[redacted] SWD 7/11/97
672

June 17, 1997

New Mexico Oil Conservation Commission
2040 South Pacheco
Santa Fe, New Mexico 87505

JUN 26 1997

Attention: David Catanach
Re: **C-108: Application for Authorization to Inject**
Order SWD-47, New Mexico "AA" NCT-4 Lease
Texaco Exploration and Production Inc.
Sec 10, T-18-S, R-34-E, Lea County, New Mexico

Gentlemen:

Texaco Exploration and Production Inc. respectfully requests administrative approval for an amendment of the water disposal agreement on the NM "AA" Nct-4 lease. Administrative approval is requested so that the necessary work can be commenced as soon as possible. If there are any questions, please contact Robert McNaughton at 505- 397-0428.

Yours very truly,

Tim G. Miller
Hobbs Area Manager

TGM/rtm

attachment

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Texaco Exploration & Production

Address: 205 E. Bender Blvd, Hobbs, NM 88240

Contact party: Robert McNaughton Phone: 505- 397- 0428

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project SWD -47.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

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

Name: Tim Miller Title Hobbs OU Manager

Signature: Tim B. Miller Date: 6-17-97

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. Examiner hearing June 16, 1964

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

June 23, 1997

NEW MEXICO OIL CONSERVATION DIVISION - Form C-108

Application for Salt Water Disposal Well

Unit Name: **New Mexico "AA" NCT-4 No. 4, Lea County, New Mexico**

Well Location:
Unit Letter D, 919 FNL & 401 FEL, Section 10, T-18S, R-34E

III. Well Data:

C. All pertinent well data is included on the schematic sheet. The proposed conversion well is an inactive Abo Reef producer. We will set a CIBP above the Abo Reef and above the Glorieta at 5800'. We will inject through 2-7/8" tubing lined with Rice DuoLine fiberglass. We will use a Baker Lok-Set AD-1 packer.

D. We will plug back to the basal San Andres and perforate from approximately 5100'- 5600'. The Grayburg and San Andres formations are unitized from about 4100' - 4850' in the West Vacuum Unit and Vacuum Grayburg San Andres Units to the North. Most of the wells within the area of review were completed in the Abo Reef at about 8650'. All are plugged or inactive. There are no other productive intervals within the area of review.

IV. This application is an amendment to NMOCD Order SWD-47 dated June 16, 1964. This order authorized the drilling and completion of the NM "A" NCT-4 No. 1 SWD well. The completion interval was the same lower San Andres interval as in this application. The "AA" NCT-4 No. 1 SWD was plugged on 10-5-90.

V. The attached map shows 1/2 mile AOR and the offset leases.

VI. Wellbore schematics for all wells in the AOR are attached. VGSAU No. 6 is the only active offset producer. NM "AE" No. 16 is inactive and will be plugged soon.

VII. The Buckeye team has recommended converting this well to emergency water disposal. The No. 1 SWD well was plugged in 1990 since it was no longer needed and had pressured up. Texaco's workovers and waterflood response in the Vacuum area have dramatically increased our total fluid production since then. When there is a plant upset, we have to shut in several leases until the water injection plants catch up. This backup disposal well will allow us to divert large volumes of water at low pressure and minimize lost production.

The maximum injection rate is estimated to be around 10,000 Bbls per day on a vacuum. The disposal system should stay well below the 1000 psi initial maximum (.2 psi/ft) since it will only be used for emergencies. The system will be closed.

VIII. The local aquifer is the Ogalalla from 50' to 350 deep. The closest fresh water well is VGSAU supply well No. 4.

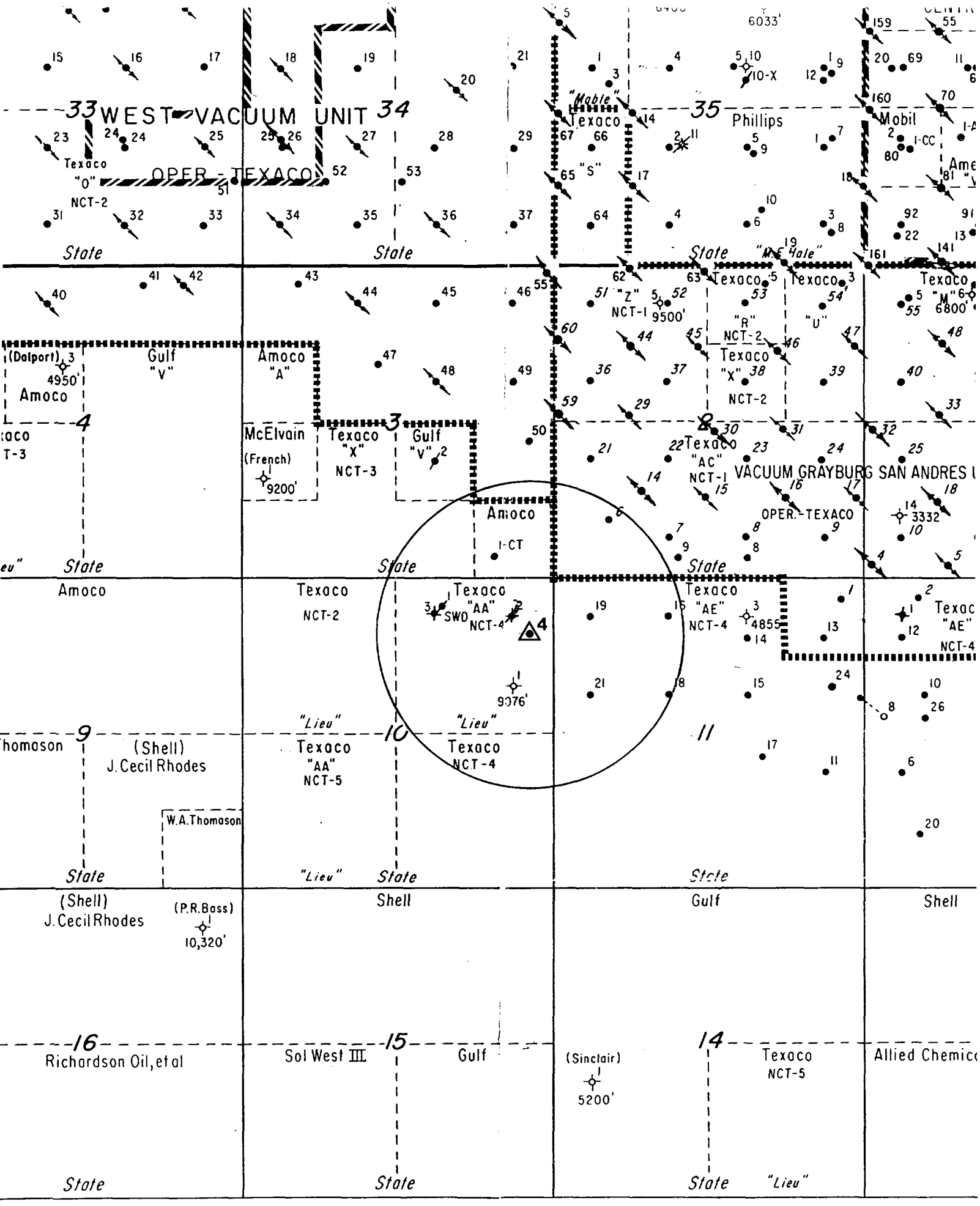
IX. The subject well will be stimulated with 6,000 gallons 15% NEFE. Ball sealers will be used for diversion.

