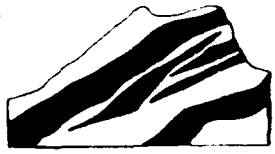
P.O. BOX 636
HOBBS, NEW MEXICO 88240
OFFICE (505) 392-1915

PEAK

CONSULTING SERVICES
ENVIRONMENTAL,
GEOLOGICAL & REGULATORY
SPECIALISTS



PCS

CASE FILE
10401

September 24, 1991

Mr. David Catanach
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Re: Texaco Exploration and Production Inc.
Saunders Permo Upper Penn Pilot Flood
Injection Application
N.M. State 'AN' and 'AT' Leases
Sec. 15, 22 - T14S - R33E
Lea County, New Mexico

Dear David:

Please find enclosed two copies of Texaco Producing Inc. application for injection. We propose to inject fresh water in the Permo Upper Penn section including the Bough A, B, and C intervals in the following 4 wells:

1) New Mexico 'AT' State well No. 4
1980' FSL and 660' FEL
sec. 15 - T14S - R33E
Injection interval 9521 - 9974

2) New Mexico 'AT' State well No. 10
1650' FSL and 2305' FWL
sec. 15 - T14S - R33E
Injection interval 9762 - 9935

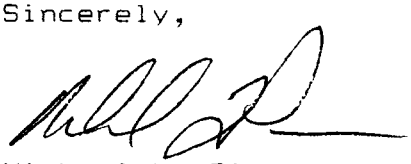
3) New Mexico 'AN' State well No. 9
660' FNL and 1980' FWL
sec. 22 - T14S - R33E
Injection interval 9765 - 9885

4) New Mexico 'AN' State well No. 7
   660' FNL and 660' FEL
   sec. 22 - T14S - R33E
   Injection interval 9757 - 9936

The make up water will come from four fresh water wells to be drilled by Texaco offsetting the above listed leases. The application to drill these wells are being submitted to the State Engineers Office.

If you have any questions or if I can be of any assistance, please let me know. Thank you for your time and cooperation.

Sincerely,



Michael L. Pierce
Peak Consulting Services

P.O. BOX 636
HOBBS, NEW MEXICO 88240
OFFICE (505) 392-1915

OIL CONSERVATION DIVISION
'91 OCT 7 AM 9 29

PEAK
CONSULTING SERVICES
ENVIRONMENTAL,
GEOLOGICAL & REGULATORY
SPECIALISTS

PCS

CASE FILE - 10401

October 4, 1991

Mr. David Catanach
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Re: Proof of Publication
Texaco Exploration and Production Inc.
Saunders Permo Upper Penn Pilot
Injection Program

Dear David:

Please find enclosed the proof of publication for the above captioned project. I have not received any notice of objection to this applications as of this date.

I have also included two copies of a cross-section that needs to be included with the application.

Mr. William Carr will be representing Texaco for the hearing. If you have any questions or if I can be of any assistance, please let me know. Thank you for your time and cooperation.

Sincerely,

Michael L. Pierce
Peak Consulting Services

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

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

One weeks.
Beginning with the issue dated

Sept. 27, 19 91
and ending with the issue dated

Sept. 27, 19 91

Kathi Bearden
General Manager
Sworn and subscribed to before

me this 2 day of

Oct, 1991

Notary Public.

My Commission expires

Aug. 5, 1995
(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
September 27, 1991
ADVERTISEMENT

TEXACO EXPLORATION and PRODUCTION INC., whose address is 205 E. Bender Blvd. HOBBS, NEW MEXICO 88240, proposes to convert the following wells to injection for the purpose of enhancing the production of oil and gas from the following leases.

The wells are the New Mexico 'AT' State No. 4 and 10, located at 660' FSL and 1980' FWL, and 1650' FSL and 2305' FWL respectively in section 15, and the New Mexico 'AN' State No. 7 and 9, located at 660' FNL and 660' FEL, and 660' FNL and 1980' FWL respectively in section 22 - T14S - R33E. All wells being located in Lea County New Mexico. The injection interval is known as the Saunders Permo Upper Penn at a depth of approximately 9521'-9974'. The injection rate will be 2000 bbls/day, with pressure not to exceed limits as set forth by the Oil Conservation Division.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, within 15 days.

Inquiries regarding this application should be directed to M. Pierce, P.O. Box 636, Hobbs, New Mexico 88240, (505) 392-1915.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

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

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General Manager
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Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, within 15 days.

Inquiries regarding this application should be directed to M. Pierce, P.O. Box 636, Hobbs, New Mexico 88240, (505) 392-1915.

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date OCTOBER 17, 1991 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.
LAWYERS

MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
MARK F. SHERIDAN
WILLIAM P. SLATTERY

ANNIE-LAURIE COOGAN
PATRICIA A. MATTHEWS
MICHAEL H. FELDEWERT

JACK M. CAMPBELL
OF COUNSEL

JEFFERSON PLACE
SUITE I - 110 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87504-2208
TELEPHONE: (505) 988-4421
TELECOPIER: (505) 983-6043

September 27, 1991

HAND-DELIVERED

William J. LeMay, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
State Land Office Building
Santa Fe, New Mexico 87503

Re: Oil Conservation Division Case No. 10401:
In the Matter of the Texaco Exploration and Production Inc. for a Secondary Recovery Project, Lea County, New Mexico

Dear Mr. LeMay:

Enclosed is Texaco's completed Form C-108 in the above referenced case. This matter is scheduled for hearing before a Division Examiner on October 17, 1991.

Very truly yours,

WILLIAM F. CARR

WFC:mlh
Enclosures
cc w/enclosures: Mr. J. T. Sexton
Supervisor and Oil & Gas Inspector
District II
Box 1980
Hobbs, New Mexico 88240

cc w/o enc.: Michael L. Pierce
Peak Consulting Services
c/o Texaco Exploration and Production Inc.
205 E. Bender Blvd.
Hobbs, New Mexico 88240

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date OCTOBER 17, 1991 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
William F. Carr	Campbell, Carr, Berge & Sheridan	Santa Fe
Maurice Trimmer	Byron	SF
Michael Pierce	Texaco (Peak Consulting)	Hobbs
Leon G. Wakefield	Texaco TEPI	Hobbs
Ernest L. Padilla	Padilla & Snyder	Santa Fe
Jim Wakefield	Kaiser Francis	Tulsa
Ruth Ross	SELF	[redacted]
Jim Lister	AHEL	Denver
Alex Bondarchuk	AHEL	Calgary, AB

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date NOVEMBER 21, 1991 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
William F. Carr	Campbell, Carr, Berge & Sheridan	Santa Fe
W. Kellahin	Kellahin, Kellahin and Aubrey	Santa Fe

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

RECEIVED
SEP 27 1991
OIL CONSERVATION DIVISION

FORM C-108
Revised 7-1-81

Case 10401

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: TEXACO EXPLORATION AND PRODUCTION INC.

Address: 205 East Bender Blvd. Hobbs, New Mexico 88240

Contact party: Michael L. Pierce Phone: 505-392-1915

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 _____.

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: Michael L. Pierce Title Consultant

Signature: Michael L. Pierce Date: 9-24-91

* 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. _____

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;

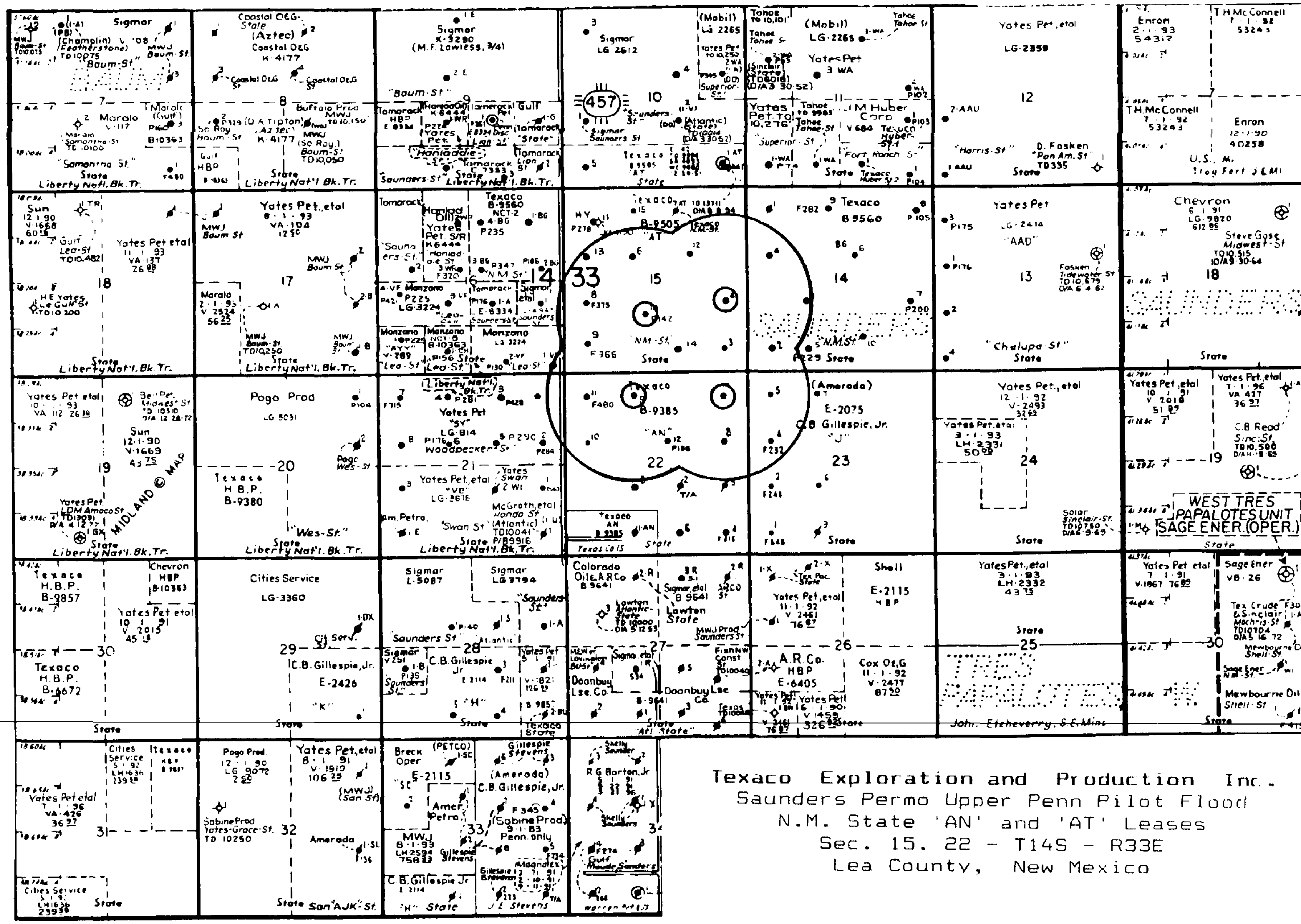
(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(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.



Texaco Exploration and Production Inc.

