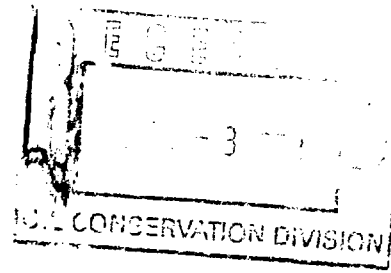


PIONEER
NATURAL RESOURCES USA, INC.



March 25, 1998

New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Attn: ~~Michael E. Stogner~~
Chief Hearing Officer/Engineer

RE: **Administrative application for waterflood expansion pursuant to Division General Rules 701.G(6) and 701.C for the Lusk West (Delaware) Unit Waterflood Project in Sections 20,21, and 29, Township 19 South, Range 32 East, NMPM, designated and Undesignated West Lusk-Delaware Pool, Lusk West (Delaware) Unit, Lea County, NM. Case 11704**

Dear Mr. Stogner,

I was recently assigned the engineering duties for the above referenced project. Previous to my assignment Scott Lackey (Pioneer engineer) was responsible for the project. I have studied the material relating to the project and have been brought up to date with the approval process by Mr. Lackey.

It is my understanding the Division Order No. R-10863 included provisions postponing water injection into the subject waterflood project until such time as eight (8) certain existing wellbores (2 producing wells and 6 plugged and abandoned wells) were deemed capable of not providing an avenue of escape from the proposed injection zone.

A meeting was conducted November 3, 1997 with Chris Williams (Director of Hobbs District for the NMOCD) and Pioneer Natural Resources (PNR) to discuss the eight wells in question. During the meeting each wellbore in question was reviewed in detail to determine if fluid migration from the proposed injection zone

would escape into the wellbores of the eight wells in question (see exhibit A). Upon this review, Mr. Williams concluded that no additional work was required by PNR concerning these eight wells in order to prevent the migration of fluid from the proposed injection zone to the eight wellbores in question.

Also in question was the status of the following wells,

- **Southern California Federal #4** – will remain a Strawn producer, this wellbore has cement across the proposed injection interval
- **Lusk West Delaware Unit (LWDU) #909** – new drill injector
- **LWDU #915** – new drill lost during drilling, junked and abandoned
- **LWDU #915Y** – new drill injector, replacement to #915
- **Southern California Federal #12** – renamed the LWDU #907
- **Lusk Deep Unit "A" #7** – water supply well, no known problems concerning illegal migration of fluid (see well diagram)
- **LWDU #903** – cement circulated to surface behind the production casing, injected fluids will remain contained within the proposed injection interval (see well diagram)

Enclosed you will find the documents and diagrams used to satisfy the requirements of Mr. Williams concerning the questioned wellbores within the Lusk West (Delaware) Unit Waterflood Project.

I hope this information will now allow for the approval of the administrative application concerning the subject project. Should you have any questions concerning this matter, please contact me in Midland at (915) 571-1368.

Sincerely,



Todd M. Yocham
Senior Operations Engineer

cc: NMOCD – Hobbs
US BLM – Roswell
Conrad Coffield – Hinkle, Cox, Eaton, Coffield & Hensley, L.L.P.

