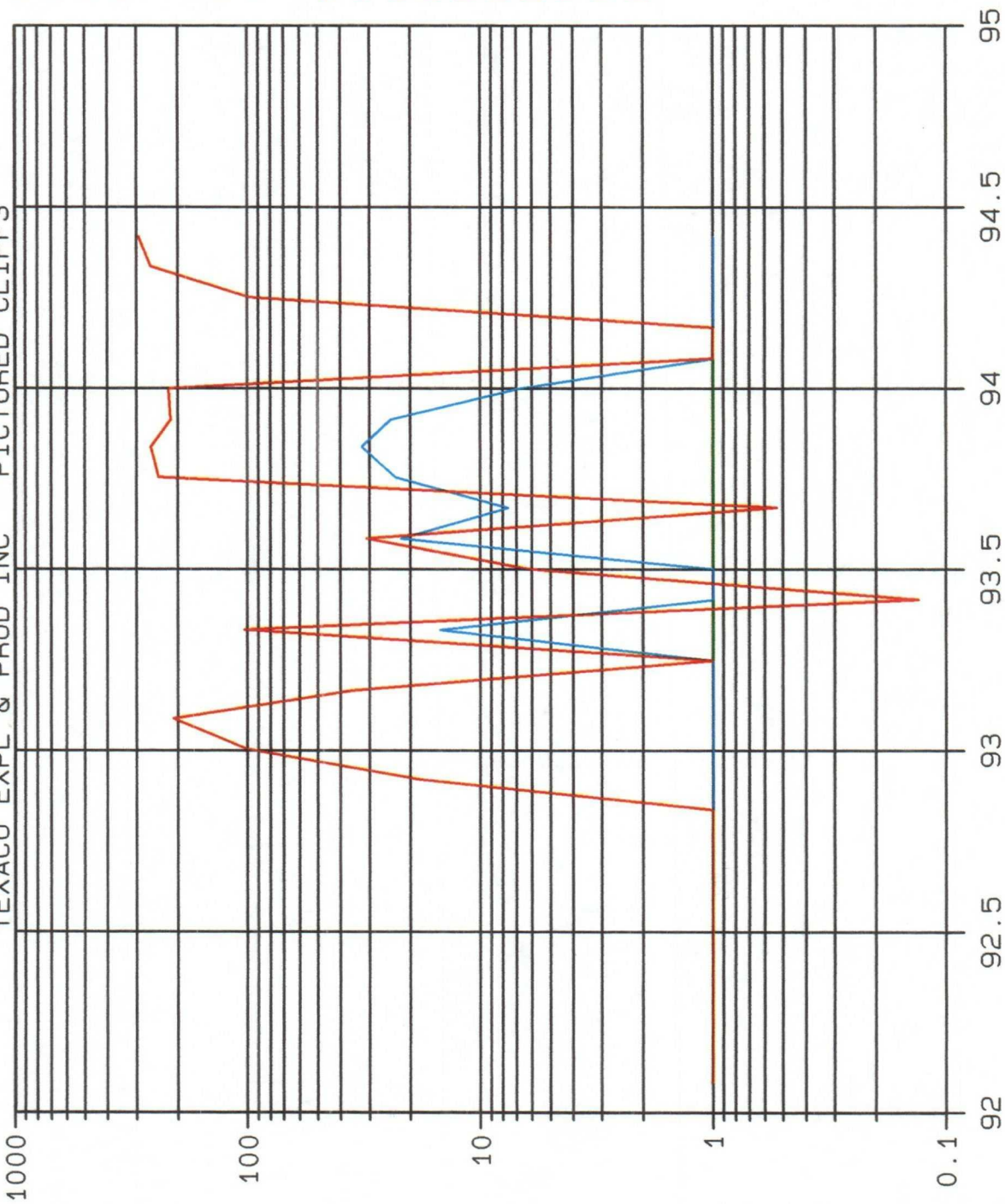
BOPD
 BWPD
 MCFPD

Attachment VII

YEARS

H J LOE B FEDERAL 000003 FULCHER KUTZ (PICTURED CLIFFS) PC
TEXACO EXPL & PROD INC PICTURED CLIFFS

LEASE DATA
LSE 29N12W23M00F
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





