

May 26, 1995

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

RECEIVED
MAY 30 1995
OIL CON. DIV.
DIST. 3

Attention: David Catanach

RE: **Application for exception to NMOCD Rule 303-A: Downhole Commingle of
H.J. Loe Federal B No. 3E 1100' FSL & 2000' FEL, Unit O, 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 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 Scharfitzel at (505) 325-4397, ext. 27. Your attention to this matter is greatly appreciated.

Sincerely,

Ted A. Tipton

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: 3E
Well Location: 1100' FSL & 2000' FEL, Unit O, 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)

- (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 3E Basin Dakota and Fulcher Kutz Pictured Cliffs are attached (Attachment IV, V).

- (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 VI), well has effective annual decline of 4.1 % and a calculated GOR of 177,000 SCF/STB.

P.C. completion: Decline curve attached (Attachment VII), formation was perforated at 1614'-1656' and stimulated on October 1, 1992 with 30,000 GALs of X-linked gel with 130,000 LBS of 20/40 sand followed with 24,000 LBS of Resin coated sand. The well was cleaned. The well is currently shut-in and both zones are logged off awaiting final production equipment and regulatory approvals.

Currently both zones are logged off due to insufficient bottom hole pressure on the PC formation therefore limiting production from the well. The Dakota zone has a 1.060 I.D. tubing string that causes too much friction loss to produce the well (Attachment VIII, current completion, Attachment IX, proposed completion).

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

- (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: 360 psig (Attachment X)
Fulcher Kutz completion: 210 psig (Attachment X)

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 10-03-94. 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 formation.

- (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 XI-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	150	Gas, MCFD	150
Water, BWPD	1	Water, BWPD	25

The combined production from the PC and Dakota formations will be approximately 300 MCFD, 1 BOPD, and 26 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	150/300=50%	0/1=0%	25/26=96%
Dakota	150/300=50%	1/1=100%	1/26=04%

- (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.

OIL CONSERVATION DIVISION

DISTRICT I
P.O. Box 1989, Hobbs, NM 88240

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Texaco E & P Inc.			Lease H.J. Loe Federal B		Well No. 3E
Unit Letter O	Section 23	Township 29N	Range 12W	County San Juan	
Actual Footage Location of Well: 1100 feet from the South line and 2000 feet from the East line					
Ground level Elev. 5583'	Producing Formation Pictured Cliffs		Pool Kulcher Futz		Dedicated Acreage: 160 Acres

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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.

		RECEIVED MAY 30 1995 OIL CON. DIV. DIST. 3 23	
SEC.		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 Ted A. Tipton
Printed Name **Ted A. Tipton**
Position **Area Manager**
Company **Texaco Inc.**
Date **11-09-92**

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes or 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. _____

H.J. Loe Lease

Offset Operators T29N-R12W

Texaco Texaco 23 Texaco H.J Loe Federal B 3E	Alpine Oil & Gas Conoco 24 Amoco
BHP Petr Americas Amoco 26	Amoco 25

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

Alpine Oil & Gas
Box 2567
Durango, CO 81302

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

ISTRIC I

O Box 1980, Hobbs, NM 88240

ISTRIC II

O Drawer DD, Artesia, NM 88210

ISTRIC III

000 Rio Brazos Rd., Aztec, NM 87410

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

OIL CONSERVATION DIVISION

P.O. BOX 088
Santa Fe, New Mexico 87504-2088

OPERATOR'S MONTHLY REPORT

Form C-115 - Revised 1/1
See Distribution and Co
Information Bottom of Pa

Company

Operator **TEXACO E & P INC.**

3300 NORRIS BUTLER

Address **FARMINGTON, NM 87401**

Zip

For

Month, **02 1995**

Page **39** of **126**

POOL NAME (Underline)		INJECTION				PRODUCTION			DISPOSITION OF GAS			DISPOSITION OF OIL						
Lease Name		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
NO.	WELL NO.																	
ASIN DAKOTA (PRORATED GAS)																		
LOE, H. J. FEDERAL "B"																		
O-045-24554	2E	23 28N 12W	S	0	0	0	0	0										
O-045-22163	2R	23 28N 12W	P	0	35	6	7180	28										
O-045-07855	3	23 29N 12W	P	0	56	0	0	28										
O-045-24555	3E	23 28N 12W	P	0	104	88	2860	28										
				0	195	85	10040		9725	TEP		315	U	404	159	MOI	0	4