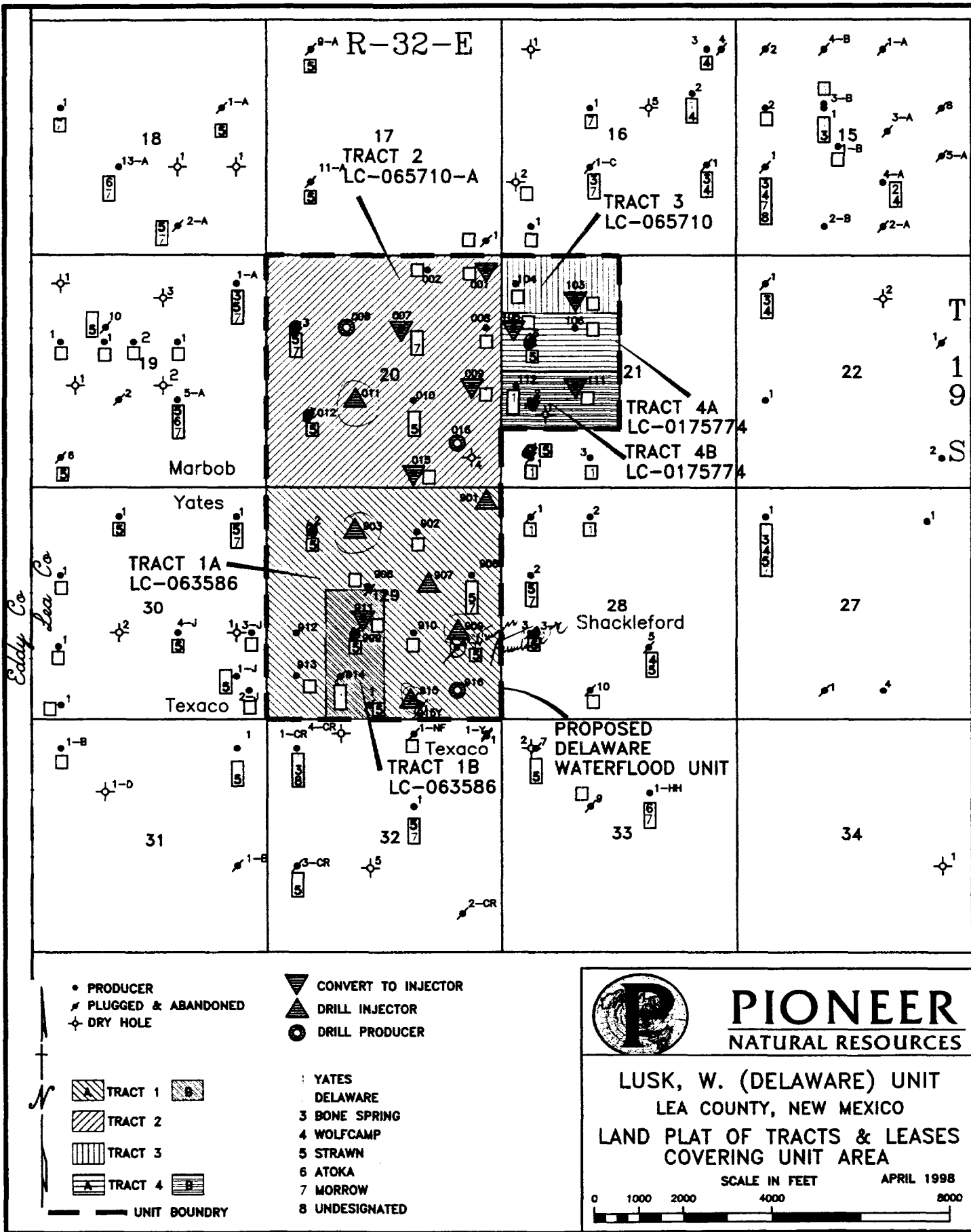


Exhibit A

**SUMMARY OF WELLS TO BE REVIEWED
IN ACCORDANCE WITH ORDER NO. R-10863**

Well Name: Plains Unit Federal #4-Y
Current Status: Strawn Producer (Perforated 11435' - 11479')
Open Interval: 4540' - 10079'
Waterflood Interval: 6478' - 6492'
Porosity: 3% to 5% (15% Minimum Required to produce fluid)
Thickness: 14 Feet
Zone Quality: Interbedded Shale, Silt, and Carbonate (Tight), Non-Reservoir Quality

Well Name: Shackelford Oil Plains Unit Federal #6
Current Status: Yates Producer (Perforated 2651' - 2711')
Open Interval: 4490' - 6678'
Waterflood Interval: 6464' - 6492'
Porosity: 16% to 18%
Thickness: 28 Feet
Zone Quality: Very Good

Well Name: Lusk Deep Unit "A" #3
Current Status: Plugged and Abandoned
Open Interval: 5400' - 11000'
Waterflood Interval: 6400' - 6412'
Porosity: 10% to 12% (15% Minimum Required to produce fluid)
Thickness: 12 Feet
Zone Quality: Interbedded Shale, Silt, and Carbonate (Tight), Non-Reservoir Quality

Well Name: Lusk Deep Unit "A" #7
Current Status: Seven Rivers Water Supply Well (Perforated 2920' - 3456')
Open Interval: 3846' - 6423'
Waterflood Interval: 6410' - 6417'
Porosity: 3% to 5% (15% Minimum Required to produce fluid)
Thickness: 7 Feet
Zone Quality: Interbedded Shale, Silt, and Carbonate (Tight), Non-Reservoir Quality

Well Name: Plains Unit Federal #4
Current Status: Junked and Abandoned
Open Interval: 4290' - 11,517'
Waterflood Interval: Estimated 6500' - 6517' (No Logs Available)
Porosity: Fair to Good
Thickness: ~17 Feet
Zone Quality: Produccable

Exhibit A – pg. 2

Well Name: Southern California Federal #2
Current Status: Plugged and Abandoned
Open Interval: 4497' - 6420'
Waterflood Interval: 6408' - 6412'
Porosity: 4% to 6% (15% Minimum Required to produce fluid)
Thickness: 4 Feet
Zone Quality: Interbedded Shale, Silt, and Carbonate (Tight), Non-Reservoir Quality

Well Name: S. A. Bowman Federal #3
Current Status: Plugged and Abandoned
Open Interval: 4700' - 8960'
Waterflood Interval: 6421' - 6439'
Porosity: 16% to 18%
Thickness: 18 Feet
Zone Quality: Very Good

Well Name: Plains Unit Federal #3-Y
Current Status: Plugged and Abandoned
Open Interval: 5999' - 7838'
Waterflood Interval: 6440' - 6442'
Porosity: 3% to 5% (15% Minimum Required to produce fluid)
Thickness: 2 Feet
Zone Quality: Interbedded Shale, Silt, and Carbonate (Tight), Non-Reservoir Quality