X. The open hole logs have been filed with the NMOCD. We will run a Gamma- Neutron (GR-DSN) to pick perfs.

XI. A water analysis from VGSAU is attached.

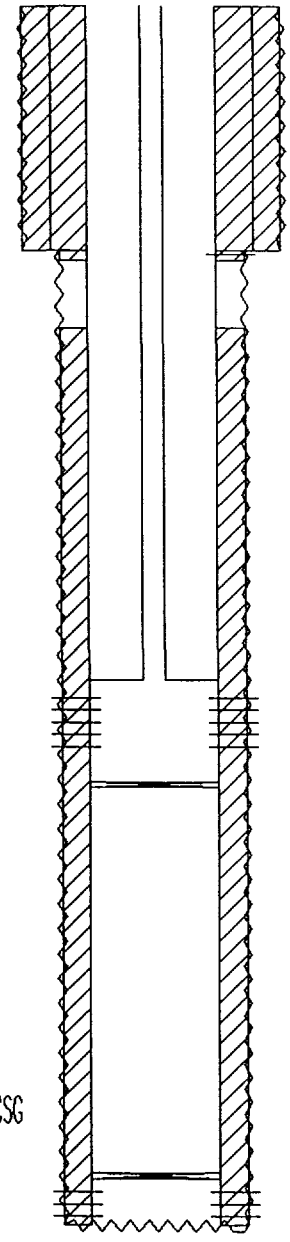
XII. Based on current geological and engineering data, there is no evidence of natural or artificially induced open faults within the unitized interval or above. There is no known communication between the injection zone and any subsurface source of drinking water.

XIII. A Copy of the Legal Notice is attached.


33
WEST VACUUM UNIT
34
35
OPER - TEXACO
Texaco "O" NCT-2
Texaco
Phillips
Mobil
"Mable"
"M E Hale"
State
Gulf "V"
Amoco "A"
Amoco
(Dalport) 3 4950'
McElvain (French) 1 9200'
Texaco "X" NCT-3
Gulf "V" 2
Amoco 1-CT
Texaco "Z" NCT-1 9500'
Texaco "R" NCT-2
Texaco "U"
Texaco "X" 38 NCT-2
Texaco "AC" NCT-1
VACUUM GRAYBURG SAN ANDRES U
OPER.-TEXACO
Texaco "M" 6 6800'
Texaco NCT-2
Texaco "AA" SWD NCT-4
Texaco "AE" 3 4855 NCT-4
Texaco "AE" NCT-4
9076'
"Lieu"
9
10
11
Thomason
(Shell) J. Cecil Rhodes
Texaco "AA" NCT-5
Texaco NCT-4
W.A. Thomason
(Shell) J. Cecil Rhodes
(P.R. Boss) 1 10,320'
Shell
Gulf
16
15
14
Richardson Oil, et al
Sol West III
Gulf
(Sinclair) 1 5200'
Texaco NCT-5
Allied Chemic
R-34-E

Proposed Conversion to SWD

TEXACO E&P INC.
N.M."AA" State NCT-4 No. 4
API# 30 - 025 - 25121



0.0 - 1823.0' 8 5/8" OD 24.00#/ft SURF CSG
0.0 - 1823.0' CEMENT 800 sx, TOC calc., 44%
0.0 - 1823.0' 11" OD HOLE

1850.0 - 1852.0' SQUEEZE PERFS
0.0 - 1900.0' CEMENT 550 sx

0.0 - 5000.0' 2.875" OD 6.50#/ft TBG
5000.0 - 5005.0' RETRV. PACKER Baker AD-1 LokSet
5100.0 - 5500.0' PERFS San Andres SWD
5760.0 - 5800.0' CIBP 35' cement