Attachment IV

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 I LOST (MCF ESTIMATED) E EXPLANATION ATTACHED R REPRESSURING OR PRESSURE MAINTENANCE		"OTHER" OIL DISPOSITION CODE C CIRCULATING OIL I 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)		505-325-4387 (PHONE NUMBER)	
---	--	--	--	---	--	--	--	--------------------------------	--

REVISION
 Initial UCD, Santa Fe
 Copy UCD Dist Office
 in which lease is located
 Copy to Transporter (SI)
 E UCD
 be postmarked by 24th day
 of month (4th of last)

Box 1980, Hobbs, NM 88240

DISTRICT II
Drawer DD, Artesia, NM 88210

DISTRICT III

0000 Río 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
See Distribution and Cc
Information Bottom of Page

Company

Operator **TEXACO E & P INC.**

3300 NORTH BUTLER

Address **FARMINGTON, NM 87401**

zip

For
Month,
Year

02 1985

Page 107 of 128

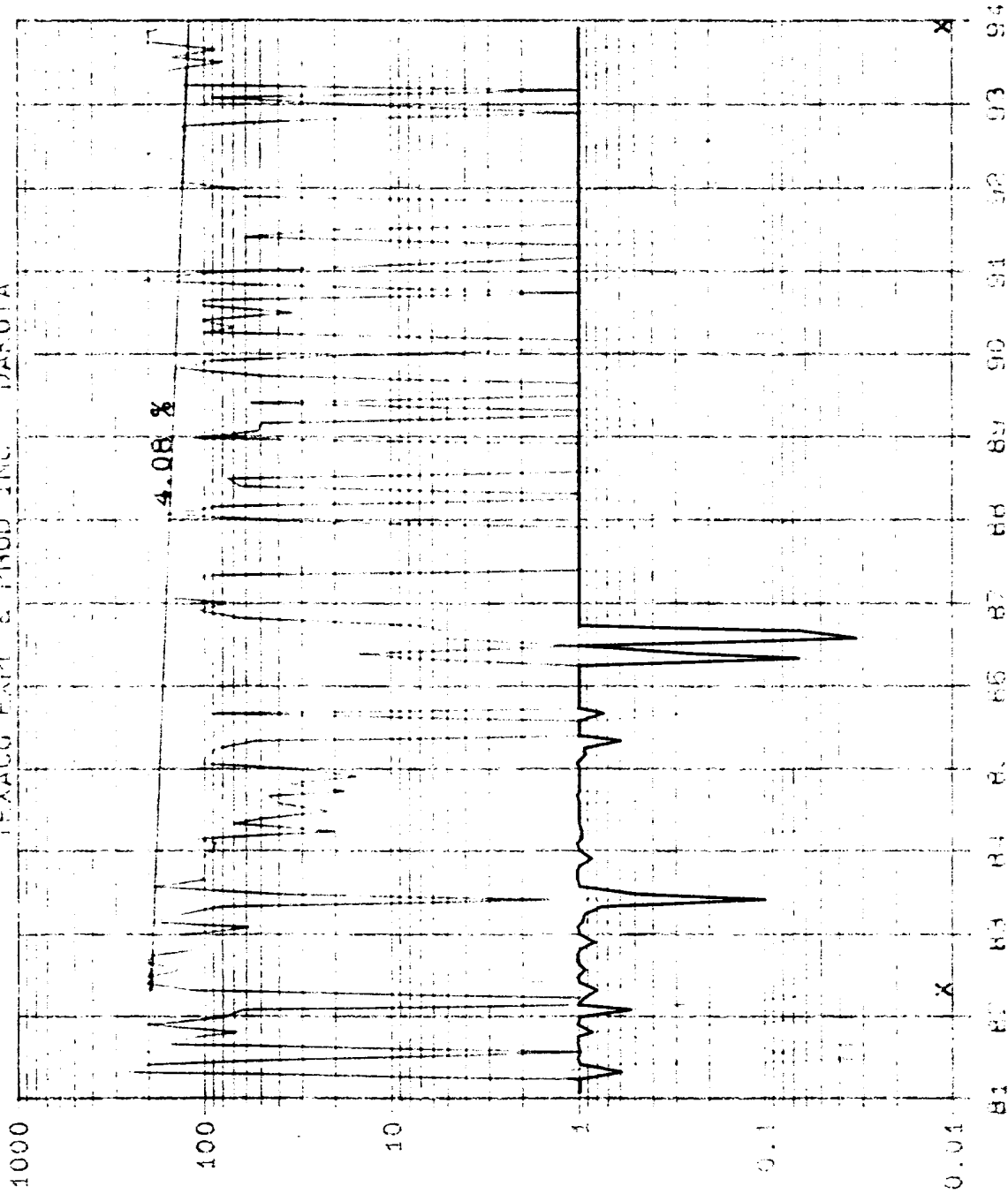
[illegible]