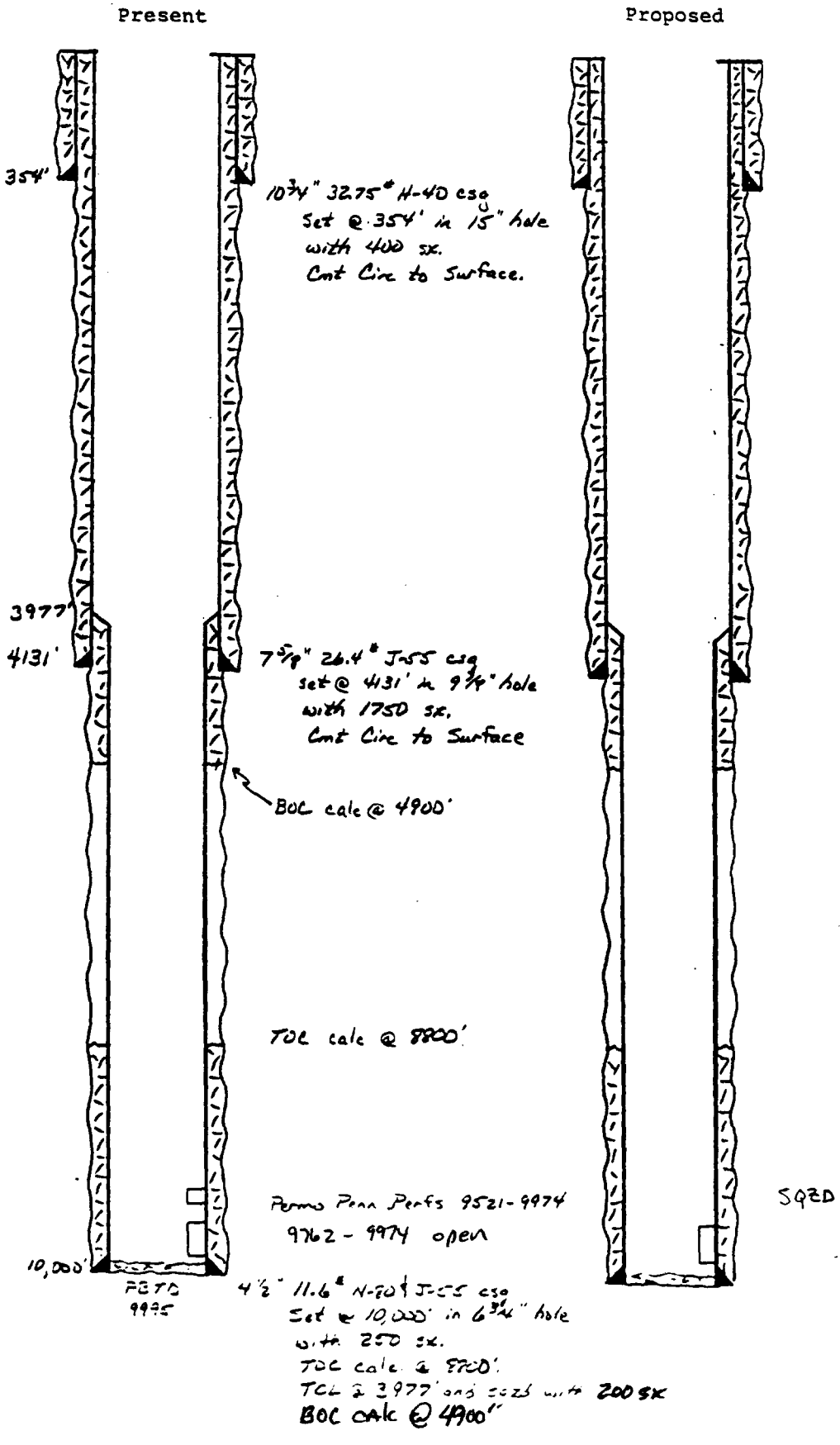
Saunders Permo Upper Penn Pilot Flood

N.M. State 'AN' and 'AT' Leases

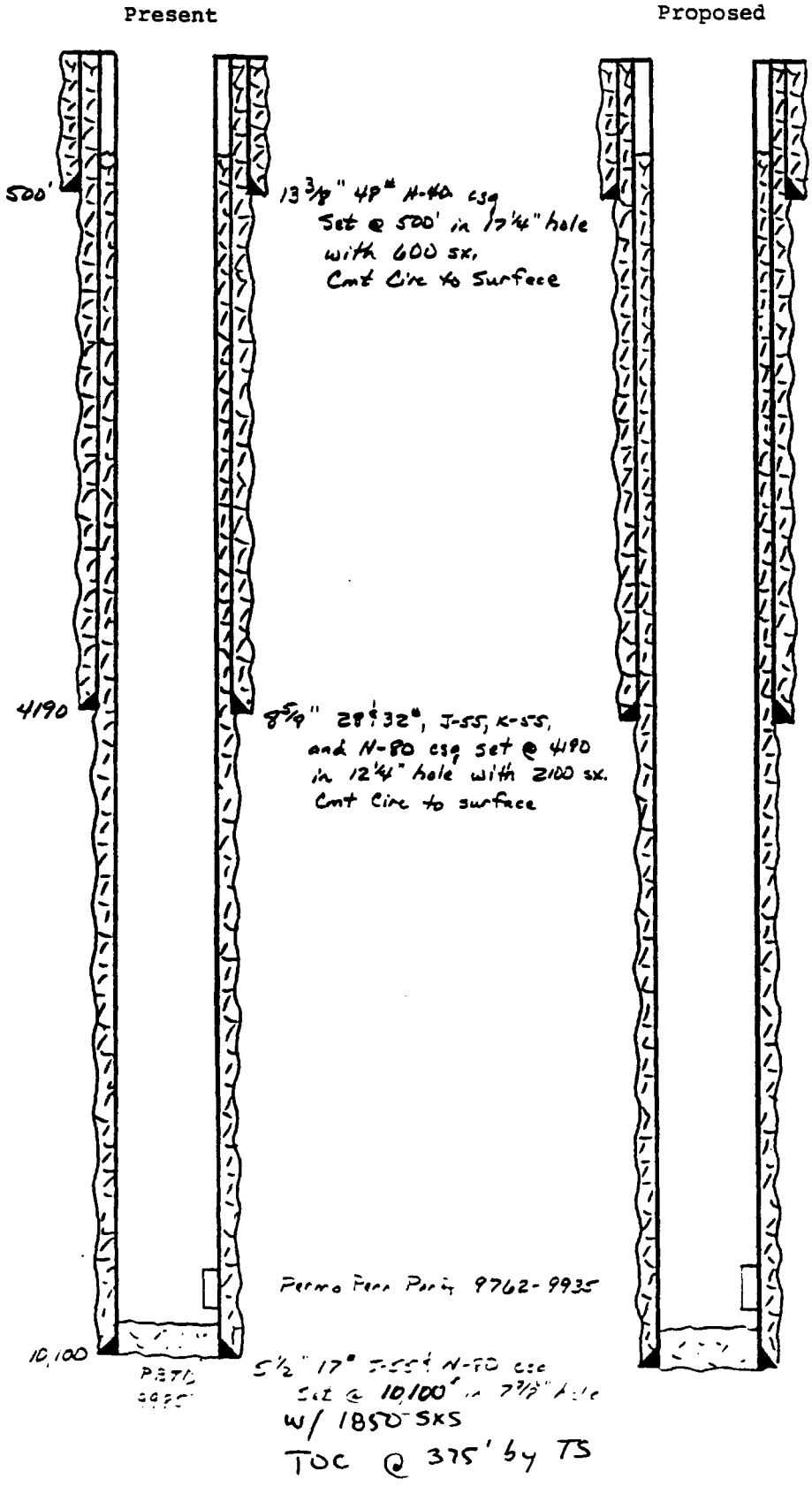
Sec. 15. 22 - T14S - R33E

Lea County, New Mexico

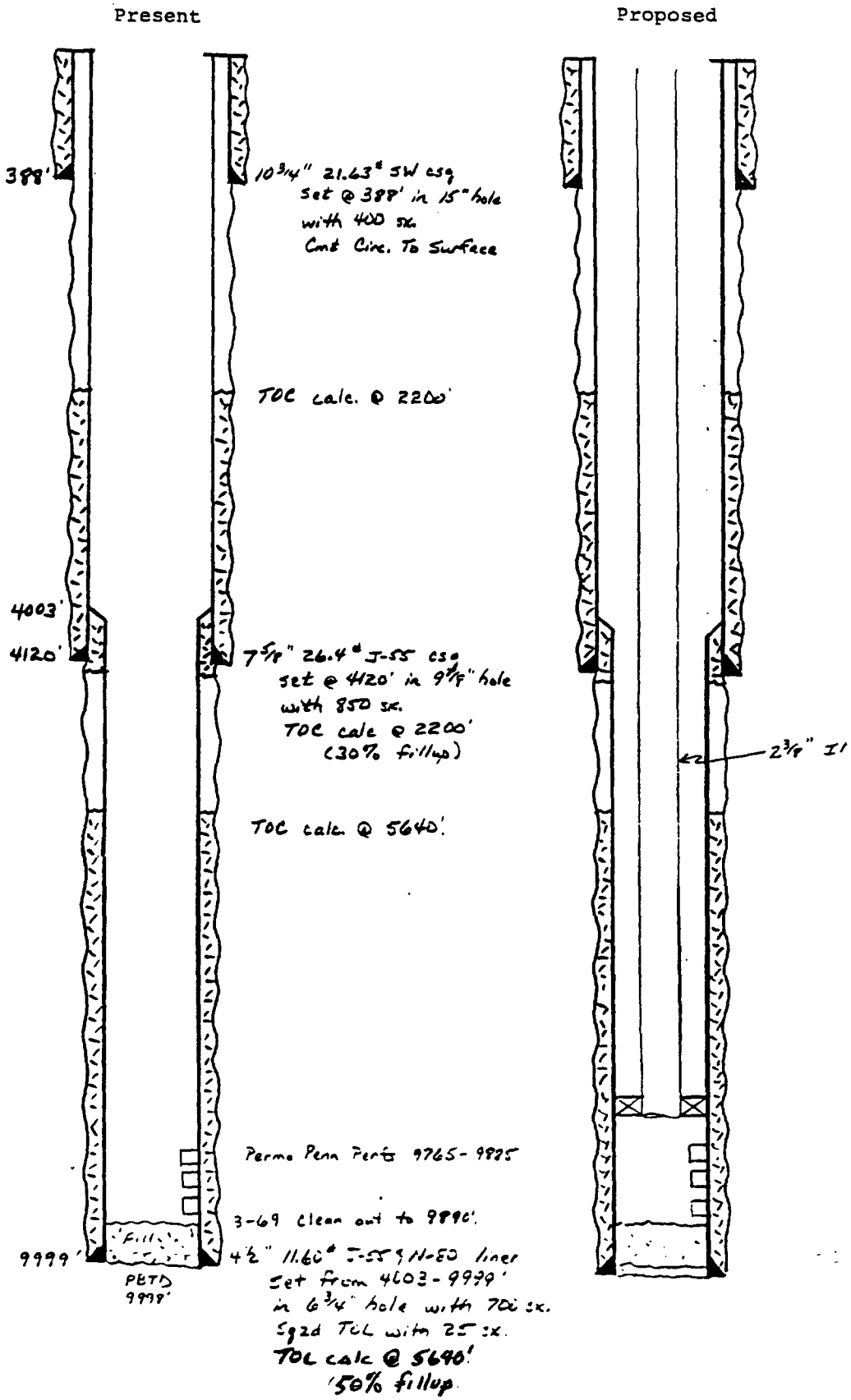
1) New Mexico 'AT' State well No. 4
1980' FSL and 660' FEL
sec. 15 - T14S - R33E
Injection interval 9521 - 9974



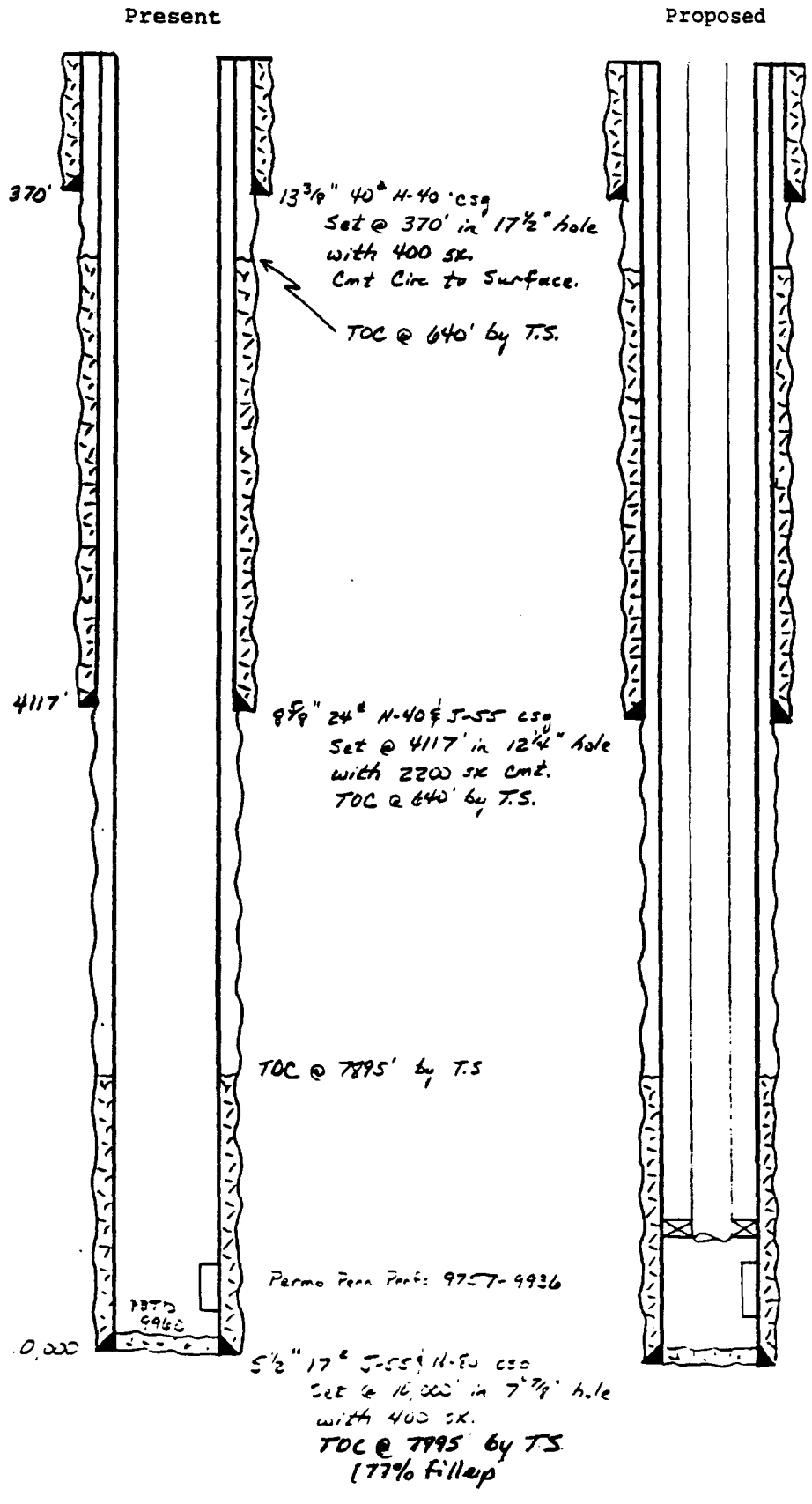
2) New Mexico 'AT' State well No. 10
1650' FSL and 2305' FWL
sec. 15 - T14S - R33E
Injection interval 9762 - 9935



3) New Mexico 'AN' State well No. 9
660' FNL and 1980' FWL
sec. 22 - T14S - R33E
Injection interval 9765 - 9885

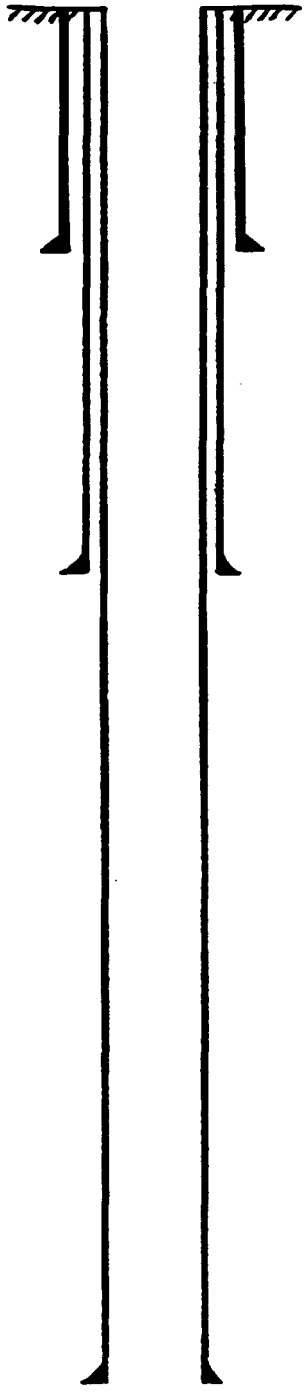


4) New Mexico 'AN' State well No. 7
660' FNL and 660' FEL
sec. 22 - T14S - R33E
Injection interval 9757 - 9936



OPERATOR			DATE
Texaco Exploration and Production Inc			9-11-91
LEASE	WELL No.	LOCATION	
New Mexico BG State NCT-1	2	Unit M	14-14-33

660' FSL & 660' FWL
Status: Active Producer
Saunders Permo-Penn



13 3/8" CSG set @ 344' w/ 425 sxs circ
17 1/2" hole

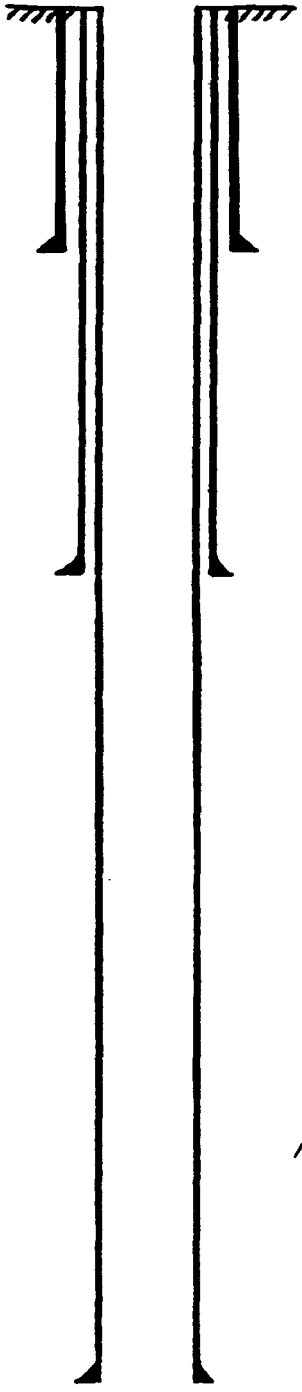
8 5/8" casing set at 4120' with 2400 sx of _____ cement
Hole size 12 1/4" Cmt circulated

perf 9753 - 9794
perf 9857 - 9920

5 1/2" casing set at 9999' with 400 sx of _____ cemen
Total Depth 10,000' Hole size 7 7/8" TOC by temp survey 8290'

OPERATOR			DATE
Texaco Exploration and Production Inc			9-11-91
LEASE	WELL NO.	LOCATION	
New Mexico BG State NCT-1	3	Unit K	14-14-33

1990' FSL and 1651' FWL
Status: Active producer
Spuddus Permo-Penn



11 3/4" CSG set @ 365' w/ 350 SXS circ
15" hole.

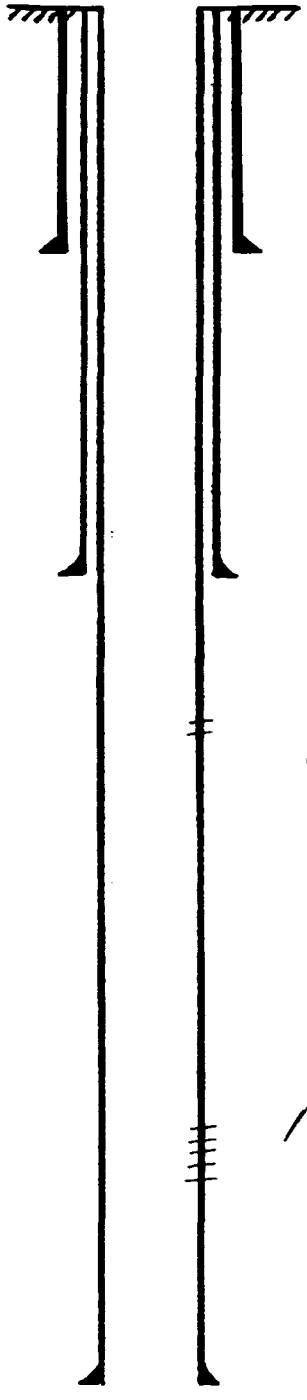
8 5/8" casing set at 4150' with 900 sx of _____ cement
Hole size 10 5/8" TOC @ 1536' using 50% efficienc

perf 9754 - 9947

4 1/2" casing set at 10045' with 1100 sx of _____ cement
Total Depth 10045' Hole size 7 7/8" TOC @ 7099'
using 50% efficiency

OPERATOR			DATE
Texaco Exploration + Production Inc			9-11-91
LEASE	WELL No.	LOCATION	
New Mexico BG State NCT-1	4	Unit E	14-14-33

1980' FNL and 660' FWL
Status: Active Producer
Saunders Permo-Penn



11 3/4" CSG set @ 387' w/ 225 SXS CIRC

8 5/8" casing set at 4150' with 900 sx of _____ cement
Hole size 10 5/8" TOC @ 1536' using 50% efficiency

CSG leak @ 4929-61 perf 4950 w/2 SHOTS
SQZ w/ 100 SX

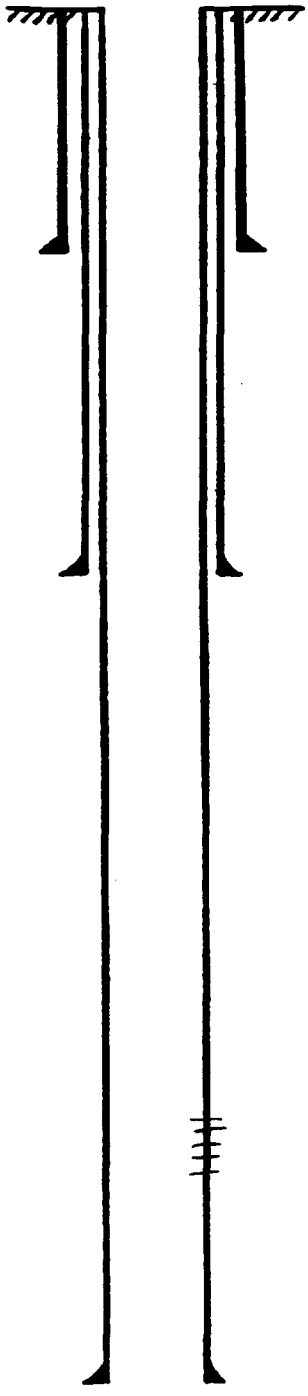
perf 9771 - 9954

4 1/2" casing set at 10015' with 1100 sx of _____ cemen
Total Depth 10,015' Hole size 7 7/8" TOC @ 7069'
using 50% efficiency

