

CASE 3340: Application of SOCONY-
MOBIL for a waterflood project,
Lea County, New Mexico.

77

CASE NO.

3340

Application,

TRANSCRIPTS,

Small Exhibits

ETC.

13-6 Mobil May 6
14-3 Shell Alitlon 3
15-6 Sinc Whit 6
17-1 Paulsen B Foot 1
10-1 " " A Foot 1
6-24 Mobil Pope 24
6-18 " " 18
13-2 " May 2
2-1 Dick Dick A-34 1
5-11 " Dick D 14
6-30 Mob Pope 15
8-3 Sinc Manna A 3

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 11/24/65

CASE 3340

Hearing Date Perm 11/23/65
DSN @ SF

My recommendations for an order in the above numbered cases are as follows:

Enter an order authorizing Socomey Mobil Oil Co, Inc to institute a water flood project, the North Denton North Wolfcamp Water Flood Project, by the injection of water into the Wolfcamp formation of the Denton Wolfcamp Pool through the following 12 wells in its Denton North Wolfcamp Unit Area:

Operator	Lease	Well No	Unit	Sect	Twp	Rgc
Socomey Mobil	J.C. Maxwell	2	P	27	14S	37E
"	"	6	H	"	"	"
Shell	G.M. Shelton	3	F	26	"	"
Sinclair	Lee Whitman	6	H	"	"	"
Socomey Mobil	T.D. Pope	18	N	"	"	"
"	"	24	P	"	"	"
Pan American	W.H. Fort "B"	1	G	25	"	"
"	W.H. Fort "A"	1	O	"	"	"
Atlantic	Dickinson "A-34"	1	H	34	"	"
"	" "D"	11	F	35	"	"
Socomey Mobil	T.D. Pope	30	H	"	"	"
Sinclair	W.T. Mann "A"	3	G	36	"	"

Staff Number



STATE OF NEW MEXICO
STATE ENGINEER OFFICE
SANTA FE

S. E. REYNOLDS
STATE ENGINEER

November 4, 1965

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, NEW MEXICO 87501

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Socony-Mobil Oil Company, Inc., for authority to institute a waterflood project within the Denton North Wolfcamp Unit Area.

This office offers no objection to the granting of the application, provided each well is constructed and equipped as indicated by the appropriate diagrammatic sketch submitted with the application and the packers are set well below the top of the cement surrounding the production casing in each well.

FEI/ma

cc-Mr. J. E. Sperling
Mr. J. C. Gordon, Jr.
Mr. F. H. Hennighausen

Yours truly,

S. E. Reynolds
State Engineer

By: *Frank E. Irby*
Frank E. Irby
Chief
Water Rights Div.

J. R. MODRALL
AUGUSTUS T. SEYMOUR
JAMES E. SPERLING
JOSEPH E. ROEHL
GEORGE T. HARRIS, JR.
DANIEL A. SISK
LELAND S. SEDBERRY, JR.
ALLEN C. DEWEY, JR.
FRANK H. ALLEN, JR.
JAMES F. SAUNDERS, JR.

JAMES A. PARKER
HENRY G. COORS
JOHN R. COONEY
KENNETH L. HARRIGAN

LAW OFFICES OF
MODRALL, SEYMOUR, SPERLING, ROEHL & HARRIS

SIMMS BUILDING
P. O. BOX 486
ALBUQUERQUE, NEW MEXICO 87103

October 28, 1965

JOHN F. SIMMS (1885-1954)
TELEPHONE 243-4511
AREA CODE 505

MAIN

29

65 OCT

3340

Commissioner, Oil Conservation
Commission
State Land Office Building
Santa Fe, New Mexico

Dear Sir:

We submit herewith Application of Socony-Mobil Oil Company, Inc. for authority to institute a waterflood project within the Denton North Wolfcamp Unit Area, containing 2640 acres, more or less, in Lea County, New Mexico, said waterflood project to be operated in accordance with Rule 701 of the Commission; a copy of this Application has been forwarded to the Office of the State Engineer.

We also submit herewith Application of Socony-Mobil Oil Company, Inc. for approval of Unit Agreement for the Denton North Wolfcamp Unit, Lea County, New Mexico, with copy of Unit Agreement attached thereto.

Very truly yours,

James E. Sperling
James E. Sperling

JES:fm
Enclosures
cc: Office of State Engineer
Attention: Mr. Frank Irby

DOCKET MAILED

Date 11-10-65

DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 23, 1965

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or
Elvis A. Utz, Alternate Examiner:

CASE 3294 (Continued from the September 22, 1965, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Harold J. Sechler, dba S. & S. Oil Producers, and all other interested parties to show cause why the Bond Well No. 1 located in the SW/4 NE/4 of Section 17, Township 9 North, Range 14 West, Valencia County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 3333: Application of William A. and Edward R. Hudson for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Queen formation through six wells in Sections 10, 11, and 15, Township 18 South, Range 31 East, Shugart Yates-Seven Rivers-Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 3334: Application of Felmont Oil Corporation for an unorthodox location, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Federal 9 Well No. 1 at an unorthodox location 660 feet from the North and East lines of Section 9, Township 8 South, Range 37 East, Bluitt-San Andres Gas Pool, Roosevelt County, New Mexico.

CASE 3335: Application of Monsanto Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location 1200 feet from the South line and 660 feet from the West line of Section 32, Township 16 South, Range 33 East, West Kemnitz-Lower Wolfcamp Pool, Lea County, New Mexico.

CASE 3336: Application of Shell Oil Company for special rules for the East Hightower-Upper Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the East Hightower-Upper Pennsylvanian Pool in Section 25, Township 12 South, Range 33 East, Lea County, New Mexico, including a provision for 80-acre proration units.

CASE 3337: Application of Shell Oil Company for the creation of a new gas pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Morrow production in Sections 3 and 4, Township 22 South, Range 34 East, and Section 34, Township 21 South, Range 34 East, Lea County, New Mexico, and the establishment of special pool rules, including a provision for 640-acre spacing units.

November 23, 1965, Examiner Hearing

- CASE 3338: Application of Socony-Mobil Oil Company, Inc. for pool-lease commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Glorieta, Blinebry, Upper-Pennsylvanian, Lower-Pennsylvanian, Devonian, Abo and Wolfcamp production from its State Bridges (Military Institute) Lease in Section 25, Township 17 South, Range 34 East, and from its State Bridges (Common School) Lease in Sections 3, 10 through 15, 22, 23, 24, and 26 and 27, Township 17 South, Range 34 East, Lea County, New Mexico, after separately metering the Military Institute production, allocating production to each lease by means of the subtraction method.
- CASE 3339: Application of Socony-Mobil Oil Company, Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Denton North Wolfcamp Unit Area comprising 2,640 acres, more or less, of Federal and fee lands in Township 14 South, Range 37 East, Lea County, New Mexico.
- CASE 3340: Application of Socony-Mobil Oil Company, Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Denton North Wolfcamp Unit by the injection of water into the Wolfcamp formation through twelve wells located in Sections 25, 26, 27, 34, 35, and 36, Township 14 South, Range 37 East, Lea County, New Mexico.
- CASE 3341: Application of Tenneco Oil Company for an administrative procedure, San Juan and Rio Arriba Counties, New Mexico. Applicant, in the above-styled cause, seeks the establishment of an administrative procedure whereby wells presently completed in the Blanco-Mesaverde Pool could, without notice and hearing, be recompleted in the Blanco-Mesaverde and/or Basin-Dakota Gas Pools by means of setting a whipstock above the Mesaverde producing interval and directionally drilling around the old interval of completion which was originally shot. Operators utilizing such administrative procedure would be required to conduct appropriate deviation tests to ensure that no well would be completed nearer than 200 feet to the outer boundary of its proration unit.
- CASE 3342: Application of Sunray DX Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water into the Keeley zone of the San Andres formation through four wells in Sections 22 and 23, Township 17 South, Range 29 East.
- CASE 3343: Application of Sunray DX Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water into the Metex zone of the Grayburg formation through four injection wells in Sections 14 and 15, Township 17 South, Range 29 East.

November 23, 1965, Examiner Hearing

- CASE 3344: Application of Texaco Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the West Vacuum Unit Area comprising 2000 acres, more or less, of State land in Township 17 South, Range 37 East, Lea County, New Mexico.
- CASE 3345: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its West Vacuum Unit by the injection of water into the Grayburg-San Andres formations through six injection wells located in Sections 3 and 4, Township 18 South, Range 34 East, and Sections 33 and 34, Township 17 South, Range 34 East, Vacuum Pool, Lea County, New Mexico.
- CASE 3346: Application of Sinclair Oil & Gas Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Maljamar Pool by the injection of water into the Grayburg-San Andres formations through eight wells in Section 24, Township 17 South, Range 32 East, Lea County, New Mexico.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

December 17, 1965

C
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P
Y
Mr. James E. Sperling
McDrall, Seymour, Sperling, Roehl & Harris
Attorneys at Law
Post Office Box 466
Albuquerque, New Mexico

Dear Mr. Sperling:

Reference is made to Commission Order No. R-3301, recently entered in Case No. 3340, approving the Socony Mobil's Denton North Wolfcamp Waterflood Project.

Injection is to be through the 12 authorized water injection wells, which shall be equipped with cement-lined tubing and packers, with the casing-tubing annulus loaded with corrosion-inhibited water.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, and when all of the Wolfcamp wells in the waterflood project area have been returned to production, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 6809 barrels per day.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

-2-

December 17, 1965

Mr. James E. Sperling
Modrall, Seymour, Sperling, Roehl & Harris
Attorneys at Law
Post Office Box 466
Albuquerque, New Mexico

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allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/esr

cc: Mr. Joe Gordon
Mr. Frank Irby
OCC - Hobbs

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

November 29, 1965

Re: Case No. 3340

Order No. R-3001

Applicant:

Mr. James E. Sperling
Modrall, Seymour, Sperling, Roehl &
Harris
Attorneys at Law
Post Office Box 466
Albuquerque, New Mexico

Socony Mobil Oil Company, Inc.

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

Other Mr. Joe Gordon - Mr. Frank Irby

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3340
Order No. R-3001

APPLICATION OF SOCONY MOBIL OIL
COMPANY, INC., FOR A WATERFLOOD
PROJECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 23, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 29th day of November, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Socony Mobil Oil Company, Inc., seeks permission to institute a waterflood project in its Denton North Wolfcamp Unit Area, Denton-Wolfcamp Pool, by the injection of water into the Wolfcamp formation through twelve injection wells in Sections 25, 26, 27, 34, 35, and 36, Township 14 South, Range 3 East, NMPM, Lea County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

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CASH No. 3340
Order No. R-3001

IT IS THEREFORE ORDERED:

(1) That the applicant, Socony Mobil Oil Company, Inc., is hereby authorized to institute a waterflood project in its Denton North Wolfcamp Unit Area, Denton-Wolfcamp Pool, by the injection of water into the Wolfcamp formation through the following-described wells in Township 14 South, Range 37 East, NMPM, Lea County, New Mexico:

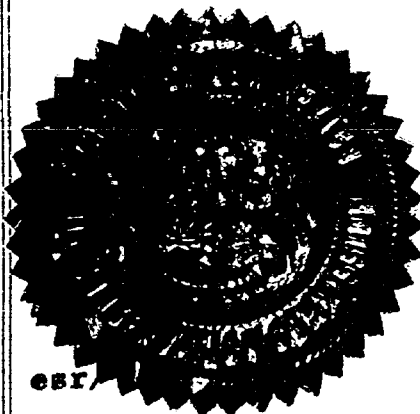
OPERATOR	LEASE	WELL No.	UNIT	SECTION
Socony Mobil	Denton North Wolfcamp Unit 13	2	P	27
Socony Mobil	Denton North Wolfcamp Unit 13	6	H	27
Socony Mobil	Denton North Wolfcamp Unit 14	3	F	26
Socony Mobil	Denton North Wolfcamp Unit 15	6	H	26
Socony Mobil	Denton North Wolfcamp Unit 6	18	N	26
Socony Mobil	Denton North Wolfcamp Unit 6	24	P	26
Socony Mobil	Denton North Wolfcamp Unit 17	1	G	25
Socony Mobil	Denton North Wolfcamp Unit 10	1	O	25
Socony Mobil	Denton North Wolfcamp Unit 2	1	H	34
Socony Mobil	Denton North Wolfcamp Unit 5	11	F	35
Socony Mobil	Denton North Wolfcamp Unit 6	30	H	35
Socony Mobil	Denton North Wolfcamp Unit 8	3	G	36

(2) That the subject waterflood project is hereby designated the Denton North Wolfcamp Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Grayton B. Hays
GRAYTON B. HAYS, Member

A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

BEFORE THE OIL CONSERVATION COMMISSION OF

NEW MEXICO

IN THE MATTER OF THE APPLICATION OF
SOCONY-MOBIL OIL COMPANY, INC. FOR
AUTHORITY TO INSTITUTE A WATERFLOOD
PROJECT WITHIN THE DENTON NORTH
WOLFCAMP UNIT AREA, CONTAINING 2,640
ACRES, MORE OR LESS, IN LEA COUNTY,
NEW MEXICO, SAID WATERFLOOD PROJECT
TO BE OPERATED IN ACCORDANCE WITH
RULE 701 OF THE COMMISSION.

Case No. 3340

APPLICATION

1. Socony-Mobil Oil Company, Inc. hereby makes application for authority for the injection of water into the Wolfcamp formation underlying the Denton North Wolfcamp Unit Area in Lea County, New Mexico. Attached to this Application as Exhibit 1 is a plat showing the location of proposed injection wells and the location of all other wells within a radius of two (2) miles of the proposed injection wells and the formation from which said wells are producing. The plat also shows lessees within said two-mile radius.

2. There is attached as Exhibit 3 to this Application a typical log of proposed injection wells. Also attached as Exhibits 4, A through L, are diagrammatic sketches of proposed injection wells showing casing strings and other pertinent information as required by Rule 701 of this Commission.

3. It is proposed that the interval to be effected by the proposed water injection is that found between the top of the Wolfcamp formation at 9,180 feet subsurface and the base of that formation found at 9,860 feet subsurface, as shown on the electric log dated July 29, 1953 of applicant's T. D. Pope #10 Well, located

1953 OCT 29 AM 9 05

660 feet from the East line and 660 feet from the South line of Section 26, Township 14 South, Range 37 East, Lea County, New Mexico.

4. Water will be obtained from the Denton Salt Water Disposal System, which presently disposes of produced salt water from the Devonian and the Denton Wolfcamp Reservoirs. Initial injection rate is proposed at a total volume of 18,000 barrels of water per day.

5. It is contemplated that additional wells will be converted along the North and the South portion of the Unit area at a later date, for which administrative approval and authorization is requested pursuant to Rule No. 701 E 5 of the Commission.

6. A copy of this Application, complete with Exhibits, has been sent to the Office of the State Engineer, Santa Fe, New Mexico.

Applicant respectfully requests that the Commission issue its Order granting approval to the institution of the waterflood project proposed above.

Respectfully submitted,

SOCONY-MOBIL OIL COMPANY, INC.

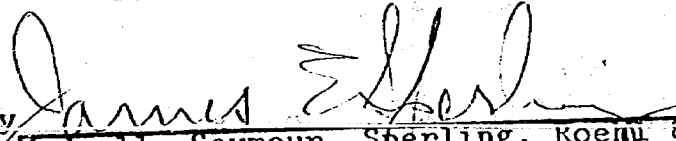
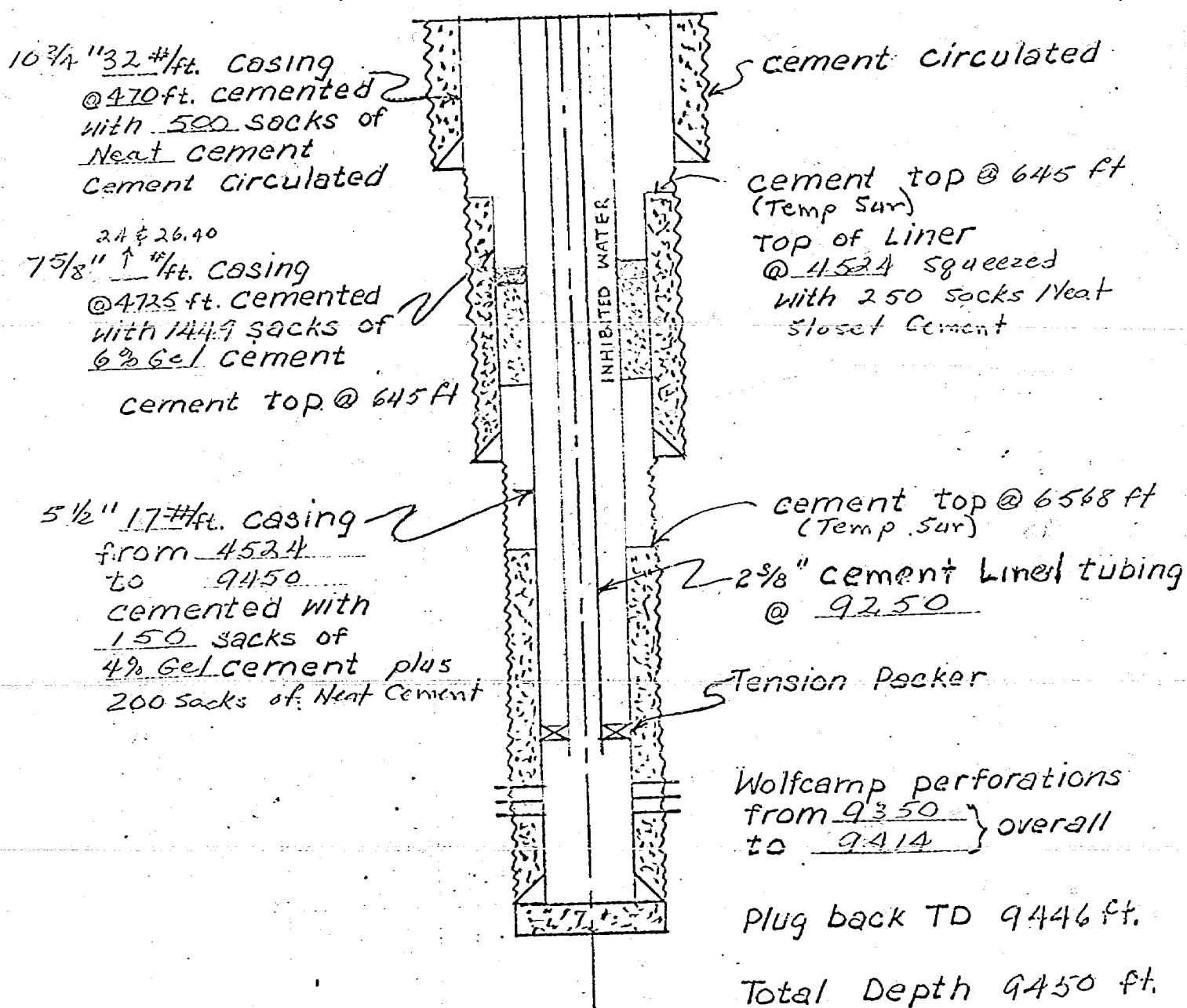
By 
Modrall, Seymour, Sperling, Koenig & Harris
Its Attorneys
1200 Simms Building, Post Office Box 466
Albuquerque, New Mexico

EXHIBIT 4 - A

INJECTION WELL COMPLETION DATA

MOBIL OIL CO JC MAXWELL No. 6

LOCATION: 330 FT FEL, 2210 FT FNL
SEC 27 T14S R 3.7E
Denton North Wolfcamp Unit
Lea Co., N.M.