Attachment V

H O I O E B FEDERAL 00003E BASIN (DAKOTA) UK

TEXACO EXPL & PROD INC DAKOTA

LEASE DATA
 LSE 29N12W230PI
 FLD 800497A
 OPER 156628
 ZONE DAKOTA
 29N-12W-23
 COUNTY 045
 STATE 30
 300452485500
 STATUS 11-04
 CO 1 HBU
 CR 325 HUCF
 CM 1 HBU
 BOPD 0
 BOPD 0
 BOPD 177
 DELLS 1
 CT 0 HBU
 BOPD 0



YEARS

11/25/92



H. J. LOE FEDERAL B No. 3E

CURRENT COMPLETION

LOCATION:

Unit C 1100' ESL & 2000' FEL
Sec. 23, T29N R12W
San Juan County

SPUD DATE:

9/29/80

COMPL. DATE:

10/31/80

PICTURED CLIFFS PERFORATIONS:

514' - 1656'

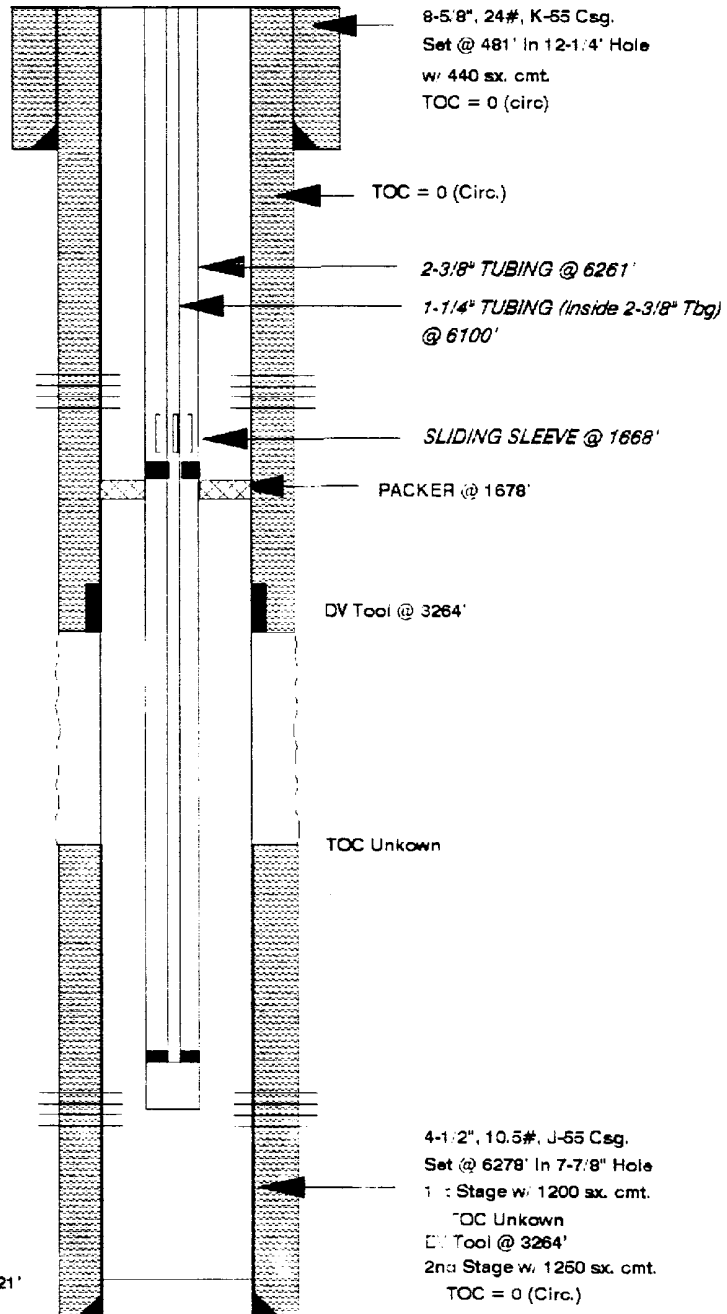
FORMATION TOPS:

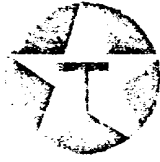
Fruitland 1356'
Pictured Cliffs 1608'
Chaco 1596'
Mesa Verde 3143'
Gallup 5225'
Dakota 6061'

DAKOTA PERFS:

6066' - 6179'

PBTD - 6221'
TD - 6278'





3/10/95

H. J. LOE FEDERAL B No. 3E Proposed Commingled Completion

LOCATION:

Unit O, 1100' FSL & 2000' FEL
Sec. 23, T29N, R12W
San Juan County

SPUD DATE: 9/29/80

RECOMPL DATE: 11/17/92

PICTURED CLIFFS PERFS (11/92):

1614'-20', 1650'-56'; 4 JSPF

Frac w/ 30000 gals. XL gel, 130000# 20/40 sand
talled w. 24000# resin coated sand.

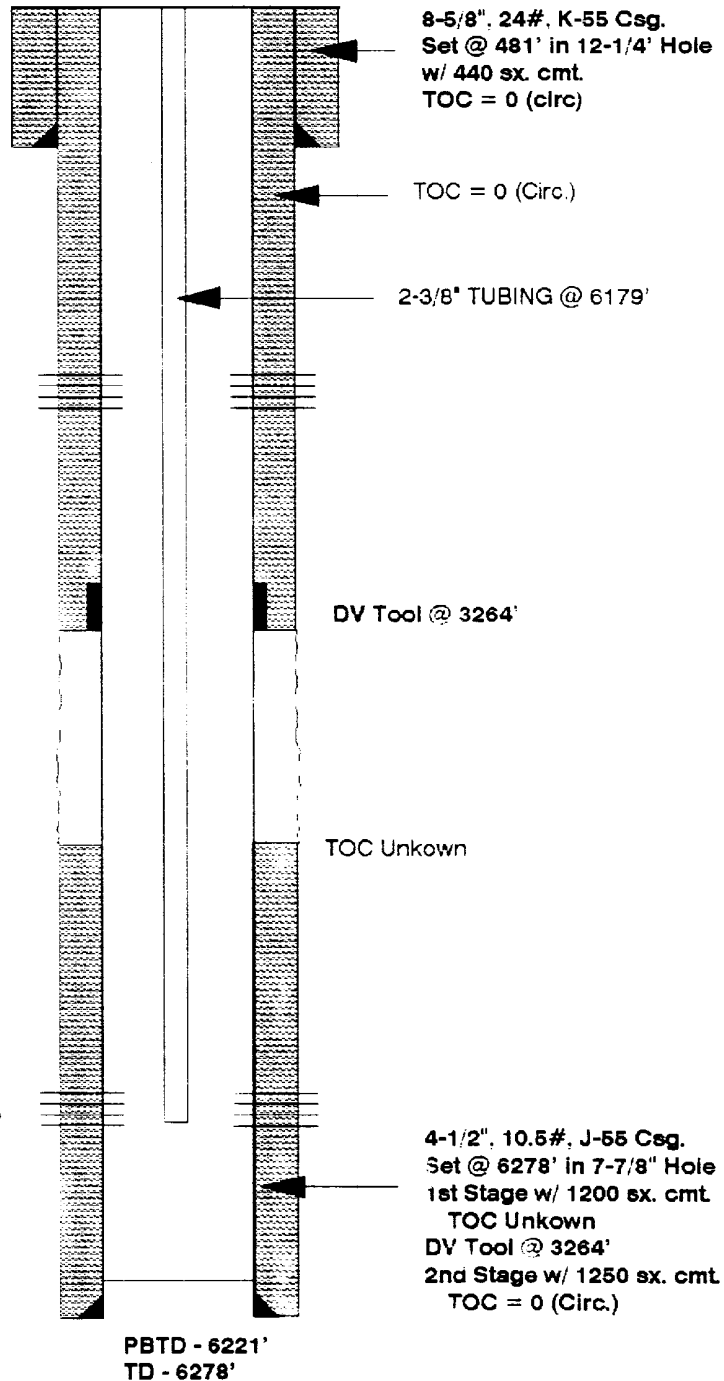
FORMATION TOPS:

Fruitland 1356'
Pictured Cliffs 1608'
Chacra 2595'
Mesa Verde 3143'
Gallup 5225'
Dakota 6061'

DAKOTA PERFS (10/80):

6066'-69', 6138'-42', 6145', 6148', 6156'
6160', 6164', 6168', 6171', 6176', 6179'.
w/ 1 JSPF.

