

Case No.

1532

Application, Transcript,
Small Exhibits, Etc.

36-7-102.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

Case No. 1532

TRANSCRIPT OF HEARING

October 22, 1958

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE NEW MEXICO
Phone CRipal 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
October 22, 1958

IN THE MATTER OF:

Application of Sunray Mid-Continent Oil Company :
for an order authorizing a salt water disposal :
well. Applicant, in the above-styled cause, :
seeks an order authorizing the disposal of pro- :
duced salt water through its Hobbs "G" Well No. : Case 1532
1, located 1980 feet from the North and West :
lines of Section 36, Township 9 South, Range 33 :
East, Lea County, New Mexico. Applicant pro- :
poses to inject the produced salt water through :
the well bore into the Pennsylvanian formation :
in the interval from 9834 feet to 9865 feet. :

Mabry Hall
Santa Fe, New Mexico

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The next case on the docket will be Case 1532.

MR. PAYNE: Case 1532, "Application of Sunray Mid-Continent
Oil Company for an order authorizing a salt water disposal well."

MR. WHITE: Mr. Payne, will you swear the witness in?
(Witness sworn in).

MR. WHITE: Let the record show that L. C. White of
Gilbert, White and Gilbert of Santa Fe, New Mexico, is appearing
on behalf of the applicant.

DONALD E. HALL

called as a witness, having been first duly sworn, testified as

follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. White, will you state your full name, please?

A Donald E. Hall.

Q By whom are you employed and in what capacity?

A I am employed by Sunray Mid-Continent Oil Company as a senior engineer.

Q Are you familiar with Sunray's present application?

A Yes, sir.

Q Have you previously testified before the Commission as an expert witness?

A Yes, sir.

MR. WHITE: Are the witness' qualifications acceptable?

MR. UTZ: They are. And pardon me a moment while I ask if there are other appearances in this case?

MR. MANKIN: Warren Mankin, Aztec Oil and Gas Company.

MR. UTZ: Continue.

Q (By Mr. White) Mr. Hall, I will ask you to refer to what has been marked as Exhibit A and will you state what it is and what it is intended to show?

A Exhibit A is an ownership plat showing Sunray Mid-Continent's leases and the offsetting operators' leases.

Q Does it show the location involved of the oil and gas wells on there?

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A This exhibit was furnished with the application. It shows that Sunray Mid-Continent is the operator and co-owner of State "F" lease, consisting of the north half of Section 1, Township 10 South, Range 37 East, and of about 80 acres of Section 36, 9 South, 33 East. That 80 acres that we do not have is the north half--I mean the east half of the northwest quarter of Section 36.

Q Does it show the location of all the oil and gas wells within the area?

A Yes, it does.

Q Does it show the names of adjoining lessees and offsetting operators?

A Yes, it does.

Q Mr. Hall, these wells in this field are producing from what formations?

A They are producing from the Wolfcamp and the Pennsylvanian formations.

Q I will hand you here what has been marked as Exhibit B and ask you to state what it is and what it is intended to show?

A Exhibit B is a north-south cross section running from the north to the south of the Lane Wolfcamp and Lane Pennsylvanian Pools. It shows the top of the Wolfcamp, which is a correlation point, it shows the Wolfcamp pay interval, the interval that has porosity in the Wolfcamp. It does not show the oil-water contact in the Wolfcamp as it is too variable. It also shows, colored in red and blue, the Pennsylvanian pay interval and shows a correlation

point on top of the Pennsylvanian. It has an oil-water contact in the Penn zone of approximately a minus 5542. The blue indicates the approximate water zone and the red indicates the oil zone in the Pennsylvanian. There is approximately a hundred and thirty feet of separation between the two zones.

Q Will you point out which one is to be the proposed injection well?

A The one on the far north side is the Antweil Hobbs "G" Number 1.

Q That would be the one on the right, would it not?

A The one on the right, yes sir.

Q That --

A That cross section will show where the cross section goes through on the next exhibit.

MR. UTZ: What is the location of that well, would you state that for the record?

A That well is 1980 from the north line, 1980 from the west line of Section 36, Township 9 South, Range 33 East. That well was drilled by Skelly, farmed out to Antweil and we are in the process of acquiring that well now.

MR. UTZ: Thank you.