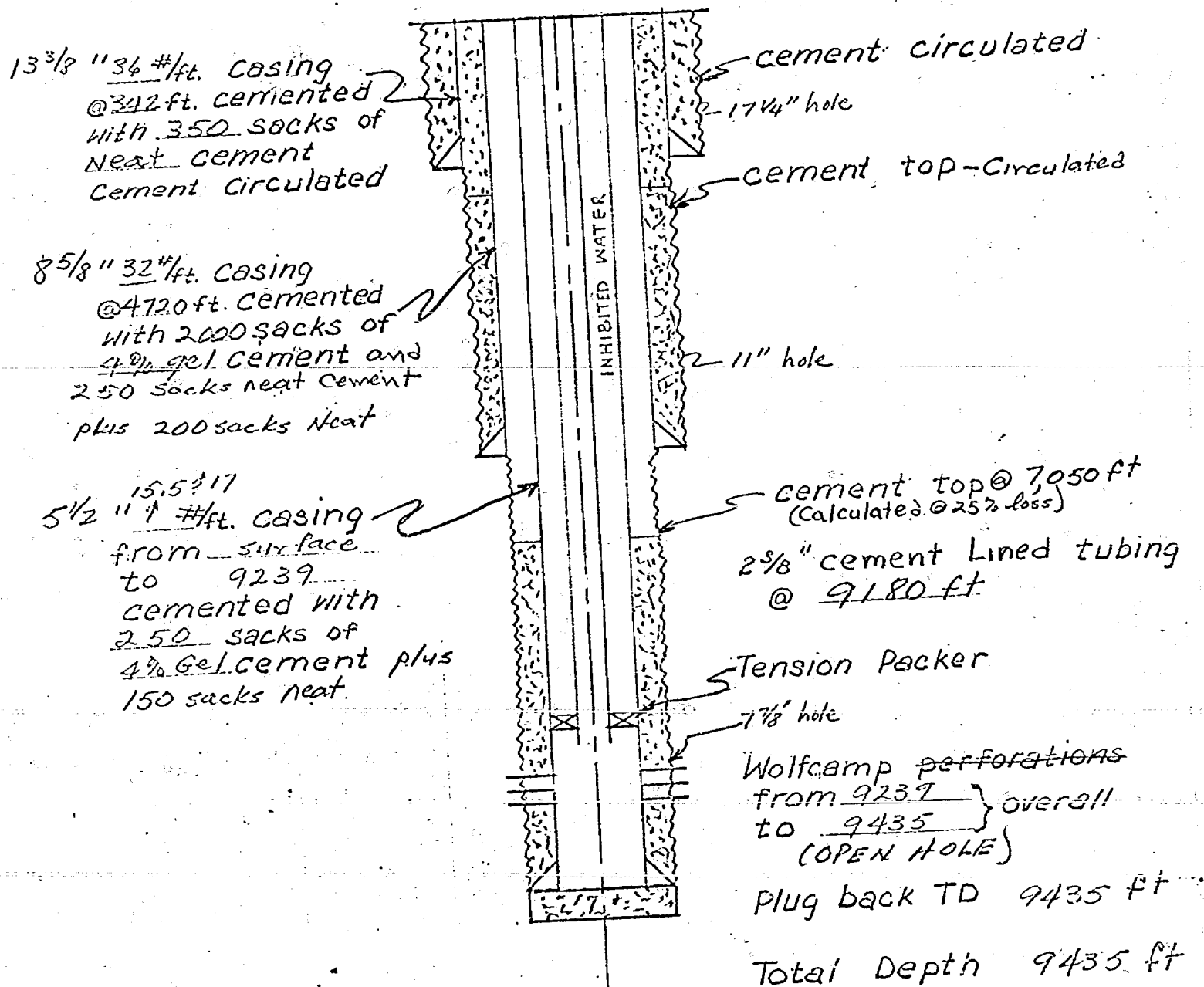


Case 3340

EXHIBIT 4-B

INJECTION WELL COMPLETION DATA

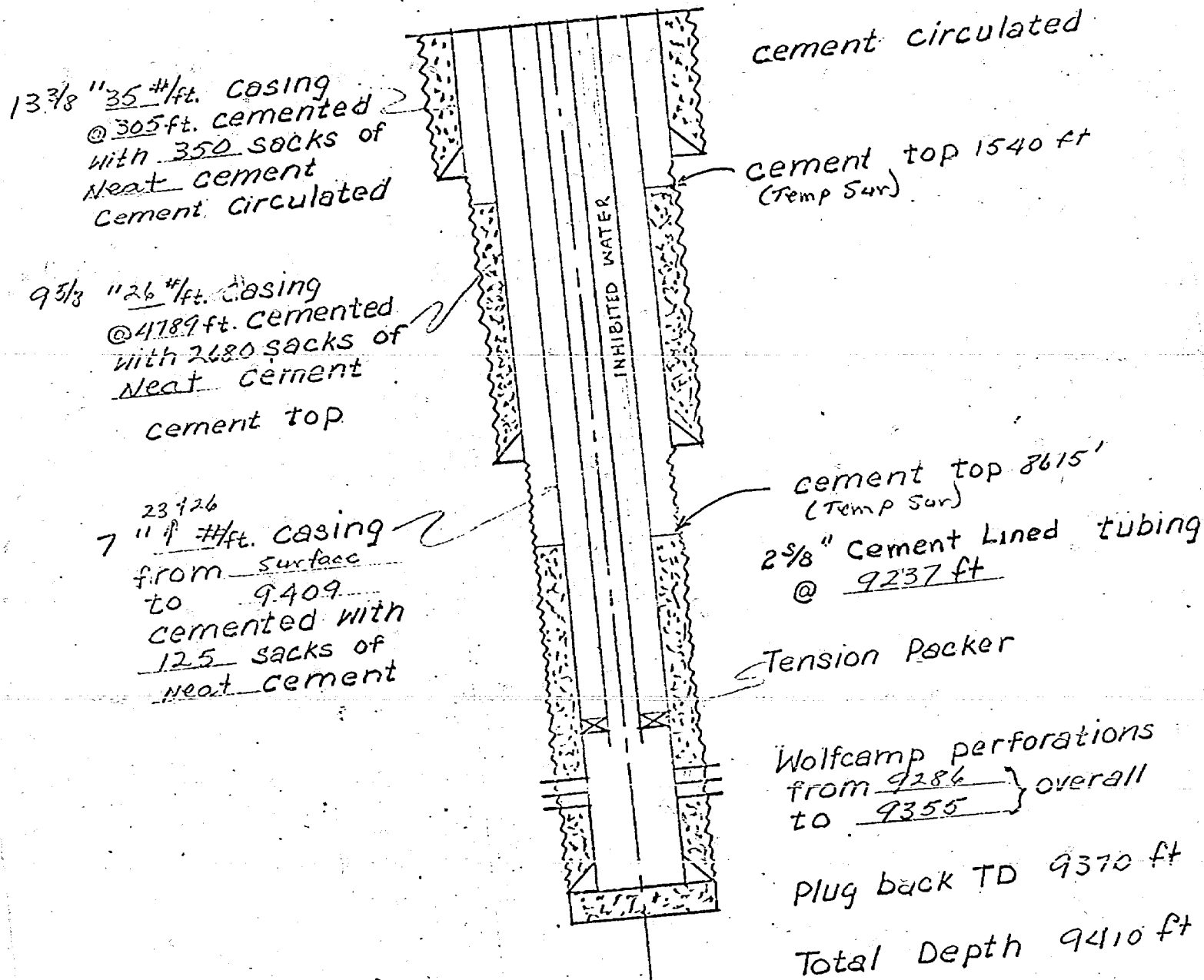
SHELL OIL CO. Shelton No. 3
 LOCATION: 1980 ft FNL, 2180 ft FWL
 Sec 24 T14-S R 37E
 Denton North Wolfcamp Unit
 Lea Co., N.M.



Case 3340

EXHIBIT 4 - C

INJECTION WELL COMPLETION DATA
 SINCLAIR OIL AND GAS LEE WHITMAN "A" No. 6
 LOCATION: 2310 ft FNL, 660 ft FEL
 SEC 26 T14S R 37E
 Denton North Wolfcamp Unit
 Lea Co., N.M.



Case 3340

EXHIBIT 4 - D

INJECTION WELL COMPLETION DATA

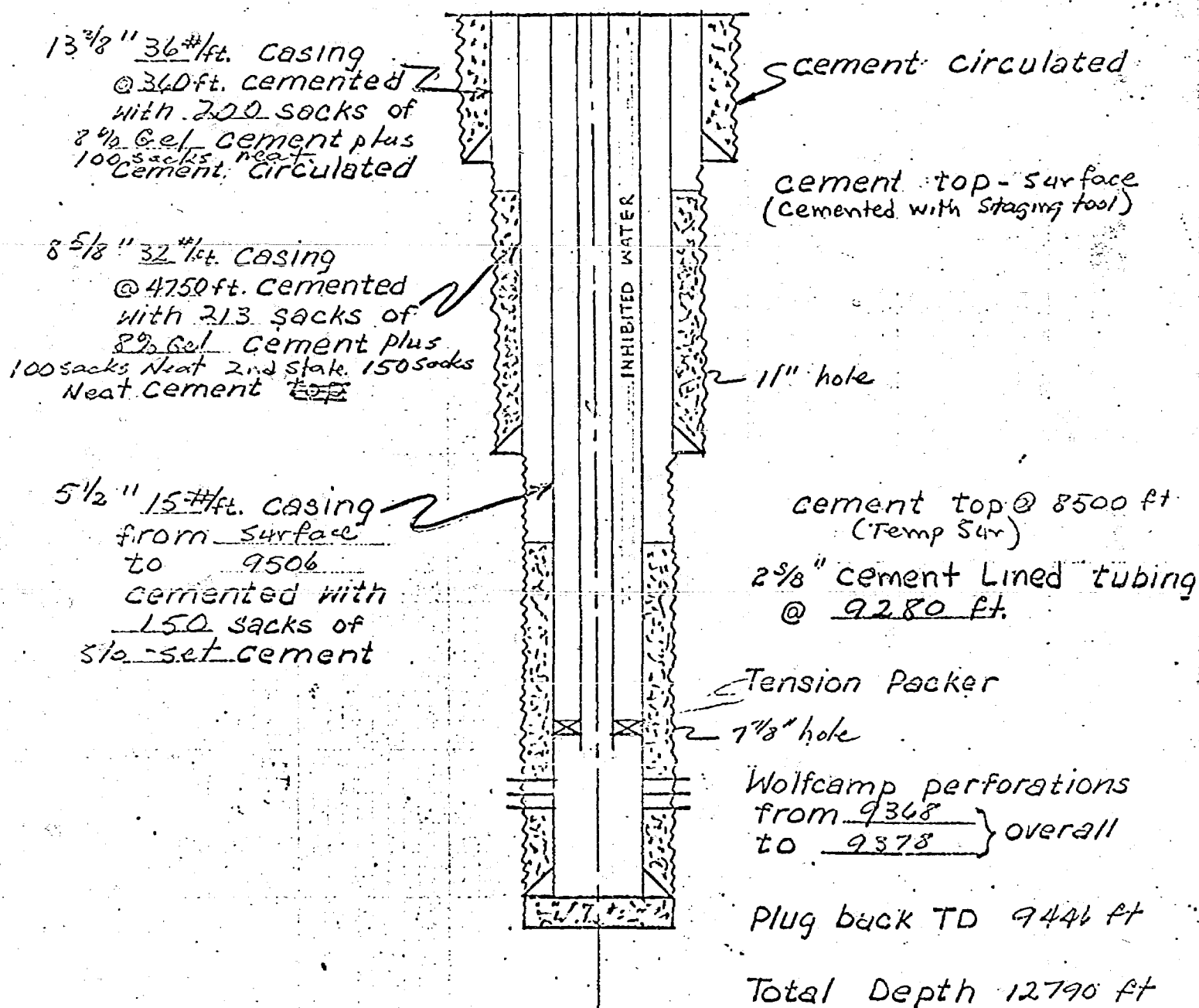
PAN AMERICAN PETROLEUM CORP W.H. Fort "B" #1

Location: 2310 ft FNL, 2310 ft FEL

Sec 25 T14S R37E

Denton North Wolfcamp Unit

Lea Co., N.M.



Case 3340

EXHIBIT 4 - E

INJECTION WELL COMPLETION DATA

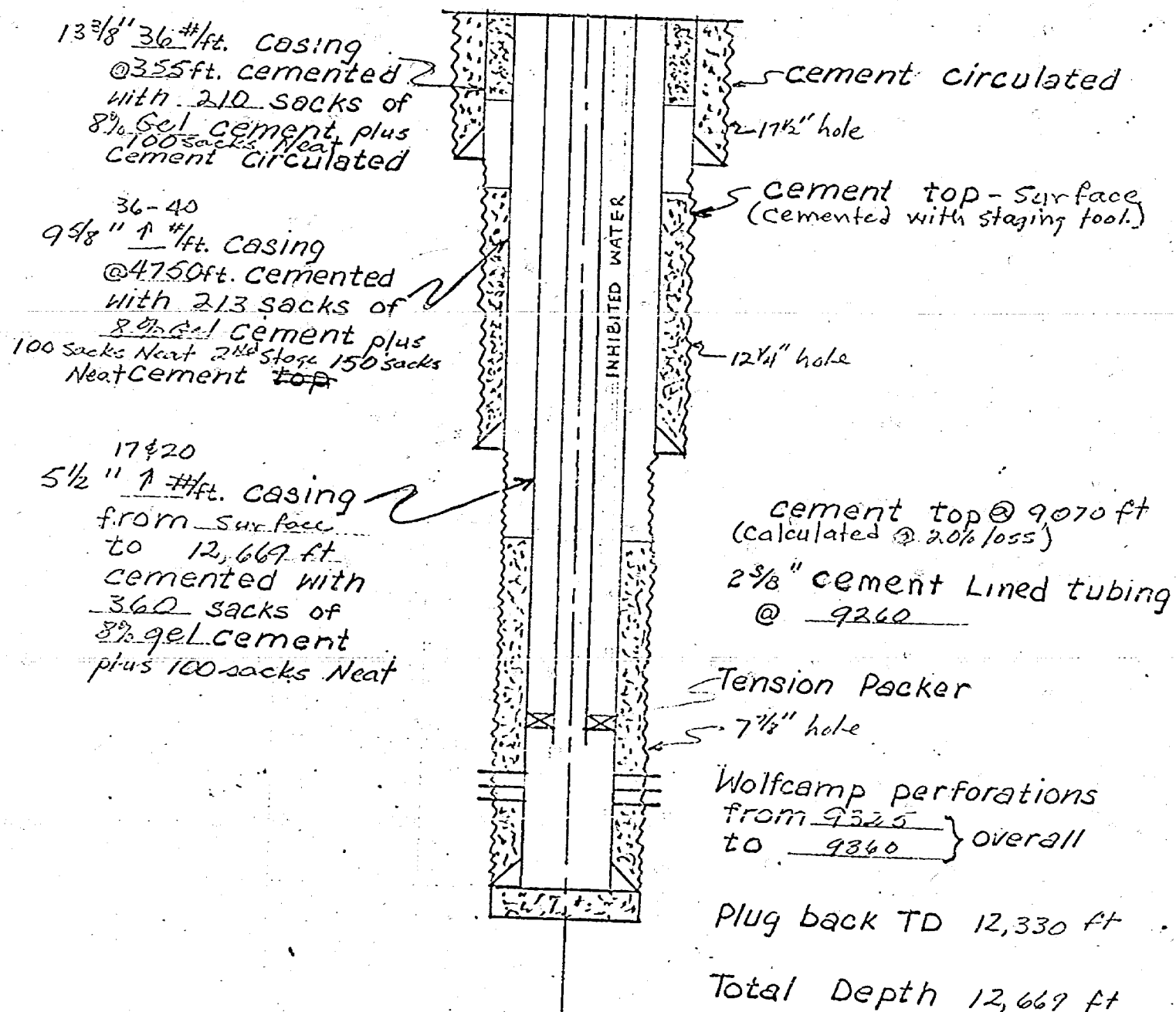
PAN AMERICAN PET CORP W.H. FORT "A" No. 1 -

LOCATION: 330 ft FSL & 2310 ft FEL

SEC 25 T14S R 37E

Denton North Wolfcamp Unit

Lea CO., N. M.

