

CASE 4473: Application of MOBIL  
OIL CORPORATION FOR SALT WATER  
DISPOSAL, LEA COUNTY

Case. Number.

4473

Application,  
Transcripts.

Sm all Exhibts.

ETC.

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
December 16, 1970

EXAMINER HEARING

-----  
IN THE MATTER OF: )

Application of Mobil Oil )  
Corporation for salt water )  
disposal, Lea County, New )  
Mexico. )

Case No. 4473

-----  
BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 4473.

MR. HATCH: Case 4473. Application of Mobil Oil Corporation for salt water disposal, Lea County, New Mexico.

MR. SPERLING: J. E. Sperling appearing for the applicant. We have one witness.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 8 were marked for identification.)

JOHN H. SEEREY,

having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SPERLING:

Q Please state your name, position and your employer and your place of residence?

A I am John H. Seerey, employed as an Associate Engineer in the proration group of the Midland Division Office of Mobil Oil Corporation.

MR. UTZ: Would you spell your last name, please?

THE WITNESS: S-e-e-r-e-y.

Q (By Mr. Sperling) Have you on any previous occasion testified before the Commission so that your

qualifications are a matter of record?

A No, I have not.

Q Would you please give a brief resume of your educational background and your experience?

A Yes, sir. I graduated from Oklahoma State University in 1951 with a Bachelor of Science degree in Civil Engineering.

In 1953 I was employed by Magnolia Petroleum Company as a Junior Engineer. Since then, I have worked on engineering assignments, both in the field and office, throughout Oklahoma, Texas and New Mexico.

I am a Registered Professional Engineer in Oklahoma, Texas and New Mexico, and I am presently assigned to the proration group of the Midland Division Office.

Q Are the witness' qualifications satisfactory?

MR. UTZ: Yes, sir, they are.

Q (By Mr. Sperling) What is sought by Mobil by this application, Mr. Seerey?

A Mobil Oil Corporation request approval of the Commission for the conversion of the Cosden Oil Development Company of Texas Well No. 1 for the disposal of produced salt water from the Crossroads Siluro-Devonian field into the loss circulation zone of the lower Devonian formation.

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Said well is a plugged and abandoned Crossroads-Devonian dry hole.

Q Would you please refer to what's been marked as Exhibit 1 in this case and explain what it is and its purpose?

A Exhibit 1 is a plat of the area showing the location of the subject well sought for disposal purposes. The well is located in Unit C of Section 25, Township 9 South, Range 36 East, Lea County, New Mexico.

Exhibit 1 also shows the other wells and leases in the area within a two-mile radius. The Crossroads Siluro-Devonian wells are outlined by triangles.

Q It also shows the location of presently approved salt water disposal wells, is that correct --

A Yes, sir.

Q -- as indicated in green?

A Yes, sir.

Q All right. Why is it necessary to provide an additional salt water disposal well in view of the existing wells?

A Mobil is operator of the jointly owned Crossroads salt water disposal system and this system serves wells in the Crossroads Siluro-Devonian field which has a strong water drive.

The system currently has only one useable disposal

well, the Skelly UD Sawyer No. 1. The present maximum disposal capacity of this well is 20,000 barrels of water per day. As limited by a disposal capacity of this well, three of the high water cut producing wells in the Crossroads Siluro-Devonian field now have to be shut in at least once a week to keep up with the salt water disposal capacity of the well.

This method of operation, we feel, curtails production and leaves no margin for salt water disposal maintenance without total shut in of production and loss of production.

Q Now, would you please refer to what's been marked as Exhibit 2 and state its purpose?

A Exhibit 2 is the New Mexico Oil Conservation Commission Form C108. On it is shown the proposed injection formation, the Devonian, the depth of fresh water above 320 feet, anticipated daily injection volume, an average of ten thousand barrels of water per day, that will be handled through a closed-type system.

Estimated injection pressures are anticipated to be zero initially and 300 pounds per square inch ultimate. The water qualities are shown. The surface owner is shown. The offset operators are shown.

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Q Now, would you please refer to what's been marked as Exhibit 3 and state what that is?

A Exhibit 3 is a water analysis of the produced water in the Crossroads field.

Q That confirms the information which was shown on the previous form, is that right, as to the water quality?

A Yes, sir.

Q What is Exhibit 4?

A Exhibit 4 are the waivers from the surface owner and the offset operators. I believe they were submitted as a packet there.

The land owner, Mrs. Dessie Sawyer, has submitted a waiver. The offset operators were notified by Mobil and waivers were received from Oil Development Company of Texas, Aztec Oil and Gas Company and Loan Star Producing Company.

Q Would you now please refer to Exhibit 5?

A Exhibit 5 is a schematic well bore sketch of the existing Cosden Oil Development Company of Texas Well No. 1 which is plugged and abandoned.

This sketch shows 13 and 3/8 surface casing was set at depth 451 feet with circulated cement; 8 and 5/8 casing was set from surface to 4,175 foot depth with circulated



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cement. The remaining hole to the 12,291 foot total depth is uncased and this well was never perforated, never completed nor never produced.