Acidized w/ 1500 gals. MSR acid w/ 4 gals. per
1000 inhibitor 400 SCF N2 per bbl.
54000 gals. water & 47500# sand.



Attachment IX

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator TEXACO E & P INC. Lease H.J.LOE.FEDERAL B Well No. 3ELocation of Well: Unit O 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 LOGGED OFF 9-29-94	Length of time shut-in	Si press. psig	Stabilized (Yes or No)
Lower Completion	Hour. Date shut-in	Length of time shut-in	Si press. psig	Stabilized (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		
10-3-94	24 HRS.	200	312		BOTH ZONES SHUT IN
10-4-94	4 HRS.	200	325		
10-5-94	72 HRS.	200	336		
10-6-94	96 HRS.	200	342		
10-7-94	120 HRS.	200	348		
10-8-94	144 HRS.	201	352		
10-9-94	168 HRS.	203	359		
10-10-94	192 HRS.	205	60		UPPER SHUT IN; LOWER FLOWING
10-11-94	216 HRS.	206	65		UPPER SHUT IN; LOWER FLOWING

FARMINGTON AREA

TAT		MRB	✓	7/7
RH		RED		
INS		GRM		

NOV 1 1994

MRB		PLW		
RED		MDP		
MRB		RFPS	✓	5-10
RED		FILE		
TLD		Return To		

Production rate during test

Oil BOPD based on Bbls. in Hours Grav. GCR 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	Stabilized (Yes or No)
Lower Completion	Hour. Date shut-in	Length of time shut-in	Si press. psig	Stabilized (Yes or No)

Attachment X

RECEIVED
OCT 11 1994
OIL CONSERVATION DIVISION
SANTO DOMINGO, N.M.

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	-65.53
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 McMurtry

Laboratory Technician

cc:

bc: Jerry Woodward

Attachment XI-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	-21.34
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 McManey

Laboratory Technician

cc:

bc: Jerry Woodward

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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 is 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.

3. Article Addressed to:

Alpine Production
200 Arco Court
Farmington, NM 87401

Signature (Addressee)

Signature (Agent)

Ellen S. Nator

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

DOMESTIC RETURN RECEIPT

3. Article Addressed to:

Alpine Oil & Gas
Box 2567
Durango, CO 81302

Signature (Addressee)

Signature (Agent)

Paul Chad

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

DOMESTIC RETURN RECEIPT

- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered.

3. Article Addressed to:

Bureau of Land Management
Farmington Resource Area
1235 La Plata Highway
Farmington, NM 87401

Signature (Addressee)

Signature (Agent)

S. Nator

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

Thank you for using Return Receipt Service.

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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 is 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.

3. Article Addressed to:

Conaco Inc.
3315 Bloomfield Hwy.
Bloomfield, NM 87413

Signature (Addressee)

Signature (Agent)

Arcy Howell

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

DOMESTIC RETURN RECEIPT

4a. Article Number

P 337 994 938

4b. Service Type

- ☐ Registered
- ☒ Certified
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

7. Date of Delivery

APR 25 1995
USPS

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

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

DOMESTIC RETURN RECEIPT

2. ☐ Restricted Delivery

Consult postmaster for fee.

4a. Article Number

P 337 994 935

4b. Service Type

- ☐ Registered
- ☒ Certified
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

7. Date of Delivery

12-01-95

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

Thank you for using Return Receipt

Is your RETURN ADDRESS completed on the reverse side?

I also wish to receive the following services (for an extra fee):

- 1. ☐ Addressee's Address
- 2. ☐ Restricted Delivery

Consult postmaster for fee.

4a. Article Number

P 337 994 936

4b. Service Type

- ☐ Registered
- ☒ Certified
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

7. Date of Delivery

12-27-95

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

4b. Service Type

- ☐ Registered
- ☒ Certified
- ☐ Express Mail
- ☐ Return Receipt for Merchandise

7. Date of Delivery

12-27-95

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

Signature (Addressee)

Signature (Agent)

Ellen S. Nator

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

DOMESTIC RETURN RECEIPT