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE NM- STATE AT LEASE	WELL No. 3	LOCATION UNIT P 15-14-33	

660' FSL & 660 FEL

Status: Active Producer
Saunders Permo-Penn



13 3/8" Csg set @ 348' Cmt w/ 475 sxs Circ
17 1/2" hole

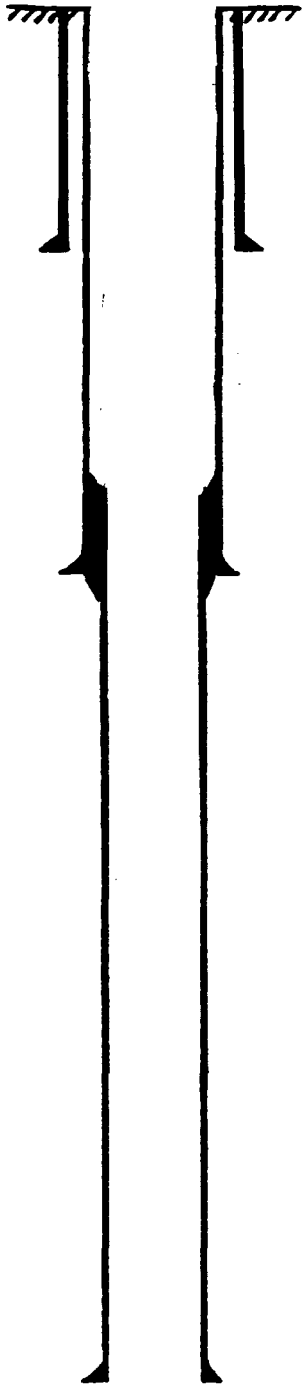
8 5/8 " casing set at 4114 ' with 2400 sx of _____ cement
Hole size 11 " cement Circ

perf 9748 - 9910 Selectively A/ 500 gal 15%
perf 9948 - 9958

5.5 " casing set at 9999 ' with 350 sx of _____ cemer
Total Depth 9999 ' Hole size 7 7/8 " TOC @ 8767'
using 50% efficien

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE NM- STATE AT LEASE	WELL No. 6	LOCATION Unit F	15-14-33

1980 FNL AND 1980' FWL
STATUS: Active Producer Saunders
Permo-Penn



10 3/4" CSG set @ 366' w/ 400 SXS Circ
15" hole

7 5/8" casing set at 4140' with 700 sx of _____ cement
Hole size 10 5/8" TOC @ 2837' using 50% efficiency

perf 9359-9387
9501-9684
9495-9601
} these perfs to be sqzd

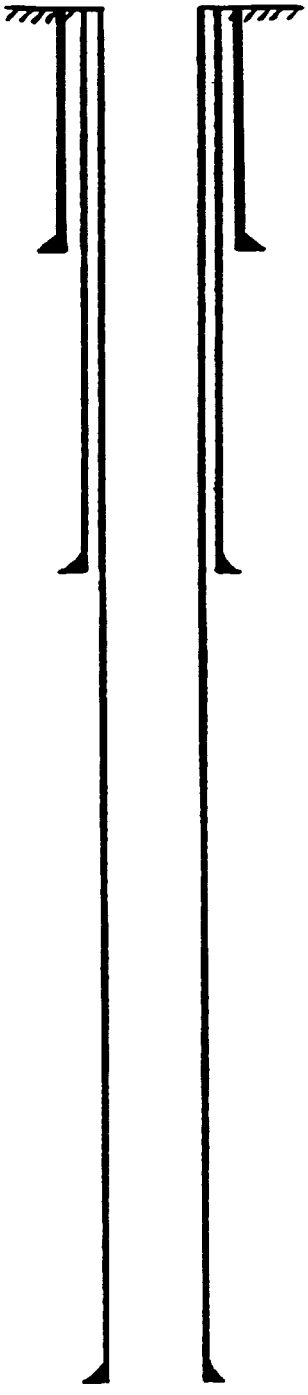
perf 9866-9874 A/1000 LSTNE
9773 - 9930
9769 - 9944

Liner top @ 3969

4 1/2" Liner ~~casing~~ set at 10000' with 700 sx of _____ cemen
Total Depth 10000' Hole size 6 3/4" Circ cmt
TAM 6029' Liner

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE NM- STATE AT LEASE	WELL NO. 8	LOCATION Unit L 15-14-33

1980' FSL and 660' FWL
STATUS: Active Producer
Strawn Penn-Penn



13 3/8" CSG set @ 480' w/ 700 sxs Cement Circ.
17 1/2" hole

8 5/8 " casing set at 4190 ' with 1500 sx of _____ cement
Hole size 12 1/4 " TOC By temp survey 1250'

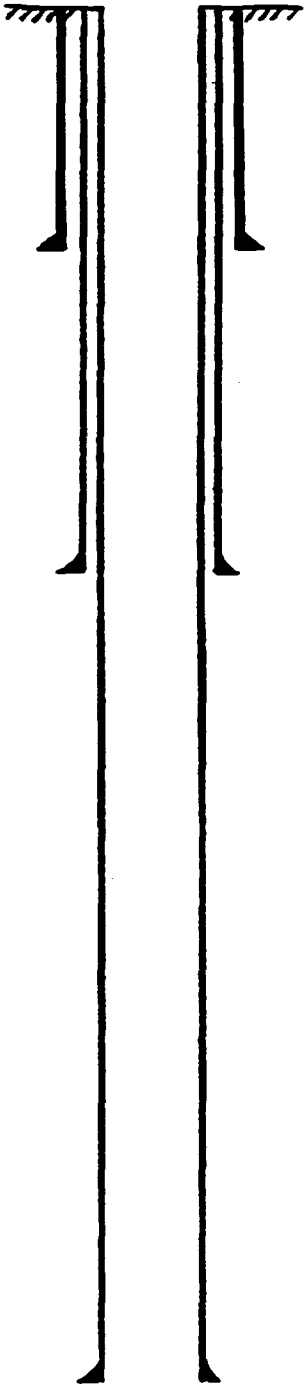
perf 9813 - 9873
9973 - 9983
9910 - 9944
} A/5000 gal 15% NE acid

DV tool @ 6997
1st stage w/ 900 sxs
2nd stage w/ 750 sxs Circ

5 1/2 " casing set at 10,100 ' with _____ sx of _____ cemer
Total Depth 10,100 ' Hole size 7 7/8 "

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE NM- STATE AT LEASE	WELL NO. 9	LOCATION Unit M 15-14-33

860' FSL and 660 FWL
Status: Active Producer
Saunders Permo-Penn



13 3/8" CSG set @ 470' cmtd w/ 700 sxs circ
17 1/2" hole

8 5/8" casing set at 4185' with 1600 sx of _____ cement
Hole size 11" cmt circulated

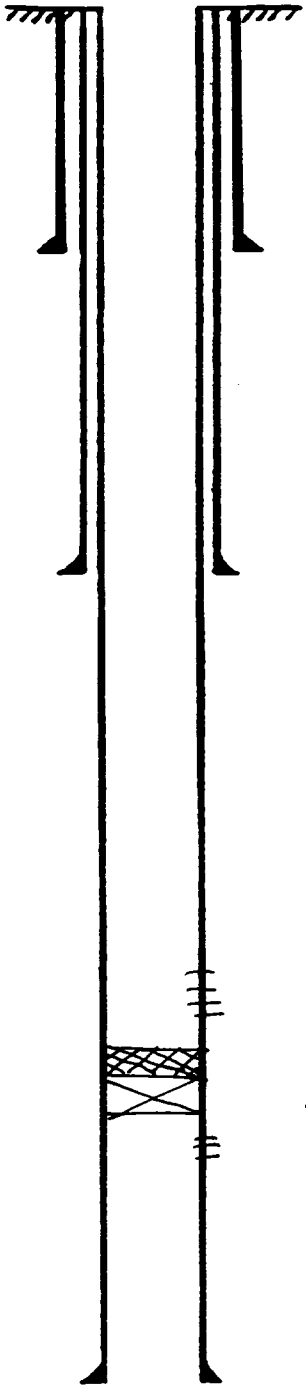
perf 9806 - 10015 A/ 9500 gal 15% NE acid

DV tool @ 7015'
1st Stage cmt w/ 1100 sxs
2nd Stage cmt w/ 900 sxs circ

5 1/2" casing set at 10,100' with _____ sx of _____ cemer
Total Depth 10,100' Hole size 7 7/8"

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE NM- STATE AT LEASE	WELL No. 12	LOCATION Unit G 15-14-33

1980' FNL and 1650' FEL
Status: Active Producer
Shinnery Penn-Penn



13 3/8" CSG set @ 525' w/ 650 sxs cmt Circ

8 5/8" casing set at 4200' with 2000 sx of _____ cement
Hole size _____" TOC By temp survey @ 750'

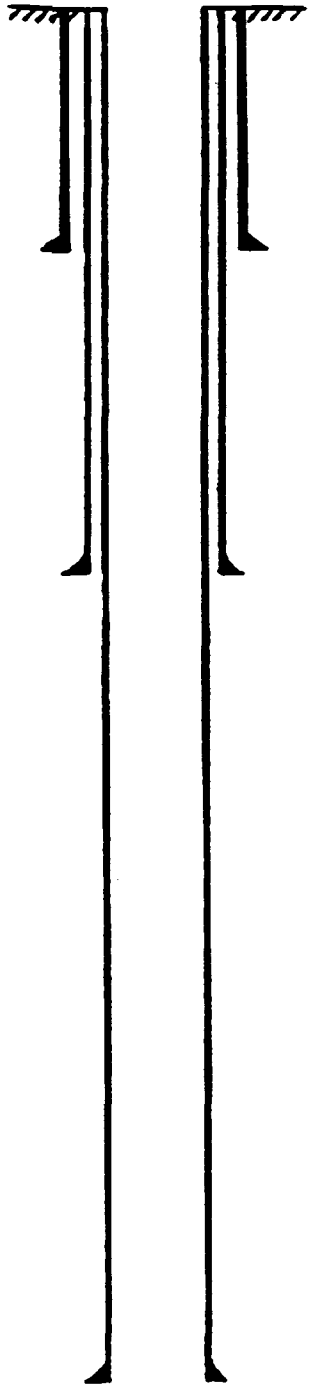
perf 9768 - 9833',
9883 - 9898,
9994 - 9999
Spot CIBP @ 9950' + 10' cmt.

DV tool @ 7000'
1st stage cmtd w/ 950 sxs
2nd stage cmtd w/ 1200 sxs Circ

5 1/2" casing set at 10019' with _____ sx of _____ cemer
Total Depth 10,019' Hole size 7 7/8"

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE NM- STATE AT LEASE	WELL NO. 13	LOCATION Unit E 15-14-33	

1980' FNL and 660' FWL
Status: Active producer
Saunders Permo-Penn



13 3/8" CSG set @ 525 w/ 600 sxs cmt circ
17 1/2" hole

98 5/8 " casing set at 4166 ' with 2200 sx of _____ cement
Hole size 12 1/4 " cmt circ

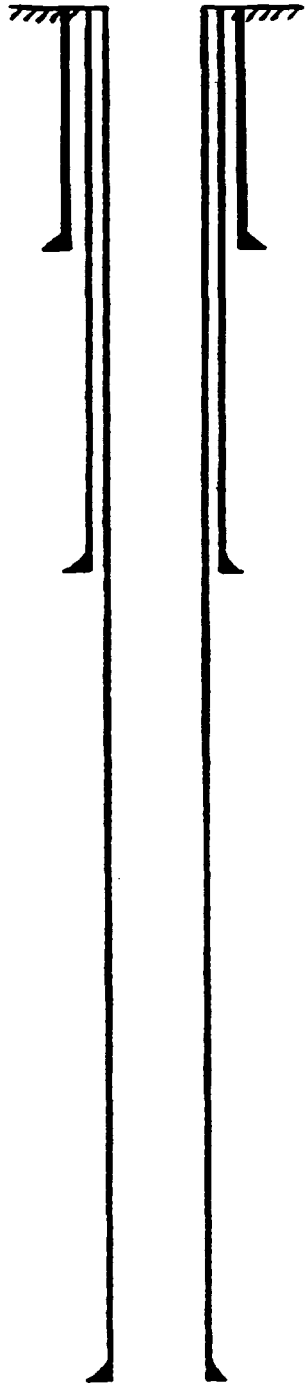
perf 9790 - 9979' A/ 8000 gal 15%

DV tool @ 6994'
1st stage cmtd w/ 1000 sxs
2nd stage cmtd w/ 1200 sxs circ

5 1/2 " casing set at 10100 ' with _____ sx of _____ cemer
Total Depth 10100 ' Hole size 7 7/8 "

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE NM- STATE AT LEASE	WELL No. 14	LOCATION Unit O 15-14-33	

660' FSL AND 1980' FEL
Status: Active Producer
Saunders Permo-Penn



13 3/8 Csg set @ 525' cmt w/ 660 sxs circ
17 1/2 hole

~~13 3/8~~ 8 5/8 " casing set at 525' with 600 sx of _____ cement
4200 2200
Hole size 12 1/4 " cmt circ

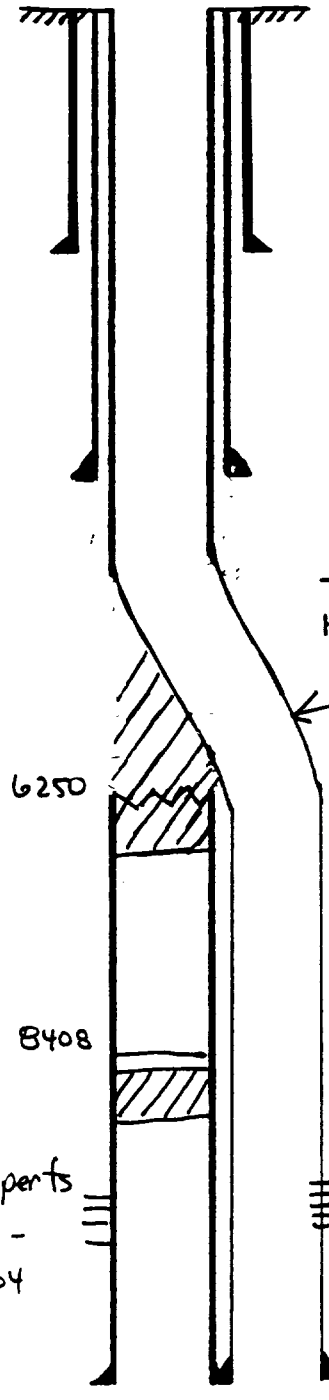
perf 9786 - 10002 A/12000 gal 15% NE Acid

DV tool @ 7007'
1st stage cmtd w/ 950 sxs
2nd stage cmtd w/ 1200 sxs circ

5 1/2 " casing set at 10,100' with _____ sx of _____ cemen
Total Depth 10,100' Hole size 7 7/8 "

OPERATOR			DATE
Marbob Oil Corp			9-11-91
LEASE	WELL No.	LOCATION	
Lea VF State	1	Unit P	16-14-33

330' FSL and 330' FEL
Status: Active Producer
Survey: Permo-Penn



11 3/4" CSG set @ 412' w/ 400 sxs cmt. Circ
14 3/4" hole

8 5/8" casing set at 4157' with 1500 sx of _____ cement
Hole size 11" Cmt circulated

Sidetrack Hole starts @ 6200'

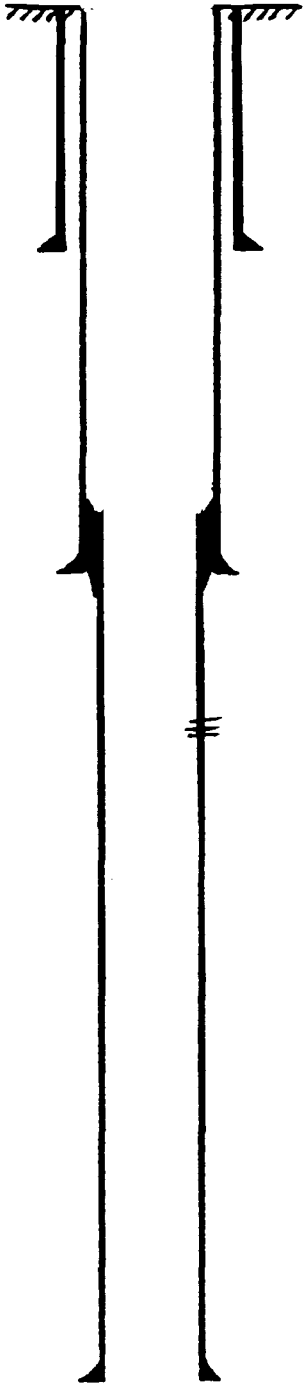
CSG Collapse @ 8675'
Set SV tool @ 8408 pump 100 sxs
Class C. no sqz
Cut and pull 5 1/2" CSG @ 6250 pump 160
sks @ stub