WELLBORE SCHEMATIC

Plains Unit Federal #4-Y

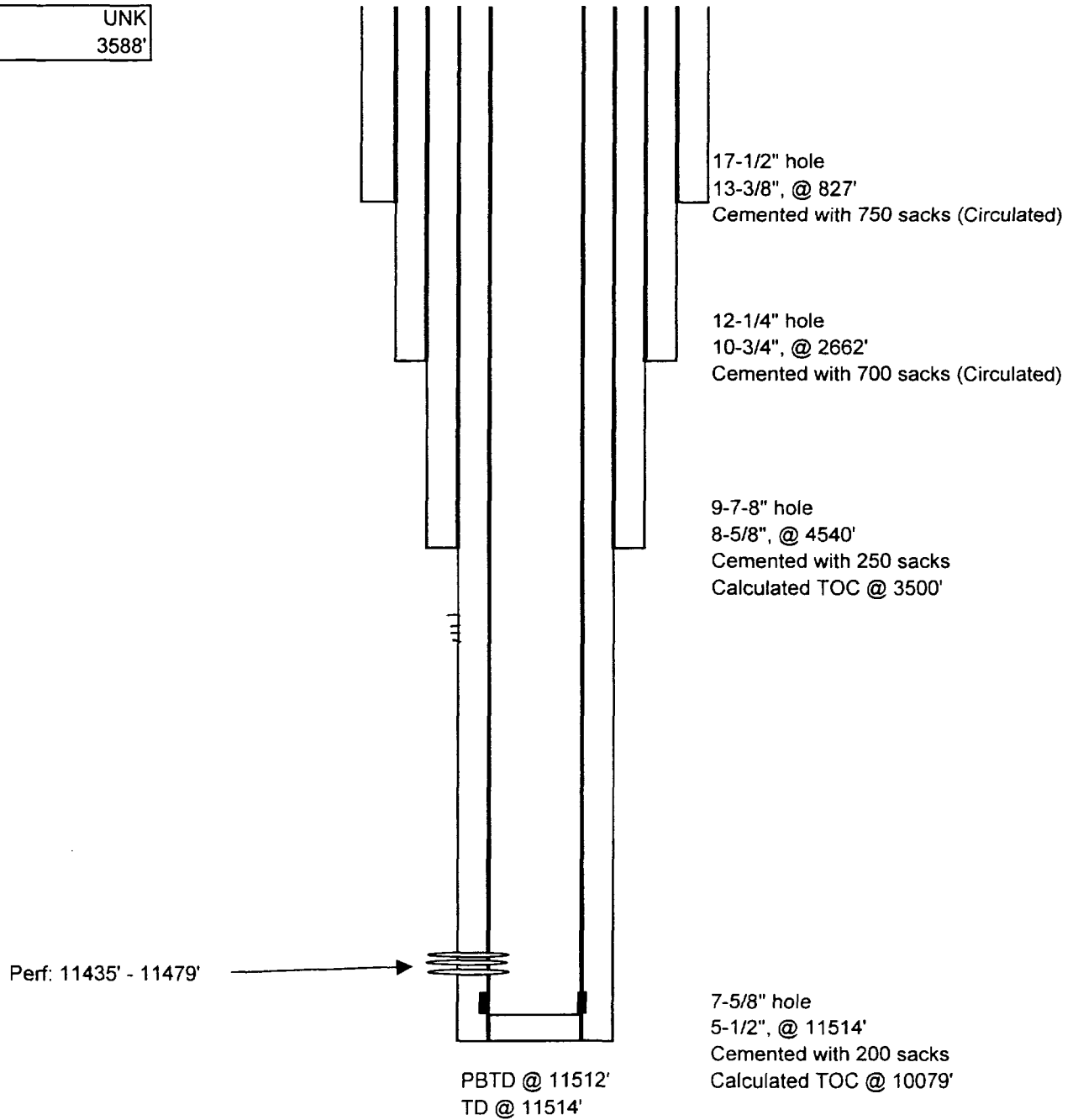
Current Wellbore Sketch as of 10/22/97

API # 30-025-20518

710' FSL & 660' FWL, Sec. 21, T19S, R32E

Lea County, New Mexico

GL:	UNK
KB:	3588'





GL: unk
KB: 3602'

