

CASE 1484: Application of PHILLIPS

PT. CO. for a pilot waterflood

project, Lea County, New Mexico.

CASE NO.
3484

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

December 6, 1966

C
O
Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Dear Sir:

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Reference is made to Commission Order No. R-3150, recently entered in Case No. 3434, approving the Phillips Santa Fe-Vacuum Waterflood Project.

Y
Injection is to be through the one authorized water injection well which shall be equipped with plastic-coated tubing and a packer set approximately 50 feet above the uppermost perforation. The casing-tubing annulus shall be loaded with inert fluid and a pressure gauge installed on the annulus at the surface.

As to allowable, our calculations indicate that when the authorized injection well has been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 168 barrels per day when the Southeast New Mexico waterflood allowable factor is 42 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 allowable provisions of Rule 701, it behooves him to promptly notify

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

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Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico
December 6, 1966

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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/ir

cc: Mr. Frank Irby
State Engineer Office
Santa Fe, New Mexico

Oil Conservation Commission
Hobbs, New Mexico

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. 3484
Order No. R-3150

APPLICATION OF PHILLIPS PETROLEUM
COMPANY FOR A PILOT WATERFLOOD PROJ-
ECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 2, 1966,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 14th day of November, 1966, 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, Phillips Petroleum Company, seeks
permission to institute a pilot waterflood project in the Vacuum
Field by the injection of water into the Grayburg-San Andres
formation through its Santa Fe Well No. 14 located in Unit P of
Section 20, Township 17 South, Range 35 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.

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CASE No. 3484

Order No. R-3150

(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.

IT IS THEREFORE ORDERED:

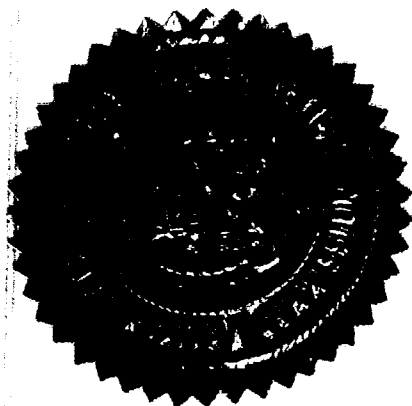
(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute a pilot waterflood project in the Vacuum Field by the injection of water into the Grayburg-San Andres formation through its Santa Fe Well No. 14 located in Unit P of Section 20, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico.

(2) That the subject pilot waterflood project is hereby designated the Santa Fe-Vacuum 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 pilot 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

Guyton B. Hays
GUYTON B. HAYS, Member

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

esr/

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

November 14, 1966

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 3484

Order No. R-3150

Applicant:

Phillips Petroleum Company

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. Frank Irby

Case 3484

Heard 11-2-66

Rec. 11-4-66

1. Grant Phillips permission to convert their Santa Fe #14 unit. P-20-175-3SE to an injection well for pilot water flood on their Santa Fe lease.

2. Injection shall be thru elastic lined tubing and under a packer set at 4200' in 7" casing. The annulus will be filled with inert fluid.

Thos W. Phillips

Docket No. 27-66

DOCKET: EXAMINER HEARING - WEDNESDAY - NOVEMBER 2, 1966

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

- - - -

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

CASE 3479: Application of Gulf Oil Corporation for an exception to Rule 8 of Order No. R-1638 and to Rule 301, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 8 of Order No. R-1638 and to Rule 301 of the Commission rules and regulations to permit discontinuance of individual gas-oil ratio tests in its West Bisti-Lower Gallup Sand Unit, Bisti-Lower Gallup Pool, San Juan County, New Mexico. Applicant proposes to report gas production and ratios on a unit-wide basis rather than individual well GOR data.

CASE 3480: Application of Tidewater Oil Company for a capacity allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3097 which permitted its GO State "J" Well No. 1 located in Unit H of Section 7, Township 17 South, Range 33 East, Lea County, New Mexico, which directly offsets the Malmar Unit Waterflood Project, to be produced at capacity for a period not to exceed 90 days from date of said order. Applicant seeks additional time in which to produce said well at capacity and the establishment of an administrative procedure for further extensions.

CASE 3336 (Reopened)

In the matter of Case No. 3336 being reopened pursuant to the provisions of Order No. R-3005, which order established 80-acre spacing units for the East Hightower-Upper Pennsylvanian Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 3481: Application of Sinclair Oil & Gas Company for a non-standard gas proration unit and an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard gas proration unit comprising the NW/4 of Section 7, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its State 157 "B" Well No. 1 located at an unorthodox location for said pool 330 feet from the North line and 2310 feet from the West line of said Section 7.