Sidetrack TD 10120'
5 1/2" csg set @ 10120' w/ DV tool @ 7515'
1st stage cmt w/ 670 sxs
2nd stage cmt w/ 700 sxs - cmt circ
Perf 9847 - 9984 w/ 250 gal

OLD Hole:
5 1/2" casing set at 10074' with 400 sx of _____ cement
Total Depth 10100' Hole size 7 7/8" TOC by survey @ 8670'

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE STATE AN LEASE	WELL NO. 8	LOCATION Unit H 22-14-33

1900' FNL and 660' FEL
Status: Active producer
Saunders Permo-Penn



10 3/4" CSG set @ 369' w/ ~~400~~ 475 SXS cmt circ.
hole size 15"

7 5/8" casing set at 4122' with 1700 sx of _____ cement
Hole size 9 7/8" TOC Circ

Sqz CSG Leak @ 4912 - 5380 w/ 200 SXS

perf 9776 - 9794
perf 9870 - 9920
perf 9967 - 9970

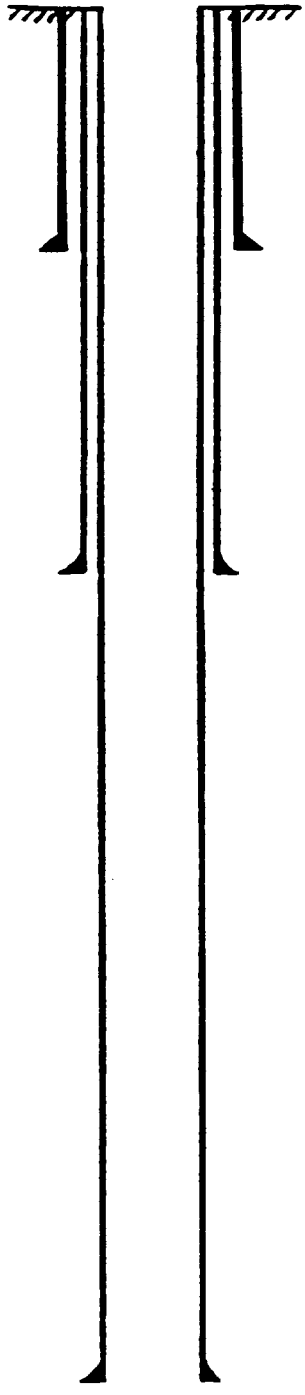
Top of Liner @ 3971' Cmt Bottom of Liner w/ 250 SXS
Cmt top of Liner w/ 150 SXS

4 1/2" Liner ~~casing~~ set at 10000' with _____ sx of _____ cemer

Total Depth 10000' Hole size 6 3/4"

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE STATE AN LEASE	WELL No. 10	LOCATION Unit E 22-14-33

1980' FNL and 660' FWL
Status: Active producer
Saunders Permo Penn



11 3/4" CSG set @ 355' w/ 300 SXS Circ
15" hole

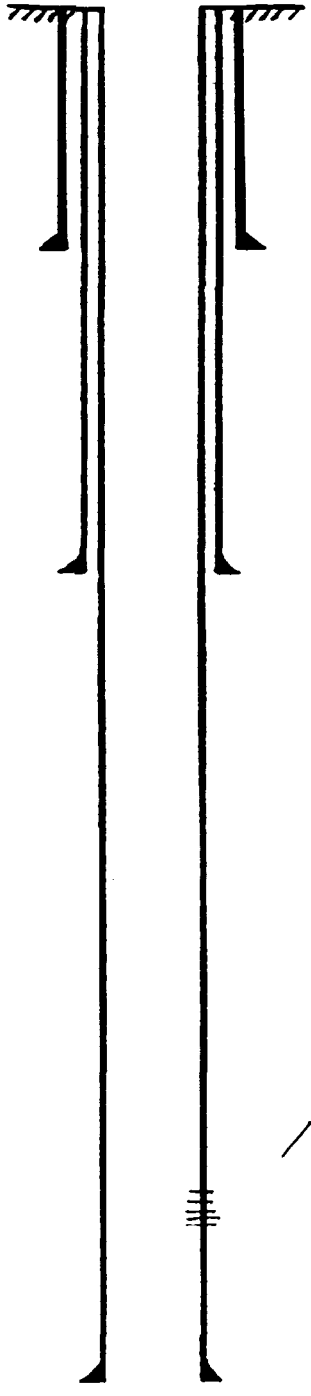
8 5/8" casing set at 4120' with 500 sx of _____ cement
Hole size 10 5/8" TOC @ 2668' 50% efficiency

perf 9790 - 9798
perf 9898 - 9913
perf 9902 - 9967

4 1/2" casing set at 10,060' with 1100 sx of _____ cemen
Total Depth 10,060' Hole size 7 7/8" TOC @ 7114' using
50% efficiency

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE STATE AN LEASE	WELL No. 11	LOCATION Unit O 22-14-33

660' FNL and 660' FWL
Status: Active Producer
Saunders Reimd-Penn



13 3/8" CSG set @ 500' cmtd w/ 600 sxs circ
17 1/2" hole

8 5/8" casing set at 4190' with 2800 sx of _____ cemen
Hole size 12 1/4" Cmt Circ

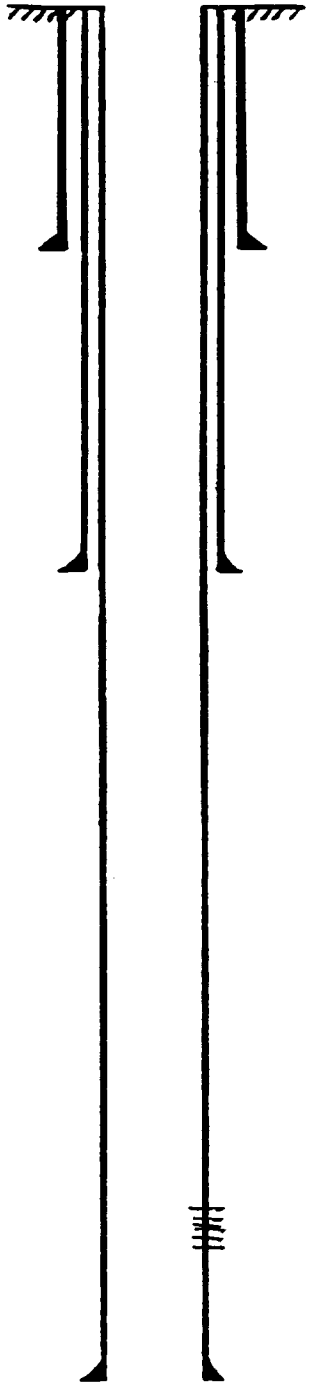
perf 9792-9971

1st Stage cmtd w/ 900 sxs
DV tool @ 7052' 2nd stage cmtd w/ 1320 sxs Circ

5 1/2" casing set at 10,100' with _____ sx of _____ ceme
Total Depth 10,100' Hole size 7 7/8"

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE STATE AN LEASE	WELL No. 12	LOCATION Unit G 22-14-33

1980' FNL and 2303 FEL
Status: Active producer
Saunders Permo-Penn



13 3/8" CSG set @ 525' cmtd w/ 650 sxs circ
17 1/2" hole

8 5/8" casing set at 4200' with 2000 sx of _____ cement
Hole size 12 1/4" cmt circ

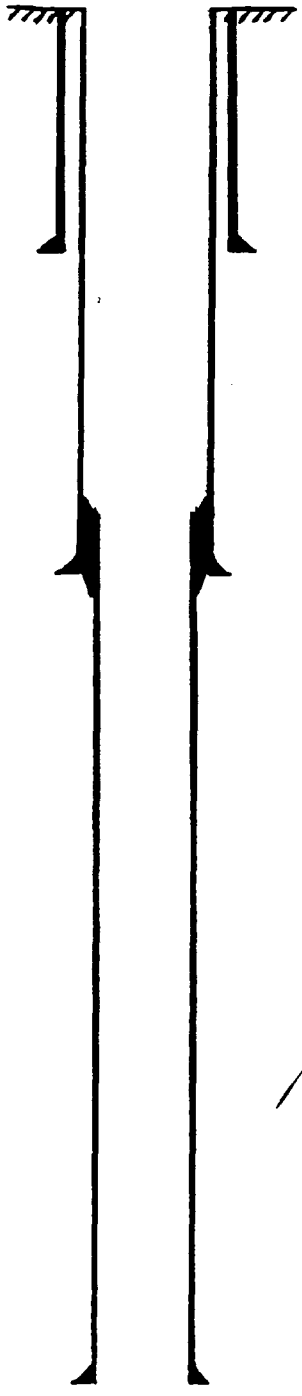
perf 9791 - 9944

DV tool @ 6975 1st stage cmtd w/ 950 sxs
2nd stage cmtd w/ 1200 sxs circ

5 1/2" casing set at 10,009' with _____ sx of _____ cemer
Total Depth 10,009' Hole size 7 7/8"

OPERATOR			DATE
Charles B. Gillespie. Jr			9-11-91
LEASE	WELL No.	LOCATION	
STATE J	4	unit E 23-14-33	

660' FWL and 1980' FNL
STATUS: Active Producer
Saunders Permo-Penn



13 3/8" CSG @ ~~306~~ 295' cmtd w/ 250 SXS circ
17 1/2" hole

8 5/8" casing set at 4169' with 1500 sx of _____ cement
Hole size 11" TOC by survey @ 2036'

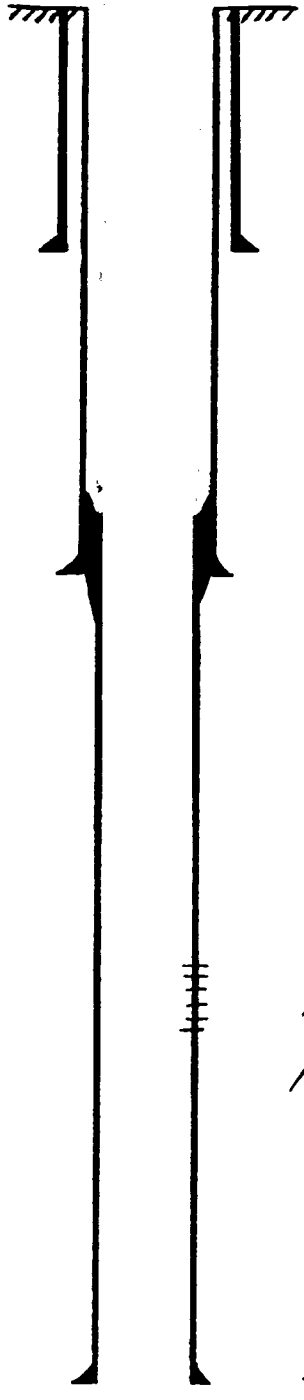
perf 9765 - 9791
9808 - 9983
9914 - 9929

Top of Liner @ 4046' Sqz top of liner w/ 200 sxs

5 1/2" ~~casing~~ Liner set at 9949' with 600 sx of _____ cemen
Total Depth 9950' Hole size 7 7/8"

OPERATOR			DATE
Charles B. Gillespie Jr			9-11-91
LEASE	WELL No.	LOCATION	
State J	5	unit D 23-14-33	

660' FNL & 660' FWL
Status: Active producer
Saunders Permo-Penn



13 3/8" CSG set @ 295' w/ 250 sxs Circ
17½" Hole

8 5/8" casing set at 4154' with 1500 sx of _____ cement
Hole size 11" TOC 544' using 50% efficiency

perf 9760 - 9804
perf 9857 - 9870

Top of Liner @ 4011

5½" Liner ~~casing~~ set at 9995' with 600 sx of _____ cement
Total Depth _____' Hole size 7 7/8"
TOC 7788' by TS

FORM C - 108 cont.

Part III. A

1.) New Mexico 'AT' State No. 4
1980' FSL and 660' FEL
Sec. 15 - T14S - R33E
Unit I
Lea County, New Mexico

New Mexico 'AT' State No. 10
1650' FSL and 2305' FWL
Sec. 15 - T14S - R33E
Unit K
Lea County, New Mexico

New Mexico 'AN' State No. 9
660' FNL and 1980' FWL
Sec. 22 - T14S - R33E
Unit C
Lea County, New Mexico

New Mexico 'AN' State No. 7
660' FNL and 660' FEL
Sec. 22 - T14S - R33E
Unit A
Lea County, New Mexico

2.) See attached wellbore schematic's.

3.) Propose to run 2 3/8" plastic coated tubing, and set at approximately 100' above top perf.

4.) Propose to run IPC Model R Packer as a seal, and load the backside with packer fluid.

Part III. B

1.) The injection interval is the Permo Upper Penn, and the wells are located in the Saunders Permo Upper Penn Field.

2.) The injection interval will be cased at approximately 9748' - 9974'.

3.) These wells were originally drilled as producing wells.

4.) See wellbore schematic

5.) There is no deeper oil horizon or shallower oil producing zone in the immediate vicinity.

Part VII.

1.) The proposed daily injection will be 2000 bbls. per day. The maximum will be 2000 bbls. per day.

2.) The system will be closed.

3.) The average injection pressure will be 0(Vacuum). The maximum will not exceed the limits set forth by the OCD.

4.) The source of the injection water will be from fresh water wells drilled on or near each injection well.

5.) The Saunders Permo Upper Penn is productive within one mile of the injection wells.

Part VIII

The injection interval is the Permo Upper Penn in the Saunders Permo Upper Penn Field, and is composed of alternating beds of red shale and porous limestone. The top of the Permo Penn section is the top of the Wolfcamp at approximately 9119'. This entire area is overlain by the Quaternary Alluvium and caliche. The fresh water in the area comes from the Ogalalla aquifer. There are no fresh water zones below the Saunders Permo Upper Penn section.

Part IX

The disposal interval will be treated with a breakdown acid job.

Part X

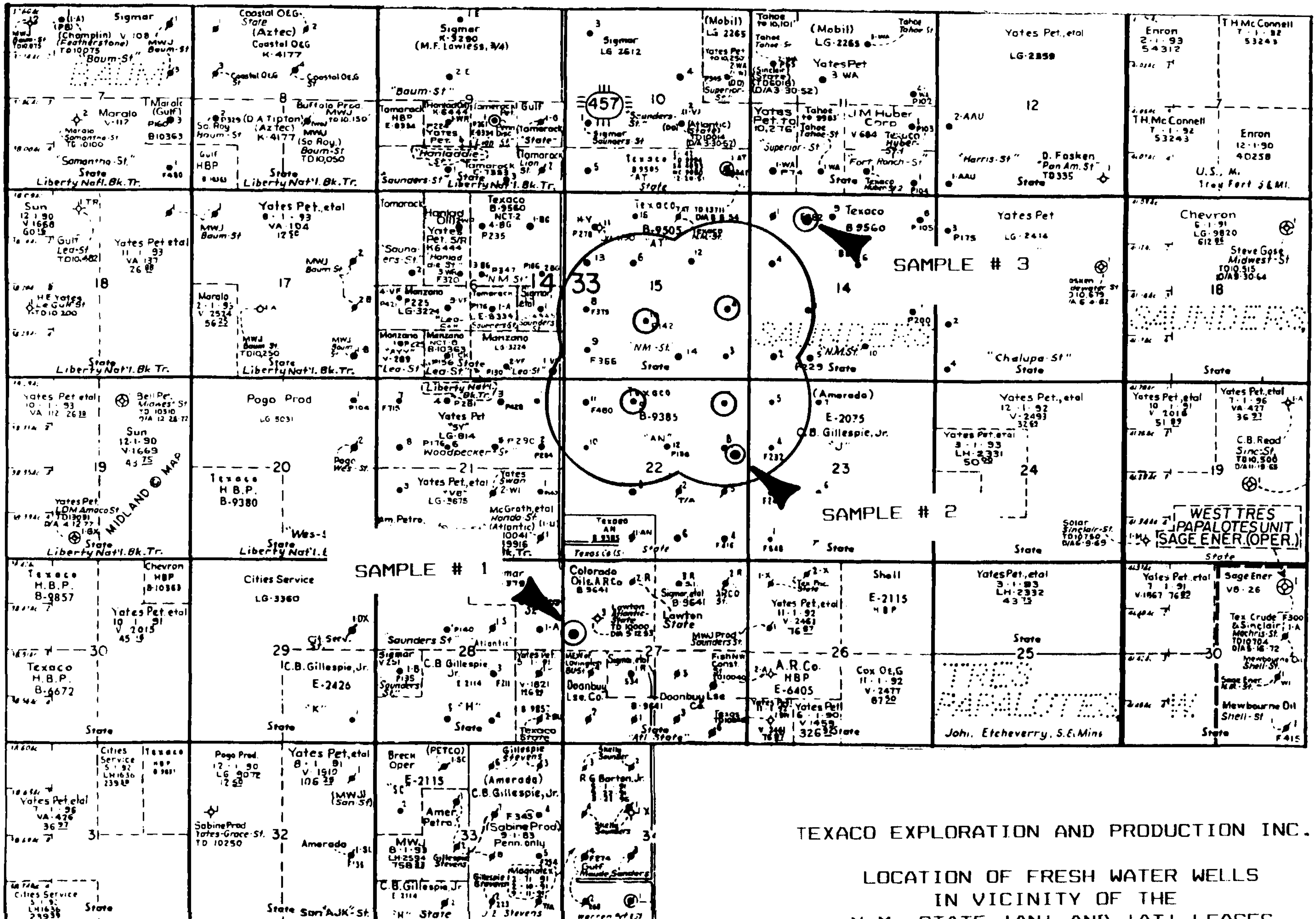
The logs have been submitted by Texaco.