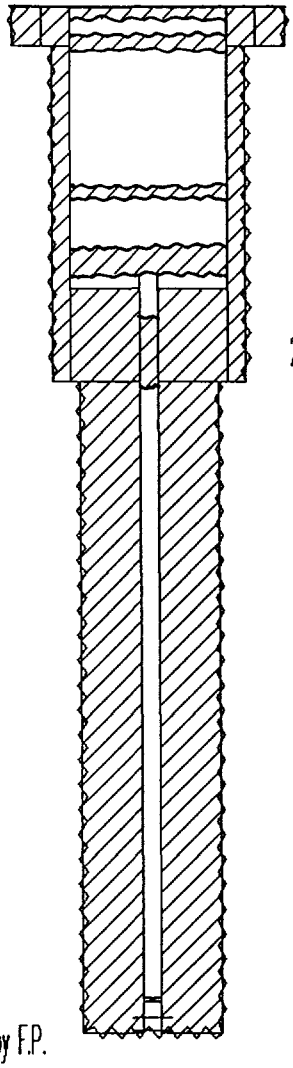
0.0 - 9050.0' 5 1/2" OD 17.00#/ft PROD CSG
2400.0 - 9050.0' CEMENT 1600 sx, TOC by T.S.
1823.0 - 9050.0' 7.875" OD HOLE

8660.0 - 8700.0' CIBP 35' cement
8768.0 - 8983.0' PERFS Abo Reef

919 FNL & 401 FEL
SEC 10, TWN 18S , RANGE 34E
ELEVATION: 4017' GL
COMPLETION DATE: 12-23-75
COMPLETION INTERVAL: 8,768' - 8,983' (Abo Reef)

P&A: 4-15-77

TEXACO E&P INC.
N.M."AA" State NCT-4 No. 1
API# 30 - 025 - xxxxx



0.0 - 350.0' 11 3/4" OD 23.70#/ft SURF CSG

0.0 - 350.0' CEMENT 300 sx, circulated

0.0 - 350.0' 15" OD HOLE

0.0 - 3325.0' 8 5/8" OD 24.00#/ft INT CSG

0.0 - 3325.0' CEMENT 1650 sx, TOC calc., 55%

350.0 - 3325.0' 10.625" OD HOLE

2390.0 - 9076.0' 2.875" OD 6.40#/ft TBG

2500.0 - 9076.0' CEMENT 1600 sx, TOC by F.P.

3325.0 - 9076.0' 7.625" OD HOLE

0.0 - 100.0' CEMENT PLUG 300 sx

250.0 - 384.0' CEMENT PLUG 53 sx

1600.0 - 1706.0' CEMENT PLUG 35 sx

2140.0 - 2370.0' CEMENT PLUG 70 sx

2760.0 - 3372.0' CEMENT PLUG 17 sx

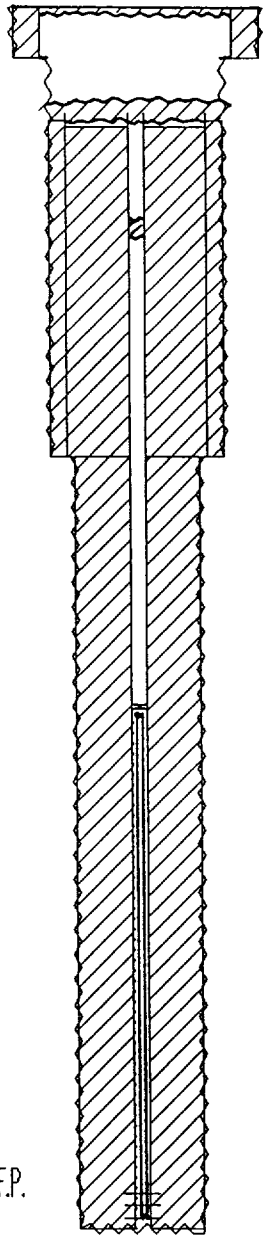
8760.0 - 8800.0' CIBP 35' cement

8864.0 - 9054.0' PERFS

1820 FNL & 660 FEL
SEC 10, TWN 18S , RANGE 34E
ELEVATION: 4016' GL
COMPLETION DATE: 4-16-64
COMPLETION INTERVAL: 8,864' - 9,054' (Abo Reef)

P&A: 9-03-75

TEXACO E&P INC.
N.M."AA" State NCT-4 No. 2
API# 30 - 025 - 20554



0.0 - 380.0' 11 3/4" OD 23.70#/ft SURF CSG

0.0 - 380.0' CEMENT 300 sx, circulated

0.0 - 380.0' 15" OD HOLE

800.0 - 3330.0' 8 5/8" OD 24.00#/ft INT CSG

850.0 - 3330.0' CEMENT 1650 sx, TOC by F.P.

380.0 - 3330.0' 10.625" OD HOLE

800.0 - 9050.0' 2.875" OD 6.50#/ft TBG

900.0 - 9050.0' CEMENT 1600 sx, TOC by F.P.