WELLBORE SCHEMATIC

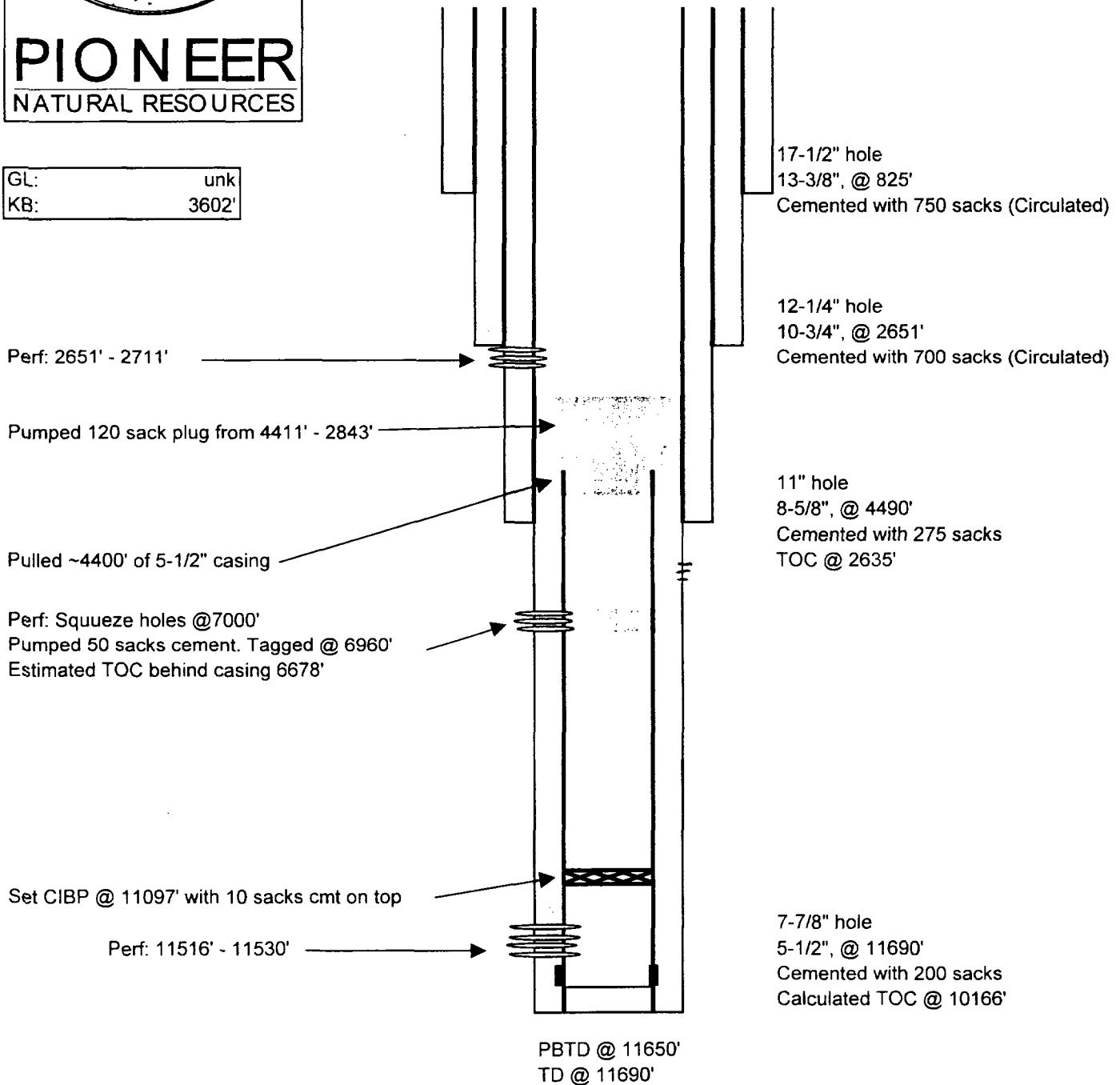
Shackelford Oil Plains Unit Fed. #6

Current Wellbore Sketch as of 10/22/97

API # 30-025-20769

1980' FNL & 660' FWL, Sec. 21, T19S, R32E

Lea County, New Mexico