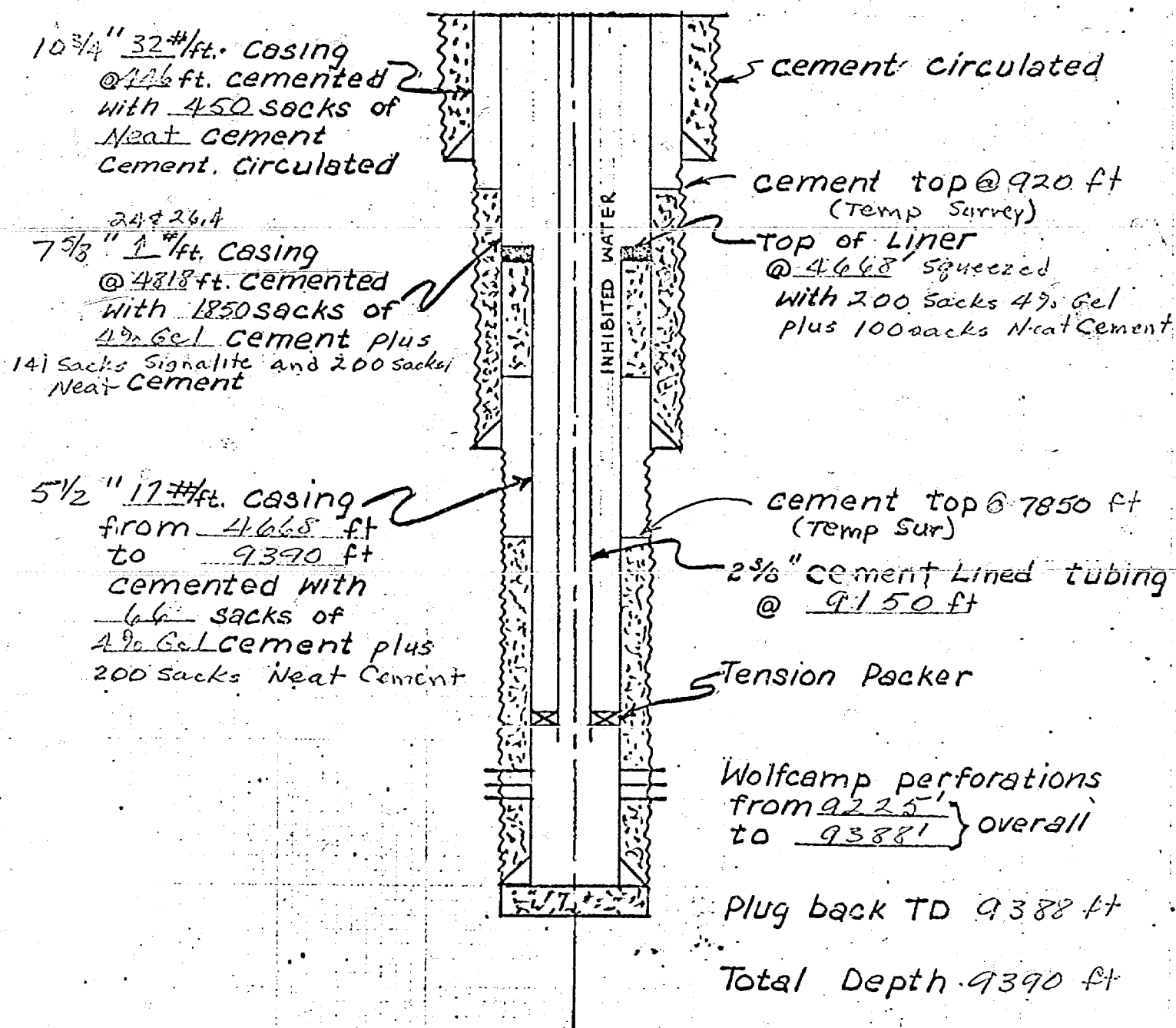


Curve 3340

EXHIBIT 4 - F

INJECTION WELL COMPLETION DATA

MOBIL OIL CO T.D. POPE No. 24
 LOCATION: 460 ft FEL, 660 ft FSL
 Sec 26 T 145 R 37E
 Denton North Wolfcamp unit.
 Lea Co., N.M.



Cad 3340

EXHIBIT 4 - G

INJECTION WELL COMPLETION DATA

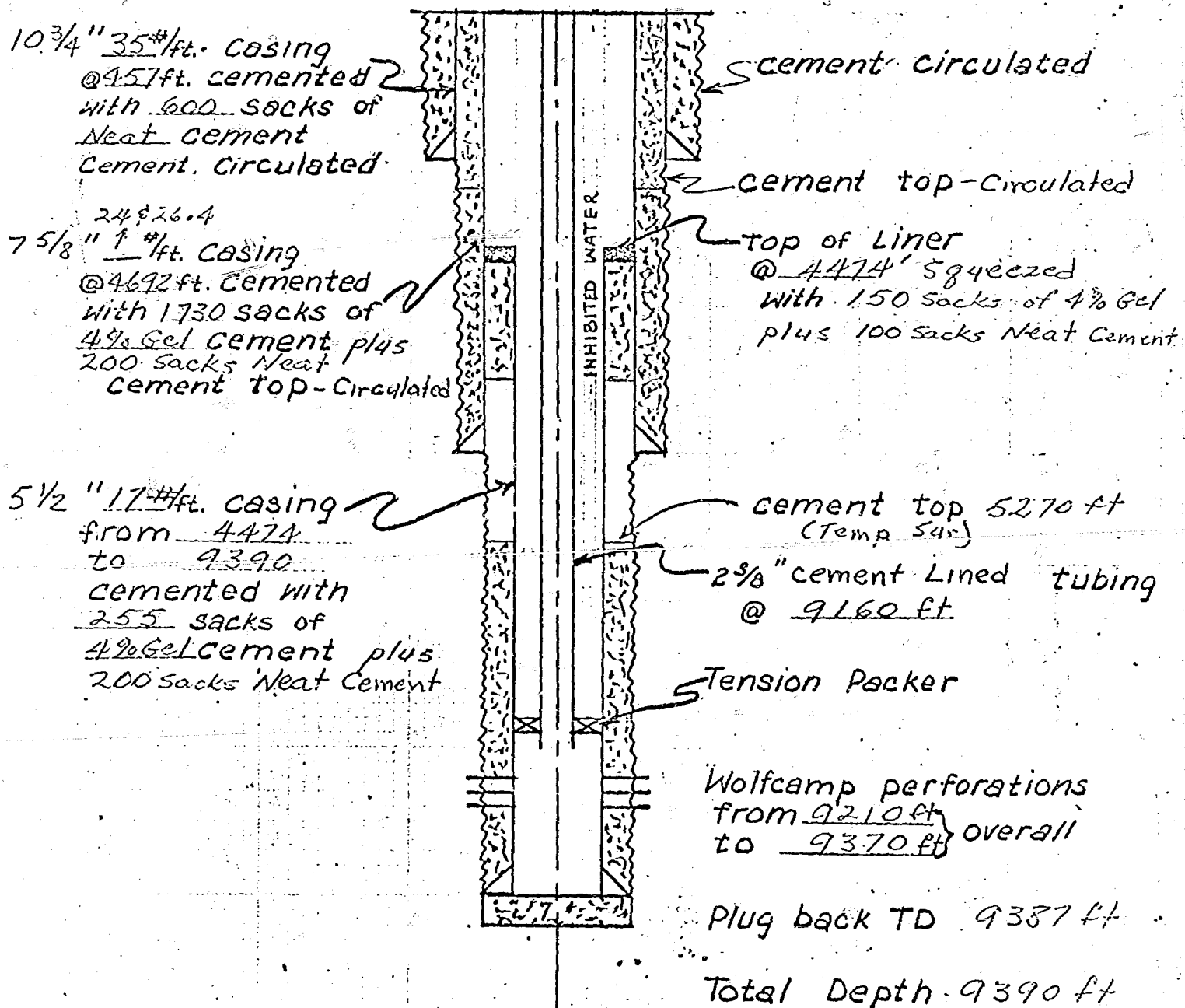
MOBIL OIL CO T.D. POPE No. 18

LOCATION: 1660 ft. FSL, 2180 ft. FWL

Sec 26 T14S R37E

Denton North Wolfcamp Unit

Lea CO, N.M.



Spec 3340

EXHIBIT 4 - H

INJECTION WELL COMPLETION DATA

MOBIL OIL CO J.C. Maxwell No. 2

Location: 560 ft FSL, 660 ft FEL

Sec 27 T14S R 37E

Denton North Wolfcamp Unit
Lea Co., N.M.

10 3/4" 35 #/ft. Casing
@ 415 ft. cemented
with 450 sacks of
Neat Cement
Cement Circulated

7 5/8" 26.4 #/ft. Casing
@ 4280 ft. Cemented
with 2800 sacks of
6.90 G/G Cement plus
200 Sacks of Neat Cement

5 1/2" 17 #/ft. Casing
from 4145 ft
to 9498 ft
cemented with
500 sacks of
6.90 G/G Cement
plus 200 sacks Neat Cement

cement circulated

cement circulated

Top of Liner

@ 4145' Squeezed
with 200 Sacks of
Neat Cement

cement top @ 4670 ft
(Temp. Sur)

2 3/8" cement lined tubing
@ 9306 ft

Tension Packer

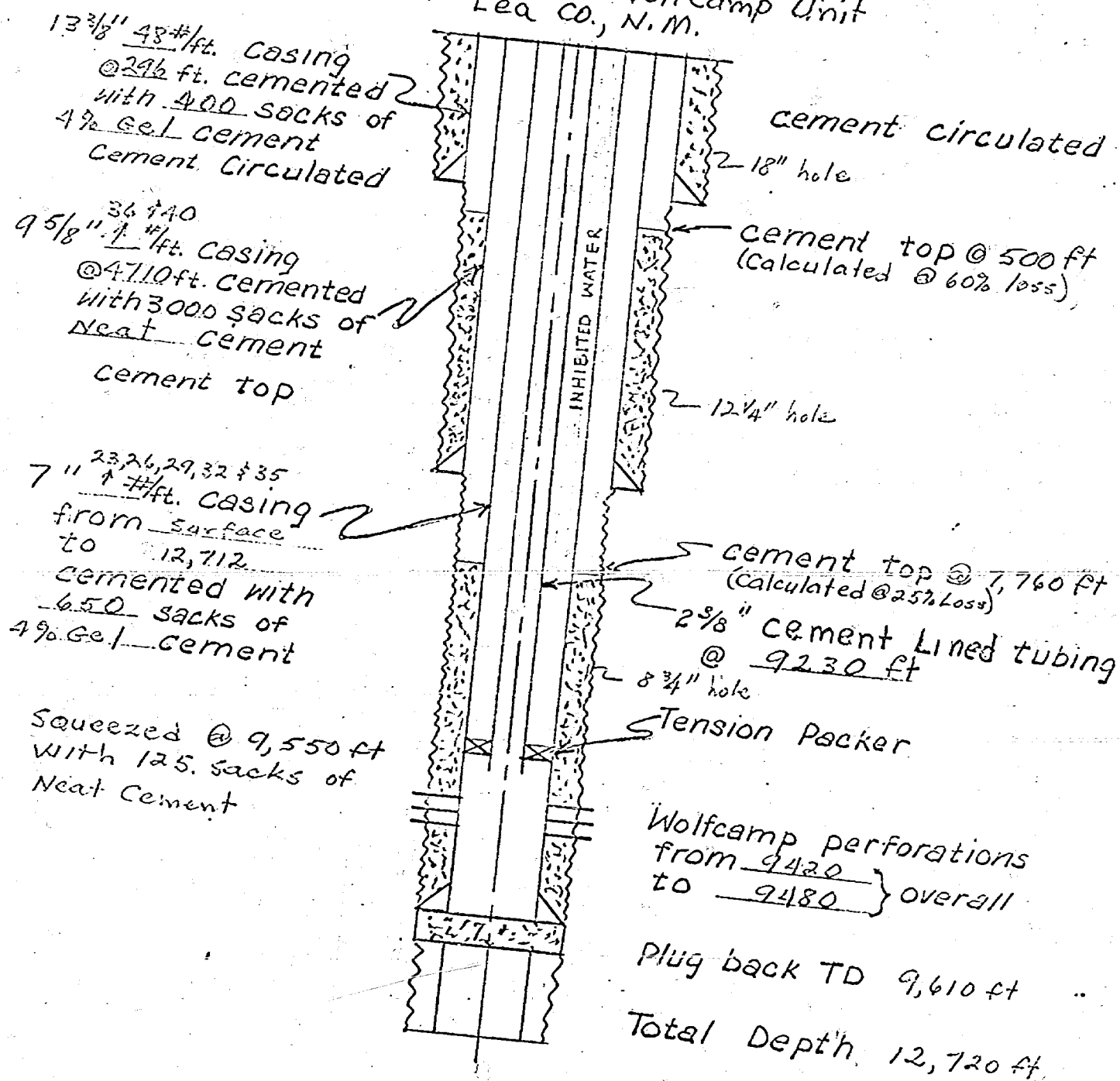
Wolfcamp perforations
from 9365
to 9398 } overall

Plug back TD 9496 ft

Total Depth 9498 ft

Case 3340

EXHIBIT 4 - I
 INJECTION WELL COMPLETION DATA
 ATLANTIC REFINING CO. Dickinson A-34 No. 1
 Location: 1980 ft FNL & 660 ft FEL
 Sec 34 T14S R 37E
 Denton North Wolfcamp Unit
 Lea Co., N.M.



Chp 3340

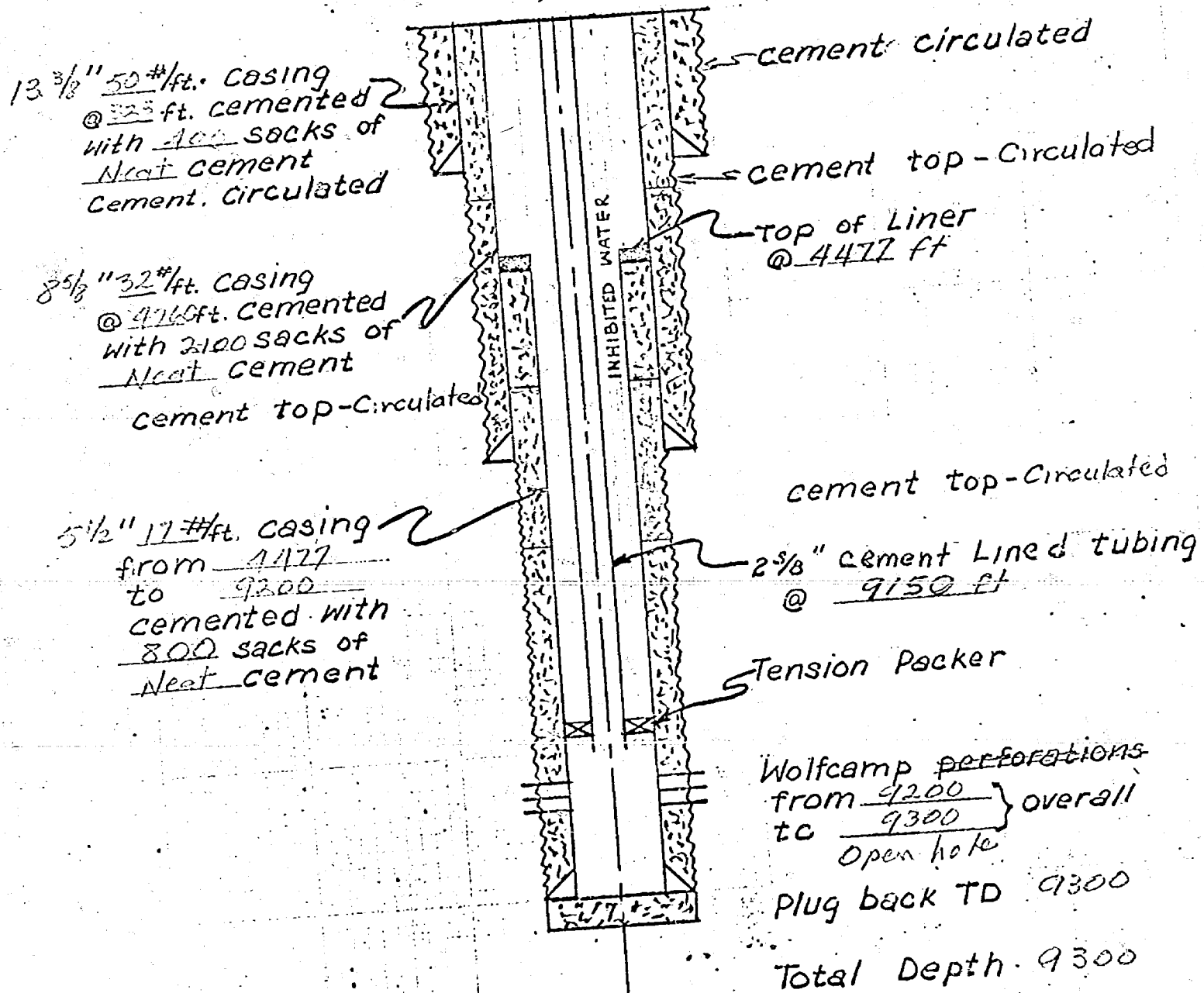
EXHIBIT 4 - J

INJECTION WELL COMPLETION DATA

ATLANTIC REFINING CO DICKINSON D #11
LOCATION: 1980 ft FNL, 2130 ft FWL

SEC 35 T 14 S R 37 E

Denton North Wolfcamp Unit
Lea Co., N.M.