Part XI

The water analysis for fresh water wells within one mile of the proposed injection wells are attached.

Part XII

We have examined all available geologic and engineering data, and find no evidence of open faults or any other hydrologic connection between the disposal interval and any underground source of drinking water.



TEXACO EXPLORATION AND PRODUCTION INC.

LOCATION OF FRESH WATER WELLS
IN VICINITY OF THE
N.M. STATE 'AN' AND 'AT' LEASES

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY REPORT No. 379

To Texaco Exploration and Production Inc. Date 09-17-91

Box 728

Hobbs, New Mexico 88240

Submitted by Mike Pierce Date Rec. 09-17-91

Well No. See Below Depth Formation

County Lea Field Saunders Source see below

Sample #1 Located Southwest of Atlantic #3
Water from windmill to run Cl. count
Cl.---- 80 mpl

Sample #2 Located South East of N.M. AN #8
Water from windmill to run Cl count
Cl. --- 105 mpl

Sample #3 Located at the Old Hilborn Ranch House
Water from water well (pump) to run Cl.
Cl. --- 100 mpl

John Eubank
Respectfully submitted,

Analyst:

HALLIBURTON COMPANY

cc:

By
CHEMIST

P 567 657 957

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Charles G. Keyes Jr
Street and No	5520 N Texas Ste 670
P.O. State and ZIP Code	Midland TX 79701
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	SEP 22 USPO

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 956

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Manzano Oil Corp
Street and No	Box 571
P.O. State and ZIP Code	Roswell, NM 88202
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 954

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	State Land Office
Street and No	PO Box 1148
P.O. State and ZIP Code	Santa Fe NM 87504-1148
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 955

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Yates Petr. Corp
Street and No	207 S Forth Strt
P.O. State and ZIP Code	Artesia, NM 88210
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 953

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Hilton Living Trust No 1
Street and No	PO Box 303
P.O. State and ZIP Code	Cimarron NM 88213
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

RECEIVED
SEP 27 1991
OIL CONSERVATION DIVISION

FORM C-108
Revised 7-1-81

Case 10401

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [XX] no

II. Operator: TEXACO EXPLORATION AND PRODUCTION INC.

Address: 205 East Bender Blvd. Hobbs, New Mexico 88240

Contact party: Michael L. Pierce Phone: 505-392-1915

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 [X] no
If yes, give the Division order number authorizing the project _____.

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: Michael L. Pierce Title Consultant

Signature: _____ Date: 9-24-91

* 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. _____

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;

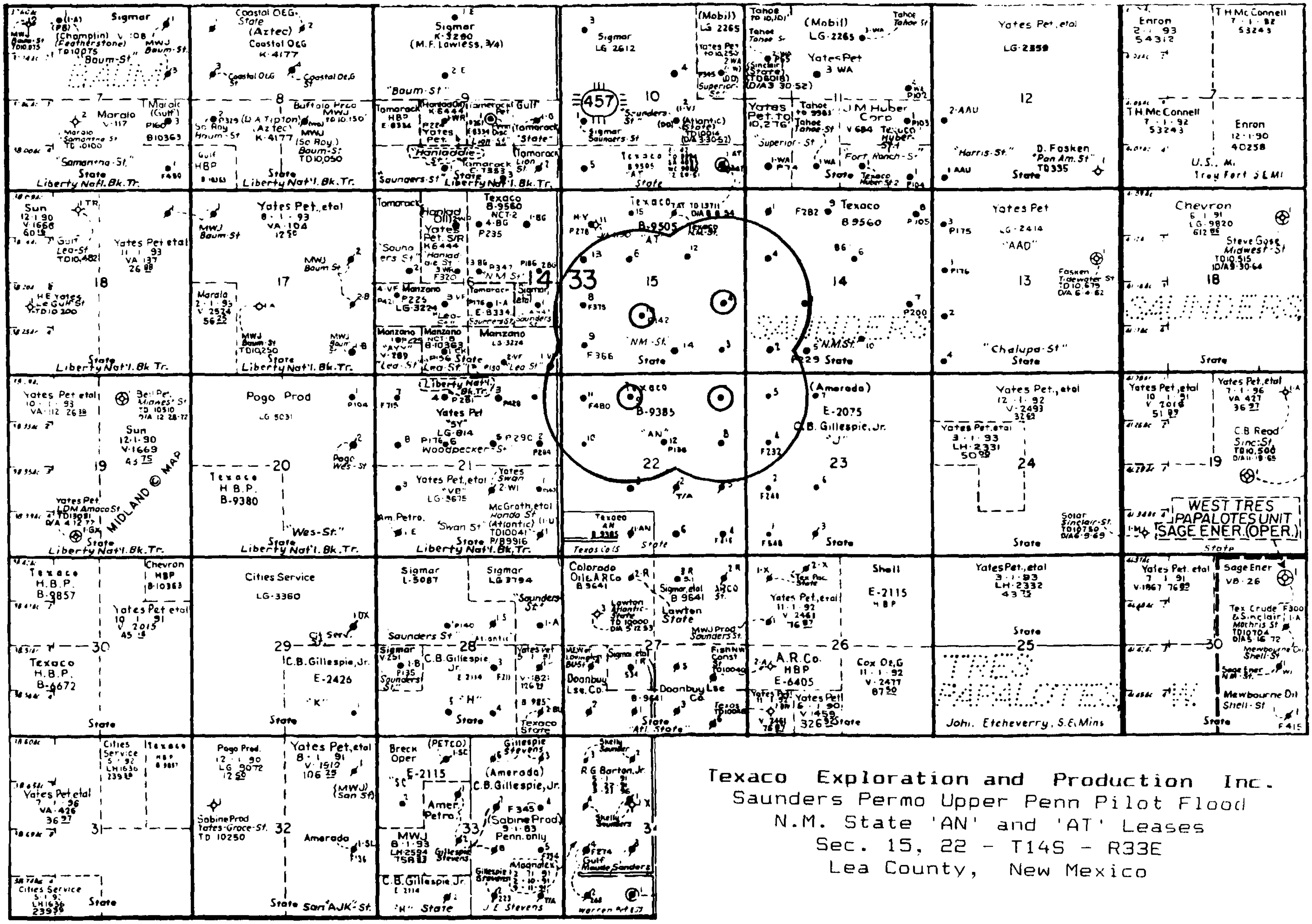
(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

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

(4) a notation that interested parties must file objections or reque for earing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexi 7501 within 15 days.

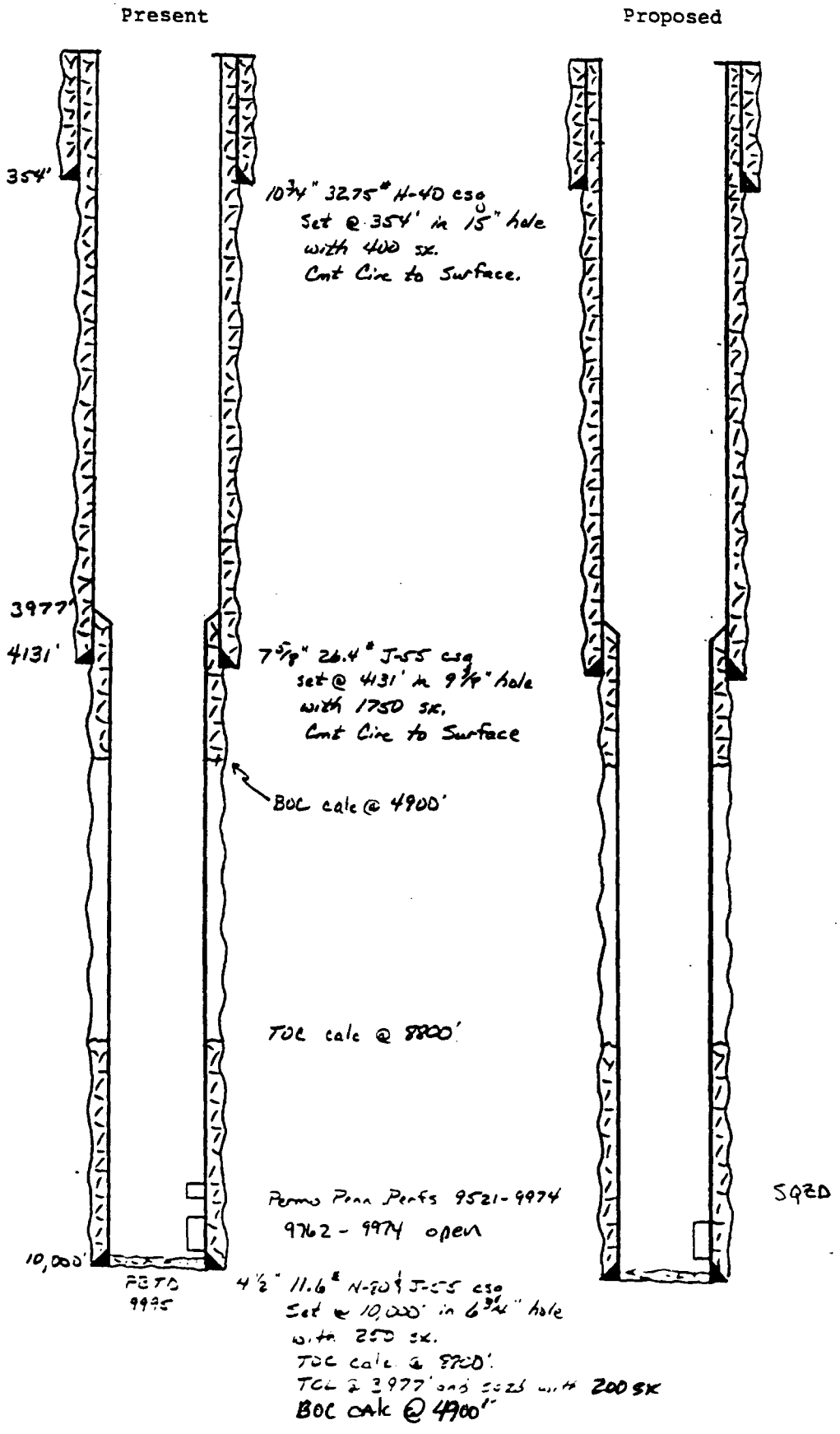
NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NO H BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or reque f earing of administrative applications within 15 days from the date this apr ati was mailed to them.

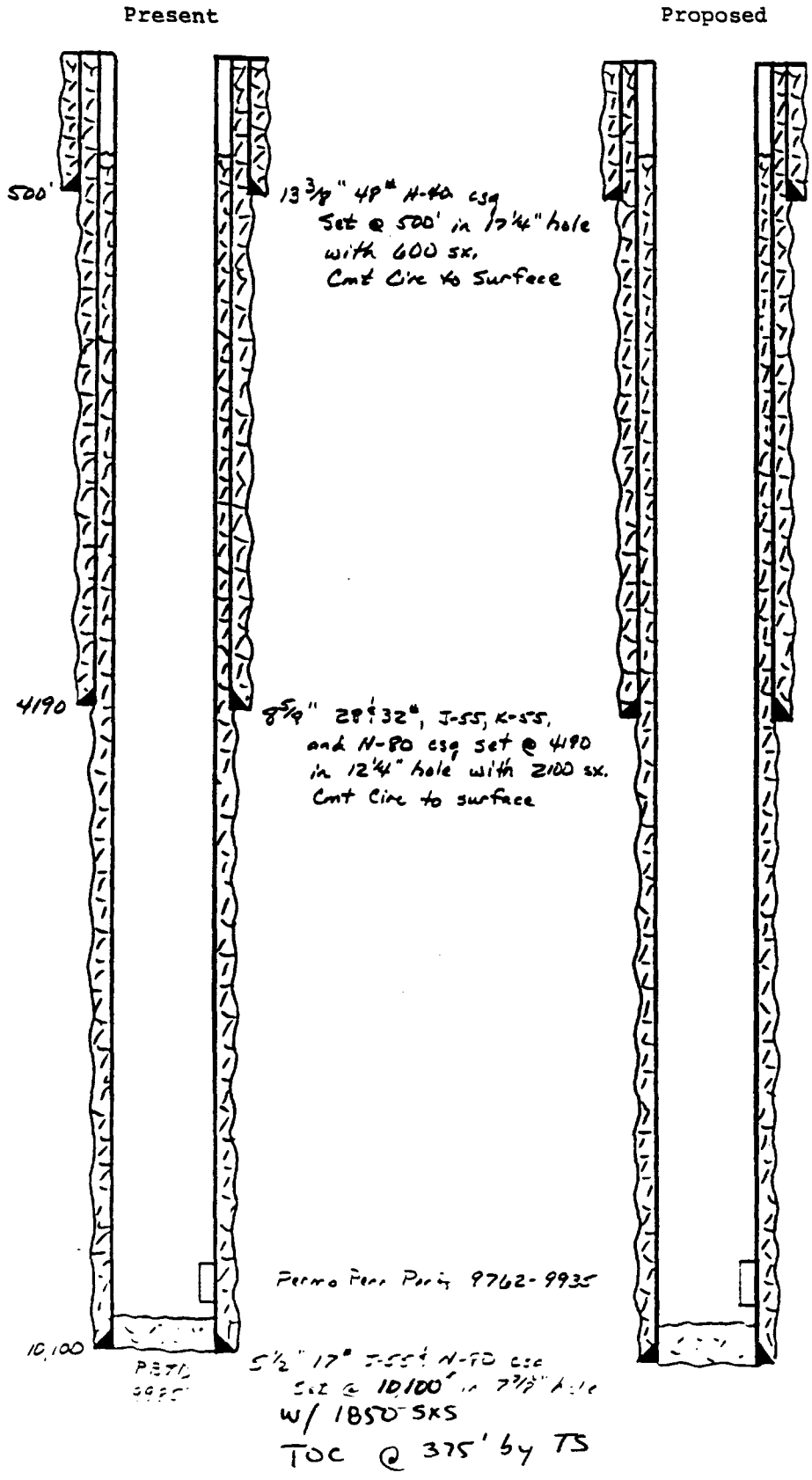


Texaco Exploration and Production Inc.
Saunders Permo Upper Penn Pilot Flood
N.M. State 'AN' and 'AT' Leases
Sec. 15, 22 - T14S - R33E
Lea County, New Mexico