3330.0 - 9050.0' 7.625" OD HOLE

0.0 - 40.0' CEMENT PLUG 35 sx

710.0 - 850.0' CEMENT PLUG 35 sx

1600.0 - 1700.0' CEMENT PLUG 35 sx

5160.0 - 5200.0' CIBP 35' cement

5250.0 - 9050.0' FILL

5245.0 - 8950.0' BAR FISH 1" tubing

8756.0 - 8975.0' PERFS

660 FNL & 660 FEL
SEC 10, TWN 18S , RANGE 34E
ELEVATION: 4017' GL
COMPLETION DATE: 3-08-64
COMPLETION INTERVAL: 8,756' - 8,975' (Abo Reef)

P&A: 4-15-77

TEXACO E&P INC.
N.M."AA" State NCT-4 No. 3
API# 30 - 025 - 20953

0.0 - 370.0' 11 3/4" OD 23.70#/ft SURF CSG

0.0 - 370.0' CEMENT 300 sx, circulated

0.0 - 370.0' 15" OD HOLE

865.0 - 3285.0' 8 5/8" OD 24.00#/ft INT CSG

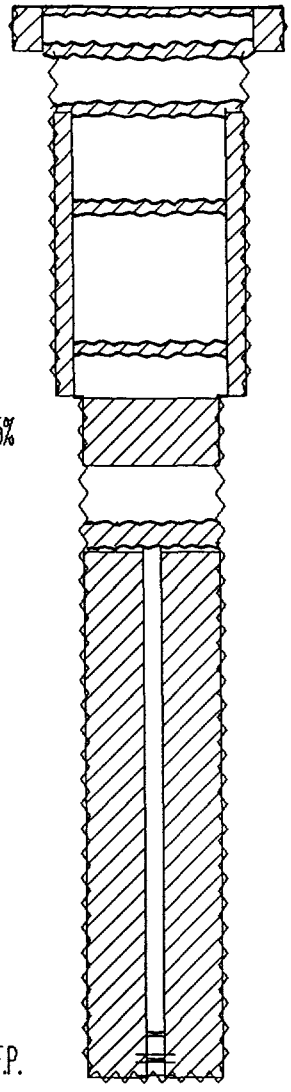
900.0 - 3285.0' CEMENT 1650 sx, TOC calc., 35%

370.0 - 3285.0' 10.625" OD HOLE

4560.0 - 9050.0' 2.875" OD 6.50#/ft TBG

4600.0 - 9050.0' CEMENT 1600 sx, TOC by F.P.

3285.0 - 9050.0' 7.625" OD HOLE



0.0 - 50.0' CEMENT PLUG 5 sx

310.0 - 410.0' CEMENT PLUG 100 sx

865.0 - 905.0' CEMENT PLUG 100 sx

1642.0 - 1742.0' CEMENT PLUG 35 sx

2842.0 - 2942.0' CEMENT PLUG 30 sx

3310.0 - 3880.0' CEMENT 70 sx

4350.0 - 4550.0' CEMENT PLUG 70 sx

8660.0 - 8700.0' CIBP 35' cement

8768.0 - 8856.0' PERFS

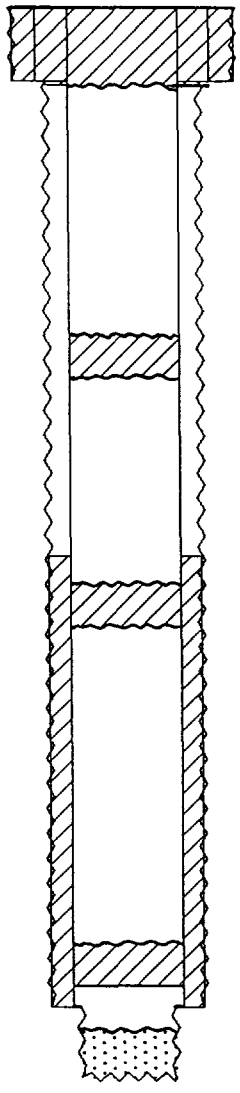
8884.0 - 8905.0' CIBP 16' cement

8923.0 - 9029.0' PERFS

660 FNL & 1980 FEL
SEC 10, TWN 18S , RANGE 34E
ELEVATION: 4021' GL
COMPLETION DATE: 4-11-64
COMPLETION INTERVAL: 8,768' - 9,029' (Abo Reef)

P&A: 10-05-90

TEXACO E&P INC.
N.M."AA" St. NCT-4 No. 1 SWD
API# 30 - 025 - 21106



0.0 - 383.0' 8 5/8" OD 17.30#/ft SURF CSG

0.0 - 383.0' CEMENT 300 sx, circulated

0.0 - 383.0' 11" OD HOLE

400.0 - 402.0' SQUEEZE PERFS

0.0 - 400.0' CEMENT 120 sx, cement circulated

1675.0 - 1890.0' CEMENT PLUG 25 sx

2940.0 - 3155.0' CEMENT PLUG 25 sx

4775.0 - 4990.0' CEMENT PLUG 25 sx

4990.0 - 4995.0' CIBP

5100.0 - 5460.0' 4.75" OD HOLE

5220.0 - 5460.0' FILL

0.0 - 5100.0' 5 1/2" OD 14.00#/ft PROD CSG

2800.0 - 5100.0' CEMENT 350 sx, TOC calc., 85%

383.0 - 5100.0' 7.625" OD HOLE

500 FNL & 1830 FEL
SEC 10, TWN 18S , RANGE 34E
ELEVATION: 4020' GL
COMPLETION DATE: 9-03-64
COMPLETION INTERVAL: 5,100' - 5,460' (San Andres)
RE: NMOCD Order SWD-47, 6-15-64