- CASE 3482: Application of Sinclair Oil & Gas Company for a special gas well test, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce and flare up to three million cubic feet of gas per day, for a maximum of 30 days, from its Hackberry Hills Unit Well No. 4 located in Unit F of Section 22, Township 22 South, Range 26 East, Eddy County, New Mexico, as a reservoir limit test to determine the economic feasibility of a pipeline connection to said well.
- CASE 3483: Application of H. S. Moss for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Wolfcamp formation in the interval from 9751 to 9850 feet in its D. P. Peck Well No. 1 located in Unit C of Section 26, Township 12 South, Range 37 East, Gladiola Field, Lea County, New Mexico.
- CASE 3484: Application of Phillips Petroleum Company for a pilot waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the Grayburg-San Andres formation through its Santa Fe Well No. 14 located in Unit P of Section 20, Township 17 South, Range 35 East, Vacuum Field, Lea County, New Mexico.
- CASE 3485: Application of Phillips Petroleum Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formation through three injection wells located in Sections 8, and 9, Township 17 South, Range 33 East, Vacuum Field, Lea County, New Mexico.
- CASE 3486: Application of Shenandoah Oil Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formation through four injection wells located in Sections 7, 8 and 16, Township 17 South, Range 33 East, Vacuum Field, Lea County, New Mexico.
- CASE 3487: Application of Amerada Petroleum Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of its State "SN" Unit Area comprising 692 acres, more or less, of State land in Sections 3 and 4, Township 15 South, Range 33 East, Lea County, New Mexico.

- CASE 3488: Application of Amerada Petroleum Corporation for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Saunders SB Waterflood Project by the injection of water into the Permo-Pennsylvanian zone through its Texaco-State "AQ" Well No. 2 located in Unit E of Section 3, Township 15 South, Range 33 East, Saunders Permo-Pennsylvanian Pool, Lea County, New Mexico.
- CASE 3489: Application of William A. and Edward R. Hudson for a waterflood expansion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand their Puckett A Waterflood Project by the injection of water into the Grayburg-San Andres formation through their Puckett A Well No. 30 to be drilled at an unorthodox location 1345 feet from the North line and 25 feet from the West line of Section 24, Township 17 South, Range 31 East, Maljamar Pool, Eddy County, New Mexico.
- CASE 3490: Application of Sunray DX Oil Company for pool redelineation, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks the redelineation of the Todd-San Andres Pool, Roosevelt County, New Mexico, into two separate pools: The Todd Upper-San Andres Gas Pool comprising that portion of the San Andres formation above the anhydrite bed found at 4200 feet in the Franklin, Aston and Fair Mark Federal Well No. 1 located in Unit M of Section 26, Township 7 South, Range 35 East, and the Todd Lower-San Andres Pool comprising that portion of the San Andres formation below said anhydrite bed, said Todd Lower-San Andres Pool to be governed by the existing rules for the present Todd-San Andres Pool. Also to be considered at said hearing will be such matters as the effective date of the aforesaid redelineation, the period of time in which to effect dual completion of the affected wells, the distribution of the affected wells' accumulated status in the present pool (overproduction and underproduction) to each of the new pools, and such other pertinent matters as may relate to the aforesaid pool redelineation. Also to be considered will be special pool rules for the proposed Todd Upper-San Andres Gas Pool, including 320-acre spacing for wells located therein.



STATE OF NEW MEXICO
STATE ENGINEER OFFICE
SANTA FE

S. E. REYNOLDS
STATE ENGINEER

October 14, 1966

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

Case 3484

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

Dear Mr. Porter:

Reference is made to the application of Phillips Petroleum Corporation submitted October 10, 1966 which seeks approval for a pilot waterflood and injectivity test in the Grayburg-San Andres formation in the S $\frac{1}{2}$ of Sec. 20, T. 17 S., R. 35 E. The well involved is Santa Fe well #14 in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of said Sec. 20.

This office offers no objection to the granting of the application provided the well is completed in the manner shown on the diagrammatic sketch which accompanied the application.