Q Refer now to Exhibit 6.

A Exhibit 6 is a schematic well bore sketch of the proposed salt water disposal well completion. Mobil proposes to drill out the plugs to the 12,226 foot depth shown on the right there, run a 5 and a half-inch liner from 4,000 feet to 12,226 feet, hang the top of the liner in the existing 8 and 5/8 at a depth of approximately 4,000 feet, run a tie-back sleeve in the top of the five and a half-inch liner and then cement the five and a half-inch liner with circulated cement.

We would then drill and clean out to a depth of 12,291 feet and drill 250 feet deeper to 12,541 feet total depth. We would then propose to run five and a half-inch cement lined tubing from surface to the tie-back sleeve at 4,000 feet.

The annulus between the 8 and 5/8 and the five and a half-inch tubing would be filled with treated water and a pressure guage installed at the surface.

Q In your opinion, would the proposed completion method prevent communication within the well bore as between

fresh water sources and other possible contaminated areas?

A Yes, sir.

Q You stated earlier that the system anticipated is a closed system?

A Yes, sir.

Q Now would you please refer to Exhibit 7, please?

A Exhibit 7 is a structure map showing contour lines of the top of the Crossroads-Devonian porosity. Each well in the area is shown with its total depth and subsea elevation of the top of the Devonian porosity.

In addition, the estimated oil-water contact zone is shown by a dashed contour line. Three wells shown establish the elevation of the oil-water contact as presently known.

Three other wells shown are noted with the elevation where only water was encountered in the top of the Devonian porosity. The area shown in blue represents the area of the Crossroads Siluro-Devonian field demonstrated to be below the oil-water contact.

As shown, the disposal zone proposed by Mobil at subsea elevation of minus 8256 is well below the established oil-water contact.

Q What is Exhibit 8, Mr. Seerey?

A Exhibit 8 is submitted as a log of the Cosden Oil Development Company of Texas Well Number 1 proposed for conversion to salt water disposal.

Q Do you have anything further?

A No, sir.

MR. SPERLING: That concludes the direct testimony and we will offer Exhibits 1 through 8 at this time.

MR. UTZ: Without objection, Exhibits 1 through 8 will be entered into the record of this case.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Seerey, it's your testimony that you will inject through the five and a half-inch liner and that will actually be tubing --

A Yes, sir.

Q -- is that correct? How do you affect this tie-in at the top of your first liner? Is that a good seal?

A Yes, sir, I believe so. The tie-back sleeve used will either be of the lead seat type or the Acme thread type and there will be 4,000 feet of five and a half-inch cement lined tubing, the weight of that seating into it. We believe that it will be an effective seal.

Q And then you propose to fill that annulus with inert fluid?

A Yes, sir. We propose to use a one percent by volume coretron treated water in the annulus.

Q You have definitely established that this pool is a water drive pool?

A Yes, sir.

Q And your Exhibit No. 7 shows that the injection zone will be 56 feet below the top of the water drive?

A Yes, sir.

MR. UTZ: Are there other questions of the witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Seerey, it has been called to the attention of the Commission that certain parties were attempting to acquire the water produced in this Crossroads-Devonian area for the purpose of secondary recovery.

Has any overtures been made to Mobil --

A Yes, sir.

Q -- to obtain this water? What is the status of that situation?

A It is my understanding that negotiations are in progress and I might add, they have been since 1968 on this.

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Mobil feels that we need immediate relief or face total shut in of production. We feel we must proceed at least to attempt to receive this approval while negotiations proceed with the --

Q So, approval of this application wouldn't negate any possibility of this water being used for secondary recovery in other areas?

A It would not.

MR. NUTTER: I see.

MR. UTZ: Are there other questions? The witness may be excused. Statements in this case?

The case will be taken under advisement.

**d**  
**m**  
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I N D E X

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I, GLENDA BURKS, Court Reporter 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.

D. Linda Burke  
Court Reporter

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Boarding hearing of Case No. 44233,  
dated by me on 2-16-1970.  
*[Signature]* Boarding  
For No. 1-10-011 Conservation Commission



## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

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

December 22, 1970

Mr. James S. Sperling  
Modrall, Seymour, Sperling, Roehl  
& Harris  
Attorneys at Law  
Post Office Box 2168 - Public Service Bldg.  
Albuquerque, New Mexico 87103

Re: Case No. 4473  
Order No. R-4083  
Applicant: Mobil Oil Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC       x      

Artesia OCC           

Astec OCC           

Other                     State Engineer Office



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. 4473  
Order No. R-4083

APPLICATION OF MOBIL OIL CORPORATION  
FOR SALT WATER DISPOSAL, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:30 a.m. on December 16, 1970, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 22nd day of December, 1970, 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, Mobil Oil Corporation, is the owner and operator of the Cosden-Oil Development Well No. 1, located in Unit C of Section 25, Township 9 South, Range 36 East, NMPM, Crossroads Siluro-Devonian Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the open-hole interval from approximately 12,226 feet to 12,541 feet.