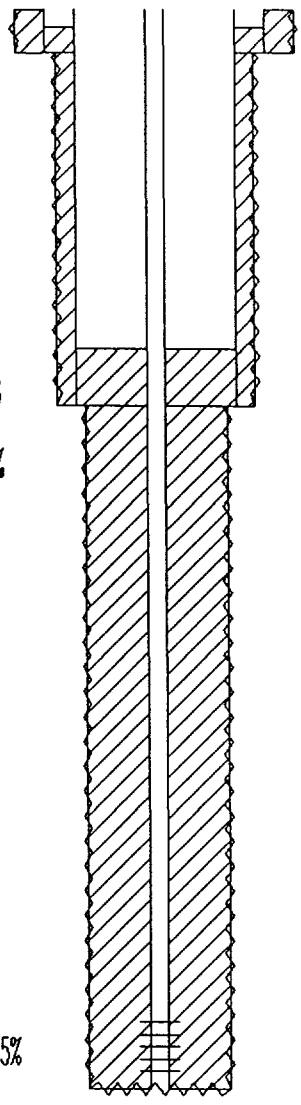
SI- 9/91

TEXACO E&P INC.
NM "AE" State NCT-1 No. 16
API# 30 025 20509

0.0 - 370.0' 11 3/4" OD 42.00#/ft SURF CSG

0.0 - 370.0' CEMENT 300 sx, circulated

0.0 - 370.0' 15" OD HOLE



0.0 - 3320.0' 8 5/8" OD 24.00#/ft INT CSG

150.0 - 3320.0' CEMENT 1650 sx, TOC calc 35%

370.0 - 3320.0' 10.625" OD HOLE

0.0 - 9040.0' 2.875" OD 6.50#/ft TBG

2850.0 - 9040.0' CEMENT 1550 sx, TOC calc. 75%

3320.0 - 9040.0' 7.625" OD HOLE

8470.0 - 8893.0' PERFS

660 FNL & 1980 FWL
SEC 11, TWN 18 S, RANGE 34 E
ELEVATION: 4000? GL
COMPLETION DATE: 1-20-64
COMPLETION INTERVAL: 8470 - 8893 (Abo Reef)

P&A: 10-07-92

TEXACO E&P INC.
NM "AE" State NCT-1 No. 18
API# 30 025 20213

0.0 - 336.0' 11 3/4" OD 42.00#/ft SURF CSG

0.0 - 336.0' CEMENT 300 sx, circulated

0.0 - 336.0' 15" OD HOLE

0.0 - 3277.0' 8 5/8" OD 24.00#/ft INT CSG

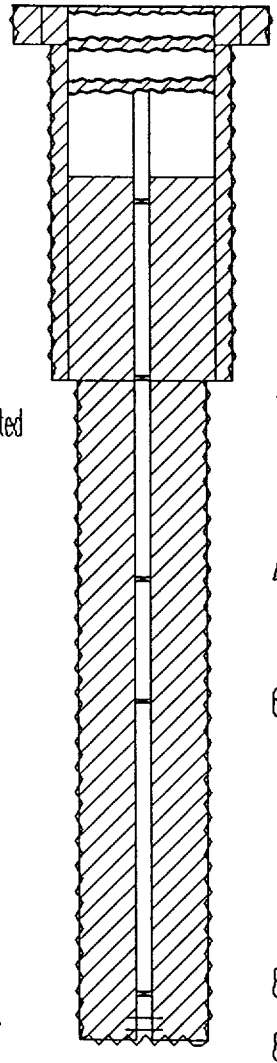
0.0 - 3277.0' CEMENT 1650 sx, cement circulated

336.0 - 3277.0' 10.625" OD HOLE

743.0 - 9050.0' 2.875" OD 6.50#/ft TBG

1500.0 - 9050.0' CEMENT 1550 sx, TOC by F.P.

3277.0 - 9050.0' 7.625" OD HOLE



0.0 - 40.0' CEMENT PLUG 10 sx

281.0 - 381.0' CEMENT PLUG 30 sx

643.0 - 743.0' CEMENT PLUG 30 sx

1700.0 - 1740.0' CIBP 35' cement

3237.0 - 3277.0' CIBP 35' cement

4990.0 - 5030.0' CIBP 35' cement

6060.0 - 6100.0' CIBP 35' cement

8620.0 - 8660.0' CIBP 35' cement

8754.0 - 8964.0' PERFS

1980 FNL & 1980 FWL
SEC 11, TWN 18 S, RANGE 34 E
ELEVATION: 3994 GL
COMPLETION DATE: 11-01-63
COMPLETION INTERVAL: 8755 - 8964 (Abo Reef)

P&A: 10-26-93

TEXACO E&P INC.
NM "AE" State NCT-1 No. 19
API# 30 025 20171

0.0 - 355.0' 11 3/4" OD 42.00#/ft SURF CSG

0.0 - 355.0' CEMENT 300 sx, circulated

0.0 - 355.0' 15" OD HOLE

0.0 - 3263.0' 8 5/8" OD 24.00#/ft INT CSG

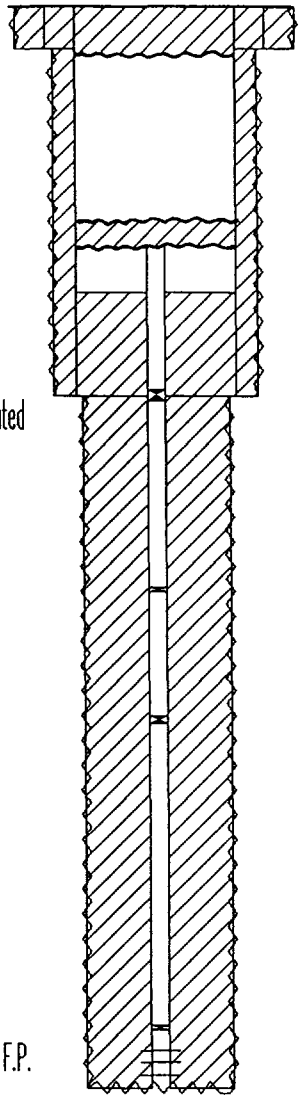
0.0 - 3263.0' CEMENT 1600 sx, cement circulated

355.0 - 3263.0' 11" OD HOLE

2007.0 - 9050.0' 2.875" OD 6.50#/ft TBG

2400.0 - 9050.0' CEMENT 1550 sx, TOC by F.P.