FEI/ma
cc-Phillips Petro. Corp.
F. H. Hennighausen

Yours truly,

S. E. Reynolds
State Engineer

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

RECEIVED
OCT 19 1958

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF
PHILLIPS PETROLEUM COMPANY FOR
APPROVAL OF A PILOT WATERFLOOD AND
INJECTIVITY TEST, LEA COUNTY, NEW
MEXICO

A P P L I C A T I O N

Comes now Phillips Petroleum Company and applies to the Oil Conservation Commission of New Mexico for approval of a pilot waterflood operation and injectivity test in the Grayburg-San Andres Formation underlying a portion of the Phillips Santa Fe Lease, located in the S/2 of Section 20, Township 17 South, Range 35 East, Lea County, New Mexico, and in support thereof would show:

1. Applicant proposes to inject water into the Grayburg-San Andres Formation through the Santa Fe Well No. 14, located in the SE/4 SE/4 of Section 20, Township 17 South, Range 35 East, N.M.P.M. This well is presently a producing oil well from the Grayburg-San Andres Formation.
2. In the event of a response to the proposed pilot project, Applicant proposes to expand said pilot waterflood operation in accordance with law and the rules and regulations of the Commission.
3. Attached hereto are the following exhibits:
 - (a) A plat showing location of the proposed injection well and the location of all other wells within a radius of two miles from the proposed injection well, showing the formation from which said wells are producing or have produced, together with the names of lessees to the best of Applicant's information and belief.
 - (b) A driller's log and graphic log of the proposed injection well. No electric log is available.
 - (c) Diagrammatic sketch of the proposed injection well.
4. Fresh water from the Ogallala Formation will be produced from an approximate depth of 230 feet from a well to be drilled

DOCKET MAILED

Date 10/21/58

in the NW/4 SE/4 of Section 20-17S-35E. Injection will be into the Grayburg-San Andres Formation at an interval from 4249 feet to 4665 feet. It is anticipated that the initial injection rate will be 500 BWPD at a pressure of 150 psi. Anticipated maximum input rate will be 1000 BWPD at a pressure of 2500 psi.

5. In conformity with the requirements of Rule 701, the New Mexico State Engineer is being notified of this application by furnishing him with a copy of the application together with all exhibits attached.

WHEREFORE, Applicant prays that this application be set for hearing before the Commission's duly appointed examiner, and that after notice and hearing as required by law the Commission enter its order approving the pilot waterflood project as requested.

Respectfully submitted,

PHILLIPS PETROLEUM COMPANY

BY: Jason W. Kellahin
KELLAHIN & FOX
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO
ATTORNEYS FOR APPLICANT

PHILLIPS PETROLEUM COMPANY
SANTA FE LEASE
WELL NO. 14

Location - 660' F.S.L. and 660' F.E.L., Section 20, T-17-S, R-35-E, Lea Co., N. M.
Elevation - 3968.9' G.L.
Completion Date - December 22, 1936