(4) That the injection would be accomplished through 5 1/2-inch cement-lined tubing tied into the top of a 5 1/2-inch liner, which liner would extend from approximately 4000 feet to approximately 12,226 feet and cemented back into the 8 5/8-inch intermediate string; that the annulus between the 5 1/2-inch tubing and the 8 5/8-inch intermediate casing should be filled with an

-2-

CASE No. 4473  
Order No. R-4083

inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Oil Corporation, is hereby authorized to utilize its Cosden-Oil Development Well No. 1, located in Unit C of Section 25, Township 9 South, Range 36 East, NMPM, Crossroads Siluro-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 5 1/2-inch cement-lined tubing tied into the top of a 5 1/2-inch liner, which liner shall extend from approximately 4000 feet to approximately 12,226 feet and shall be cemented back into the 8 5/8-inch intermediate string, with injection into the open-hole interval from approximately 12,226 feet to 12,541 feet;

PROVIDED HOWEVER, that the 5 1/2-inch x 8 5/8-inch casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) 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

  
DAVID F. CARGO, Chairman

  
ALEX J. ARMIJO, Member

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

  
esr/

# Mobil Oil Corporation

P.O. BOX 633  
MIDLAND, TEXAS 79701

November 11, 1970

4473

To Offset Operators  
(See Attached List)

APPLICATION FOR SALT WATER DISPOSAL  
INTO COSDEN-OIL DEVELOPMENT CO. OF  
TEXAS WELL NO. 1, SECTION 25, T-9-S,  
R-36-E, CROSSROADS SILURO DEVONIAN  
FIELD - LEA COUNTY, NEW MEXICO

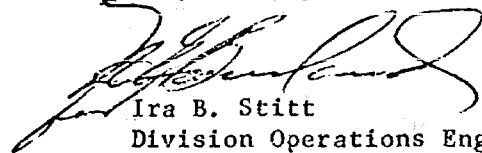
Gentlemen:

Attached is a copy of an application to the New Mexico Oil Conservation Commission for approval to dispose of produced salt water into the Lower Siluro Devonian formation through the Cosden-Oil Development Co. of Texas Well No. 1.

If you, as an offset operator, have no objection to this application, please sign and return two (2) copies of the attached waiver to this office in the enclosed self-addressed envelope. One copy of the waiver is for your file.

If any additional information is required, please contact J. H. Seerey, Mobil Oil Corporation, Midland, Texas phone 684-8211.

Very truly yours,



Ira B. Stitt  
Division Operations Engineer

JHSeerey/gc  
Attachment

bcc: A. J. Alcott - Hobbs

NMCCC-Santa Fe  
NMCCC-Hobbs

THIS COPY FOR

DOCKET MAILED

Date 12-4-70

OFFSET OPERATORS  
COSDEN-OIL DEVELOPMENT CO. OF TEXAS #1  
CROSSROADS SILURO DEVONIAN FIELD  
LEA COUNTY, NEW MEXICO

Oil Development Co. of Texas - 900 Polk St.-Amarillo, Texas 79101  
Attn: Mr. John C. Major

Aztec Oil & Gas Company - 2000 1st National Bank Building, Dallas, Texas 75202  
Attn: Mr. Prentis Watts

Lone Star Producing Co. - P. O. Box 4815, Midland, Texas 79701  
Attn: Mr. J. L. Sewell

# Mobil Oil Corporation

P.O. BOX 633  
MIDLAND, TEXAS 79701

*Copy 4473*

Mrs. Dessie Sawyer  
Crossroads, New Mexico 88114

APPLICATION FOR SALT WATER DISPOSAL  
INTO COSDEN-OIL DEVELOPMENT CO. OF  
TEXAS WELL NO. 1, SECTION 25, T-9-S,  
R-36-E, CROSSROADS SILURO DEVONIAN  
FIELD - LEA COUNTY, NEW MEXICO

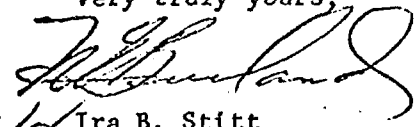
Dear Mrs. Sawyer:

Attached is a copy of an application to the New Mexico Oil Conservation Commission for approval to dispose of produced salt water into the Lower Siluro Devonian formation through the Cosden-Oil Development Co. of Texas Well No. 1.

If you, as surface owner, have no objection to this application, please sign and return two (2) copies of the attached waiver to this office in the enclosed self-addressed envelope. One copy of the waiver is for your file.

If any additional information is required, please contact J. H. Seerey, Mobil Oil Corporation, Midland, Texas, phone 684-8211.