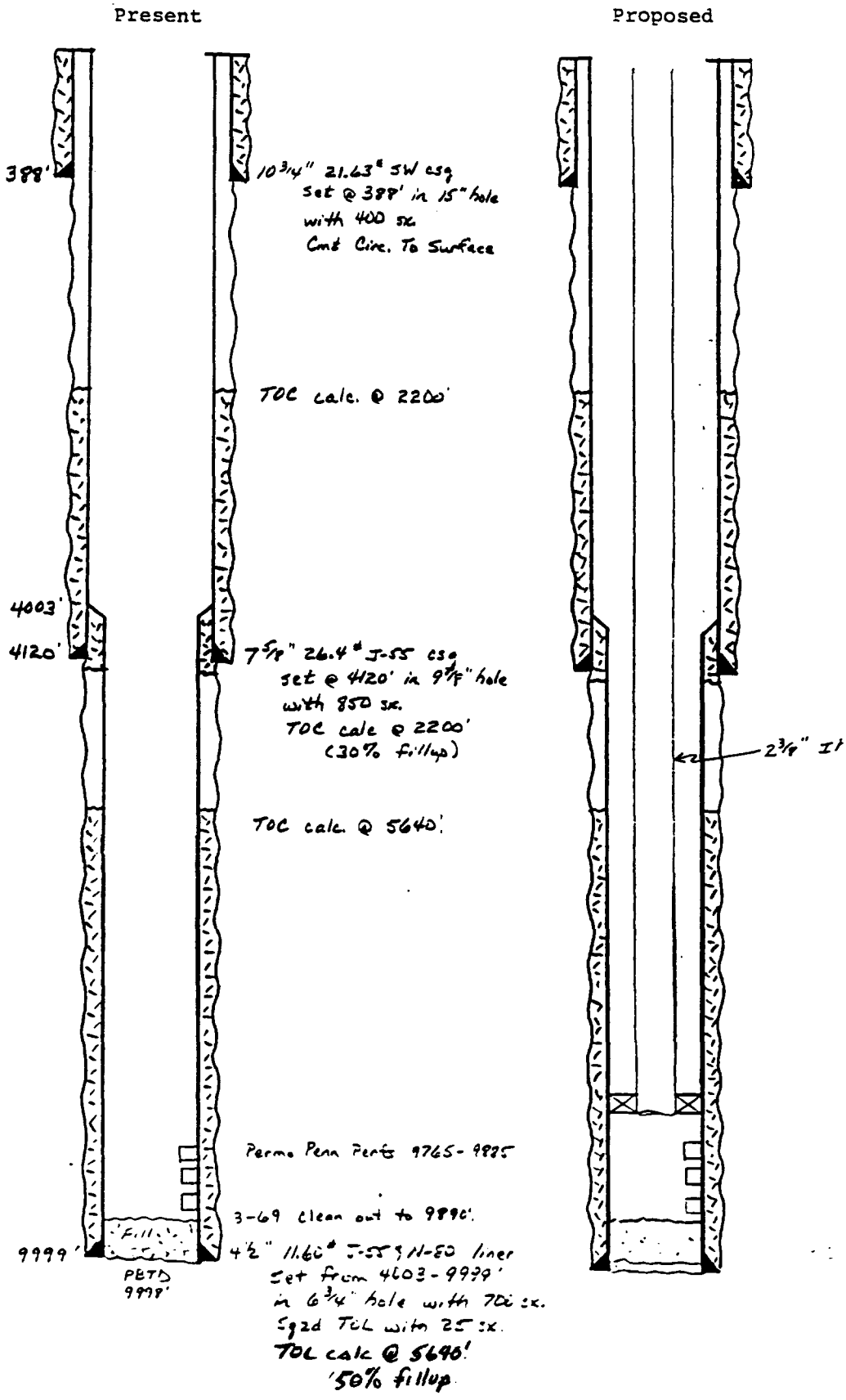
1) New Mexico 'AT' State well No. 4
1980' FSL and 660' FEL
sec. 15 - T14S - R33E
Injection interval 9521 - 9974



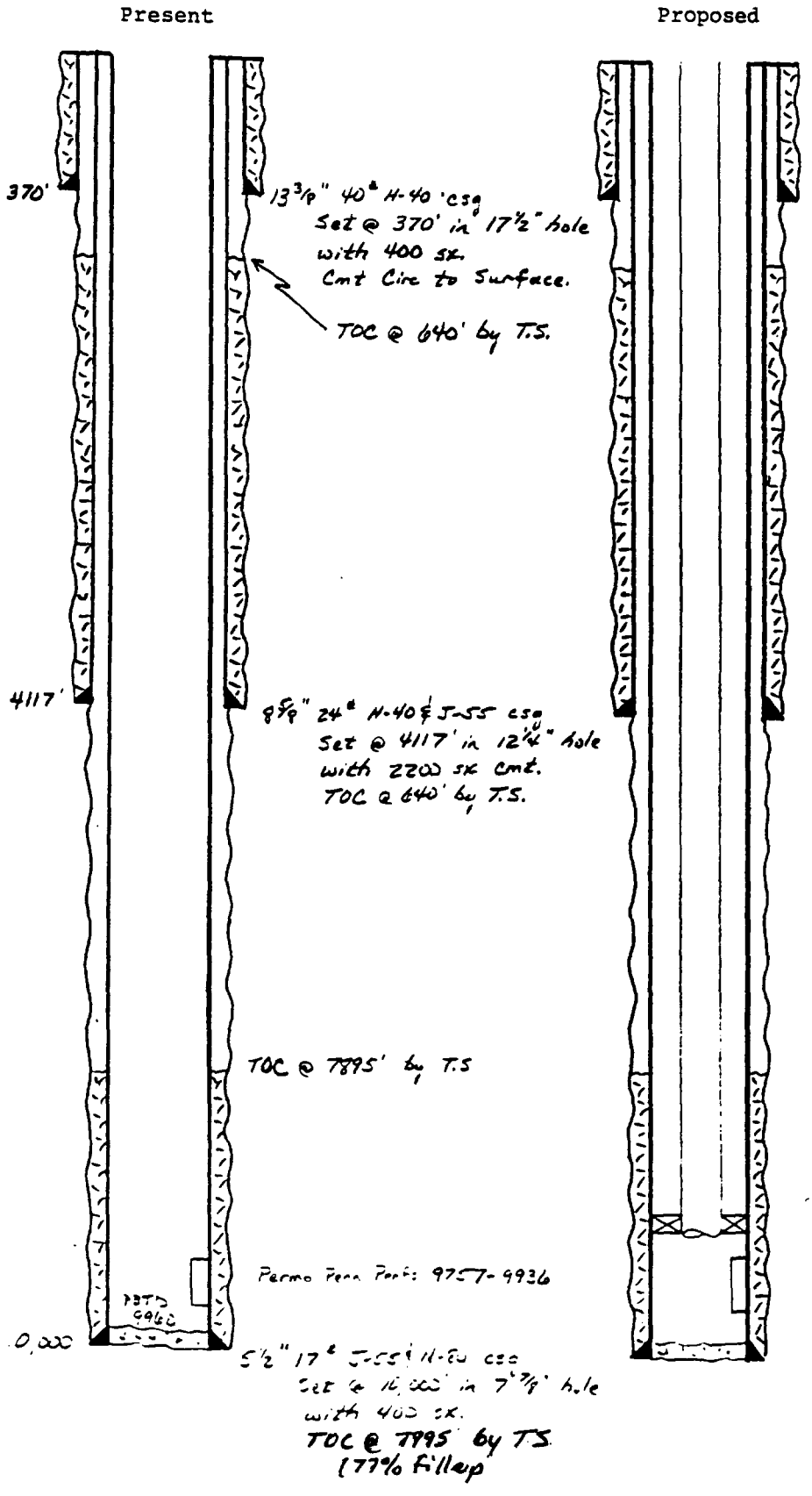
2) New Mexico 'AT' State well No. 10
1650' FSL and 2305' FWL
sec. 15 - T14S - R33E
Injection interval 9762 - 9935



3) New Mexico 'AN' State well No. 9
660' FNL and 1980' FWL
sec. 22 - T14S - R33E
Injection interval 9765 - 9885

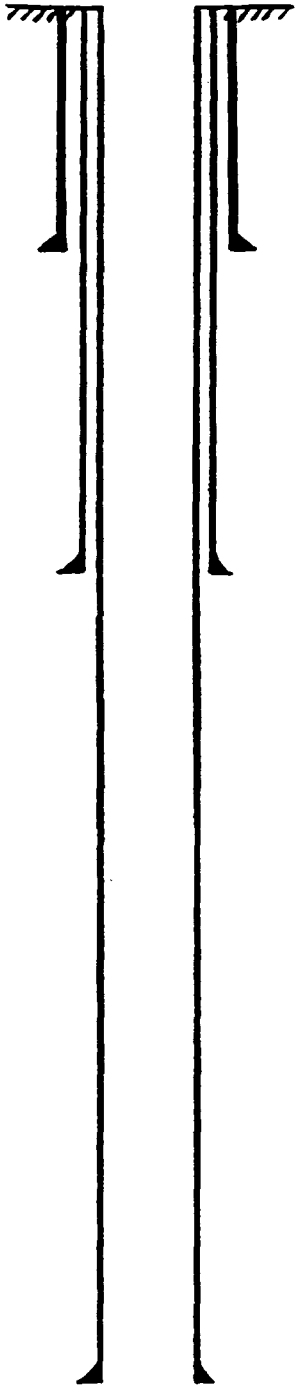


4) New Mexico 'AN' State well No. 7
660' FNL and 660' FEL
sec. 22 - T14S - R33E
Injection interval 9757 - 9936



OPERATOR		DATE
Texaco Exploration and Production Inc		9-11-91
LEASE	WELL NO.	LOCATION
New Mexico BG State NCT-1	2	Unit M 14-14-33

660' FSL & 660' FWL
Status: Active Producer
Saunders Permo-Penn



13 3/8" CSG set @ 344' w/ 425 sxs circ
17 1/2" hole

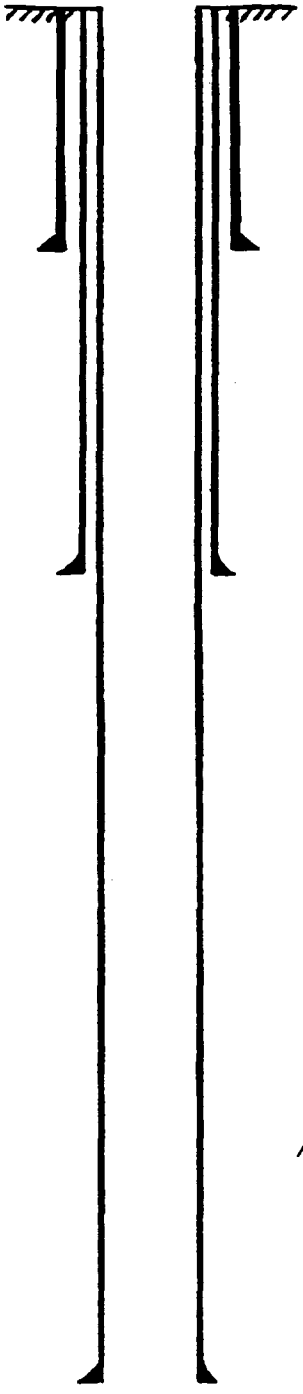
8 5/8" casing set at 4120' with 2400 sx of _____ cement
Hole size 12 1/4" Cmt circulated

perf 9753 - 9794
perf 9857 - 9920

5 1/2" casing set at 9999' with 400 sx of _____ cement
Total Depth 10,000' Hole size 7 7/8" TOC by temp survey 8290'

OPERATOR			DATE
Texaco Exploration and Production Inc			9-11-91
LEASE	WELL No.	LOCATION	
New Mexico BG State NCT-1	3	Unit K	14-14-33

1930' FSL and 1651' FWL
STATUS: Active producer
Saunders Permo-Penn



11 3/4" OD set @ 365' w/ 350 sxs circ
15" hole.

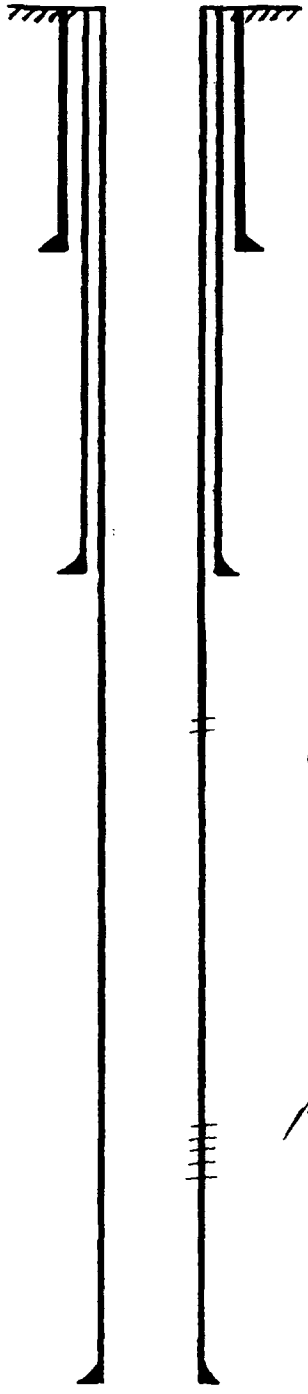
8 5/8" casing set at 4150' with 900 sx of _____ cement
Hole size 10 5/8" TOC @ 1536' using 50% efficien

perf 9754 - 9947

4 1/2" casing set at 10045' with 1100 sx of _____ cemen
Total Depth 10045' Hole size 7 7/8" TOC @ 7099'
using 50% efficienc

OPERATOR			DATE
Texaco Exploration + Production Inc			9-11-91
LEASE	WELL No.	LOCATION	
New Mexico BG State NCT-1	4	Unit E	14-14-33

1980' FNL and 660' FWL
STATUS: Active Producer
Saunders Permo-Penn



11 3/4" CSG set @ 397' w/ 225 SXS CIRC

8 5/8" casing set at 4150' with 900 sx of _____ cement
Hole size 10 5/8" TOC @ 1536' using 50% efficiency

CSG leak @ 4929-61 perf 4950 w/2 SHOTS
SQZ w/ 100 SX

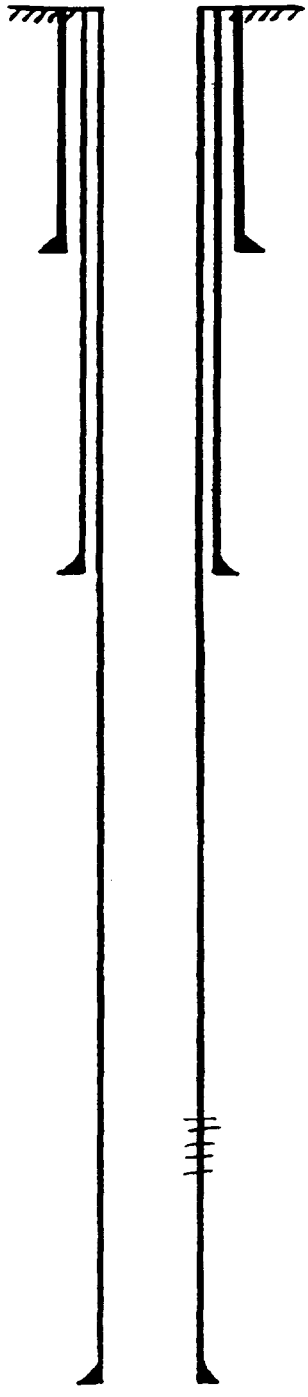
perf 9771 - 9954

4 1/2" casing set at 10015' with 1100 sx of _____ cemen
Total Depth 10,015' Hole size 7 7/8" TOC @ 7069'
using 50% efficien

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE NM- STATE AT LEASE	WELL NO. 3	LOCATION UNIT P 15-14-33

660' FSL & 660 FEL

Status: Active Producer
Saunders Permo-Penn



13 3/8" CSG set @ 348' Cmt w/ 475 SXS Circ
17 1/2" hole

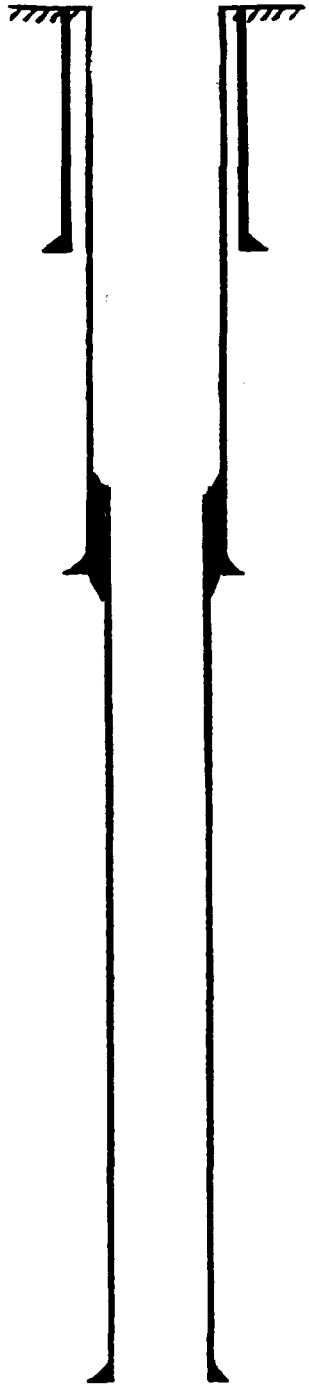
8 5/8 " casing set at 4114 ' with 2400 sx of _____ cement
Hole size 11 " Cement Circ

perf 9748 - 9910 Selectively A/ 500 gal 15%
perf 9948 - 9958

5.5 " casing set at 9999 ' with 350 sx of _____ cemen
Total Depth 9999 ' Hole size 7 7/8 " TOC @ 8767'
using 50% efficien

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE NM- STATE AT LEASE	WELL NO. 6	LOCATION Unit F	15-14-33