Chal 3240

EXHIBIT 4 - K

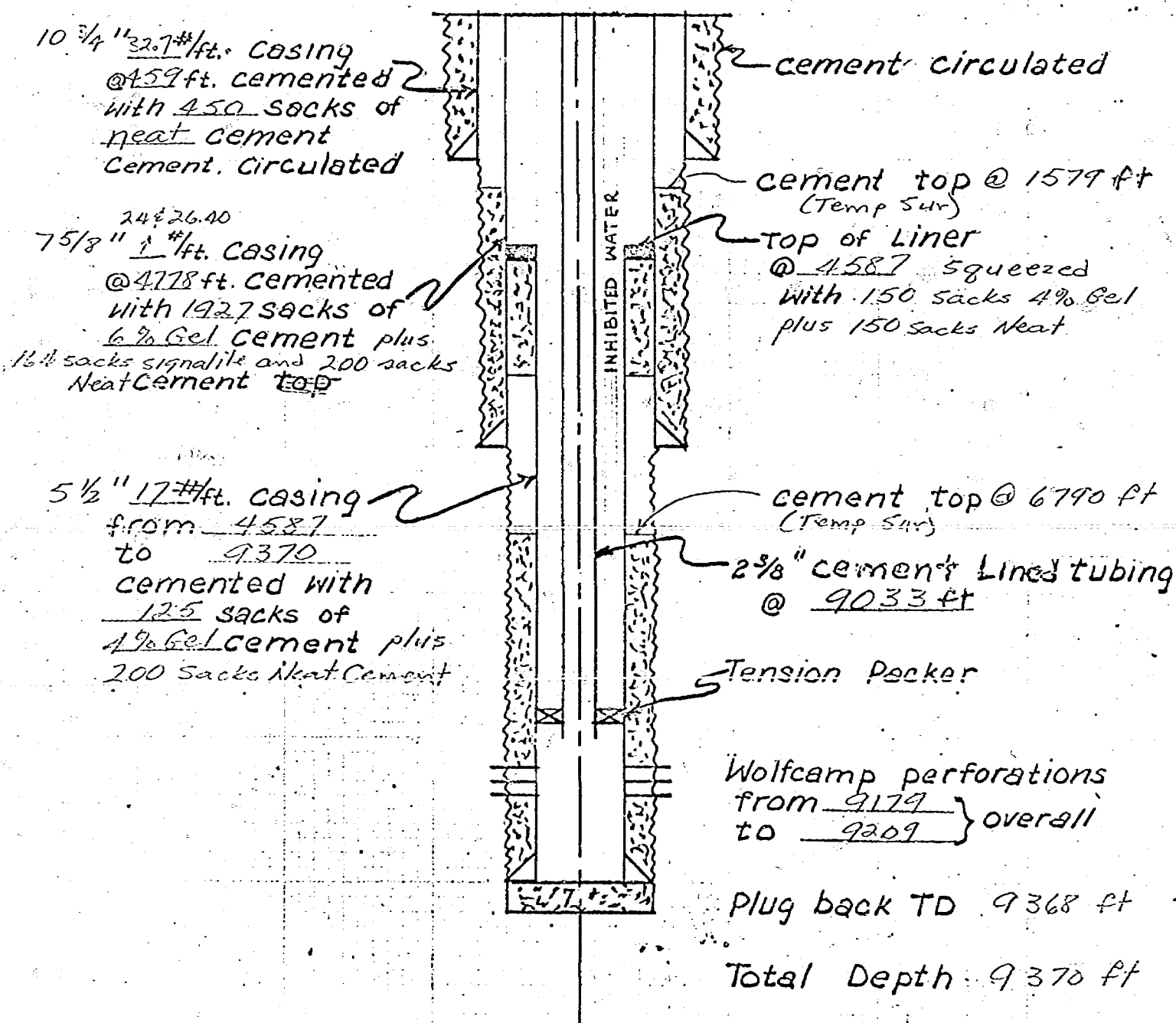
INJECTION WELL COMPLETION DATA
MOBIL OIL CO T.D. POPE No. 30

LOCATION: 1980. FT FNL, 460 FT FEL

SEC 35 T14S R 37E

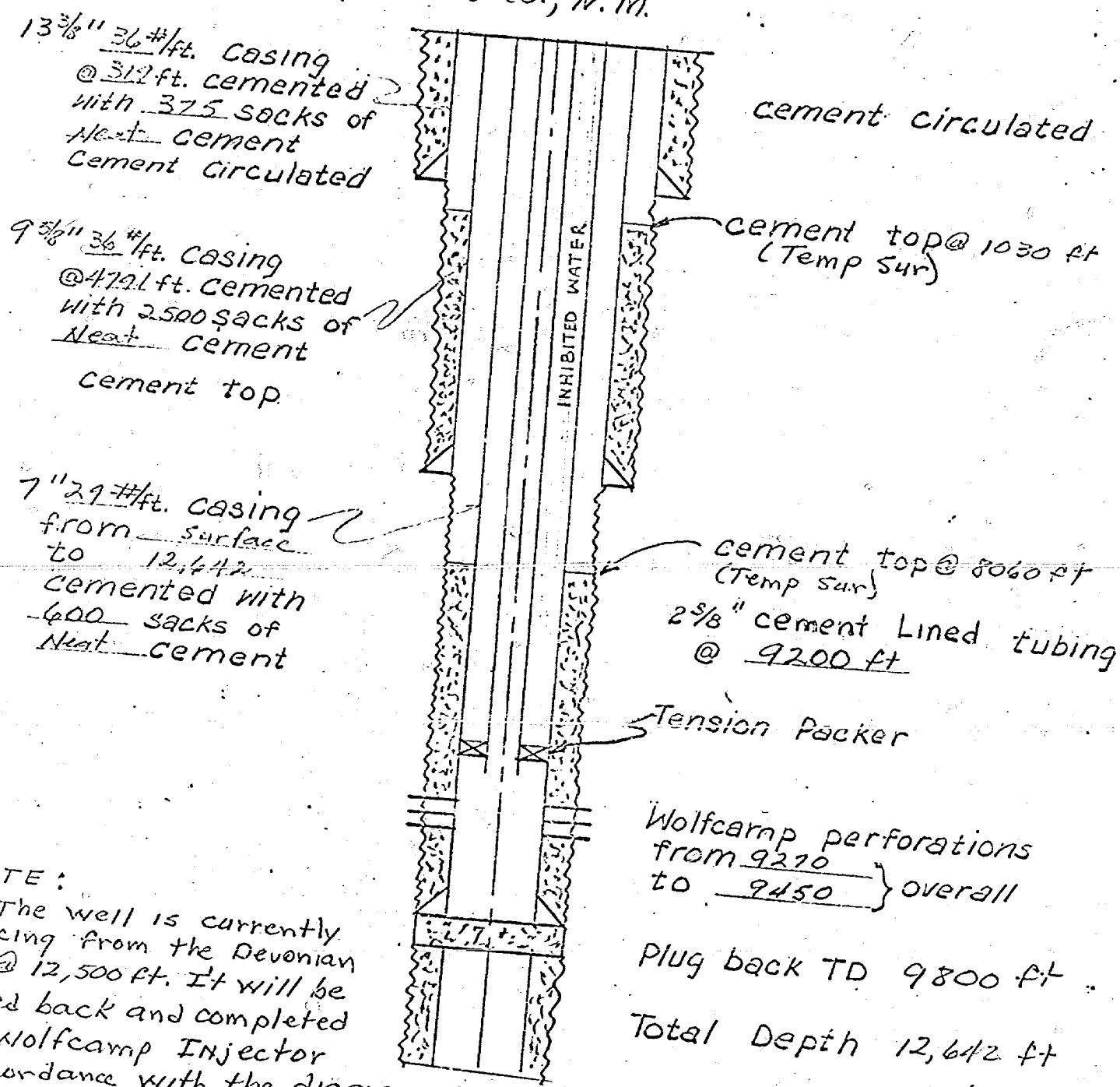
Denton North Wolfcamp Unit.

Lea Co., N.M.



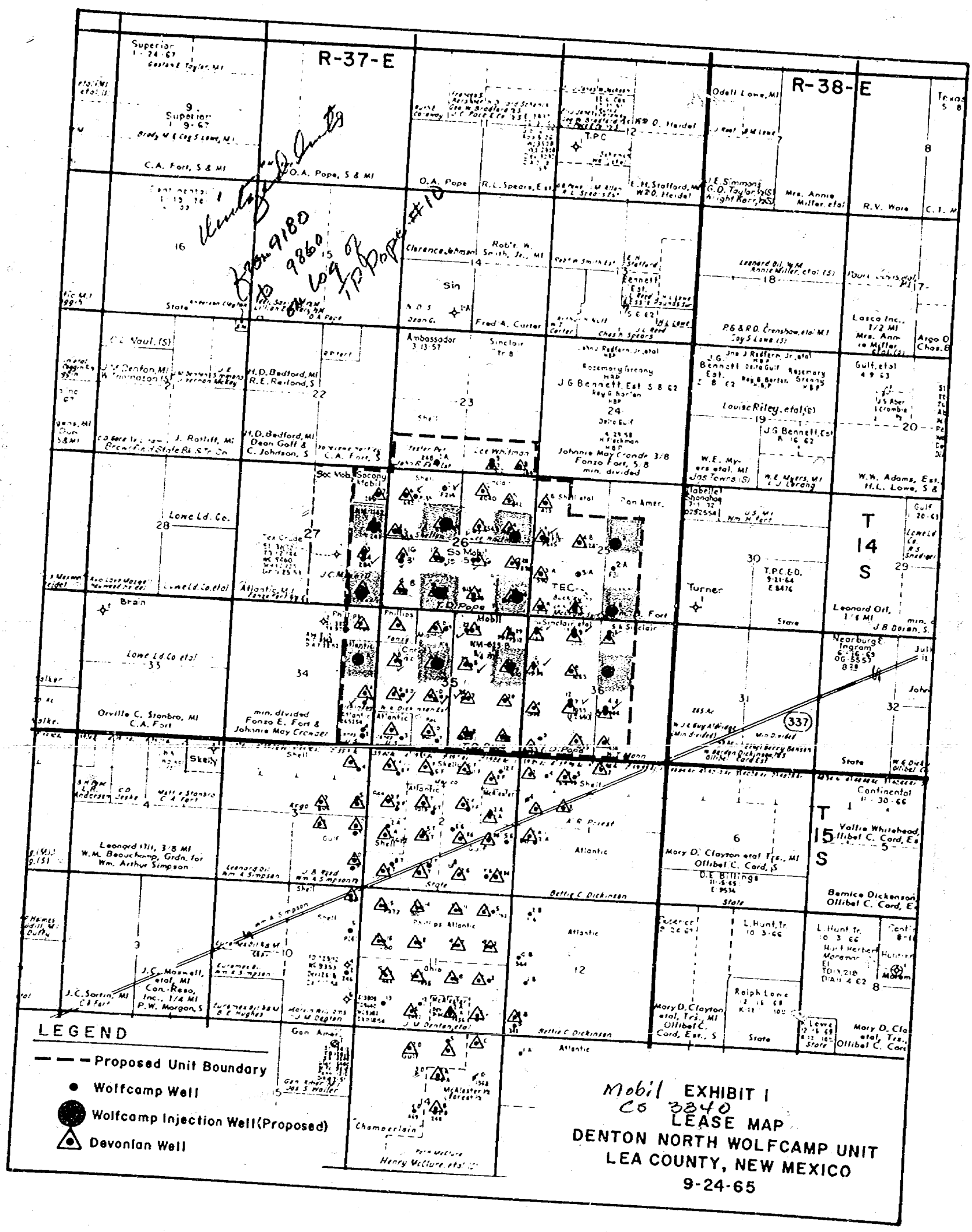
Case 3340

EXHIBIT 4 - L
 INJECTION WELL COMPLETION DATA
 SINCLAIR OIL & GAS W.T. MANN No. 3
 Location: 1980 ft FNL, 2310 ft FEL
 Sec 36 T14S. R 37E
 Denton North Wolfcamp Unit
 Lea Co., N.M.



NOTE:
 The well is currently
 producing from the Devonian
 Zone @ 12,500 ft. It will be
 plugged back and completed
 as a Wolfcamp Injector
 in accordance with the diagram.

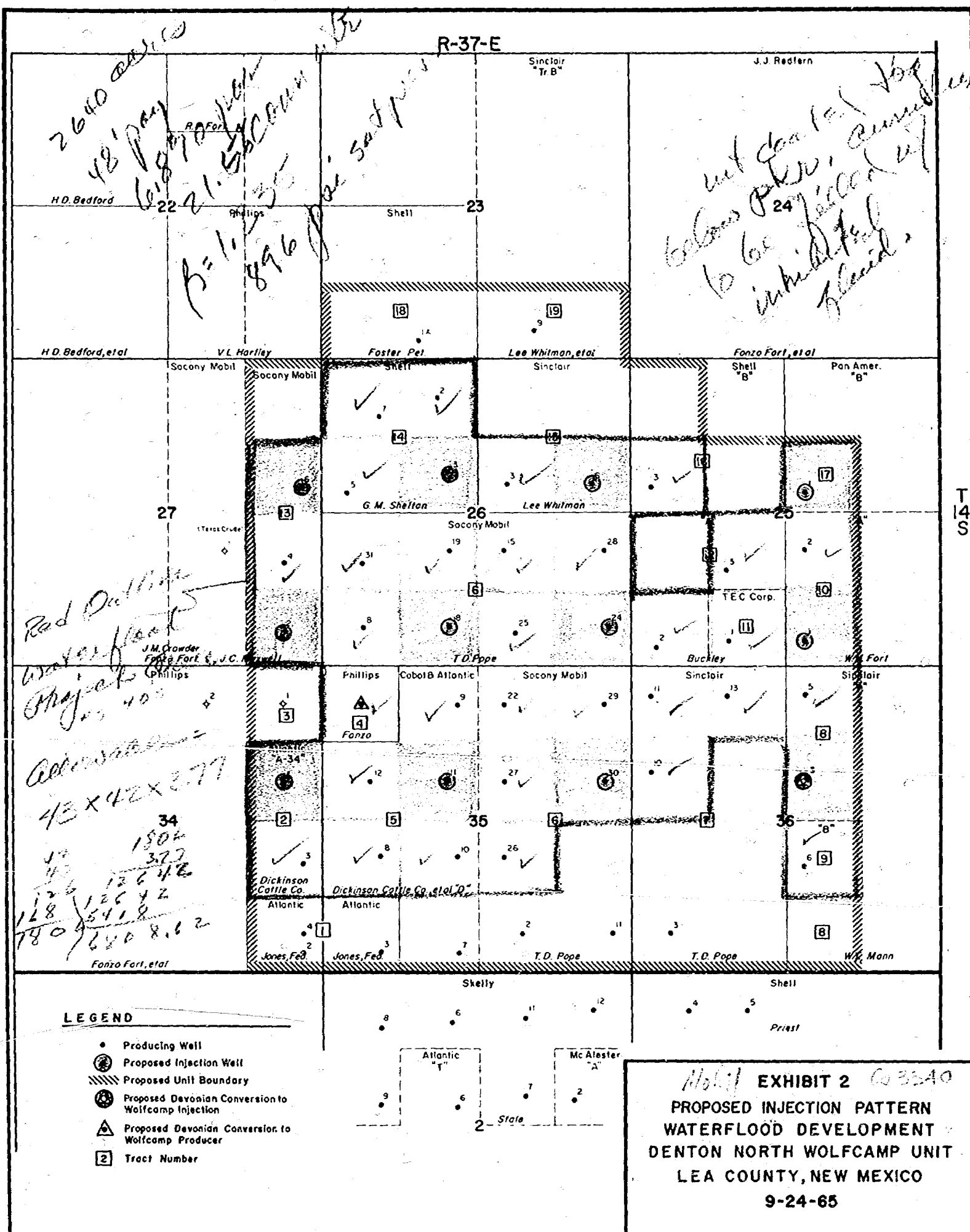
Case 3340



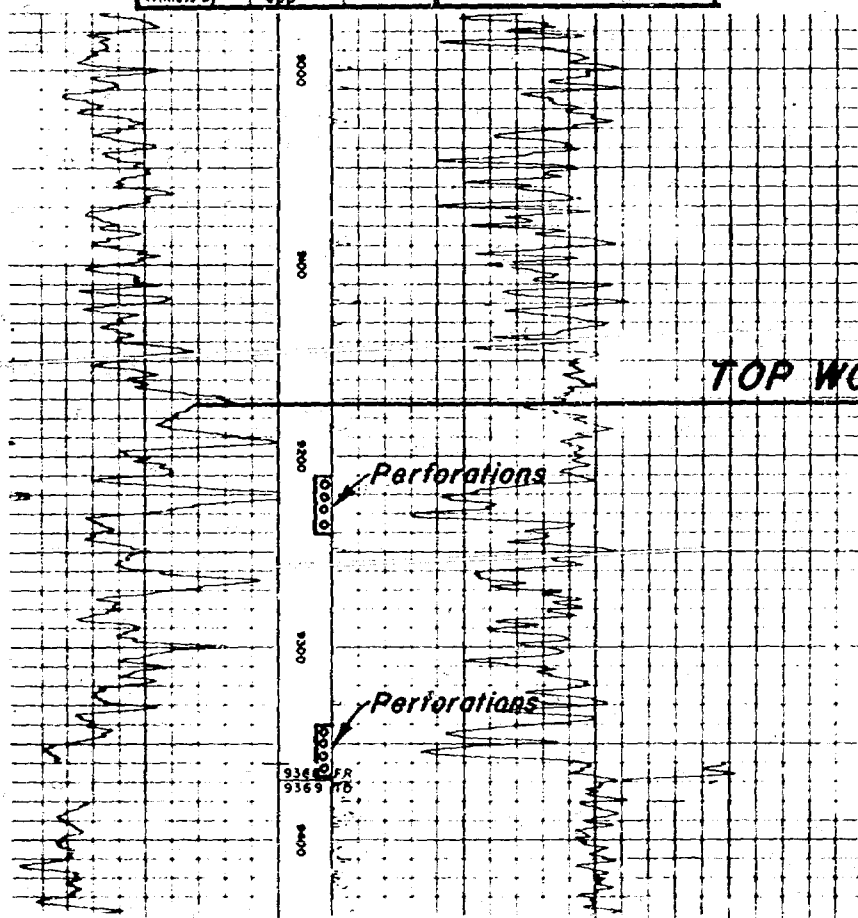
LEGEND

- Proposed Unit Boundary
- Wolfcamp Well
- Wolfcamp Injection Well (Proposed)
- ▲ Devonian Well