WELLBORE SCHEMATIC

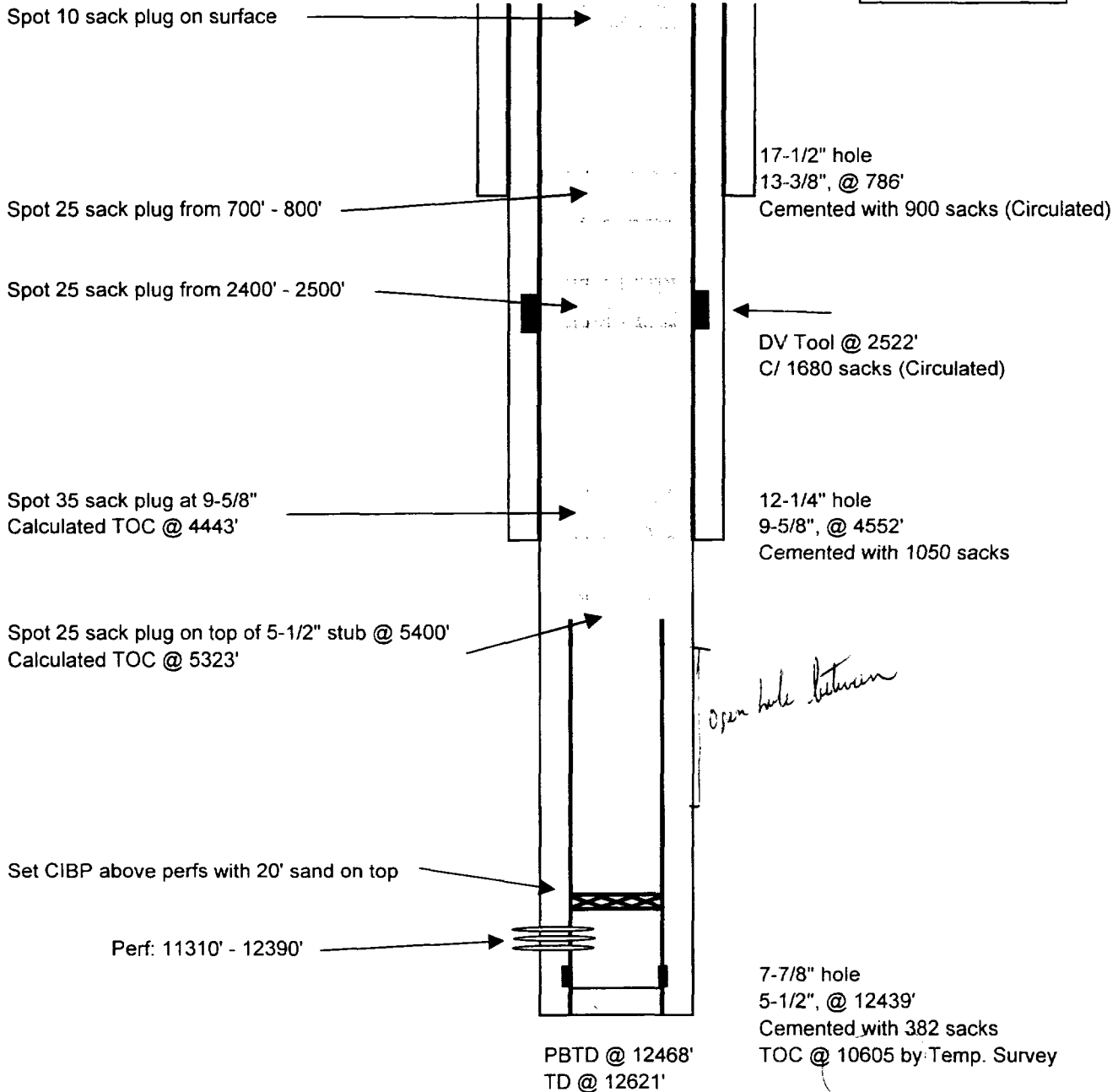
Lusk Deep Unit "A" #3

Current Wellbore Sketch as of 12/15/97

1650' FNL & 660' FWL, Sec. 20, T19S, R32E

Lea County, New Mexico

GL:	3574'
KB:	3591'