1980 FNL AND 1980' FWL
STATUS: Active Producer Saunders
Permo-Penn



10 3/4" CSG set @ 366' w/ 400 SXS circ
15" hole

7 5/8" casing set at 4140' with 700 sx of _____ cement
Hole size 10 5/8" TOC @ 2837' using 50% efficiency

perf 9359-9387
9501-9684
9495-9601
} these perfs to be sqzd

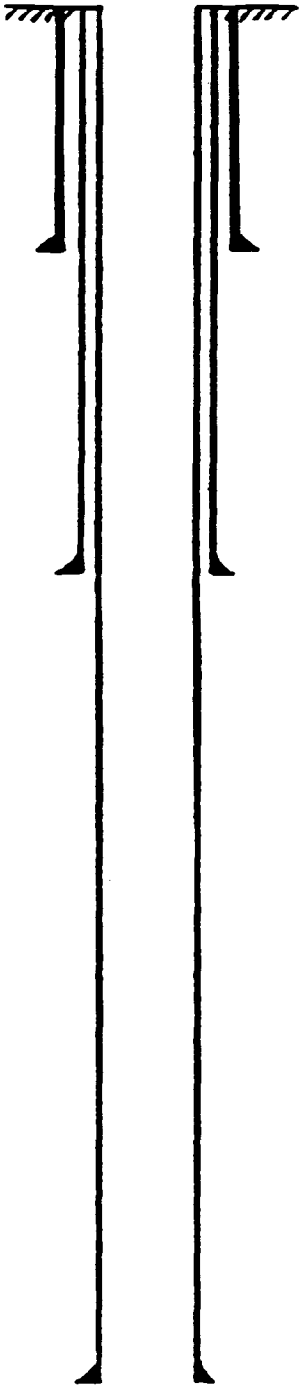
perf 9866-9874 w/ 1000 LSTNE
9773 - 9930
9769 - 9944

Liner top @ 3969

4½" Liner ~~casing~~ set at 10000' with 700 sx of _____ cemer
Total Depth 10000' Hole size 6 3/4" Circ cmt
TAM 6029' Liner

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE NM- STATE AT LEASE	WELL No. 8	LOCATION Unit L 15-14-33

1980' FSL and 660' FWL
STATUS: Active Producer
SAN ANDRES PERMO-PENN



13 3/8" CSG set @ 480' w/ 700 sxs Cemt Circ.
17 1/2" hole

8 5/8" casing set at 4190' with 1500 sx of _____ cement
Hole size 12 1/4" TOC By temp survey 1250'

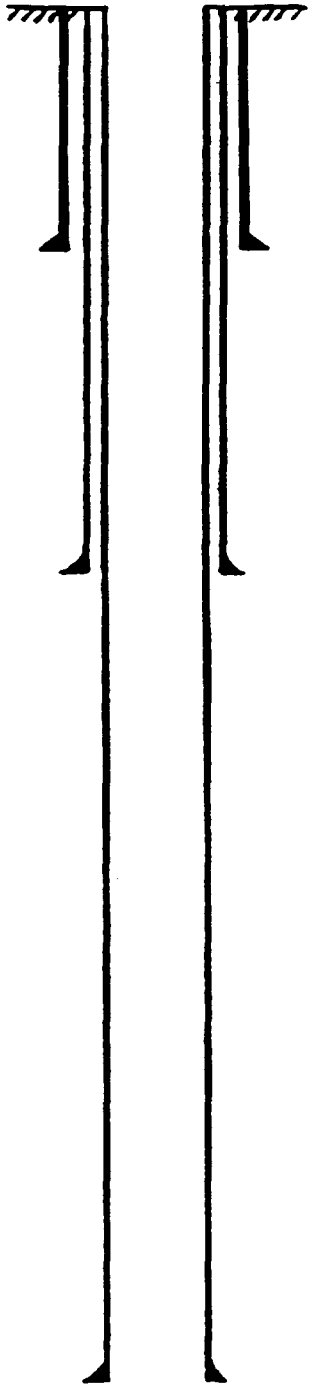
perf 9813 - 9873
9973 - 9993
9910 - 9944
} A/5000 gal 15% NE acid

DV tool @ 6997
1st Stage w/ 900 sxs
2nd Stage w/ 750 sxs Circ

5 1/2" casing set at 10,100' with _____ sx of _____ cemen
Total Depth 10,100' Hole size 7 7/8"

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE NM- STATE AT LEASE	WELL No. 9	LOCATION Unit M 15-14-33

860' FSL and 660 FWL
Status: Active Producer
Saunders Permo-Penn



13 3/8" CSG set @ 470' cmt'd w/ 700 sxs circ
17 1/2" hole

8 5/8" casing set at 4185' with 1600 sx of _____ cement
Hole size 11" cmt circulated

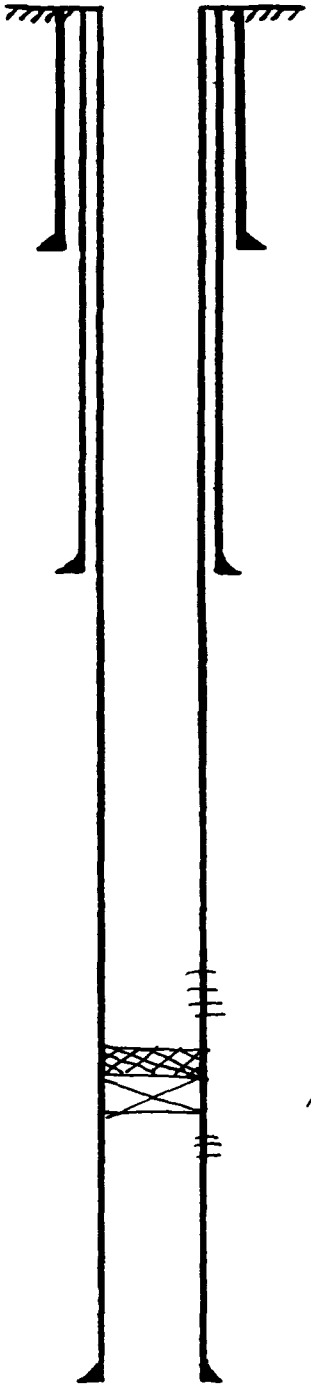
perf 9806 - 10 015 A/ 9500 gal 15% NE acid

DV tool @ 7015'
1st Stage cmt w/ 1100 sxs
2nd Stage cmt w/ 900 sxs circ

5 1/2" casing set at 10,100' with _____ sx of _____ cemer
Total Depth 10,100' Hole size 7 7/8"

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE NM- STATE AT LEASE	WELL NO. 12	LOCATION Unit G 15-14-33	

1980' FNL and 1650' FEL
Status: Active Producer
Simpsons Penno-Penn



13 3/8" CSG set @ 525' w/ 650 sxs cmt Circ

8 5/8" casing set at 4200' with 2000 sx of _____ cement
Hole size _____" TOC By temp survey @ 750'

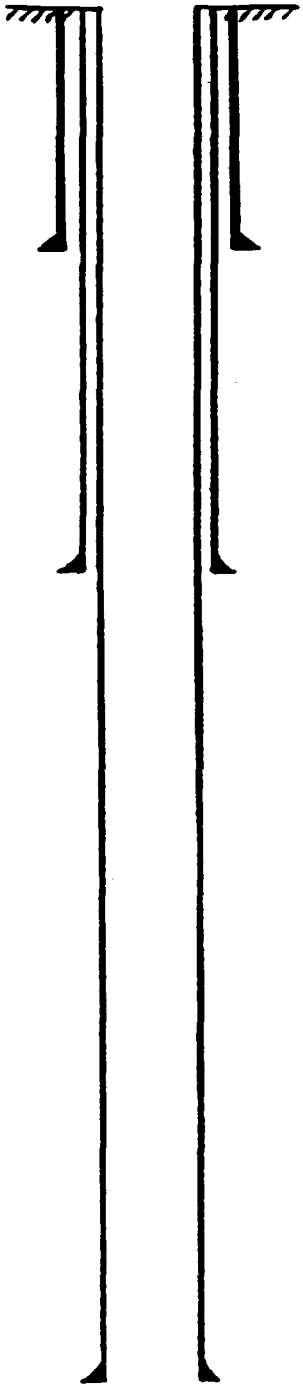
9768 - 9833',
9883 - 9898,
perf 9994 - 9999
Spot CIBP @ 9950' + 10' cmt.

DV tool @ 7000'
1st stage cmtd w/ 950 sxs
2nd stage cmtd w/ 1200 sxs Circ

5 1/2" casing set at 10019' with _____ sx of _____ cemer
Total Depth 10,019' Hole size 7 7/8"

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE NM- STATE AT LEASE	WELL NO. 13	LOCATION Unit E 15-14-33	

1980' FNL and 660' FWL
Status: Active producer
Skaggs Penno-Penn



13 3/8" CSG set @ 525 w/ 600 sxs cmt circ
17 1/2" hole

9 5/8" casing set at 4166' with 2200 sx of _____ cement
Hole size 12 1/4" Cmt circ

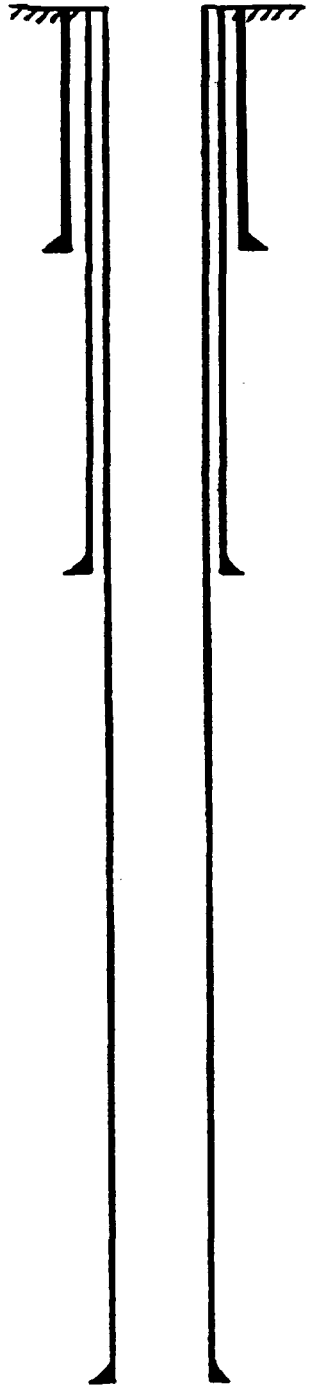
perf 9790 - 9979' A/ 8000 gal 15%

DV tool @ 6994'
1st stage cmtd w/ 1000 sxs
2nd stage cmtd w/ 1200 sxs circ

5 1/2" casing set at 10100' with _____ sx of _____ cemen
Total Depth 10100' Hole size 7 7/8"

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE NM- STATE AT LEASE	WELL No. 14	LOCATION Unit O 15-14-33

660' FSL and 1980' FEL
Status: Active Producer
Saunders Permo-Penn



13 3/8 Csg set @ 525' cmt w/ 660 sxs circ
17 1/2 hole

8 5/8 (4200) (2200) / ~~13 3/8~~ " casing set at 525' with 600 sx of _____ cement

Hole size 12 1/4 " cmt circ

perf 9786 - 10002 A/12000 gal 15% NE Acid

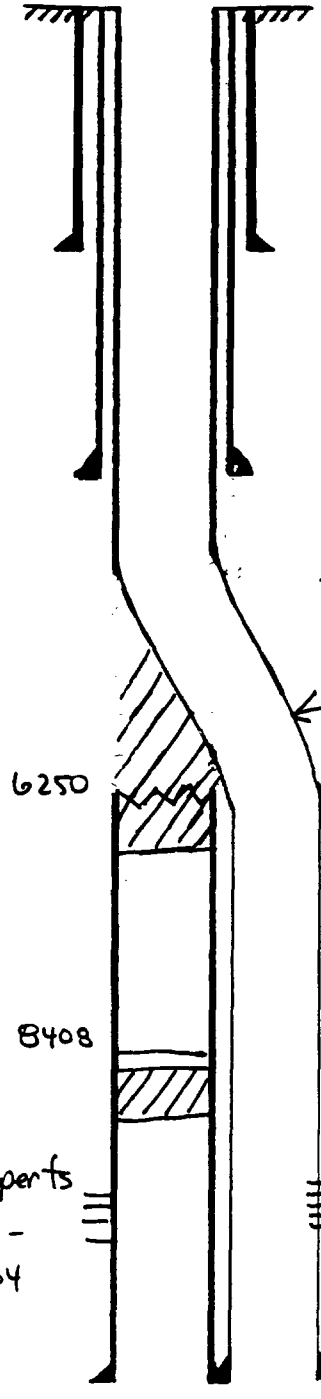
DV tool @ 7007'
1st stage cmtd w/ 950 sxs
2nd stage cmtd w/ 1200 sxs circ

5 1/2 " casing set at 10,100' with _____ sx of _____ cemer

Total Depth 10,100' Hole size 7 7/8 "

OPERATOR			DATE
MANZANO Oil Corp			9-11-91
LEASE	WELL No.	LOCATION	
Lea VF State	1	Unit P	16-14-33

330' FSL and 330' FEL
Status: Active Producer
Saunders Permo-Penn



11 3/4" CSG set @ 412' w/ 400 sxs cmt. Circ
14 3/4" hole

8 5/8" casing set at 4157' with 1500 sx of _____ cement
Hole size 11" Cmt circulated

Sidetrack Hole starts @ 6200'

CSG Collapse @ 8675'
Set SV tool @ 8408 pump 100 sxs
Class C. no sqz
Cut and pull 5 1/2" CSG @ 6250 pump 160
sks @ stub

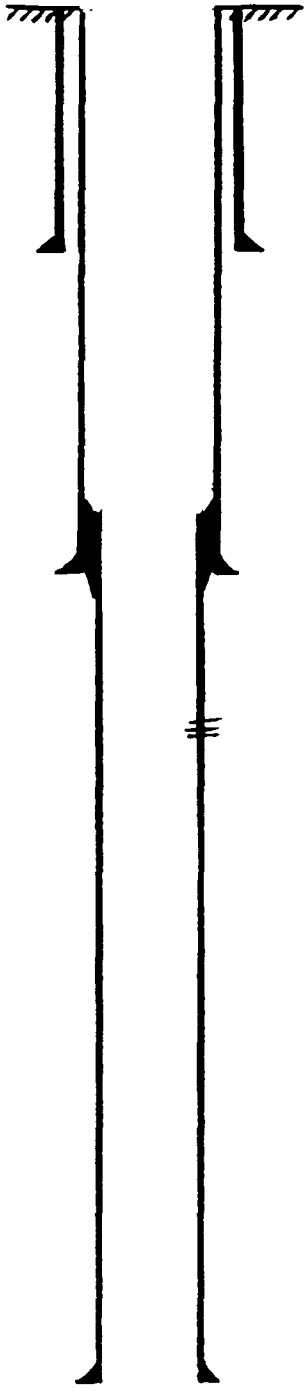
Sidetrack Td 10120'
5 1/2" CSG set @ 10120' w/ DV tool @ 7515'
1st stage cmt w/ 670 sxs
2nd stage cmt w/ 700 sxs - cmt circ
Perf 9847 - 9984 4/250 gal

OLD Hole:
5 1/2" casing set at 10074' with 400 sx of _____ cement

Total Depth 10100' Hole size 7 7/8" Toc by survey
@ 8670'

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE STATE AN LEASE	WELL No. 8	LOCATION Unit H 22-14-33

1990' FNL and 660' FEL
Status: Active producer
Saunders Permo-Penn



10 3/4" CSG set @ 369' w/ ~~400~~ 475 SXS cmt circ.
hole size 15"

7 5/8" casing set at 4122' with 1700 sx of _____ cement
Hole size 9 7/8" TOC Circ

Sqz CSG Leak @ 4912 - 5380 w/ 200 SXS

perf 9776 - 9794
perf 9870 - 9920
perf 9967 - 9970

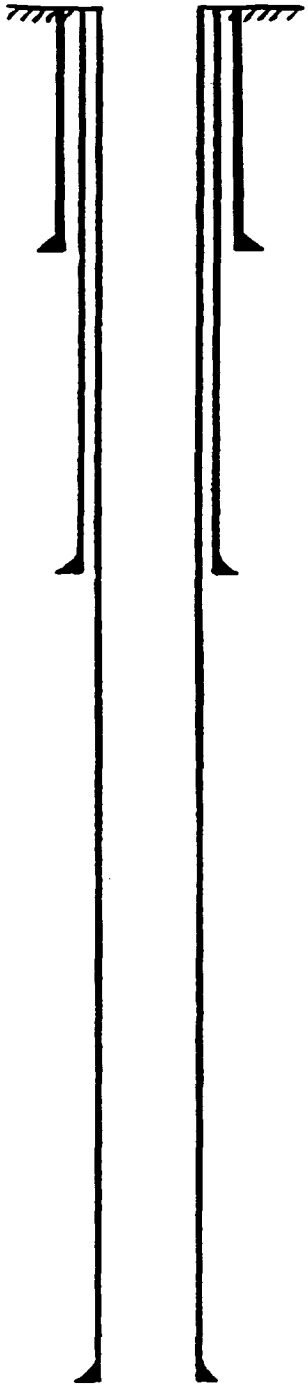
Top of Liner @ 3971' Cmt Bottom of Liner w/ 250 SXS
Cmt top of Liner w/ 100 SXS

4 1/2" Liner ~~casing~~ set at 10000' with _____ sx of _____ cemen

Total Depth 10000' Hole size 6 3/4"

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE STATE AN LEASE	WELL No. 10	LOCATION Unit E 22-14-33