3263.0 - 9050.0' 7.875" OD HOLE



0.0 - 400.0' CEMENT PLUG 130 sx

1800.0 - 2007.0' CEMENT PLUG 90 sx

3210.0 - 3310.0' CIBP 100' cement

4860.0 - 4900.0' CIBP 35' cement

5940.0 - 6000.0' CIBP 35' cement

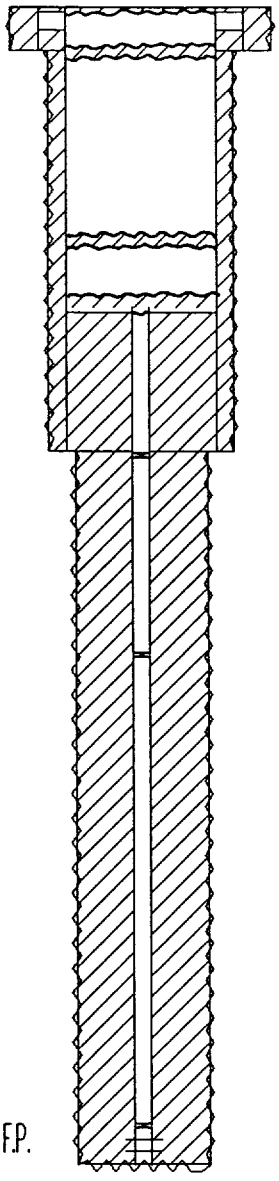
8520.0 - 8560.0' CIBP 35' cement

8664.0 - 8942.0' PERFS

660 FNL & 660 FWL
SEC 11, TWN 18 S, RANGE 34 E
ELEVATION: 4011 GL
COMPLETION DATE: 12-04-63
COMPLETION INTERVAL: 8664 - 8942 (Abo Reef)

P&A: 4-21-92

TEXACO E&P INC.
NM "AE" State NCT-1 No. 21
API# 30 025 20194



0.0 - 345.0' 11 3/4" OD 42.00#/ft SURF CSG

0.0 - 345.0' CEMENT 300 sx, circulated

0.0 - 345.0' 15" OD HOLE

0.0 - 3480.0' 8 5/8" OD 24.00#/ft INT CSG

180.0 - 3480.0' CEMENT 1500 sx, TOC calc. 35%

345.0 - 3480.0' 10.625" OD HOLE

2355.0 - 9080.0' 2.875" OD 6.50#/ft TBG

2400.0 - 9070.0' CEMENT 1550 sx, TOC by F.P.

3480.0 - 9080.0' 7.625" OD HOLE

0.0 - 40.0' CEMENT PLUG

304.0 - 404.0' CEMENT PLUG 30 sx

1778.0 - 1878.0' CEMENT PLUG 30 sx

2255.0 - 2355.0' CEMENT PLUG 30 sx

3490.0 - 3530.0' CIBP 35' cement

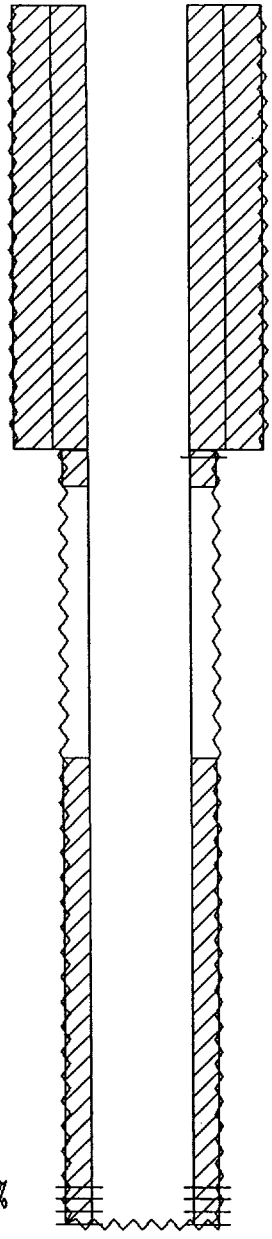
5045.0 - 5085.0' CIBP 35' cement

8745.0 - 8785.0' CIBP 35' cement

8845.0 - 9065.0' PERFS

1980 FNL & 660 FWL
SEC 11, TWN 18 S, RANGE 34 E
ELEVATION: 4010 GL
COMPLETION DATE: 01-04-64
COMPLETION INTERVAL: 8845 - 9065 (Abo Reef)