WELLBORE SCHEMATIC

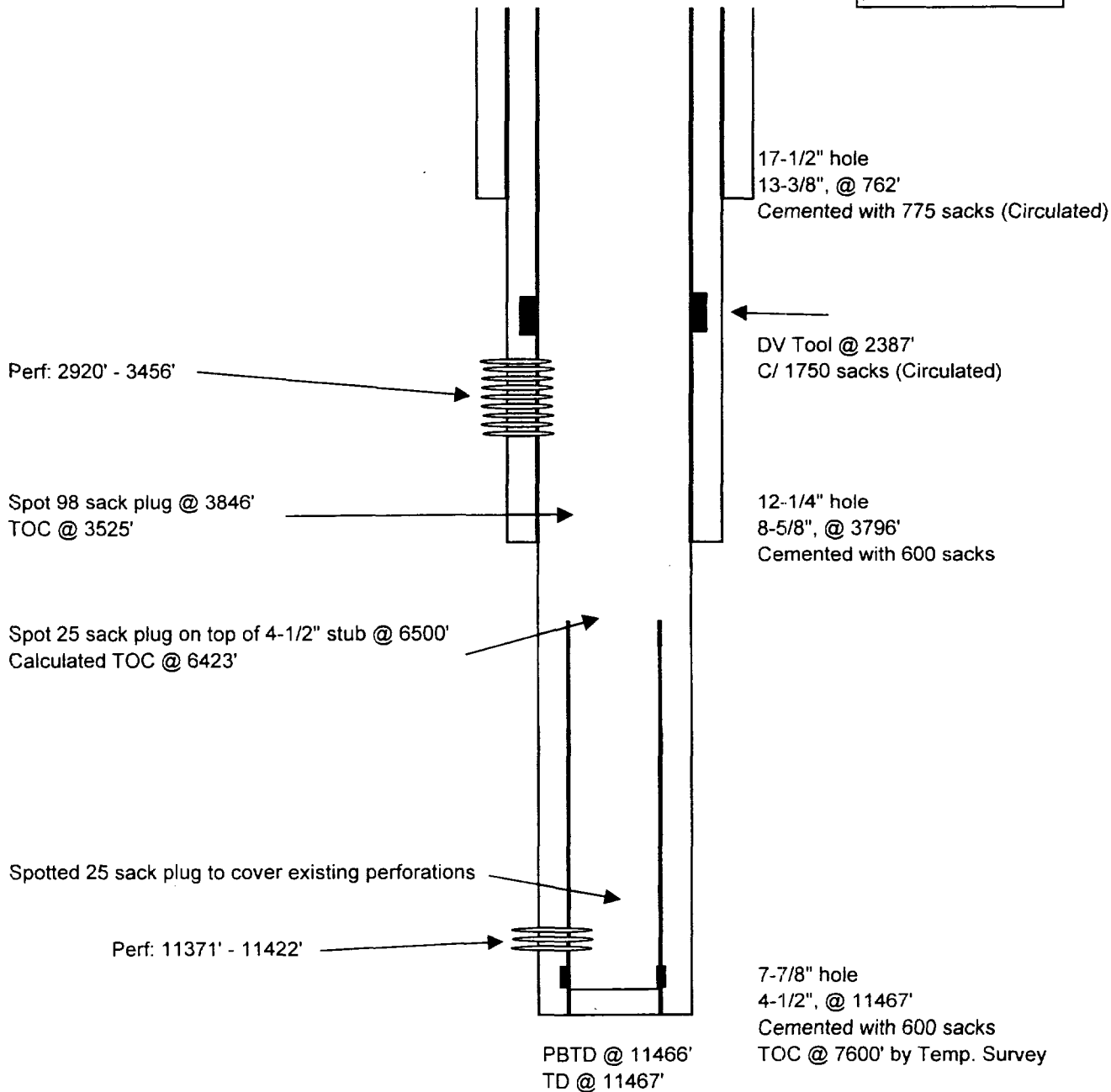
Lusk Deep Unit "A" #7

Current Wellbore Sketch as of 10/22/97

1650' FSL & 990' FWL, Sec. 20, T19S, R32E

Lea County, New Mexico

GL:	3567.7
KB:	





WELLBORE SCHEMATIC

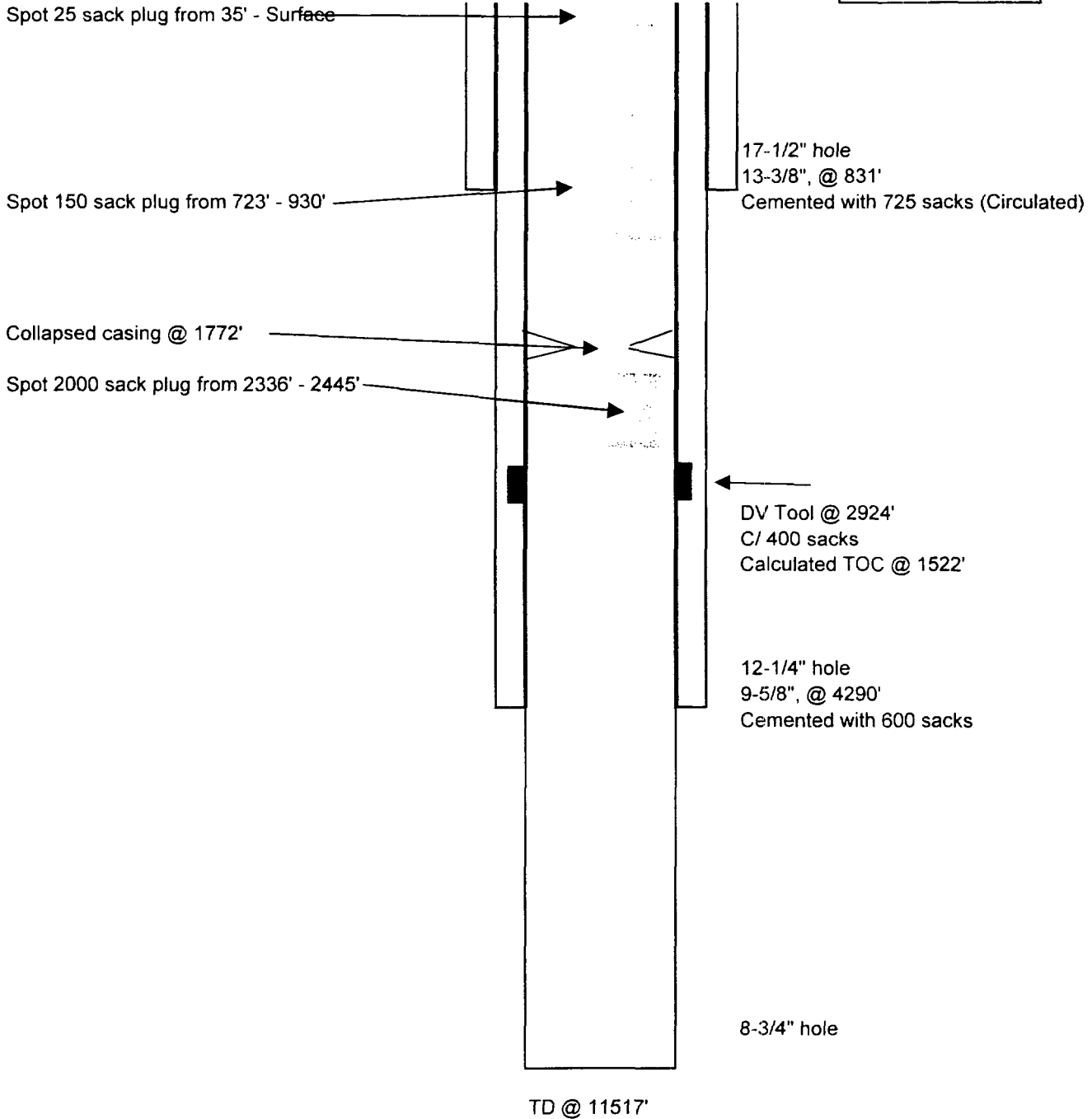
Plains Unit Federal #4

Current Wellbore Sketch as of 10/22/97

1930' FSL & 660' FWL, Sec. 21, T19S, R32E

Lea County, New Mexico

GL:	
KB:	3602'