Very truly yours,



Ira B. Stitt  
Division Operations Engineer

JHSeerey/gc  
Attachment

bcc: A. J. Alcott - Hobbs  
NMOCC - Santa Fe  
NMOCC - Hobbs

November 11, 1970

State of New Mexico  
State Engineer  
Capitol Building  
Santa Fe, New Mexico 87501

APPLICATION FOR SALT WATER DISPOSAL  
INTO COSDEN-OIL DEVELOPMENT CO. OF  
TEXAS WELL NO. 1, SECTION 25, T-9-S,  
R-36-E, CROSSROADS SILURO DEVONIAN  
FIELD - LEA COUNTY, NEW MEXICO

Gentlemen:

Attached is a copy of an application to the New Mexico Oil Conservation Commission for approval to dispose of produced salt water into the Lower Siluro Devonian formation through the Cosden-Oil Development Co. of Texas Well No. 1.

If you, as State Engineer, have no objection to this application, please sign and return two (2) copies of the attached waiver to this office in the enclosed self-addressed envelope. One copy of the waiver is for your file.

If any additional information is required, please contact J. H. Seerey, Mobil Oil Corporation, Midland, Texas, phone 684-8211.

Very truly yours,

Ira B. Stitt  
Division Operations Engineer

JHSeerey/gc  
Attachment

bcc: A. J. Alcott - Hobbs  
NMOCC - Santa Fe  
NMOCC - Hobbs

Case 4473

Head 12-16-70

Rec. 12-17-70

Grant. Mobil's request for  
converting their - Cosden Oil  
Development Co of Det #1, B-25-9-36  
Crossroads, Dev. oil pool. Well will  
be reentered & 5½ line run &  
cemented from 12,226 to 4000'.  
Old casing & cement protected  
above this depth. Injection  
would be thru open hole 12,226  
to 12,541, in Devonian.

5½ line from 0 - 4000 well have,  
inert fluid for 878 x 5½ Annulus.

Thud [Signature]

OPERATOR <b>Mobil Oil Corporation</b>		ADDRESS <b>P. O. Box 633, Midland, Texas 79701</b>	
LEASE NAME <b>Cosden-Oil Dev. Co. of Texas</b>	WELL NO. <b>1</b>	FIELD <b>Crossroads Siluro Devonian</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>C</b> ; WELL IS LOCATED <b>660</b> FEET FROM THE <b>North</b> LINE AND <b>1980</b> FEET FROM THE <b>West</b> LINE, SECTION <b>25</b> TOWNSHIP <b>9-S</b> RANGE <b>36-E</b> NMPM.			
<b>CASING AND TUBING DATA</b>			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	<b>13 3/8"</b>	<b>451'</b>	<b>450</b>
INTERMEDIATE	<b>8 5/8"</b>	<b>4175'</b>	<b>1950</b>
LONG STRING	<b>5 1/2"</b>	<b>12,226'</b>	<b>1150</b>
TUBING	<b>5 1/2"</b>	<b>4000'</b>	<b>4000</b>
NAME OF PROPOSED INJECTION FORMATION <b>Devonian</b>		TOP OF FORMATION <b>12,225</b>	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Open Hole</b>	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED FOR? <b>Producer</b>	
NAME OF PROPOSED INJECTION FORMATION <b>Devonian</b>		BOTTOM OF FORMATION <b>T.D. 12,541' in Dev.</b>	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED FOR? <b>Producer</b>	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH <b>None</b>			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>Above 320'</b>		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>None</b>	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) <b>10,000</b>	MINIMUM <b>3000</b>	MAXIMUM <b>25,000</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -- <b>Yes</b>		WATER TO BE DISPOSED OF <b>Yes</b>	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Mrs. Dessie Sawyer - Crossroads, New Mexico</b>		IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Pressure (Ult.)</b>	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Oil Development Co. of Texas - 900 Polk St., Amarillo, Texas 79101</b>		APPROX. PRESSURE (PSI) <b>300 (Ult.)</b>	
<b>Axtec Oil &amp; Gas Co. - 2000 1st National Bank Bldg., Dallas, Texas 75202</b>		<b>Gravity (Initial)</b>	
<b>Lone Star Producing Co., - P. O. Box 4815, Midland, Texas 79701</b>		<b>0 (Initial)</b>	
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? <b>Yes</b>		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) <b>Yes</b>		ELECTRICAL LOG <b>Yes</b>	
PLAY OF AREA <b>Yes</b>		DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>	

*NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.*



CARDINAL CHEMICAL, INC.  
ODESSA, TEXAS  
Phone: EMerson 6-4451

*file*  
*Crossroads 2.11*  
*7.11*  
RESEARCH LABORATORY  
Phone: FEderal 2-7324

10-15-63

## WATER ANALYSIS

Company Mobil Oil Company  
P. O. Box 2406  
Address Hobbs, New Mexico

County Lea  
Field Crossroads  
Formation Devonian

Lease Santa Fe Pacific

Well No. 8

Attention Mr. Harrison

Depth 12,231

Recent Treatments Acidized with 1,500 gal.  
15% MEC 7-31-63

Date  
Sampled 10-14-63

Sample  
Point Well Head

CONSTITUENTS DETECTED  
(Reported as parts per Million)