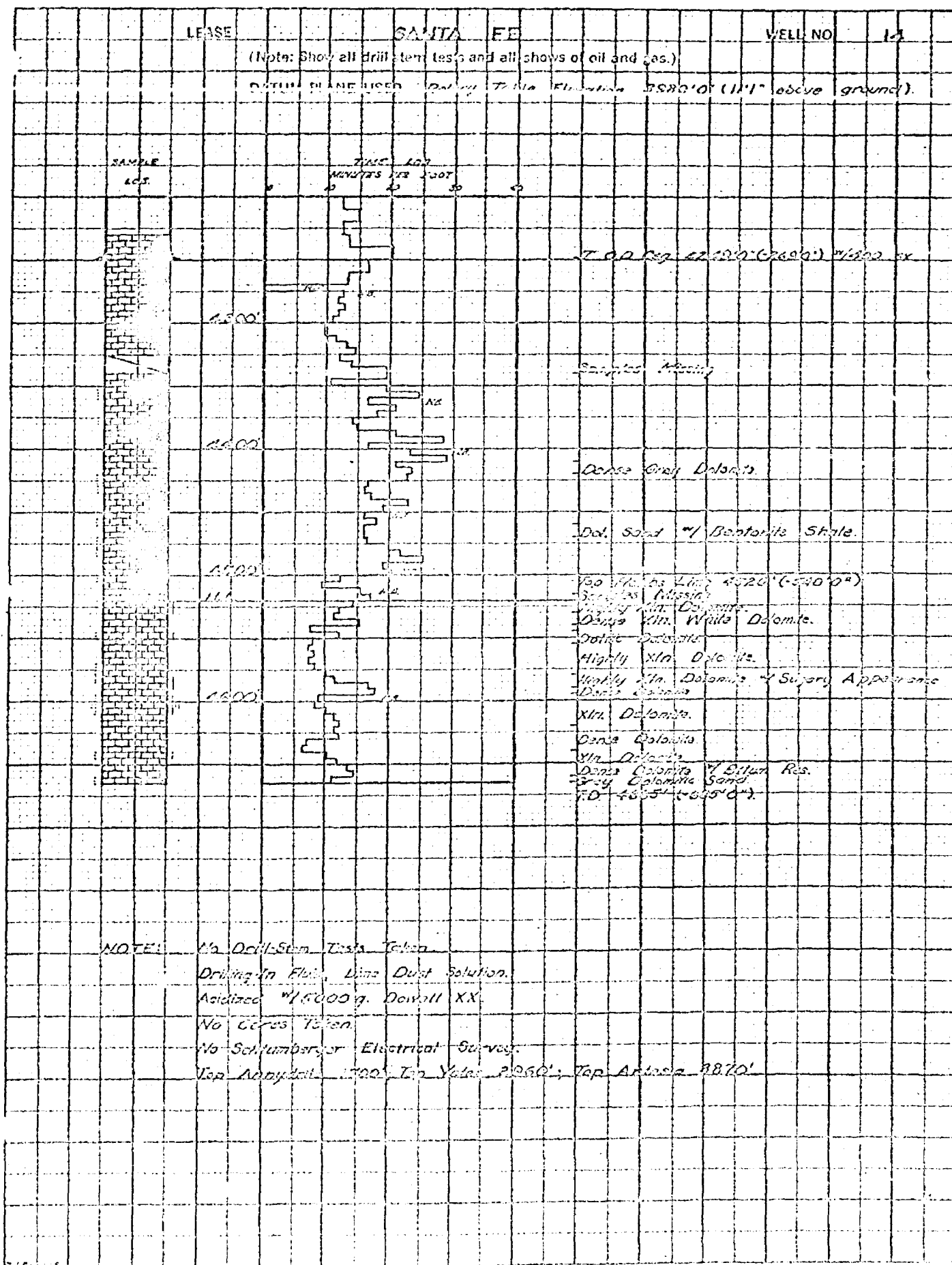
DRILLERS LOG

Depth		Formation Description
From	To	
0	40'	Surface sand and caliche
40'	1700'	Red Bed
1700'	1724'	Anhydrite (Set 9-5/8" OD, 30# casing at 1712' and cemented with 875 sacks of cement.)
1724'	1785'	Anhydrite
1785'	2085'	Salt and shells
2085'	4160'	Anhydrite, sand, shaley sand
4160'	4275'	Lime, sand streaks, and dolomite (Set 7" OD 24# casing at 4249 and cemented with 400 sacks of cement.)
4275'	4520'	Lime, sand streaks and dolomite
4520'	4665'	Lime and dolomite
TD	4665'	

TOPS

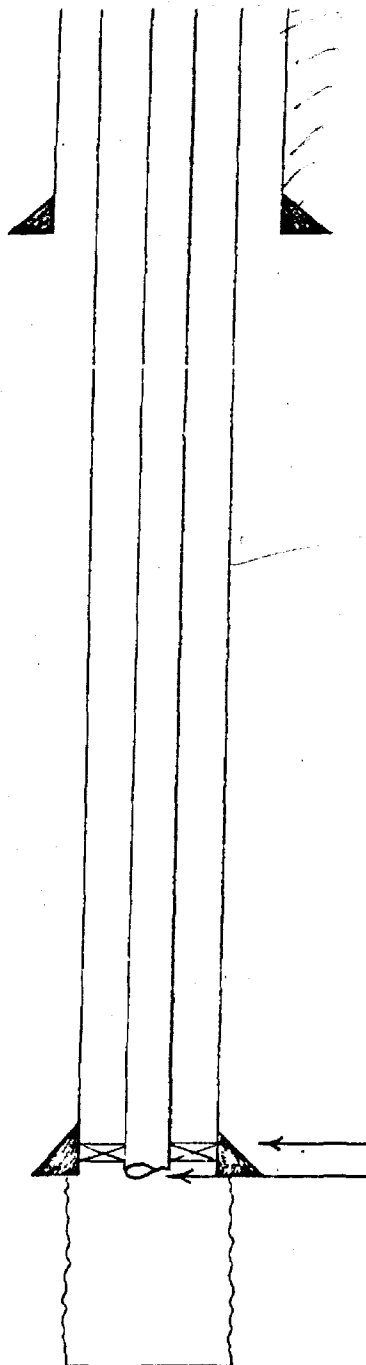
Anhydrite - 1700'
Yates - 2960'
Artesia - 3870'
Grayburg - 4160'
San Andres - 4520'