Mobil EXHIBIT I
CG 3240
LEASE MAP
DENTON NORTH WOLFCAMP UNIT
LEA COUNTY, NEW MEXICO
9-24-65



SCHLUMBERGER WELL SURVEYING CORPORATION	
GAMMA RAY - NEUTRON	
COUNTY <u>Lea</u>	COMPANY <u>MAGNOLIA PETR. CO.</u>
FIELD <u>DENTON</u>	LOCATION OF WELL 660' f SL 2180' f WL Sec. 26-145-37E
WELL <u>POPE # 1B</u>	GRN (LL-HL)
FIELD <u>DENTON</u>	Elevation D.P. <u>3818</u>
LOCATION <u>SEC. 26-145-37E</u>	K.B. or O.I.
COUNTY <u>LEA</u>	FILING No.
STATE <u>NEW MEXICO</u>	
RUN No. <u>1</u>	
Date <u>7-17-53</u>	
First Reading <u>9368</u>	
Lost Reading <u>0</u>	
Feet Measured <u>9368</u>	
Cog. Schlum. <u>4692</u>	
Cog. Driller <u>4692</u>	
Depth Reached <u>2362</u>	
Bottom Driller <u>2362</u>	
Depth Bottom <u>1 ADY. RY</u>	
Mod. No. <u>IMPCTML</u>	
Density <u>2.3</u>	
Viscosity <u>28</u>	
Resist. <u>28677 f</u>	
Res. BHT <u>286145 f</u>	
pH <u>5.8</u>	
Wtr. Loss <u>10 CC 30 min.</u>	<u>CC 30 min.</u>
Max. Temp. <u>145</u>	
Bit Size <u>6 3/4"</u>	
Op. Rig line <u>4 Hrs.</u>	
Truck No. <u>1760-Hobbs</u>	
Recorded By <u>Scott</u>	
Witness By <u>Upp</u>	



TOP WOLFCAMP

Perforations

Perforations

UNITIZED INTERVAL

Mobil EXHIBIT 3 C 3340
TYPICAL LOG
WOLFCAMP INJECTION WELL
DENTON NORTH WOLFCAMP UNIT

LEA COUNTY, NEW MEXICO

9-24-65

To base of Wolfcamp Zone
approximately 9880'

EXHIBIT 4 - A

INJECTION WELL COMPLETION DATA

MOBIL OIL CO JC MAXWELL No. 6

LOCATION: 330 ft FEL, 2210 ft FNL
Sec 27 T14S R 3.7 E
Denton North Wolfcamp Unit
Lea Co., N.M.

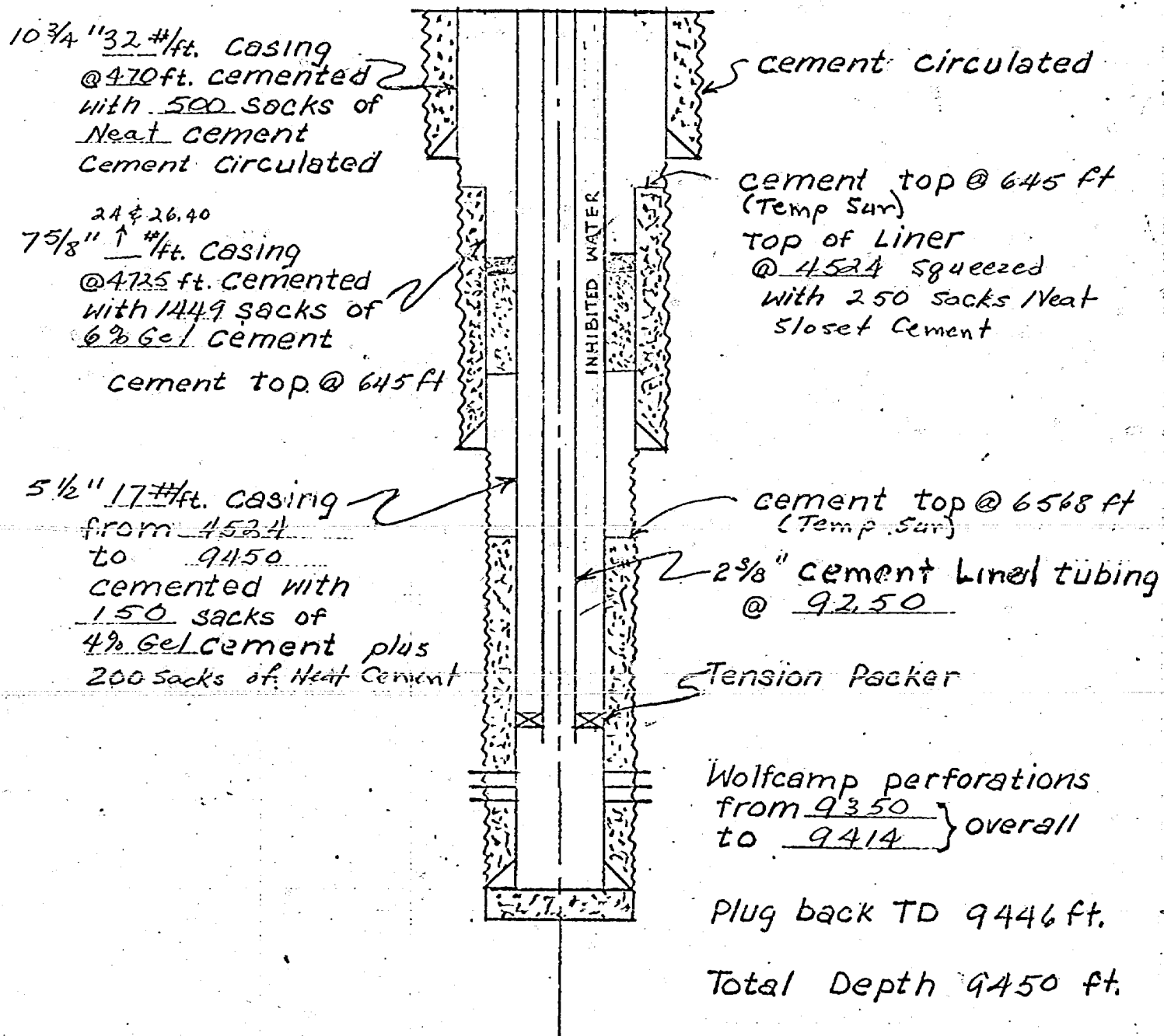


EXHIBIT 4 - B

INJECTION WELL COMPLETION DATA

SHELL OIL CO. Shelton No. 3

LOCATION: 1980 ft FNL, 2180 ft FWL

Sec 24 T14-S R 37E

Denton North Wolfcamp Unit

Lea Co., N.M.

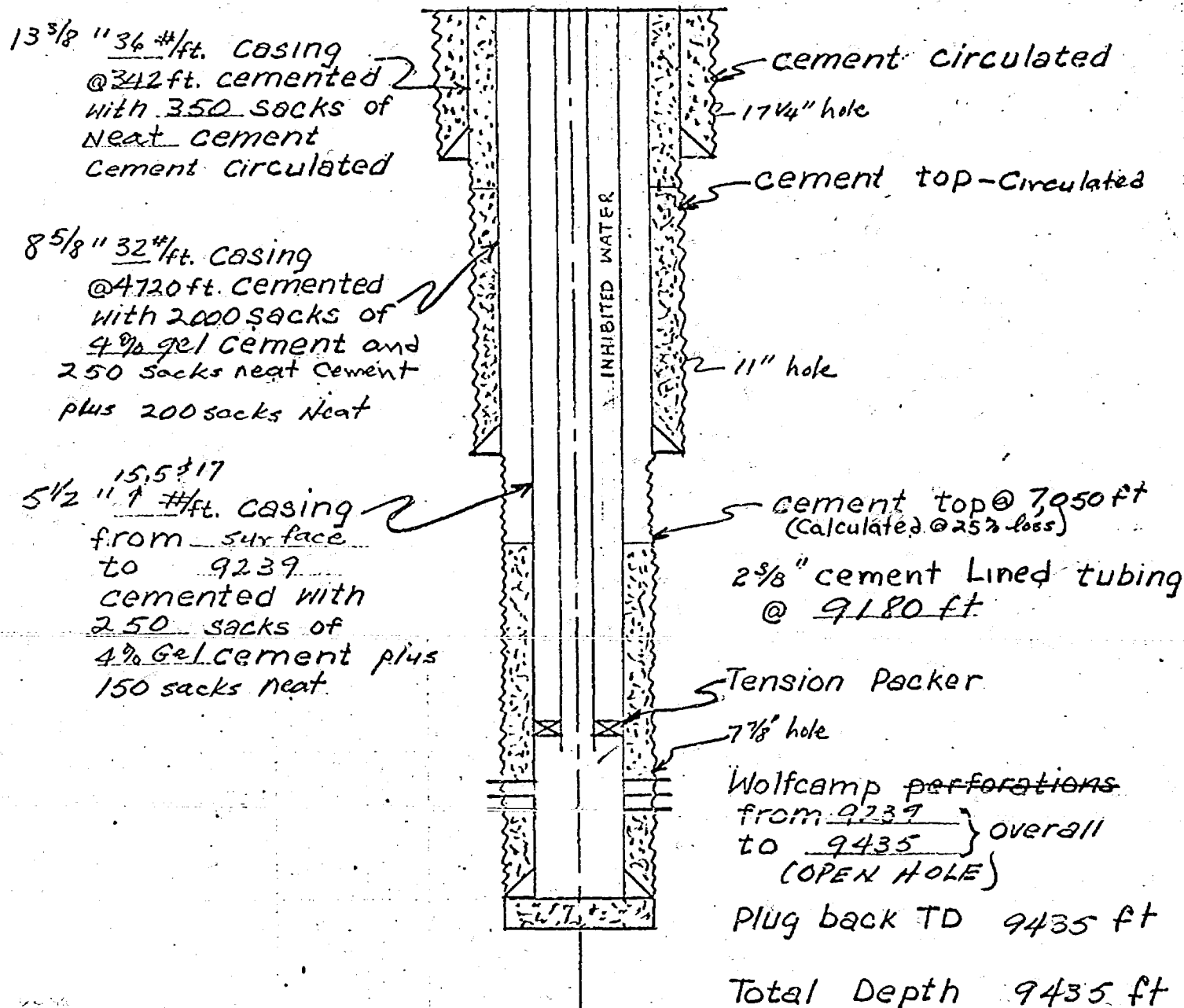


EXHIBIT 4 - C
 INJECTION WELL COMPLETION DATA
 SINCLAIR OIL AND GAS LEE WHITMAN "A" No. 6
 LOCATION: 2310 ft FNL, 660 ft FEL
 SEC 26 T14S R37E
 Denton North Wolfcamp Unit.
 Lea Co., N.M.

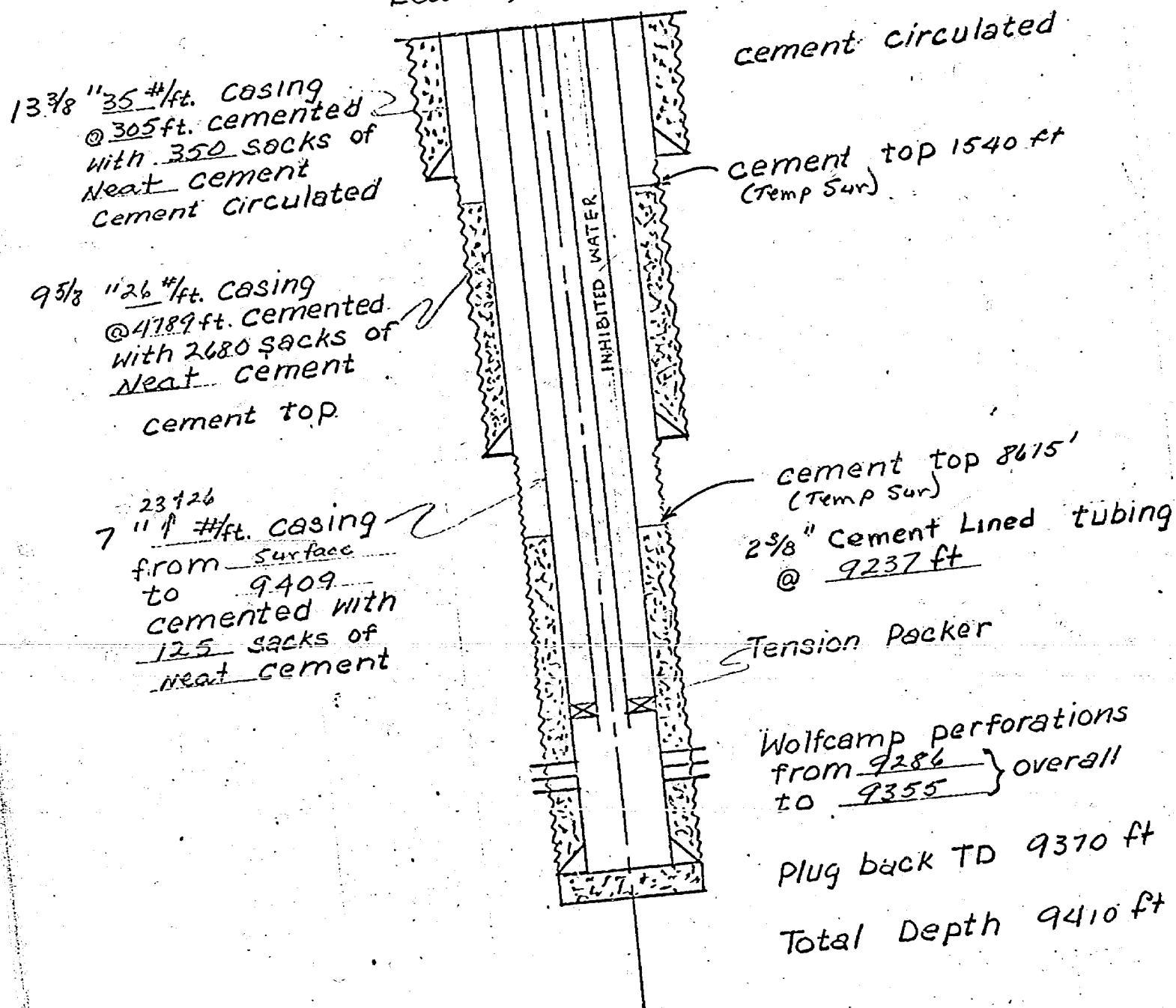


EXHIBIT 4 - D

INJECTION WELL COMPLETION DATA
 PAN AMERICAN PETROLEUM CORP W.H. Fort "B" #1
 Location: 2310 ft FNL, 2310 ft FEL
 Sec 25 T11S R37E
 Denton North Wolfcamp Unit
 Lea Co., N.M.

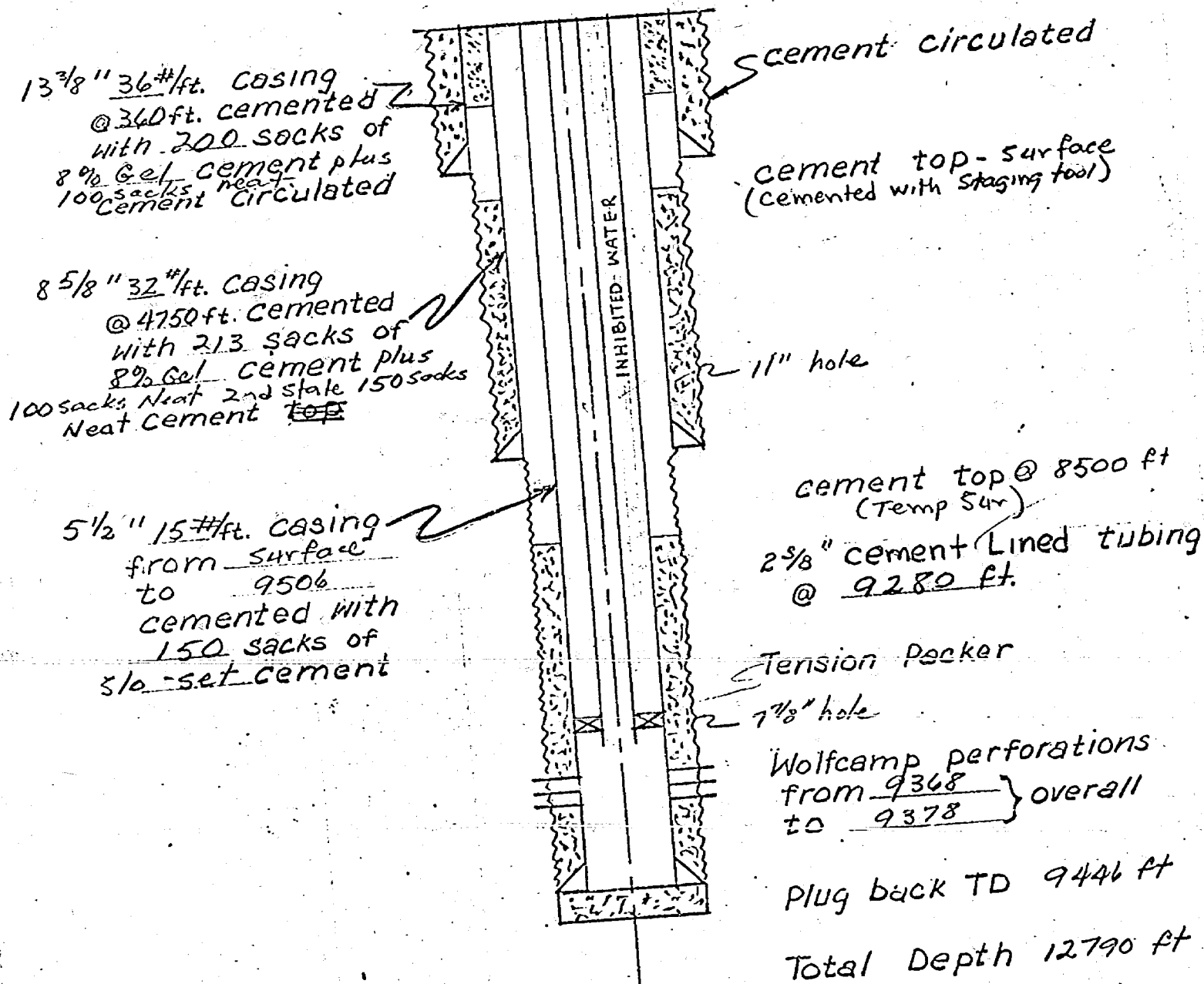


EXHIBIT 4 - E

INJECTION WELL COMPLETION DATA

PAN AMERICAN PET CORP W.H. FORT "A" No.1 -

LOCATION: 330 ft FSL & 2310 ft FEL

Sec 25 T14S R 37E

Denton North Wolfcamp Unit

Lea CO., N. M.