Specific Gravity	1,040 @ 76° F	pH	6.2
Chloride	33,500	Calcium	1,040
Bicarbonate	703	Magnesium	1,632
Sulfate	1,720	Total Iron	Fair trace
Phosphate		Sodium	18,492
Total Hardness (as Ca CO <sub>3</sub> )	9,400	Sulfide	None detected

TOTAL DISSOLVED SOLIDS 57,087

Na 1000	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	Cl 1000
Ca 100																		HCO <sub>3</sub> 100
Mg 100																		SO <sub>4</sub> 100

Remarks:

/gg  
cc: HOBBS STATION

BEFORE EXAMINER USE

OIL CONSERVATION COM.  
4473 EXHIBIT NO. 3  
CASE NO.

Analyst Betty Gobe

November 11, 1970

To Offset Operators  
(See Attached List)

APPLICATION FOR SALT WATER DISPOSAL  
INTO COSDEN-OIL DEVELOPMENT CO. OF  
TEXAS WELL NO. 1, SECTION 25, T-9-S,  
R-36-E, CROSSROADS SILURO DEVONIAN  
FIELD - LEA COUNTY, NEW MEXICO

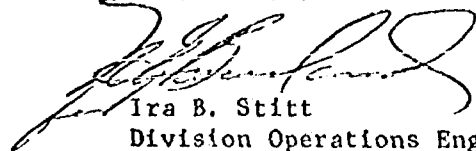
Gentlemen:

Attached is a copy of an application to the New Mexico Oil Conservation Commission for approval to dispose of produced salt water into the Lower Siluro Devonian formation through the Cosden-Oil Development Co. of Texas Well No. 1.

If you, as an offset operator, have no objection to this application, please sign and return two (2) copies of the attached waiver to this office in the enclosed self-addressed envelope. One copy of the waiver is for your file.

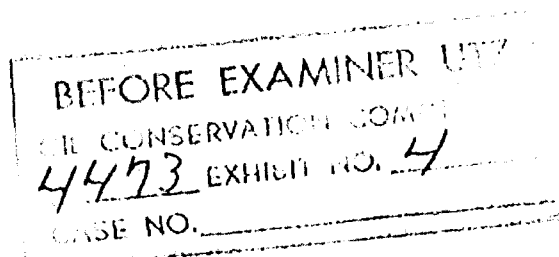
If any additional information is required, please contact J. H. Seerey, Mobil Oil Corporation, Midland, Texas phone 684-8211.

Very truly yours,



Ira B. Stitt  
Division Operations Engineer

JHSeerey/gc  
Attachment



OFFSET OPERATORS  
COSDEN-OIL DEVELOPMENT CO. OF TEXAS #1  
CROSSROADS SILURO, DEVONIAN FIELD  
LEA COUNTY, NEW MEXICO

Oil Development Co. of Texas - 900 Polk St.-Amarillo, Texas 79101  
Attn: Mr. John C. Major

Aztec Oil & Gas Company - 2000 1st National Bank Building, Dallas, Texas 75202  
Attn: Mr. Prentis Watts

Lone Star Producing Co. - P. O. Box 4815, Midland, Texas 79701  
Attn: Mr. J. J. Sewell

W A I V E R

The undersigned, as surface owner, hereby waives objection to Mobil Oil Corporation's application to dispose of produced salt water into the Lower Devonian formation through the Cosden-Oil Development Co. of Texas No. 1 well, located 660' FNL and 1980' FWL, Section 25, T-9-S, R-36-E, Lea County, New Mexico.

Dessie Sawyer  
Mrs. Dessie Sawyer

\_\_\_\_\_  
Date

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	<u>4A</u>
CASE NO.	_____

W A I V E R

The undersigned, as offset operator, hereby waives objection to Mobil Oil Corporation's application to dispose of produced salt water into the Lower Devonian formation through the Cosden-Oil Development Company of Texas No. 1 well, located 660' FNL and 1980' FWL, Section 25, T-9-S, R-36-E, Lea County, New Mexico.

OIL DEVELOPMENT COMPANY OF TEXAS

By

L. Wayne Kelly

General Superintendent

Title

November 16, 1970

Date

BEFORE EXAMINER UTZ

OIL CONSERVATION

EXHIBIT NO. L/B

CASE NO. \_\_\_\_\_

W A I V E R

The undersigned, as offset operator, hereby waives objection to Mobil Oil Corporation's application to dispose of produced salt water into the Lower Devonian formation through the Cosden-Oil Development Company of Texas No. 1 well, located 660' FNL and 1980' FWL, Section 25, T-9-S, R-36-E, Lea County, New Mexico.