No Drill Stem Tests
No Electrical Surveys
No Cores
Initial Treatment - 9000 Gallons Dowell XX Acid



3484

Grayburg and
San Andres Formation
Open Hole: 4249'-4665'



9-5/8" Casing @ 1713'
Cement Volume - 875 sks
Cement Circulated

Tension Type Pkr. @ 4200'
2" tubing @ 4203'
7" Casing @ 4249'
Cement Volume - 400 sks
TOC 3787' Calc.

TD 4665'

PHILLIPS PETROLEUM COMPANY
SANTA FE - WELL NO. 14

660' FSL, 660' FEL, Section 20, T-17-S, R-35-E, Lea County, New Mexico

MR. UTZ: Case 3484.

MR. HATCH: Case 3484. Application of Phillips Petroleum Company for a pilot waterflood project, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin of Kellahin and Fox, Santa Fe, appearing for the applicant, and we have one witness. I would like to have him sworn, please, sir.

(Witness sworn.)

T O M C. D O U G H T Y, called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name?

A Tom C. Doughty.

Q How do you spell your last name?

A D-o-u-g-h-t-y.

Q By whom are you employed and in what position?

A I am employed by Phillips Petroleum Company as an Associate Reservoir Engineer in the Secondary Recovery Unitization Section, Bartlesville, Oklahoma.

Q Have you ever testified before the New Mexico Oil Conservation Commission?

A No, I haven't.

Q For the benefit of the Examiner, would you briefly

review your education and experience as a petroleum engineer?

A I received a Bachelor of Science Degree in Petroleum Engineering from Kansas University in January, 1953, at which time I was employed by Phillips Petroleum Company. For the past approximately eleven years, I have been employed in jobs directly related to reservoir engineering work. For approximately two and a half years I was assigned to the Burbank, Oklahoma area with the job responsibility primarily in the waterflood. Six and a half years were spent in the Oklahoma City area where job responsibilities were concerned with all phases of reservoir engineering work.

For approximately two and a half years, I have been assigned in the Bartlesville office.

Q In connection with your present assignment, Mr. Doughty, do you have anything to do with the vacuum field area involved in this application?

A Yes, I do.

Q What are your duties in connection with this field?

A This field is within the geographical area of the scope of my job. I work on reservoirs and secondary recovery and unitization problems.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. UTZ: Yes, they are.

Q (By Mr. Kellahin) Now, are you familiar with the application of Phillips Petroleum Company in Case 3484?

A Yes, sir, I am.

Q Briefly state what is proposed by Phillips in this application.

A This is an application requesting authority to institute a pilot waterflood project in the Vacuum Field by injecting water into the Greyburg-San Andres formation through Phillips Petroleum Company's Santa Fe Well Number 14 located in unit T of Section 20, Township 17 South, Range 35 East, Lea County, New Mexico.

Q Now, referring to what has been marked as Exhibit Number 1, would you identify that exhibit please?

(Whereupon, Exhibit 1 marked for identification.)

A Exhibit Number 1 is a plat of a portion of the Vacuum Pool showing the proposed injection well Santa Fe Number 14 and all wells in the area within two miles of this well. Also indicated are the formations that have produced or are producing from these wells.

Q Can you give us a footage location on the Santa Fe Number 14 Well?

A Yes, I can. It is 660 feet from the south line and 660 feet from the east line of Section 20.

Q Now, according to your exhibit, you do not have a

unit form for flooding or anything of that nature, at this time, is that correct?

A That's right.

Q You are only operating on Phillips' lease, is that correct?

A That's correct.

Q As a pilot project?

A Correct.

Q Referring to what has been marked as Exhibit 2, would you identify that exhibit, please?

(Whereupon, Exhibit 2 marked for identification.)

A Exhibit Number 2 is a driller's log on the Santa Fe Well Number 14, giving a general indication of the type of formations encountered during the drilling of this well. Also indicated are the tops of certain formations. There is other miscellaneous information shown also surrounding the well.

Q Is an electric log on this well available?