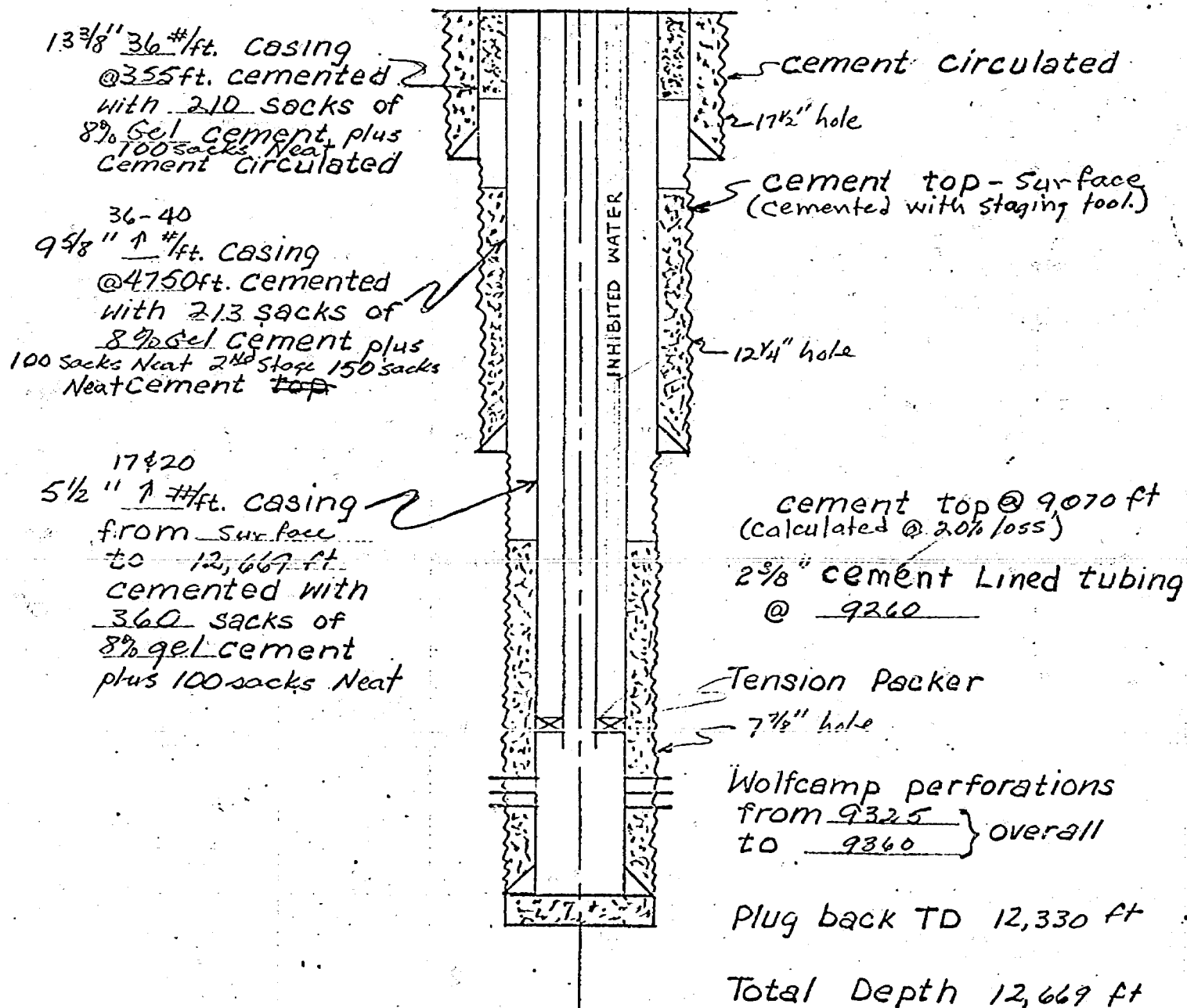


EXHIBIT 4 - F

INJECTION WELL COMPLETION DATA

MOBIL OIL CO T.D. POPE No. 24
 LOCATION: 460 ft FEL, 660 ft FSL
 Sec 26 T 145 R 37E
 Denton North Wolfcamp unit
 Lea Co., N.M.

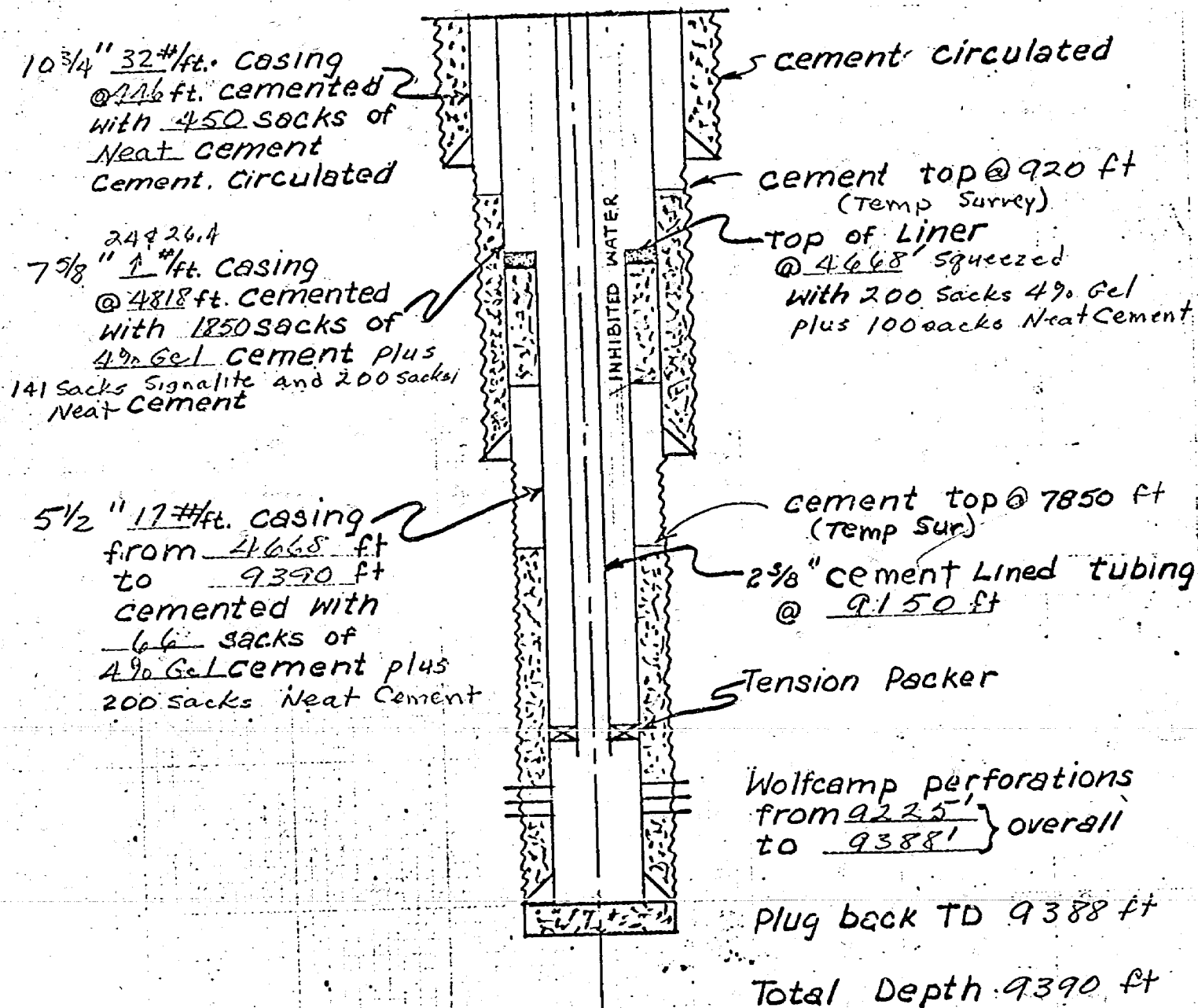


EXHIBIT 4 - G

INJECTION WELL COMPLETION DATA

MOBIL OIL CO T.D. POPE No. 18
 LOCATION: 660 ft FSL, 2180 ft FWL
 Sec 26 T 14 S R 37 E
 Denton North Wolfcamp Unit
 Lea CO., N.M.

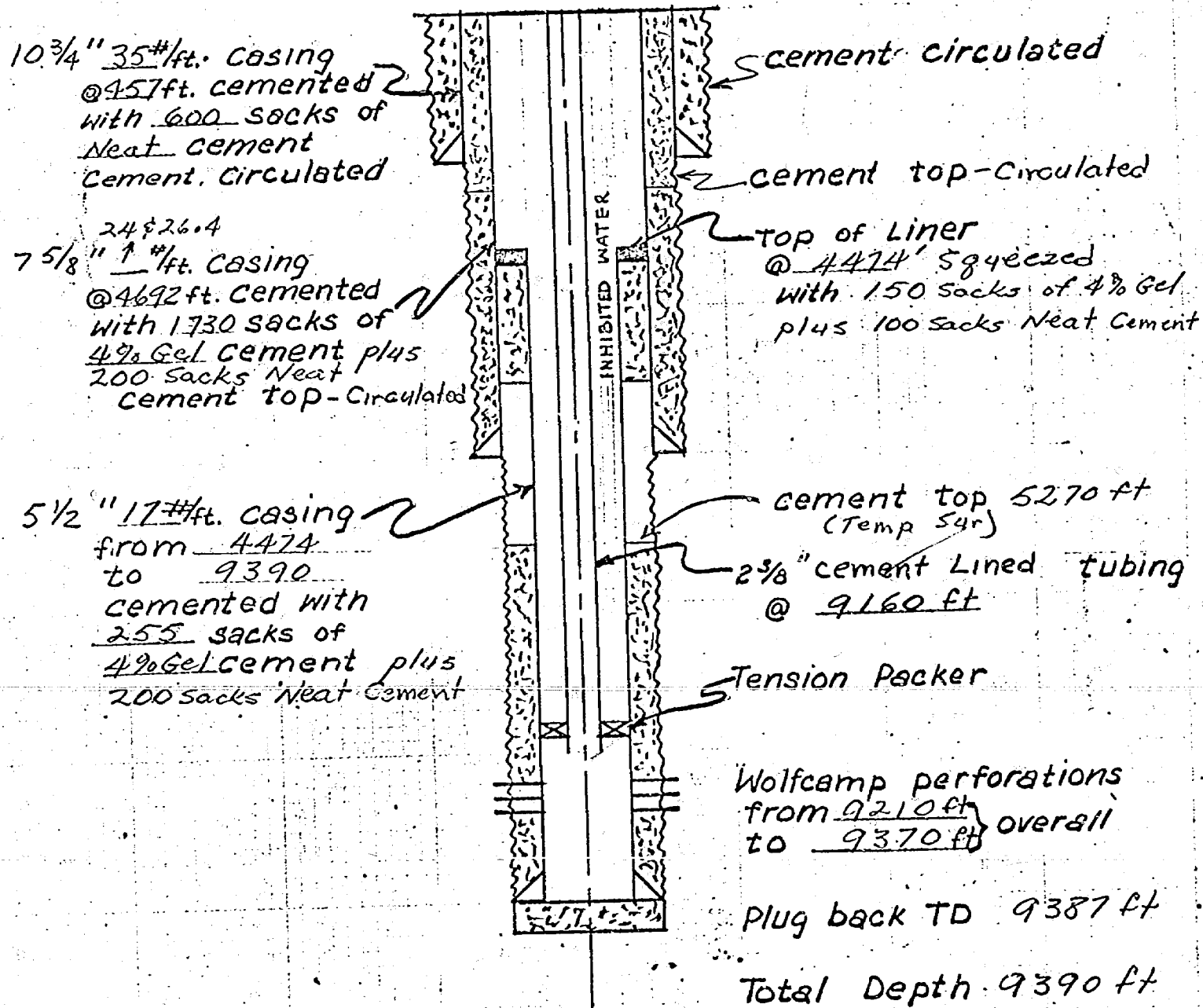


EXHIBIT 4 - H

INJECTION WELL COMPLETION DATA

MOBIL OIL CO J.C. Maxwell No. 2

Location: 560 ft FSL, 660 ft FEL

Sec 27 T14S R 37E

Denton North Wolfcamp Unit
Lea Co., N.M.

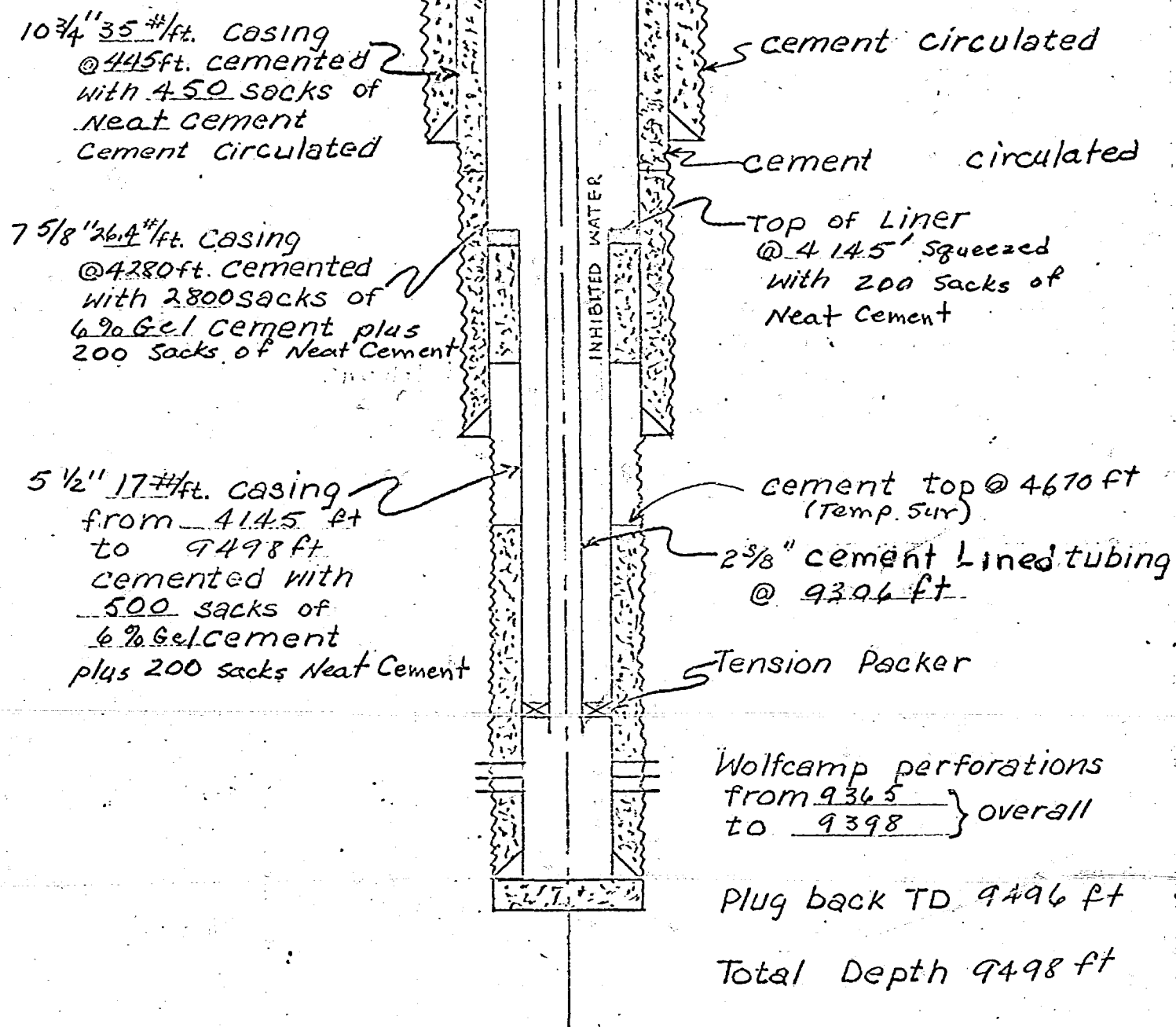


EXHIBIT 4 - I

INJECTION WELL COMPLETION DATA

ATLANTIC REFINING CO. Dickinson A-34 No. 1

Location: 1980 ft FNL & 660 ft FEL
Sec 34 T14S R 37E
Denton North Wolfcamp Unit
Lea CO., N.M.