AZTEC OIL & GAS COMPANY

*[Signature]*  
By

Vice President, Production  
Title

November 20, 1970  
Date

BEFORE EXAMINER UTZ
OIL CONSERVATION COMM.
EXHIBIT NO. <u>410</u>
CASE NO. _____

W A I V E R

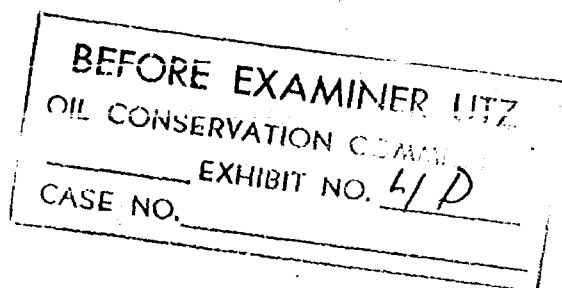
The undersigned, as offset operator, hereby waives objection to Mobil Oil Corporation's application to dispose of produced salt water into the Lower Devonian formation through the Cosden-Oil Development Company of Texas No. 1 well, located 660' FNL and 1980' FWL, Section 25, T-9-S, R-36-E, Lea County, New Mexico.

*Hone Star Producing Co.*

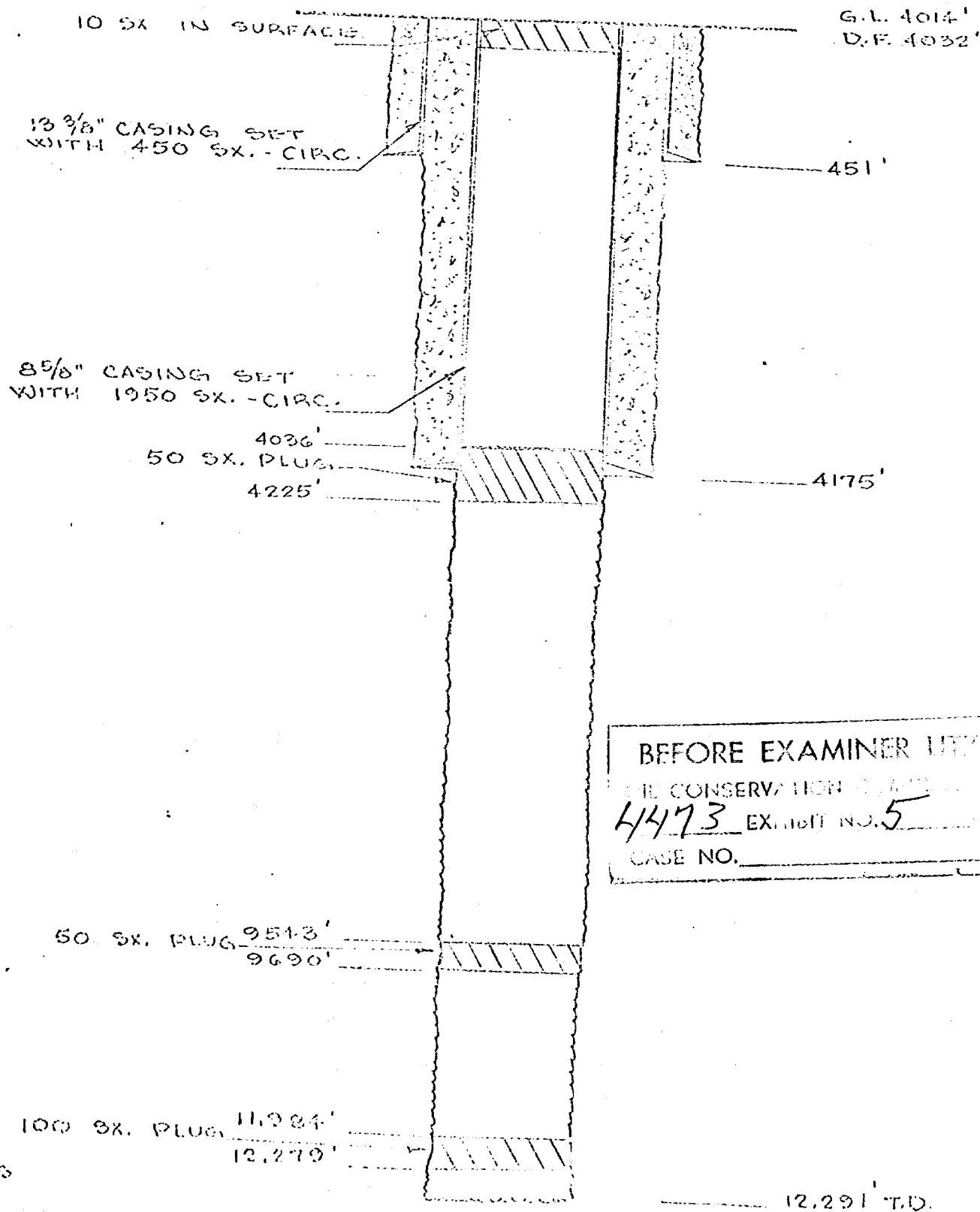
*Dean E. Wolf*  
By

*District Engineer*  
Title

*11-25-70*  
Date



PRESENT COMPLETION  
 DIAGRAMMATIC WELL SKETCH  
 COSDEN OIL DEVELOPMENT CO. OF TEXAS NO. 1  
 CROSSROADS (DEV.) POOL  
 LEA COUNTY, NEW MEXICO  
 260' ENL & 1280' FWL SECTION 25, T9S., R36E