1980' FNL and 660' FWL
Status: Active producer
Saunders Permo Penn



11 3/4" CSG set @ 355' w/ 300 SxS Circ
15" hole

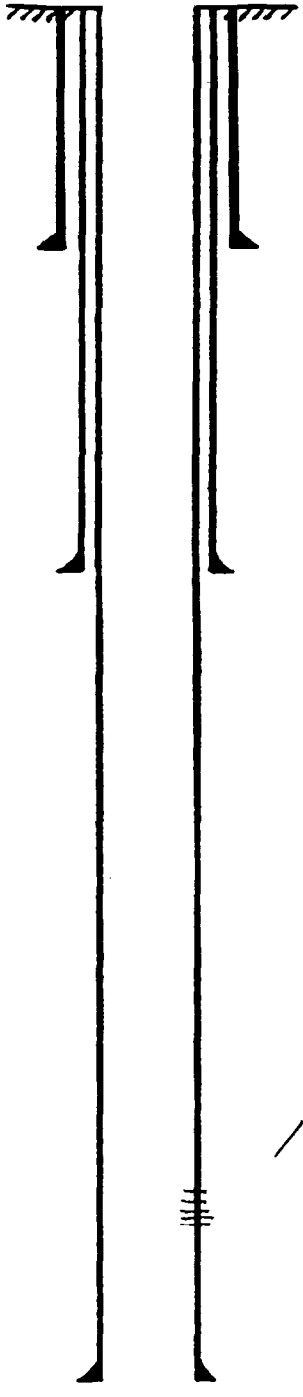
8 5/8" casing set at 4120' with 500 sx of _____ cement
Hole size 10 5/8" TOC @ 2668' 50% efficiency

perf 9790 - 9798
perf 9898 - 9913
perf 9902 - 9967

4 1/2" casing set at 10,060' with 1100 sx of _____ cemer
Total Depth 10,060' Hole size 7 7/8" TOC @ 7114' usin
50% efficienc

OPERATOR		DATE
TEXACO EXPLORATION AND PRODUCING INC.		9-11-91
LEASE STATE AN LEASE	WELL No. 11	LOCATION Unit D 22-14-33

660' FNL and 660' FWL
Status: Active Producer
Saunders Permo-Penn



13 3/8" CSG set @ 500' cmtd w/ 600 sxs circ
17 1/2" hole

8 5/8" casing set at 4190' with 2800 sx of _____ cement
Hole size 12 1/4" Cmt Circ

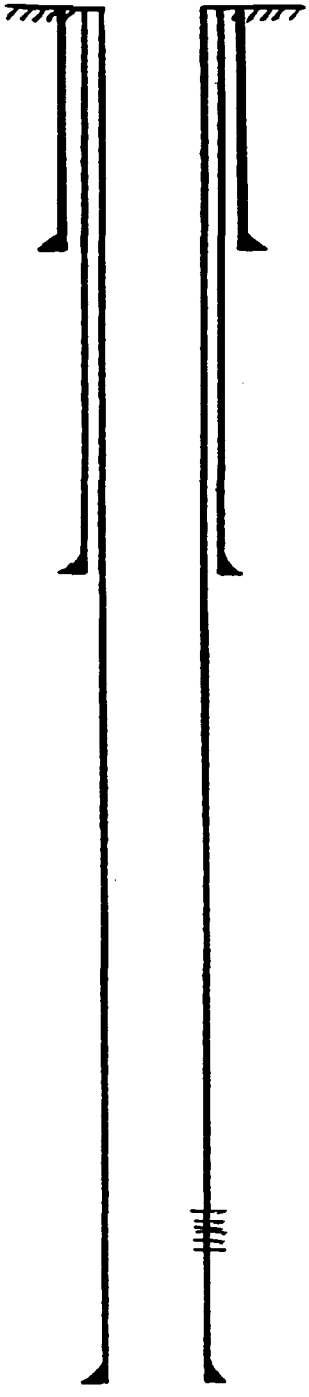
perf 9792-9971

1st Stage cmtd w/ 900 sxs
DV tool @ 7052' 2nd stage cmtd w/ 1320 sxs circ

5 1/2" casing set at 10,100' with _____ sx of _____ cemen
Total Depth 10,100' Hole size 7 7/8"

OPERATOR			DATE
TEXACO EXPLORATION AND PRODUCING INC.			9-11-91
LEASE STATE AN LEASE	WELL No. 12	LOCATION Unit G 22-14-33	

1980' FNL and 2303 FEL
Status: Active producer
Saunders Permo-Penn



13 3/8" CSG set @ 525' cmtd w/ 650 sxs circ
17 1/2" hole

8 5/8" casing set at 4200' with 2000 sx of _____ cement
Hole size 12 1/4" Cmt circ

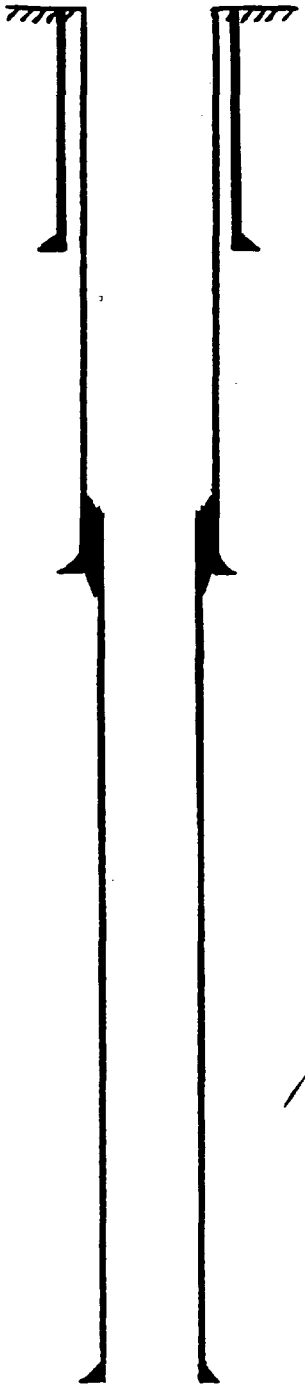
perf 9791 - 9944

DV tool @ 6975 1st stage cmtd w/ 950 sxs
2nd stage cmtd w/ 1200 sxs circ

5 1/2" casing set at 10,009' with _____ sx of _____ cemer
Total Depth 10,009' Hole size 7 7/8"

OPERATOR			DATE
Charles B. Gillespie. Jr			9-11-91
LEASE	WELL No.	LOCATION	
State J	4	unit E 23-14-33	

660' FWL and 1980' FNL
STATUS: Active Producer
Saunders Permo-Penn



13 3/8" CSG @ ~~306~~ 295' cmtd w/ 250 SXS CIRC
17 1/2" hole

8 5/8" casing set at 4169' with 1500 sx of _____ cement
Hole size 11" TOC by survey @ 2036'

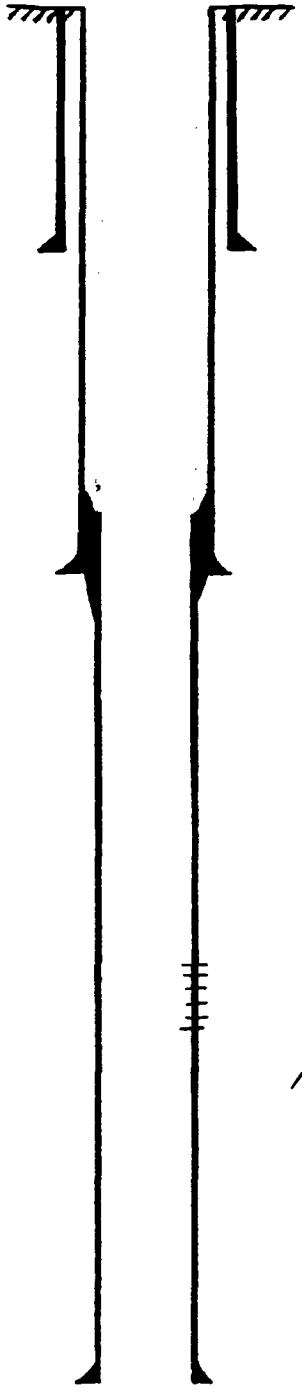
perf 9765 - 9791
9808 - 9983
9914 - 9929

Top of Liner @ 4046' sqz top of liner w/ 200 SXS

5 1/2" ~~casing~~ Liner set at 9949' with 600 sx of _____ cemen
Total Depth 9950' Hole size 7 7/8"

OPERATOR			DATE
Charles B. Gillespie Jr			9-11-91
LEASE	WELL No.	LOCATION	
State J	5	unit D 23-14-33	

660' FNL & 660' FWL
Status: Active producer
Saunders Permo-Penn



13 3/8" CSG set @ 295' w/ 250 sxs circ
17 1/2" hole

8 5/8" casing set at 4154' with 1500 sx of _____ cement
Hole size 11" TOC 544' using 50% efficiency

perf 9760 - 9804
perf 9857 - 9870

Top of Liner @ 4011

5 1/2" ~~casing~~ Liner set at 9995' with 600 sx of _____ cement
Total Depth _____' Hole size 7 7/8"
TOC 7788' by TS

FORM C - 108 cont.

Part III. A

1.) New Mexico 'AT' State No. 4
1980' FSL and 660' FEL
Sec. 15 - T14S - R33E
Unit I
Lea County, New Mexico

New Mexico 'AT' State No. 10
1650' FSL and 2305' FWL
Sec. 15 - T14S - R33E
Unit K
Lea County, New Mexico

New Mexico 'AN' State No. 9
660' FNL and 1980' FWL
Sec. 22 - T14S - R33E
Unit C
Lea County, New Mexico

New Mexico 'AN' State No. 7
660' FNL and 660' FEL
Sec. 22 - T14S - R33E
Unit A
Lea County, New Mexico

2.) See attached wellbore schematic's.

3.) Propose to run 2 3/8" plastic coated tubing, and set at approximately 100' above top perf.

4.) Propose to run IPC Model R Packer as a seal, and load the backside with packer fluid.

Part III. B

1.) The injection interval is the Permo Upper Penn, and the wells are located in the Saunders Permo Upper Penn Field.

2.) The injection interval will be cased at approximately 9748' - 9974'.

3.) These wells were originally drilled as producing wells.

4.) See wellbore schematic

5.) There is no deeper oil horizon or shallower oil producing zone in the immediate vicinity.

Part VII.

1.) The proposed daily injection will be 2000 bbls. per day. The maximum will be 2000 bbls. per day.

2.) The system will be closed.

3.) The average injection pressure will be 0(Vacuum). The maximum will not exceed the limits set forth by the OCD.

4.) The source of the injection water will be from fresh water wells drilled on or near each injection well.

5.) The Saunders Permo Upper Penn is productive within one mile of the injection wells.

Part VIII

The injection interval is the Permo Upper Penn in the Saunders Permo Upper Penn Field, and is composed of alternating beds of red shale and porous limestone. The top of the Permo Penn section is the top of the Wolfcamp at approximately 9119'. This entire area is overlain by the Quaternary Alluvium and caliche. The fresh water in the area comes from the Ogalalla aquifer. There are no fresh water zones below the Saunders Permo Upper Penn section.

Part IX

The disposal interval will be treated with a breakdown acid job.

Part X

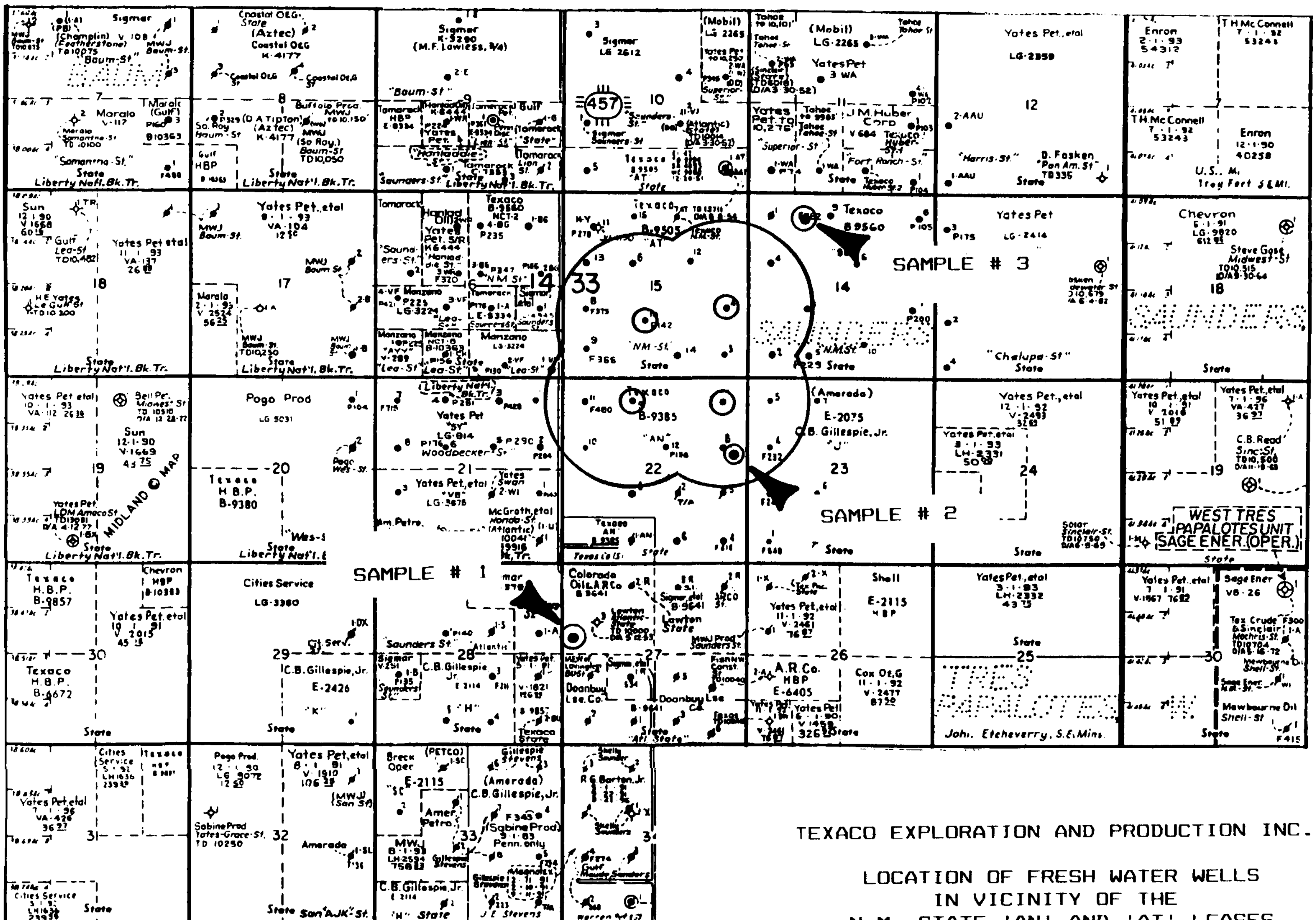
The logs have been submitted by Texaco.

Part XI

The water analysis for fresh water wells within one mile of the proposed injection wells are attached.

Part XII

We have examined all available geologic and engineering data, and find no evidence of open faults or any other hydrologic connection between the disposal interval and any underground source of drinking water.



TEXACO EXPLORATION AND PRODUCTION INC.

LOCATION OF FRESH WATER WELLS
IN VICINITY OF THE
N.M. STATE 'AN' AND 'AT' LEASES

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY REPORT No. 379

To Texaco Exploration and Production Inc. Date 09-17-91

Box 728

Hobbs, New Mexico 88240

Submitted by Mike Pierce Date Rec. 09-17-91

Well No. See Below Depth Formation

County Lea Field Saunders Source see below

Sample #1 Located Southwest of Atlantic #3
Water from windmill to run Cl. count
Cl.---- 80 mpl

Sample #2 Located South East of N.M. AN #8
Water from windmill to run Cl count
Cl. --- 105 mpl

Sample #3 Located at the Old Hilborn Ranch House
Water from water well (pump) to run Cl.
Cl. --- 100 mpl

John Eubank
Respectfully submitted,

Analyst:

HALLIBURTON COMPANY

cc:

By
CHEMIST

NOTICE

P 567 657 957

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Charles G. Hesse Jr
Street and No.	550 W Texas Ste 670
P.O. State and ZIP Code	Midland TX 79701
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	SEP 23 USPO

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 956

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Manzano Oil Corp
Street and No.	Box 571
P.O. State and ZIP Code	Roswell, NM 88202
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 954

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	State Land Office
Street and No.	PO Box 1148
P.O. State and ZIP Code	Santa Fe NM 87504-1148
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 955

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	Yates Petr. Corp
Street and No.	207 S Fourth Stat
P.O. State and ZIP Code	Artesia, NM 88210
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555

P 567 657 953

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to	H. Wann Living Trust No 1
Street and No.	PO Box 303
P.O. State and ZIP Code	Cyclock NM 88213
Postage	$1.44
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.44
Postmark or Date	

PS Form 3800, June 1985 U.S.G.P.O. 1989-234-555