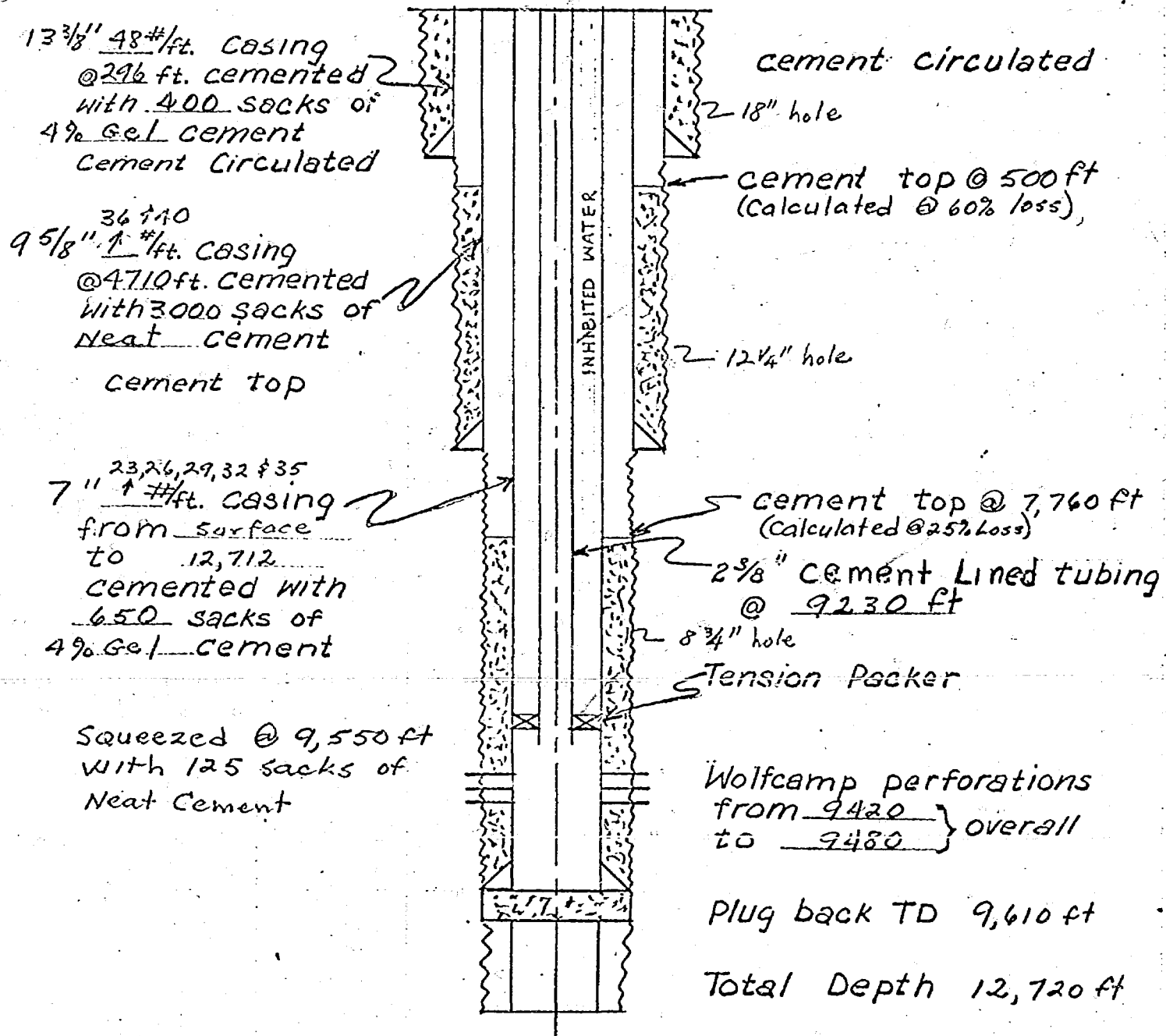


EXHIBIT 4 -J

INJECTION WELL COMPLETION DATA

ATLANTIC REFINING CO DICKINSON D #11

LOCATION: 1980 ft FNL, 2130 ft FWL

SEC 35 T 14 S R 37 E

Denton North Wolfcamp Unit

Lea Co., N.M.

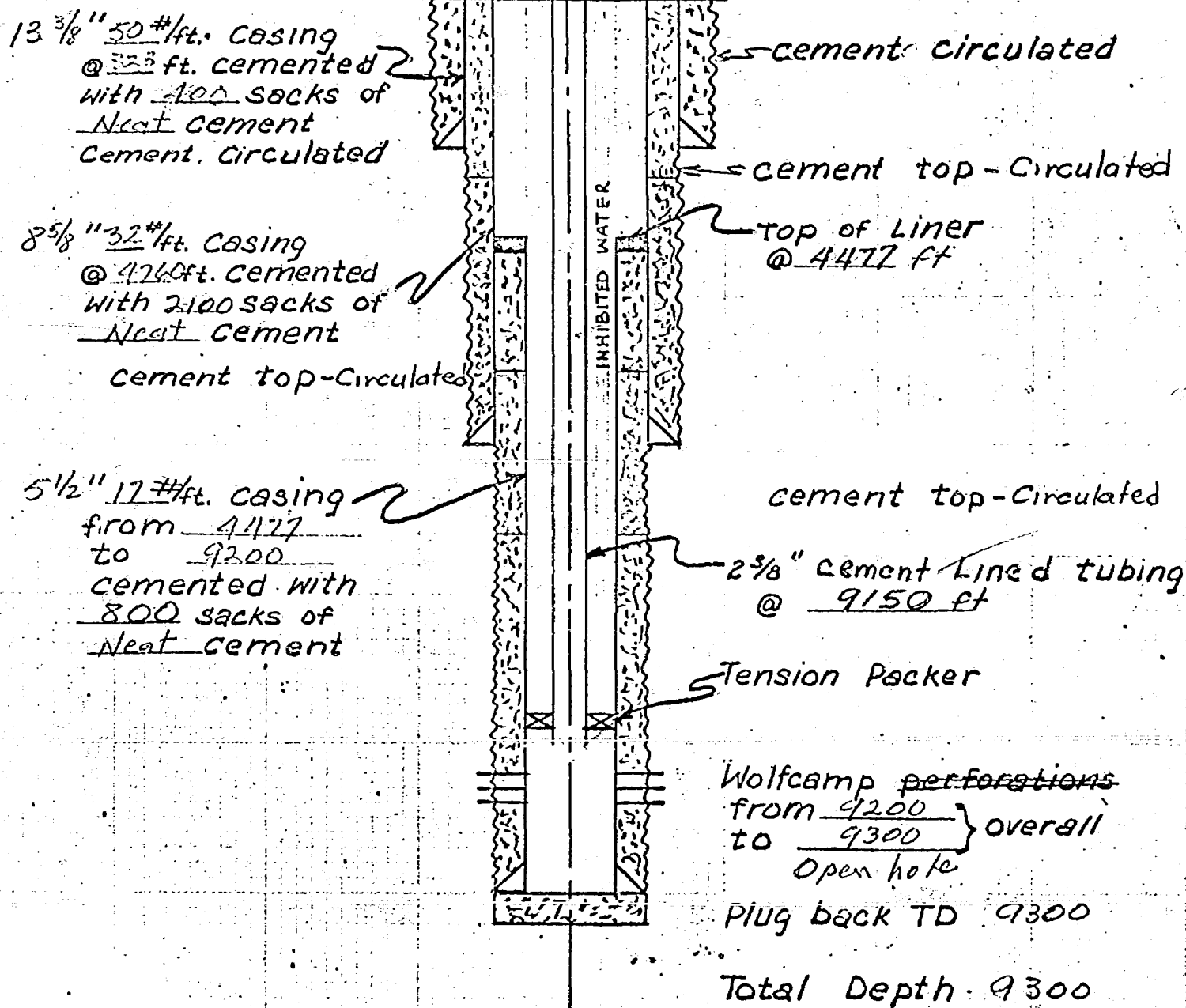


EXHIBIT 4 - K

INJECTION WELL COMPLETION DATA
MOBIL OIL CO T.D. POPE No. 30

LOCATION: 1980. FT FNL, 460 FT FEL
SEC 35 T14S R37E
Denton North Wolfcamp Unit,
Lea Co., N.M.

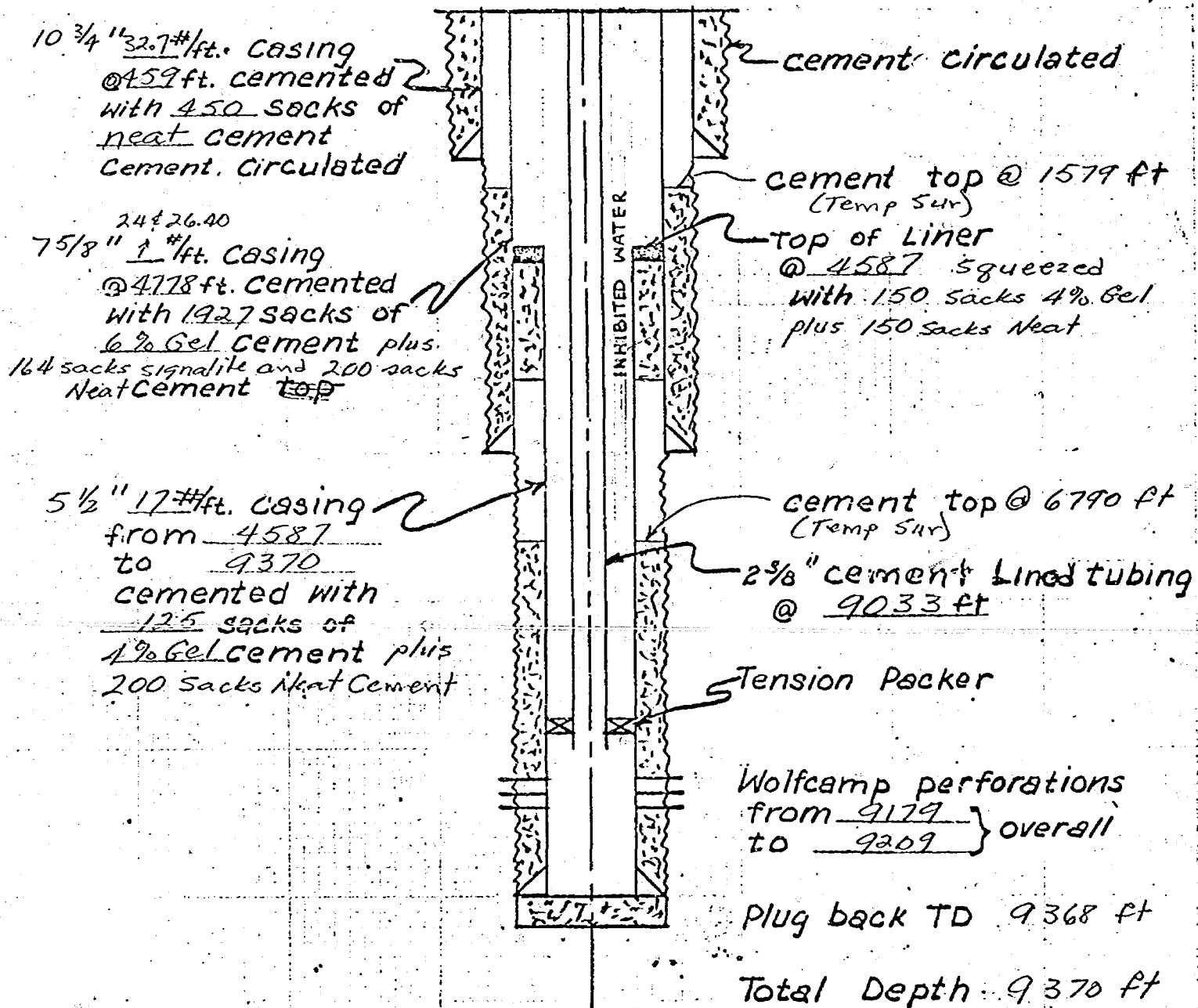


EXHIBIT 4 - L

INJECTION WELL COMPLETION DATA

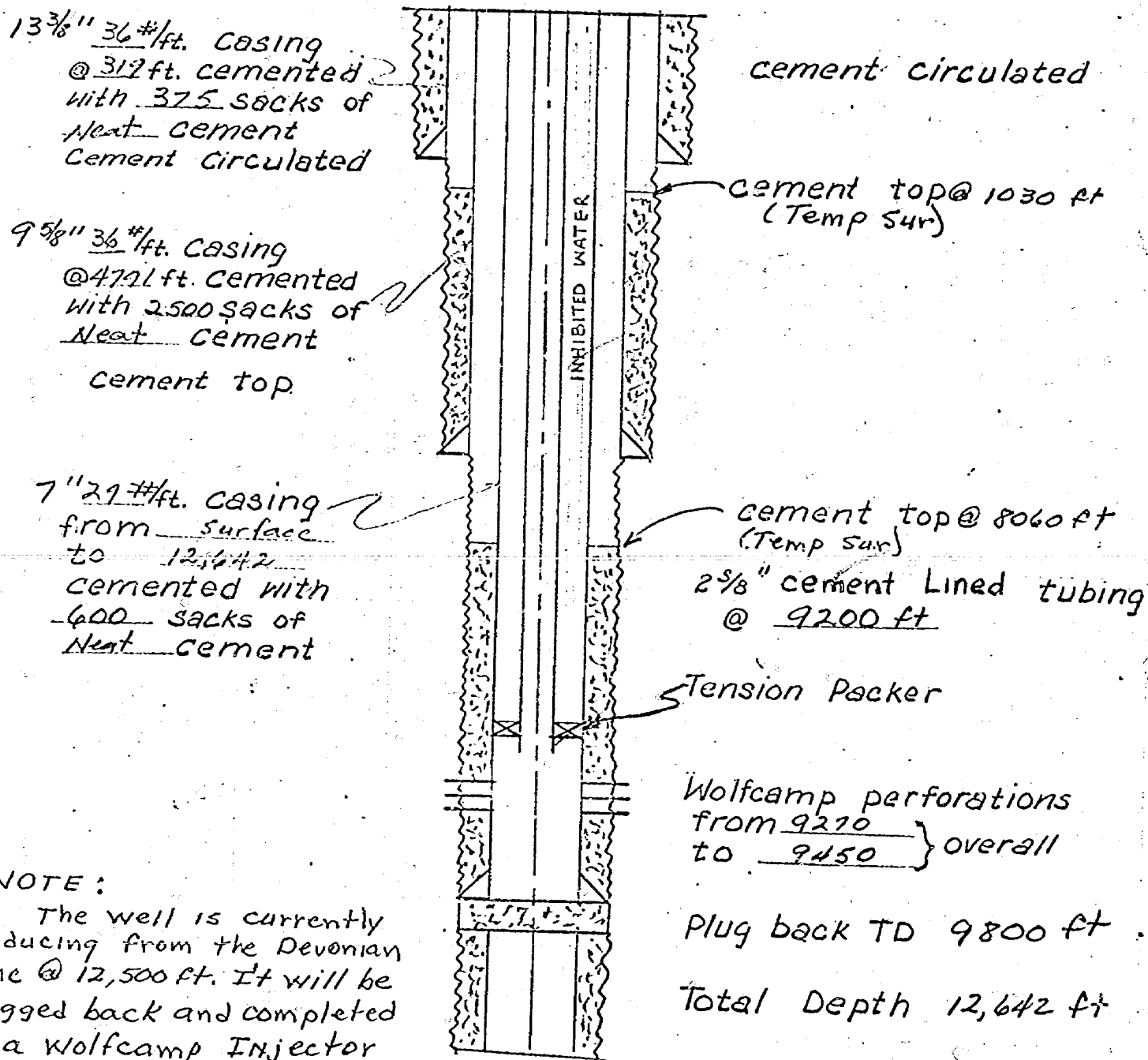
SINCLAIR OIL & GAS W.T. MANN No. 3

Location: 1980 ft FNL, 2310 ft FEL

Sec 36 T14S R37E

Denton North Wolfcamp Unit

Lea Co., N.M.



NOTE:

The well is currently producing from the Devonian Zone @ 12,500 ft. It will be plugged back and completed as a Wolfcamp Injector in accordance with the diagram.

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1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 23, 1965

EXAMINER HEARING

IN THE MATTER OF:

Application of Socony-Mobil Oil Company,
Inc. for a unit agreement, Lea County,
New Mexico. Applicant, in the above-
styled cause, seeks approval of the Denton
North Wolfcamp Unit Area comprising 2,640
acres, more or less of Federal and fee
lands in Township 14 South, Range 37 East,
Lea County, New Mexico, and
Application of Socony-Mobil Oil Company,
Inc. for a waterflood project, Lea County,
New Mexico. Applicant, in the above-
styled cause, seeks authority to institute
- a waterflood-project in its Denton North -
Wolfcamp Unit by the injection of water
into the Wolfcamp formation through twelve

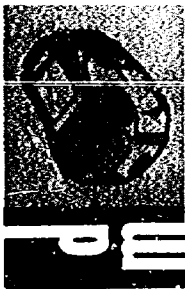
Case Nos. 3339 and
3340.

BEFORE:

wells located in Sections 25, 26, 27, 34, 35,
and 36, Township 14 South, Range 37 East, Lea
County, New Mexico.

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING



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PAGE 2

MR. NUTTER: The Hearing will come to order, please.
The next Case will be number 3339.

MR. DURRETT: Application of Socony-Mobil Company,
for a unit agreement, Lea County, New Mexico.

MR. SPERLING: I'm J. E. Sperling of Modrall, Seymour,
Sperling, Roehl and Harris in Albuquerque and I'm appearing for
the Applicant. I would like to request, Mr. Examiner, that
Cases 3339 and 3340 be combined for testimony purposes.