TEXACO E & P Inc.
VGSAU No. 6
API# 30 025 21420



0.0 - 1710.0' 7.625" OD 15.30#/ft SURF CSG

0.0 - 1710.0' CEMENT 650 sx, cement circulated

0.0 - 1710.0' 11" OD HOLE

1735.0 - 1737.0' SQUEEZE PERFS

0.0 - 1850.0' CEMENT SQZD w/ 550 sx, circulated

0.0 - 4694.0' 4.5" OD 10.50#/ft PROD CSG

2900.0 - 4694.0' CEMENT 300 sx, TOC calc. 65%

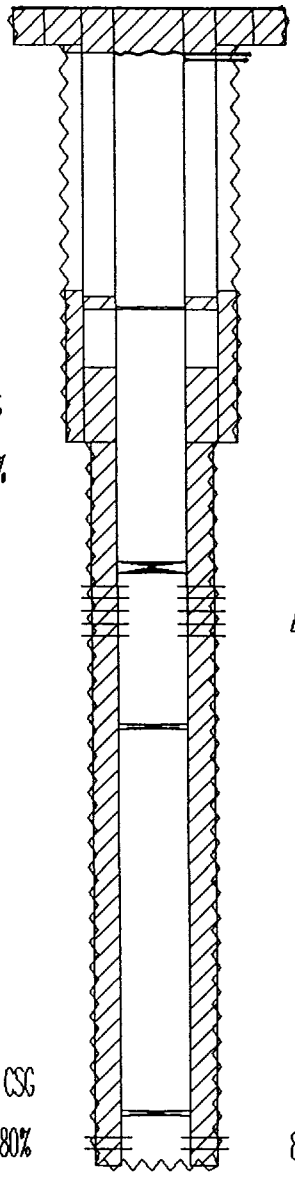
1710.0 - 4694.0' 6.75" OD HOLE

4511.0 - 4691.0' PERFS

990 FSL & 990 FWL
SEC 2 , TWN 18 S, RANGE 34 E
ELEVATION: 4011 GL
COMPLETION DATE: 04-30-65
COMPLETION INTERVAL: 4511 - 4691 (GBSA)
Former Texaco NM "AC" NCT-1 No. 10

P&A: 1-16-86

Amoco Production Company
NM State "CT" No. 1
API# 30 - 025 - 20771



0.0 - 293.0' 13 3/8" OD 48.00#/ft SURF CSG
0.0 - 293.0' CEMENT 350 sx, cement circulated
0.0 - 293.0' 17.5" OD HOLE

0.0 - 3381.0' 8 5/8" OD 32.00#/ft INT CSG
2200.0 - 3381.0' CEMENT 375 sx, TOC calc., 65%
293.0 - 3381.0' 11" OD HOLE

0.0 - 8990.0' 4 1/2" OD 11.60#/ft PROD CSG
2800.0 - 8990.0' CEMENT 1325 sx, TOC calc., 80%
3381.0 - 8990.0' 7.875" OD HOLE

0.0 - 350.0' CEMENT
350.0 - 350.0' SQUEEZE PERFS
0.0 - 350.0' CEMENT SQZD w/ 300 sx, circulated

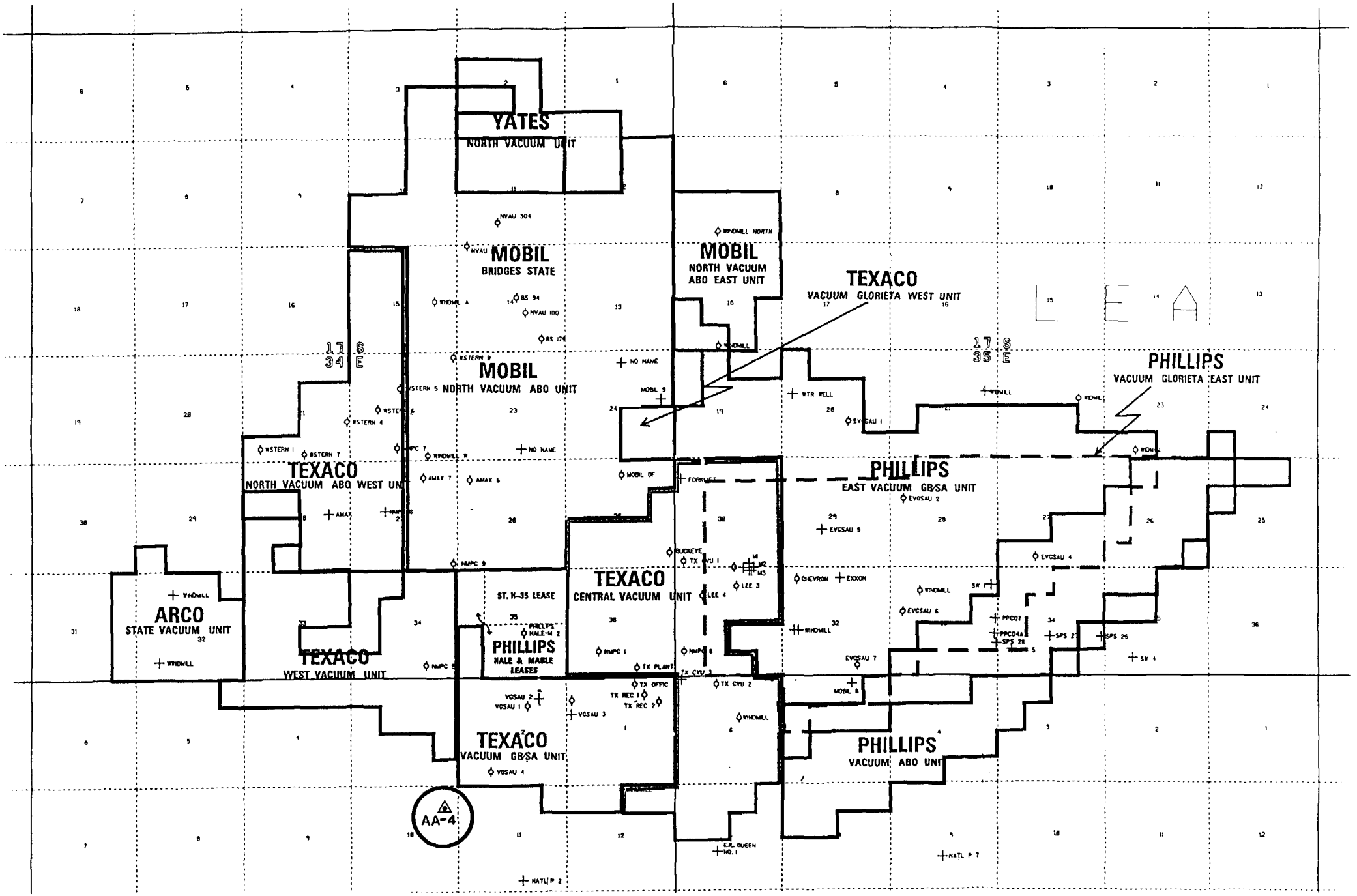
2330.0 - 2350.0' RETAINER
2250.0 - 2350.0' CEMENT SQZD w/ 35 sx