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: 9/16/60

COMPL DATE: 10/10/60

FORMATION TOPS:

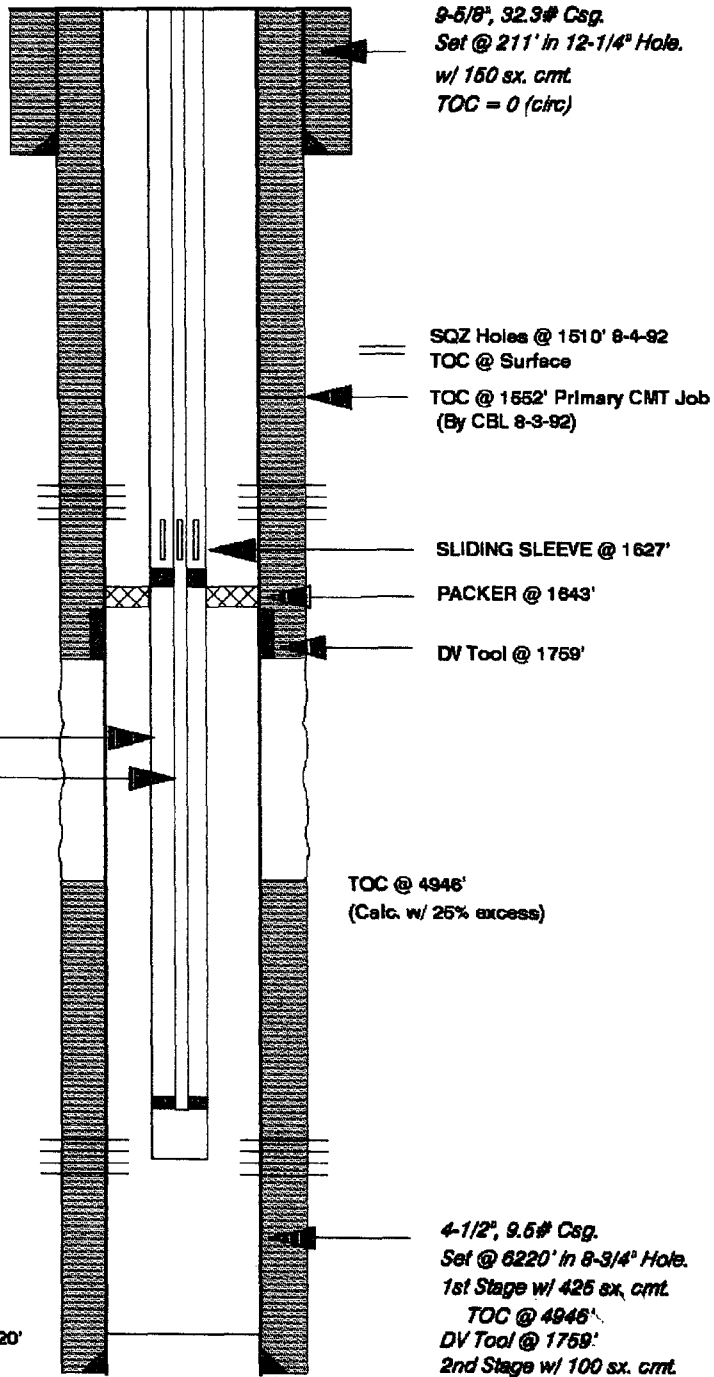
Pictured Cliffs 1505'
Mesa Verde 3070'
Mancos 4240'
Gallup 5137'
Greenhorn 5874'
Dakota 5970'