A No, it is not. Neither was a radio-active survey run.

Q So the only log you have available then is the driller's log and a graphic log which is marked as Exhibit Number 3?

A That's correct.

Q Referring to what is marked as Exhibit Number 3, what is shown on that exhibit?

(Whereupon, Exhibit 3 marked for identification.)

A On Exhibit 3, a portion of the Grayburg-San Andres formation is described from the samples, this is a sample log. In addition, the drilling time for this same section is also indicated.

Q Now, as indicated on the exhibits, there were no drill-stem tests or cores taken, is that correct?

A That's correct.

Q It is an old well, is it not?

A Yes, it was completed in 1938.

(Whereupon, Exhibit 4 marked for identification.)

Q (By Mr. Kellahin) Referring to what has been marked as Exhibit Number 4, would you identify that exhibit?

A Exhibit Number 4 is a schematic drawing of Santa Fe Well Number 14 showing the casing sizes, the setting depths, the cement volumes, the cement tops; it also shows the open hole interval for this well, the total depth, and location.

Q What type of tubing do you propose to use in this well?

A We will use two-inch tubing that will be lined and set with a packer at approximately 4200 feet.

Q Will there be an inert fluid behind the tubing, between the tubing and the annulus?

A Yes, the tubing annulus will be filled with a non-corrosive fluid.

Q Will you have a pressure gauge on that?

A Yes.

Q What is the source of water that will be used in this project?

A Fresh water will be obtained from a water supply well to be drilled in Unit J, Section 20, Township 17 North, Range 35 East, Lea County.

Q Do you have a permit from the State Engineer for the drilling of that water well?

A Yes.

Q That is an Ogallala water well, is that correct?

A That's correct.

Q Do you anticipate it will be fresh water?

A Yes.

Q What volume of water will be injected in your pilot project?

A Initially we anticipate the volume to be approximately 500 barrels per day at a surface pressure of approximately

150 psig.

Q Will the project be operated under the provisions of Rule 701?

A Yes, it will.

Q If satisfactory results are obtained on your pilot project, what action will be taken by Phillips at that point?

A Phillips intends to expand the waterflood project, and if necessary, will return and seek a hearing for the expansion of this project, and for the approval of the unit agreement.

Q You will propose a unit agreement?

A Yes, unit negotiations are in progress.

Q They are in progress at this time, sir?

A Yes.

Q Were Exhibits 1 through 4 prepared by you or under your supervision?

A That's right. They were.

MR. KELLAHIN: At this time, I would like to offer in evidence Exhibits 1 through 4 inclusive.

MR. UTZ: Without objection, Exhibits 1 through 4 will be entered into the record of this case.

(Whereupon, Exhibits 1 through 4 offered and admitted in evidence.)

MR. KELLAHIN: I believe the record will show that

there is a letter in the file from the New Mexico State Engineer's Office to the effect that the State Engineer has no objection to the approval of this pilot project, providing the well is completed as shown on the diagramatic sketch.

MR. UTZ: Yes, we have a letter stating that information in the file.

MR. KELLAHIN: That's all I have on direct examination, Mr. Utz.

MR. UTZ: Did you say anything about the production capability of the wells in this area?

MR. KELLAHIN: No, we didn't.

MR. UTZ: Do you have any information as to how much oil these wells produce on this lease?

A Being specific, this well produces approximately eight barrels per day. The wells in this area, and using the term "area", I mean the area under study for this unit, I will give you a depletion or approximately 97 per cent depleted of primary production and the average per well production in this some fifty-three well area is less than five barrels a day.

MR. UTZ: You consider that stripper stage?

A I would.

MR. UTZ: You stated that you were going to put lined tubing in this well. Lined with what?

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6697 • ALBUQUERQUE, NEW MEXICO
1203 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO

PAGE

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A It will be plastic coating.

MR. UTZ: Any other questions of the witness? The witness may be excused.

(Witness excused)

MR. UTZ: Any statements in this case? The case will be taken under advisement.

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO
1203 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO



I N D E X

WITNESS	PAGE
TOM C. DOUGHTY	
Direct Examination by Mr. Kellahin	2

E X H I B I T S

EXHIBIT	MARKED FOR IDENTIFICATION	OFFERED	ADMITTED
1	4	8	8
2	5	8	8
3	6	8	8
4	6	8	8

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXHIBIT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO
1203 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO

PAGE 12

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, W. DON MCINTYRE, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission Examiner at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 3rd day of December, 1966.