BEFORE EXAMINER USE  
 OIL CONSERVATION BOARD  
 4473 EXHIBIT NO. 5  
 CASE NO. \_\_\_\_\_



PROPOSED COMPLETION  
DIAGRAMMATIC WELL SKETCH  
 COSDEN-OIL DEVELOPMENT CO. OF TEXAS NO. 1  
 CROSSROADS (DEVONIAN) POOL  
 LEA COUNTY, NEW MEXICO  
 660' FNL & 1980' FWL SECTION 25, T9S, R 36 E

G.L. 4014'  
 D.F. 4032'

13 3/8" CASING SET WITH  
 450 SX. CIP.C.

5 1/2" J-55 14.0#/FT TUBING  
 CEMENT-LINED

8 5/8" CASING SET WITH  
 1950 SX. CIP.C.

5 1/2" J-55 15.5#/FT LINER

5 1/2" J-55 17.0#/FT LINER

BEFORE EXAMINATION  
 OIL CONSERVATION  
 4473 EXHIBIT 6  
 CASE NO.

5 1/2" J-55 17.0#/FT LINER  
 SET WITH 1150 SX.

OPEN HOLE (DEV.)

451'

TIE-BACK SLEEVE SET  
 IN TOP OF LINER

4000'

4175'

6400'

8600'

12,226'

12,541' TO.

*Fluid 1 lb  
 Drilling Co. 20.  
 (CIP.C.)*

JHS

J. R. MODRALL  
JAMES E. SPERLING  
JOSEPH E. ROEHL  
GEORGE T. HARRIS, JR.  
LELAND S. SEOBERRY, JR.  
ALLEN C. DEWEY, JR.  
FRANK H. ALLEN, JR.  
JAMES P. SAUNDERS, JR.  
JAMES A. PARKER  
JOHN R. COONEY

KENNETH L. HARRIGAN  
PETER J. ADAMS  
DALE W. EK  
PETER J. BROULLIRE, III  
CAMERON R. GRAHAM  
DENNIS J. FALK  
ANNE K. BINGAMAN  
FARRELL L. LINES

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

PUBLIC SERVICE BUILDING  
P. O. BOX 2168  
ALBUQUERQUE, NEW MEXICO 87103

JOHN F. SIMMS (1885-1954)  
AUGUSTUS T. SEYMOUR  
(1907-1965)

TELEPHONE 243-4511  
AREA CODE 505

November 23, 1970

*Case 4473*

Mr. A. L. Porter, Jr.  
Secretary-Director  
New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Mobil Oil Corporation's Application  
for Hearing to Consider Salt Water  
Disposal into Cosden-Oil Development  
Co. of Texas No. 1 Well, located in  
Unit C, Sec. 25, T 9 S, R 36 E, N.M.P.M.,  
Lea County, New Mexico, Crossroads  
Siluro Devonian Field

Dear Mr. Porter:

Enclosed herewith, please find original and two copies  
of Mobil Oil Corporation's application for hearing  
concerning the above-captioned matter.

It would be appreciated if this matter can be set for  
hearing before an Examiner at the hearing to be held  
on December 16, 1970.

Very truly yours,

*James E. Sperling*  
James E. Sperling

JES:jv

Enclosures

cc: Mr. Ira B. Stitt, w/encl.  
Mobil Oil Corporation

RECEIVED 11/23/70

Date 12-4-70

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF MOBIL OIL CORPORATION FOR  
HEARING ON THE MATTER OF THE  
GRANTING OF PERMISSION TO DISPOSE  
OF SALT WATER INTO COSDEN-OIL  
DEVELOPMENT CO. OF TEXAS NO. 1  
WELL LOCATED IN UNIT C, SECTION  
25, T 9 S, R 36 E, N.M.P.M.,  
LEA COUNTY, NEW MEXICO,  
CROSSROADS SILURO DEVONIAN FIELD,  
SUCH DISPOSAL TO BE INTO THE  
CROSSROADS DEVONIAN FORMATION.

Case No. 4473

A P P L I C A T I O N

1. Applicant, Mobil Oil Corporation seeks authority to dispose of produced salt water from the Crossroads Siluro Devonian Field into the Lower Devonian Formation through the Cosden-Oil Development Co. of Texas Well No. 1 located in Unit C, Section 25, T 9 S, R 36 E, N.M.P.M., Lea County, New Mexico. The proposed disposal well was a dry hole in the Crossroads Devonian Formation and is now plugged and abandoned.