MR. NUTTER: We will call the next case, 3340.

MR. DURRETT: Application of Socony-Mobil Oil Company
for a waterflood project, Lea County, New Mexico.

MR. NUTTER: Cases 3339 and 3340 will be consolidated
for testimony.

MR. SPERLING: In these two Cases, Mr. Examiner, we
have two witnesses: Mr. White and Mr. White.

(Witnesses sworn.)

(Whereupon, Applicant Exhibit 1,
Case 3339 and Exhibits 1, 2, 3,
3-A and 4-A through 4-L marked
for identification.)

J. L. W H I T E, having been first duly sworn, was examined
and testified as follows:

DIRECT EXAMINATION

BY MR. SPERLING:

Q Would you state your name, please?



A J. L. White.

Q By whom are you employed and in what capacity, Mr. White?

A I'm employed by Mobil Oil Company in the capacity of Joint Interests Coordinator in the Division office located in Midland, Texas.

Q Now, in connection with the performance of your duties, are you familiar with the application of Socony-Mobil Oil Company in Case 3339 for approval of a unit agreement in Denton North Wolfcamp area?

A Yes, I am.

Q I believe that attached to the application, Mr. White, is a copy of the proposed form of unit agreement. Can you tell us a little bit about the form of that agreement and its present status?

A Yes. The unit agreement generally follows the standard API model form for unit agreement and has been modified to fit the laws of the State of New Mexico and certain requirements of the U.S.G.S. The unitized reservoir is the Wolfcamp occurring at 9180 to 9860 in Mobil's T. D. Pope Number 10 located in Section 26, Township 14 South, Range 37 East, U. S. Public Land Survey, Lea County, New Mexico. The area unitized comprises about 2640 acres in Township 14 South, Range 37 East, in Lea County and is indicated on Exhibit A of

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PAGE 4

unit agreement, a copy of which I understand, has been submitted in evidence. Exhibit A has been further separated into appropriate tracts. 99.33 per cent of the working interests ownership and 86.52 per cent of the royalty ownership has ratified this agreement as of November 22, 1965. Only significant working interest owner not signed is designated at the "TEC Corporation" who owns 40 acres, being the southeast of southwest of Section 25 and contains one well.

Q In connection with the present status of sign-up insofar as the unit agreement is concerned, I will call your attention to what has been marked as Exhibit 1 in case 3339 and ask you if this was prepared by you or under your supervision reflecting the tract numbers, the tract participation, working interests and royalty interests, percentage of sign-up?

A That is correct. It was prepared under my supervision. I might state that in addition to the one mentioned working interest owner who has not ratified the agreement, the U. S. Government has not ratified as royalty owner under tract number 1. They have locally recommended this and have submitted it for approval to Washington and we do anticipate their approval.

Q Other than the Federal tract which you mentioned, what is the nature of the basic royalty ownership as to the unit area?

A These are fee lands in which we have included a zero

percentage for the government tract, we have 86.52 per cent of the royalties signed.

Q I see. Is there any lands of the State of New Mexico involved in the unit area?

A No, sir.

Q It's on all fee land or in the case of the one a Federal tract?

A Correct.

Q Federal lands?

A I might say that the TEC Corporation at this time has indicated a favorable response.

MR. NUTTER: They may yet?

THE WITNESS: I actually believe they will sign an agreement although we have stated to the U.S.G.S. and will state here that we feel sufficient control can be had over the secondary recovery method that we can effectively flood this area without their participation.

Q (By Mr. Sperling) Now, you indicated to me prior to the Hearing, Mr. White, that there was some urgency in connection with the approval of this unit agreement by this Commission?

A Yes, sir. This agreement has an ipso facto termination date of 1-1-66 and, therefore, it's important for us that we obtain as expeditiously as possible Commission

action. We have been working on this unit approximately six years.

Q Is there anything further you would like to add in connection with the unit agreement or any provisions in it?

A I have nothing further unless there is some questions.

Q MR. SPERLING: I would like to submit in case 3339 the tract participation sign-up as distinguished as between the working interests and royalty interests. This will be Exhibit 1 in 3339.

MR. NUTTER: Mobil's Exhibit 1 will be admitted.

(Whereupon, Applicant's Exhibit 1 was offered and admitted into evidence.)

THE WITNESS: Perhaps I should say that one of the provisions of the agreement requires 100 per cent working interests' signature for a tract to be qualified. We do anticipate those tracts which are indicated as not having 100 per cent signature to be indemnified into the unit prior to the effective date.

MR. NUTTER: Are there any questions of Mr. White?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. White, I wonder if you would go into the participation formula for the various tracts and explain how that operates, please?



A Yes, sir. The participation formula is a two-phase formula: Phase one being calculated or being made up of 50 per cent of the each tracts remaining primary reserve percentage and 50 per cent of the tracts' current production percentage.

Q And when is the remaining primary reserve completed from?

A The primary reserves as of June 1, 1964.

Q So that was phase one?

A Correct. And phase one is in effect until the sum of the all tracts production is 3,196,000 barrels as of June 1, 1964.

Q Phase one is in effect until what, until the sum of the production of all tracts equals 3,196,000 barrels?

A As of June 1, 1964, so that you have a tract one volume of this many barrels.

Q Oh, I see.

A Starting June 1, 1964.

Q And what about phase two then?

A Well, phase two then is also a split formula being 90 per cent of a tract primary ultimate recovery percentage and 10 per cent of the tracts' total acre percentage and it will be in effect as long as the unit is effective immediately following the termination of phase one.

Q And the tract participation is a part of the unit



agreement and has been ratified by 99.39 per cent of the working interests?

A Yes, sir.

MR. NUTTER: Thank you. Any further questions? Mr. White may be excused.

MR. SPERLING: Mr. Robert White.

ROBERT W. WHITE, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SPERLING:

Q Would you state your name, please?

A Robert W. White.

Q By whom are you employed and in what capacity, Mr. White?

A I'm employed by Mobil Oil Company in Hobbs as production engineer.

Q Have you on a prior occasion testified before the Commission?

A No, sir, I have not.

Q Would you, for the record, please give us your educational and experience background with reference to the duties that you perform for Mobil?

A I graduated from the University of Texas, Bachelor of Science in Petroleum Engineering, in 1958. For the past year and

a half I have been employed by Mobil in the reservoir group working the north part of Lea County, New Mexico. Prior to that I was employed with Irving Secondary Recovery Company, a consulting firm, in Abilene, Texas.

Q In the performance of your duties have you had occasion to make a study of the Wolfcamp reservoir in the proposed Denton North Wolfcamp area?

A Yes, I have.

Q And with reference to the unit area and the state of development that has occurred in that area, would you please refer to what has been marked as Exhibit 1 and describe what that is, please?

A Exhibit 1 is a lease map which shows the lease ownership within a two-mile radius of the proposed injection wells. The proposed unit boundary is shown in a dashed line on the plat. The proposed Wolfcamp injection wells are shown in red. Devonian wells which are also on the structure are designated separately by triangles. There are no dual completion wells. All wells are single completions.

Q Now, would you describe for us the proposed unitized interval for this Wolfcamp production?

A The unitized interval is from the interval from the top of the Wolfcamp at 9,180 feet subsurface and the base which is found at 9,860 feet subsurface on Schlumberger electric log



dated July 29, 1953, for the Socony-Mobil T. D. Pope #10.

Q Now you have explained that Exhibit 1 indicates the unit area and the leasehold ownership within the required two mile radius. Would you now please refer to the Exhibit 2 and explain what this portrays?

A Exhibit 2 is an enlargement of Exhibit 1 which is designated "Proposed injection pattern." Only Wolfcamp wells are shown in this exhibit.

Q Are these presently producing wells or do you propose to convert to injection wells in connection with the operation of the project?

A Yes, they are. They all presently are completed in the Wolfcamp formation with the exception of the Sinclair Mann A-3 well which is presently a Devonian completion which will be completed in the Wolfcamp interval as a Wolfcamp injector.

Q Now, would you please refer to what has been marked Exhibit 3 and also Exhibit 3-A and advise the Examiner what these exhibits consist of?

A Exhibit 3 is a typical log of the injection wells which depicts the pay zone in the perforated interval.

Exhibit 3-A is the type log defining the unitized interval which shows the complete unitized interval.

Q These two logs are not of the same well as I understand it?

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A No, sir, they are not.

Q And Exhibit 3-A is a log of a well which is defined in the unit agreement as the well or the typical well upon which the unitized vertical area is based?

A Yes, sir, it is.

Q Now, would you please explain for the record what your study of the reservoir characteristics of this reservoir has revealed?

A Cumulative production from the proposed unit area August 1, 1955, was 7,500,000 barrels. The remaining primary for the unit area as of the first, 1-1-66, is estimated at approximately 2.7 million barrels which might be recovered over the remaining life of 20 years. The additional recovery over continued primary to be gained by waterflooding the unit area is estimated at approximately two and a half million barrels. The productive life required to recover the remaining primary and the additional waterflood reserves is estimated to be about 12 years. So that as of 1-1-66, continued primary and waterflood reserves are estimated at approximately 5.2 million barrels.

Q What is the current cumulative production from the wells in the unit area?

A Current cumulative to August 1, 1965, was 7,510,000 barrels. The unit area for July, 1965, the unit area production

during that month was 2,287 barrels of oil from 41 producing wells which is an average daily oil production of 17 barrels per well per day. There are also 9 shutin wells within the unit area.

Q Can you state whether or not the Wolfcamp formation within the unit area is in an advanced stage of depletion as of the present time?

A Yes, sir, it is. The original bottom hole pressure was approximately 3,680 pounds per square inch. The current bottom hole pressure is estimated at 400 to 500 pounds per square inch.

Q Now, what do you propose to inject, that is, rate-wise on a daily basis into the reservoir under the program that you have outlined?

A It is proposed to initiate injection at a total unit rate of 18,000 barrels per day which will be into an inverted nine-spot pattern as shown on Exhibit 2. The wellhead pressure after a 50 per cent fillup is anticipated to be approximately 2,000 pounds. Injection equipment will be designed for a wellhead with a pressure up to 2,500 pounds. All water injected facilities will be externally coated. Injection will be through corrosion protective tubing below tension packers. The angular spacing in the injection wells will be filled with corrosion inhibited water.



Q What is the source of the water which you propose to inject?

A Water will be obtained from Denton Water Disposal System which disposes of salt-produced water from the Denton Devonian Reservoir in the south portion of the Devonian Wolfcamp which are active water drive reservoirs. They are currently disposing of about 22,000 barrels of water per day by injection into the Devonian formation.

Q And all of this water will be available for use in the project under discussion?

A Yes, sir, it will.

Q Now, would you review for the record the basic reservoir data of the area?

A The basic reservoir data in volumetric numbers might be summarized as follows: Productive area is approximately 2,640 acres within the unit boundary. The average pay thickness is 48 feet. The average porosity is 6.8 per cent. The original conic water saturation, 21.5 per cent. Original formation pressure approximately 1.235 pounds per barrel. The original saturation pressure is estimated at approximately 896 pounds per square inch.

Q It is contemplated that at a future date it will be necessary to convert additional wells to injection wells or to drill additional injection wells? What are the plans?

A Yes, sir. It is. We contemplate adding additional injection wells along the north portion of the reservoir in the spaces where there are no Wolfcamp wells indicated on Exhibit 2. There are Devonian wells which are now at those locations which are nearing abandonment or nearing the economic limit. As they are abandoned they will be converted or recompleted in the Wolfcamp. Some will be injectors and some will be producers.

Q And under the application, you are seeking administrative authority for the conversion of those additional wells in the future as required?

A Yes.

Q And, in addition, you are seeking assignment of allowables insofar as this unit is concerned on the basis of the present provision of the Rule 701 of the Commission?

A Yes, sir.

Q Now, I would like to call your attention to Exhibits 4-A through 4-L and ask you to explain what they show?

A The exhibits show pertinent completion data of the proposed injection wells, the casing size and depth, volumes of cement, cement tops are shown on all the casing strings, the Wolfcamp perforation interval is shown for the individual injection wells, the total depth and the plugback total depths are shown for each proposed injection well.

Q Is there any substantial difference in these exhibits



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A through L which should be called to the attention of the Examiner or are they basically the same or if there are differences, what are they?

A They are basically the same. The only difference is in the long string of the oil string. In some cases it goes all the way to the surface from 9,000 feet while in others it is set as a liner with the top being at approximately 4,800 feet. Exhibit 4-F is an example of the wells with liners.

Q Is the proposed well completion program including the exhibits to which we have been referring as well as all other other exhibits concerning which you have testified here in the application been submitted to the Office of the State Engineer for the State of New Mexico?

A Yes, sir, it has.

Q And have you been advised of the approval of that agency insofar as the proposed program is concerned assuming that the program which we have outlined here as a part of the application is carried out?

A Yes, sir, I have.

Q I believe that there is included in the file a letter addressed to Mr. Porter from the State Engineer indicating what I've just stated?

MR. EXAMINER: That will be made a part of the record later.

Q Is there anything else you would like to add, Mr. White, with reference to this reservoir and proposed plans for it?

A No, sir.

Q Were these exhibits 1 through 4 and all the letters prepared by you or under your supervision?

A Yes, they were.

MR. SPERLING: At this time I would like to offer Exhibits 1 through 4A-L.

MR. NUTTER: Socony's Exhibits 1, 2, 3, 3-A and 4-A through L will be admitted into evidence.

(Whereupon, Applicant's Exhibits, 1, 2, 3, 3-A, and 4-A through L were offered and admitted into evidence.)

MR. SPERLING: That's all I have.

MR. NUTTER: Any questions of Mr. White?

MR. DURRETT: I have one question.

CROSS EXAMINATION

BY MR. DURRETT:

Q Mr. White, as far as placing the additional wells on injection, I think you mentioned something about administrative procedure?

A Yes, sir.

Q Am I correct that you propose to use the administrative procedure that is presently set out in Rule 701?



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CONVENTIONS

DAILY COPY

STATEMENTS

EXPERT TESTIMONY

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A Yes.

Q You are not seeking special administrative procedure?

A No.

MR. DURRETT: Thank you.

BY MR. PORTER:

Q I have one question. You gave us the cumulative figure for the wells in this proposed unit. Do you recall roughly some of the individual recovery figures for some of the wells out there?

A They range substantially from the age periphery wells to, oh, on the order of 50,000 to some of the better wells with half a million barrels individual recoveries.

Q Do you recall about when this pool was discovered?

A The Denton field, the south portion, was originally discovered in 1949. The first well in the north area was completed in 1952 --

Q I see.

A -- in the Wolfcamp interval.

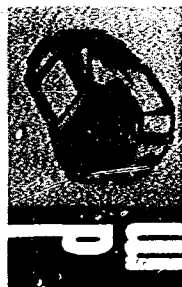
MR. PORTER: That's all I have.

BY MR. NUTTER:

Q Mr. White, does Mobil have any acreage in the south part of the field?

A No, sir, we don't.

Q Do you know whether negotiations are under way to



unitize that end of the field for waterflood operations?

A No, sir, I don't know of any active procedures at this time. Both the Wolfcamp and Devonian are under active waterdrive in the south portion.

Q Your Wolfcamp is, too, then?

A Yes.

Q Is it contemplated that at any time it will be necessary to put additional injection wells along this bottom tier of wells in this north unit?

A Yes, sir, it may be in the later stages of the waterflood development. There is some evidence of active water coming in across that boundary at this time.

Q So the waterdrive that is in the south may be affected in this lower portion of your unit here?

A It may be, yes.

Q I see. Now, I just happened to notice on this Exhibit 3, Mr. White, that this well has two sets of perforations. How many different intervals of pay have been accounted for through the Wolfcamp?

A There are three intervals or zones that have in some well or another produced. Predominately they are producing in these two intervals shown on this exhibit. A major portion of the oil in this north portion of the Wolfcamp reservoir has come from these two intervals.



Q These two shown on Exhibit 3?

A Yes, sir.

Q Now, I haven't had time to look at your diagramatic sketches on your injection wells but do all of these injection wells have these two zones open in them?

A On the edge of the field the second zone interval is not developed. The porosity permeability is not developed as well as it is in the center and some of these wells do not have the second interval open. The interior wells in the pattern do have both zones open.

Q Now, that would apply to the injection wells as well as the producing wells?

A Yes, it does.

MR. NUTTER: Are there any further questions of Mr. White? You may be excused.

MR. SPERLING: I would like to recall Mr. J. L. White. He's made a mistake he's called to my attention.

REDIRECT EXAMINATION

BY MR. SPERLING:

THE WITNESS: I will apologize for the misstatement. I was hurriedly looking for the answer to your question regarding the volume of oil produced as to phase one and the correct number is 3,000,000 barrels rather than the, as I recall I gave you number of, 3,000,194.

MR. NUTTER: Around 3,000,000.

THE WITNESS: Around 3,000,000. Even 3,000,000.

MR. NUTTER: Thank you.

THE WITNESS: I'm sorry.

Q (By Mr. Sperling) Anything else?

A No.

MR. SPERLING: That's all we have, Mr. Examiner.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3339 and 3340.

MR. DURRETT: I would like to state for the record that we do have a letter from the State Engineer dated November 4, 1965, that Mr. Sperling has been referring to.

MR. NUTTER: Thank you. If there is nothing further, we will take the cases under advisement and call case 3341.

(Whereupon, Cases Number 3339 and 3340 were concluded.)



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E X H I B I T S

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STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

I, DEAN A. ROBINSON, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 30th day of December, 1965.

Dean Robinson
NOTARY PUBLIC

My Commission Expires:
October 16, 1969.



I do hereby certify that the foregoing is a correct and true transcript of the proceedings in the matter of Case No. 3339/3340 heard by me on 11/23/65.
Dean Robinson
Examiner
New Mexico Oil Conservation Commission