WELLBORE SCHEMATIC

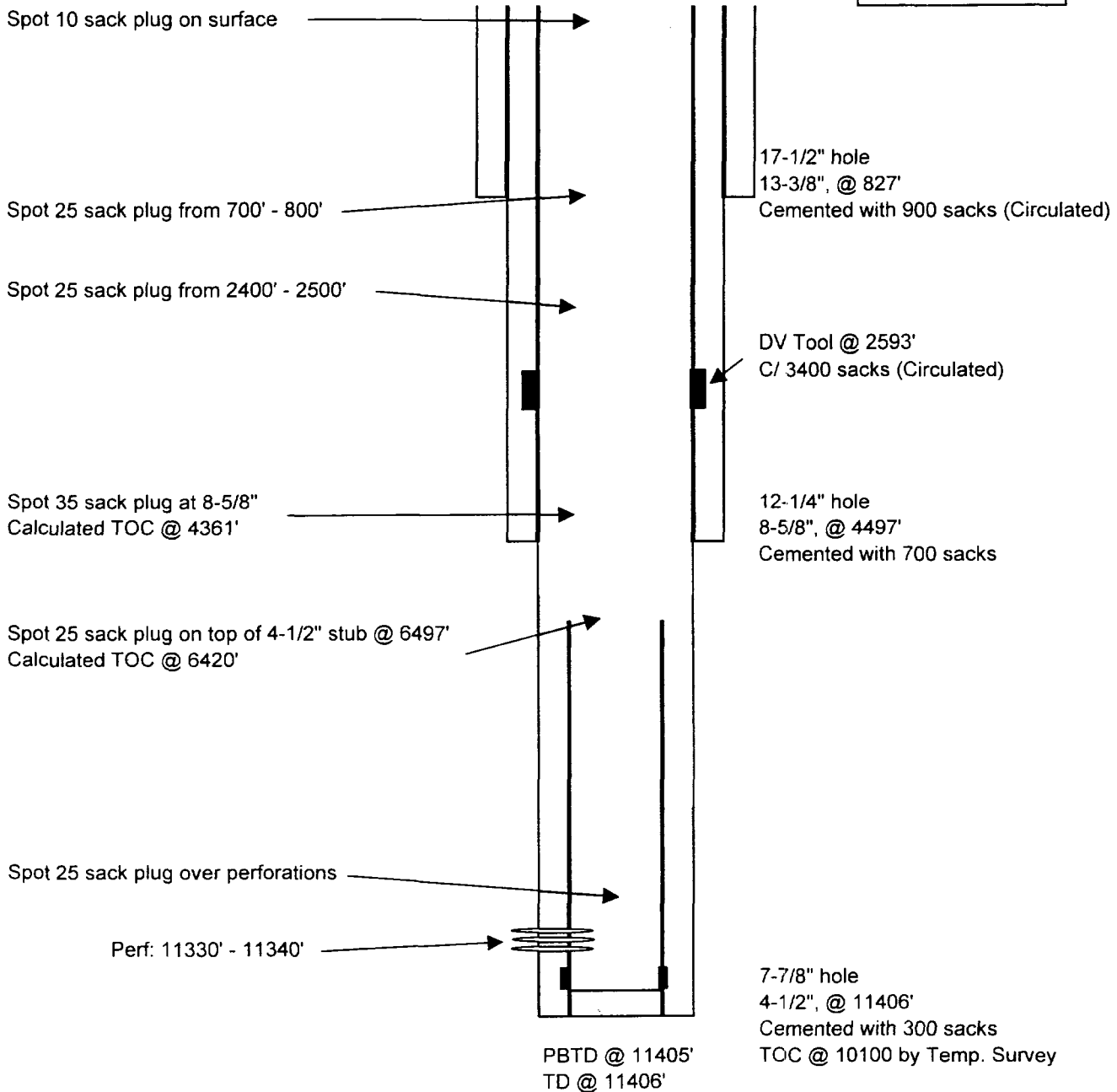
Southern California Federal #2

Current Wellbore Sketch as of 10/22/97

990' FNL & 990' FWL, Sec. 29, T19S, R32E

Lea County, New Mexico

GL:	
KB:	3546'



Parker & Parsley Development L.P. former: SA Bowman Fed # 3

SOUTHERN CALIFORNIA FEDERAL

OPERATOR

LEASE

3

1980' FSL & 1980' FWL

SEC-29

T-19-S

R-32-E

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

TYPE OF WELL:

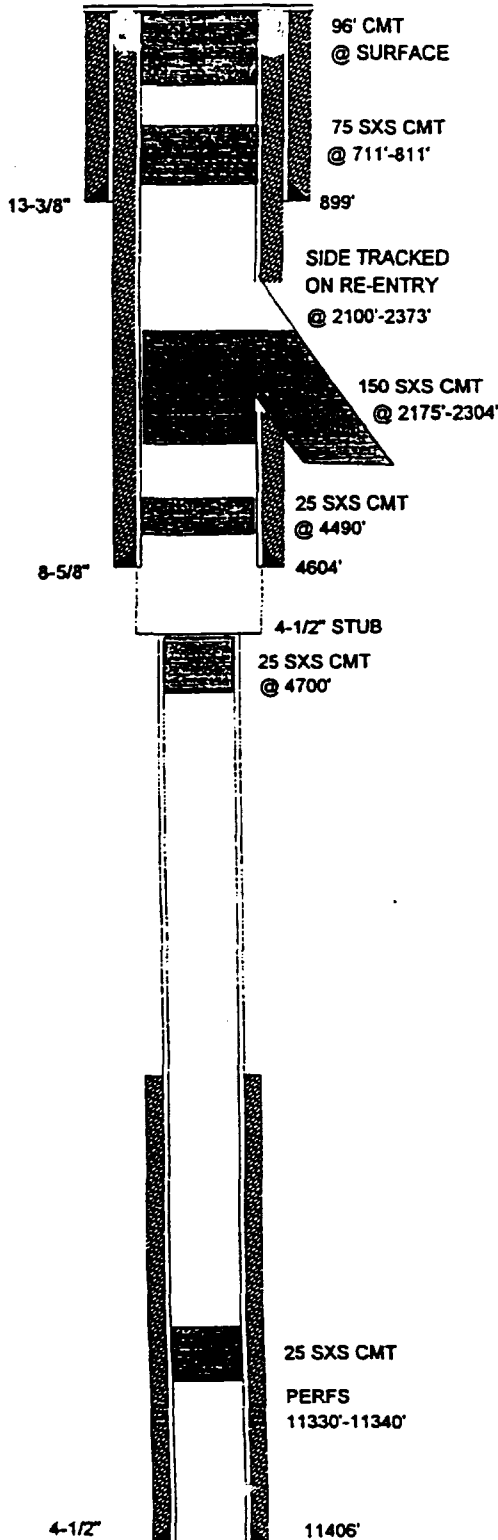
PLUGGED & ABANDONED

SPUD DATE:

10/24/63

SCHEMATIC

TABULAR DATA



1. SUFACE CASING

SIZE: 13-3/8 INCHES CEMENTED WITH: 600 sx

TOC: Surface FEET DETERMINED BY: Circulated

HOLE SIZE: 17-1/2 INCHES

2. INTERMEDIATE CASING

SIZE: 8-5/8 INCHES CEMENTED WITH: 1700 sx

TOC: 425' FEET DETERMINED BY: Calculated

HOLE SIZE: 11 INCHES

3. LONG STRING

SIZE: 4-1/2 INCHES CEMENTED WITH: 600 sx

TOC: 8960' FEET DETERMINED BY: Temp. Survey

HOLE SIZE: 7-7/8 INCHES

4. TOTAL DEPTH: 11406 FEET

5. PERFORATIONS

11330 FEET TO: 11340 FEET
(PERFORATED OR OPEN HOLE ; INDICATE WHICH)
PERFORATED"

6. HAS THE WELL EVER BEEN PERFORATED IN ANY OTHER ZONE(S)?
LIST ALL SUCH PERFORATED INTERVALS AND GIVE PLUGGED
DETAIL, I.E. SACKS OF CEMENT OR PLUG(S) USED. NONE

FORM C-108
SECTION VI

APPLICATION FOR AUTHORIZATION
TO INJECT

Parker & Parsley
Development L.P.

WATER INJECTION WELL

TABULATION OF WELL DATA



WELLBORE SCHEMATIC

Plains Unit Federal #3-Y

Current Wellbore Sketch as of 10/22/97

API # 30-025-20538

1980' FSL & 760' FWL, Sec. 28, T19S, R32E

Lea County, New Mexico

GL:	unk
KB:	3570'

Spotted 10 sacks to Surface

Pulled 906' of 8-5/8" casing
Spotted 50 sacks from 825' - 925'

Set 8-5/8" CIBP @ 2232'
With 6 sacks on top of CIBP

Pulled 2264' of 7" casing

Set 7" Retainer @ 3640'
Pumped 75 sacks with 6 sacks on Retainer

Bottom of 7" @ 3829'

Cut 5-1/2" @ 5951'
Cut 7" from 5949' and pulled to 3829'
35 sack plug from 5783' - 5999'
after cutting off both strings of casing

CIBP @ 11350' with 10 sks on top

17-1/2" hole
13-3/8", @ 840'
Cemented with 750 sacks (Circulated)

11" hole
8-5/8", @ 3647'
Cemented with 700 sacks
TOC @ 2275 by Temp. Survey

7-7/8" hole
7", @ 9871'
Cemented with 250 sacks
Calculated TOC @ 7838'

Perf: 11390' - 11480'

PBTD @ 11484'
TD @ 11485'

6-1/4" hole
5-1/2", @ 11485'
Cemented with 250 sacks
Calculated TOC @ 8568'