2. Mobil proposes to reenter the well, drill out existing plugs, run 5-1/2" liner with a tie-back sleeve from 4,000 feet to 12,226 feet with cement circulated. The well will be cleaned out to the original total depth of 12,291 feet, and an additional 250 feet of new hole will be drilled, to a total depth of 12,541 feet. The well will be completed by the running of 5-1/2" cement-lined tubing from the surface to the tie-back sleeve at 4,000 feet. Salt water will be injected through the 5-1/2" casing into the Lower Devonian Formation in the open hole interval from 12,226 feet to 12,541 feet.

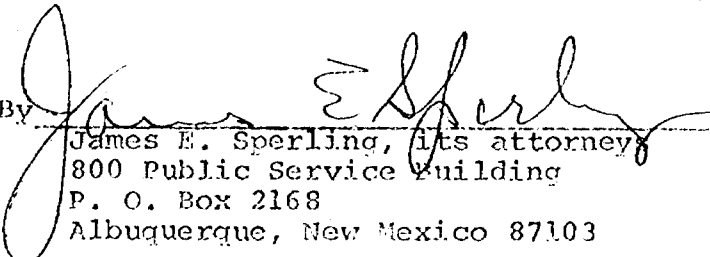
3. It is requested that this matter be set for hearing as provided by the Commission Rules and that an order be entered authorizing the disposal of salt water into the well as above proposed.

4. Offset operators have been notified of the proposed method of completion of the well and of the authority sought by this application.

Respectfully submitted,

MOBIL OIL CORPORATION

BY: MODRALL SEYMOUR SPERLING ROEHL & HARRIS

By   
James E. Sperling, its attorney  
800 Public Service Building  
P. O. Box 2168  
Albuquerque, New Mexico 87103

*and cemented back into the 8 5/8-inch intermediate string;*  
approximately 12,226 feet, <sup>*annulus between the casing and tubing*</sup> that the ~~casing-tubing annulus~~ should ~~be filled with an inert fluid; and that a pressure gauge should be~~  
~~attached to the annulus or the annulus left open~~ at the surface in  
order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent  
the drilling of unnecessary wells and otherwise prevent waste  
and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mobil Oil Corporation,  
is hereby authorized to utilize its Cosden-Oil Development Well No. 1,  
located in Unit C of Section 25, Township 9 South, Range  
36 East, NMPM, Crossroads Siluro-Devonian Pool, Lea  
County, New Mexico, to dispose of produced salt water into the  
Devonian formation, <sup>*5 1/2-inch cement-lined tubing to be run into the top of a*</sup> injection to be accomplished through ~~a~~  
<sup>*line, which liner shall extend from approximately 12,226 feet to*</sup>  
5 1/2-inch tubing, <sup>*and cemented back into the 8 5/8-inch intermediate string,*</sup> installed in a packer set at approximately  
12,226 feet, with injection into the open-hole interval  
from approximately 12,226 feet to 12,541 feet;

PROVIDED HOWEVER, ~~that the tubing shall be plastic-lined,~~  
<sup>*5 1/2-inch x 8 5/8-inch*</sup>  
that the casing-tubing annulus shall be filled with an inert  
fluid; and that a pressure gauge shall be attached to the annulus  
~~or the annulus left open~~ at the surface in order to determine  
leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its  
disposal operations in accordance with Rules 704 and 1120 of the  
Commission Rules and Regulations.

(3) 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.

DRAFT

GMH/esr

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. 4473

Order No. R-4083

APPLICATION OF MOBIL OIL CORPORATION  
FOR SALT WATER DISPOSAL, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

9:30

This cause came on for hearing at 9 a.m. on December 16, 1970,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this        day of December, 1970, 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:

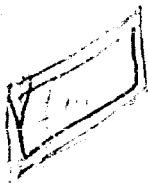
(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant, Mobil Oil Corporation,  
is the owner and operator of the Cosden-Oil Development Well No. 1,  
located in Unit C of Section 25, Township 9 South, Range  
36 East, NMPM, Crossroads Siluro-Devonian Pool, Lea  
County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the Devonian  
formation, with injection into the open-hole interval  
from approximately 12,226 feet to 12,541 feet.

(4) That the injection should be accomplished through

*5 1/2 inch casing & lined tubing tied into the top of a 5 1/2 inch liner*  
*which liner would extend from approximately 4000 feet to*  
*4172* -inch plastic-lined tubing installed in a packer set at



Mobil Oil Corp

SIND

Cooden Oil Develop-  
ment Co No. 1 Well  
"C" 25, 9 South, 36 East

Crossroads Silvers Devonian Pool

Deep open hole from

Devonian formation

5 1/2" liner 4000-12226 arc CO to 12291  
12,226' ← 12541 drill to 12541  
↑ to ↑

called in log:  
Iron Spelling

Dec 16

CASE 4474: Application of AMINI  
OIL CORPORATION FOR AN UNORTHODOX  
OIL WELL LOCATION, LEA COUNTY.