**PICTURED CLIFFS
PERFORATIONS:**
1520' - 1622'

2-3/8" TBG @ 5998'
1-1/4" TBG (Inside 2-3/8" TBG)
@ 5975'

DAKOTA PERFS:
5970' - 6068'

P8TD - 6220'
TD - 6220'





4/27/85

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: 9/16/80

COMPL DATE: 10/10/80

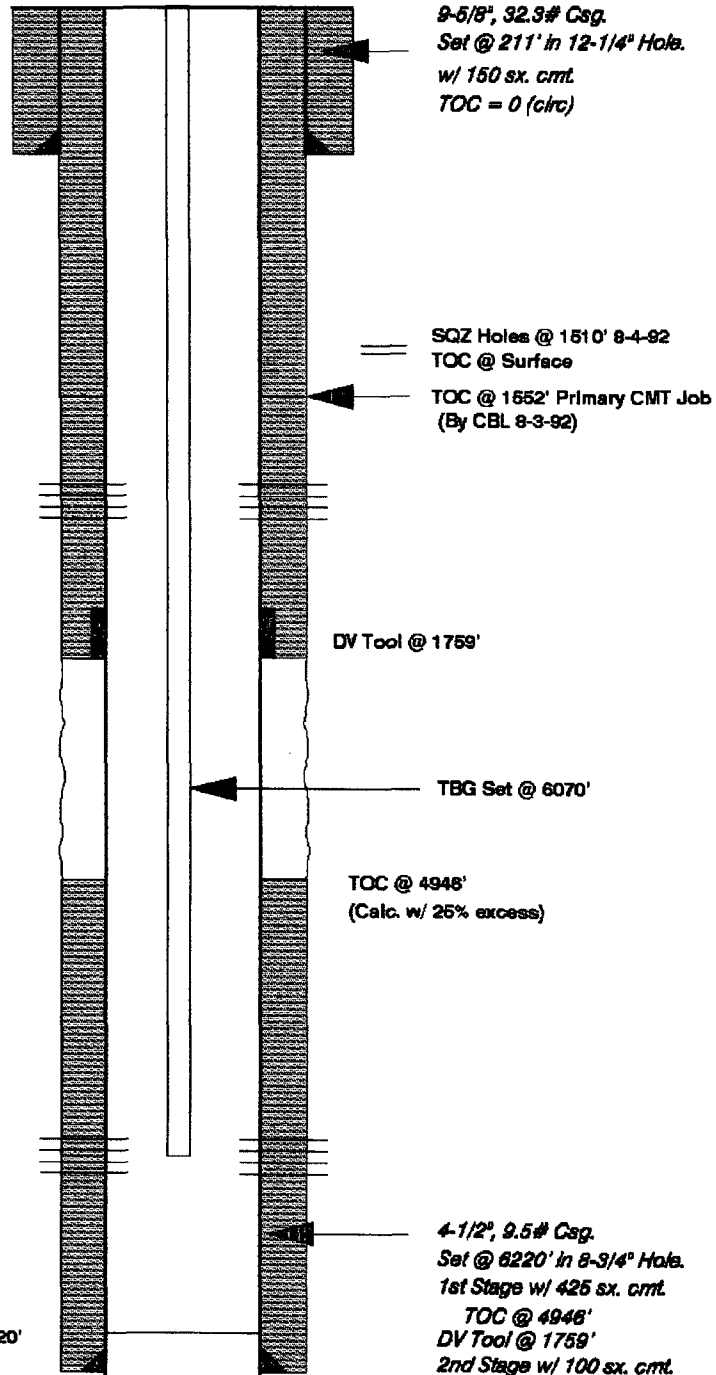
FORMATION TOPS:

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'



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) LOWER	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower completion		
8-7-93	24 HRS.	255	440		BOTH ZONES SHUT IN
8-8-93	48 HRS.	257	445		
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

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,

Jeanne McManis

Laboratory Technician

cc:

bc: Jerry Woodward

[illegible]