4300.0 - 4400.0' CIBP 100' cement
4445.0 - 4880.0' PERFS San Andres

5560.0 - 5600.0' CIBP 35' cement

8560.0 - 8600.0' CIBP 35' cement
8731.0 - 8863.0' PERFS Abo Reef

330 FSL & 990 FEL
SEC 3, TWN 18S, RANGE 34E
ELEVATION: 4019' GL
COMPLETION DATE: 2-09-64
COMPLETION INTERVAL: 4,445' - 4,880' (San Andres)
8,731' - 8,863' (Abo Reef)



VACUUM FRESH WATER WELLS

Post-it® Fax Note 7671	Date 6-20-97	# of pages ▶ 1
To R. McNAUGHTON	From UNICHEM	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # 397-0450	Fax #	

UNICHEM

A Division of BJ Services Company

Lab Test No : 15193

Texaco

Sample Date : 5/30/97
Lab Date In : 6/11/97
Lab Date Out : 6/20/97

Water Analysis

Listed below please find water analysis report from : VGSAU #4 WSW

Specific Gravity :	1.000
Total Dissolved Solids :	443
pH :	7.80
Conductivity (µmhos):	
Ionic Strength :	0.008

Cations:		mg/l
Calcium	(Ca++):	56
Magnesium	(Mg++):	11
Sodium	(Na+):	52
Iron	(Fe++):	0.10
Dissolved Iron	(Fe++):	
Barium	(Ba++):	1.00
Strontium	(Sr):	
Manganese	(Mn++):	0.00
Resistivity :		
Anions:		
Bicarbonate	(HCO3-):	256
Carbonate	(CO3--):	0
Hydroxide	(OH-):	0
Sulfate	(SO4--):	22
Chloride	(Cl-):	46

Gases:		ppm		
Carbon Dioxide	(CO2):	0.00	Oxygen	(O2):
Hydrogen Sulfide	(H2S):	0.00		

Scale Index (positive value indicates scale tendency) a blank indicates some tests were not run

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	0.57	-20.31
104F	40.0C	0.85	-20.31
122F	50.0C	0.97	-20.31
140F	60.0C	1.17	-20.31
168F	70.0C	1.29	-19.38
176F	80.0C	1.45	-18.41

Comments :

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

cc: Wayne Dickerson
Jay Brown

Laboratory Technician

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period.

of 2

weeks.

Beginning with the issue dated

May 26 1997

and ending with the issue dated

June 2 1997

Kathi Bearden

Publisher

Sworn and subscribed to before me this 2nd day of

June 1997

Jodi Henson

Notary Public.

My Commision expires
October 18, 2000
(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE
May 26,
June 2, 1997

Notice is hereby given of the application of Texaco Exploration & Production Inc., Attention: Tim G. Miller, Area Manager, 205 E. Bender, Hobbs, New Mexico, 88240, Telephone (505) 393-7191, to the New Mexico Oil Conservation Commission, Energy and Minerals Department, for approval to convert an inactive producing well to a salt water disposal well.

Well Name: **New Mexico "AA" State NCT-4 No. 4**
Lea County, New Mexico.
Location: **Unit Letter D, 919 FNL & 401 FEL,**
Section 10, T-18S, R-34E

The injection formation is Vacuum San Andres at a depth of 5000 feet below the surface of the ground. Expected maximum injection rate is 10,000 barrels per day, and expected maximum initial injection pressure is 1000 pounds per square inch. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico, 87505, within fifteen (15) days of this publication.

#15225

01101308000 02506921

Texaco Inc.
205 E. Bender
a/c 486549
Hobbs, NM 88240

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:

Altura Energy Ltd.
1017 W. Stanolind Rd.
Hobbs, NM 88240

4a. Article Number
P 442 - 355 - 614

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

7. Date of Delivery
6-18-97

5. Received By: *(Print Name)*

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

6. Signature: *(Addressee or Agent)*
X Whitney Hammett

PS Form **3811**, December 1994 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:

Roy F. Pearce
1717 Jackson St.
Pecos, Texas 79772

4a. Article Number
P 442 - 355 - 615

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

7. Date of Delivery
6-16-97

5. Received By: *(Print Name)*
Roy F. Pearce

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

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

PS Form **3811**, December 1994 Domestic Return Receipt

Thank you for using Return Receipt Service.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

JUN 27 1997

June 25, 1997

GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:
MC_____
DHC_____
NSL_____
NSP_____
SWD X
WFX_____
PMX_____

Gentlemen:

I have examined the application for the:

Texaco E&P New Mexico "AA" NCT-4 #4 UL-D, S10-T18S-R34E
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

The water analysis shows formation water has Barium as a constituent. I believe that is would be prudent to inject scale inhibitor w/ water being disposed of since barium sulfate can not be dissolved after formation. This is only a recommendation.

Yours very truly,

Chris Williams

Chris Williams
Supervisor, District 1

/ed