W. Don McIntyre
Notary Public - Court Reporter

My Commission Expires:

July 17, 1970

I do hereby certify that the foregoing is a true and correct transcript of the proceedings in the hearing of Case No. 3484, held at Santa Fe, N.M. on Nov. 2, 1966.
Thos. J. R. Examiner
New Mexico Oil Conservation Commission

PHILLIPS PETROLEUM COMPANY
SANTA FE LEASE
WELL NO. 14

Location - 660' F.S.L. and 660' F.E.L., Section 20, T-17-S, R-35-E, Lea Co., N. M.
Elevation - 3968.9' C.L.
Completion Date - December 22, 1938

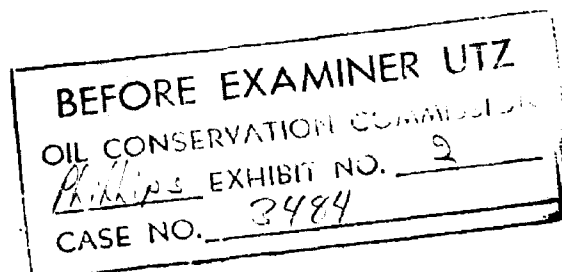
DRILLERS LOG

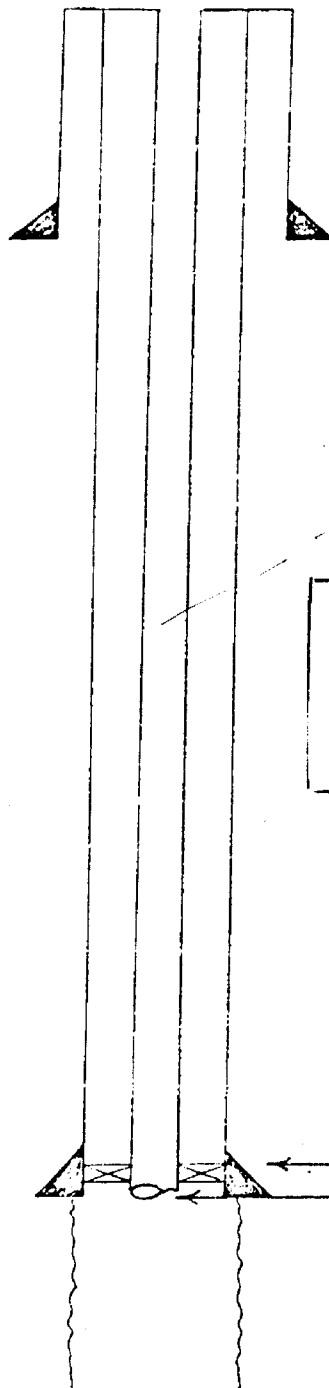
Depth		Formation Description
From	To	
0	40'	Surface sand and caliche
40'	1700'	Red Bed
1700'	1724'	Anhydrite (Set 9-5/8" OD, 30# casing at 1712' and cemented with 875 sacks of cement.)
1724'	1785'	Anhydrite
1785'	2085'	Salt and shells
2085'	4160'	Anhydrite, sand, shaley sand
4160'	4275'	Lime, sand streaks, and dolomite (Set 7" OD 24# casing at 4249 and cemented with 400 sacks of cement.)
4275'	4520'	Lime, sand streaks and dolomite
4520'	4665'	Lime and dolomite
TD	4665'	

TOPS

Anhydrite - 1700'
Yates - 2960'
Artesia - 3870'
Grayburg - 4160'
San Andres - 4520'

No Drill Stem Tests
No Electrical Surveys
No Cores
Initial Treatment - 9000 Gallons Dowell XX Acid





9-5/8" Casing @ 1713'
Cement Volume - 875 sks
Cement Circulated

BEFORE EXAMINER UTZ

OIL CO. OF CALIF. COMPANY

Phillips EXAMINER NO. 4

CASE NO. 3484

Grayburg and
San Andres Formation
Open Hole: 4249'-4665'

Tension Type Pkr. @ 4200'
2" tubing @ 4203'
7" Casing @ 4249'
Cement Volume - 400 sks
TOC 3787' Calc.

TD 4665'

PHILLIPS PETROLEUM COMPANY
SANTA FE - WELL NO. 14

660' FSL, 660' FEL, Section 20, T-17-S, R-35-E, Lea County, New Mexico