Q (By Mr. White) I will ask you to refer to what has been marked as Exhibit C and explain what that is and what it is intended to show?

A Exhibit C is a structural map contoured on top of the

Wolfcamp formation. I have shown in red the wells completed in the Wolfcamp and in blue the wells completed in the Penn, Pennsylvanian. The discovery well was Sunray Mid-Continent's State "P" Number 1. This map also shows where the cross section was taken, running from Humble's Well LD-A to A prime, ending up at the Antweil Hobbs "G" Number 1.

There have been ten Wolfcamp completions, ten of which--I mean seven of which are producing from the Wolfcamp. There are two Pennsylvanian completions. They are both operated by Sunray Mid-Continent. They are dual well actually completed with Wolfcamp completions.

No one else has been able to find the Pennsylvanian productive from their wells. There have been two dry holes drilled in this field.

Q In other words, there are only two wells producing in the Penn zone and both of them are Sunray's?

A That is correct.

Q Will you explain your proposed salt water disposal program?

A We plan to gather the water produced from the Wolfcamp and dispose of it below the oil-water contact into the well, Antweil Hobbs "G" Number 1. This well was--Antweil attempted its completion in the Wolfcamp but it was not a commercial completion and they are ready to abandon it. We plan to squeeze off the present perforations in this well at 9681 to 9684.

Q How do you plan to re-complete the well?

A We will squeeze off these perforations, drill the cement to the bottom of the casing shoe, test the casing to at least one thousand pounds for thirty minutes, then drill out to the original total depth, which was 9865. The five and a half inch casing is set at 9841. We will then perforate from 9834 to 9841. Injection will be through the perforated interval of 9834 to 41 and the open hole interval from 9841 to 65.

Q In your opinion, will the casing program that you intend to adopt adequately protect any fresh water zones?

A Yes sir, there are presently thirteen and three eighths OD surface casings at 352 feet. It was cemented with 360 sacks of cement circulated to the surface. Its eight and five eighths OD intermediate casing is set at 4,029 feet. It was cemented with 2100 sacks and was cement circulated. The five and a half inch production casing is set at 9841. It's cemented with 340 sacks.

MR. UTZ: What is the top of the cement on that, sir?

A It was calculated at approximately 8,000 feet. There was no temperature survey run on the well.

Q (By Mr. White) In your opinion, will there be any danger of communication between the zones?

A No, sir.

Q Do you have a log of the intake well for examination by the Commission?

A Yes sir, we stated in our application that logs would be supplied at the time of hearing.

MR. UTZ: Do you want these marked as an exhibit?

MR. WHITE: I think they might as well be.

MR. UTZ: Which exhibit will that be?

REPORTER: Exhibit H.

Q (By Mr. White) Mr. Hall, how many barrels of salt water per day do you propose to inject into the Pennsylvanian zone?

A At present, we have four hundred barrels of salt water a day. We plan to inject into it--we expect that we would never exceed three thousand barrels of salt water a day.

Q Primarily it will be from the Wolfcamp formation. The Pennsylvanian formation will only produce a trace of water.

Q In your opinion, is the Pennsylvanian formation of sufficient porosity and permeability to accept this water, this amount of water?

A Yes sir, it is, and this well has good porosity. We are not able to locate the holes on any of the producing wells right now because the formation takes water on backing.

Q In your opinion, will the disposal of this water in this manner be in the interests of conservation?

A Yes, sir.

Q Is the water to be injected through the casing or through the tubing?

A We plan to set a packer above the injection interval

and run tubing, and some of the tubing will be in the perra-type packer.

Q Mr. Hall, I ask you to refer to what has been marked as Exhibit E and state what that is and what it is intended to show?

A Exhibit E is a structural map contoured on top of the Pennsylvanian. It is, as you see, it is similar--I take it back, we've got the structural maps mixed up here.

Q Here is one. I think this is the one you want.

MR. UTZ: Which one do you want, the Pennsylvanian?

MR. WHITE: Here is the Pennsylvanian.

A The Wolfcamp is the one I thought I had.

MR. WHITE: Here is the Wolfcamp, here is the Pennsylvanian.

MR. UTZ: You want the Wolfcamp exhibit now, don't you?

A I was intending for the Wolfcamp to be marked C.

MR. WHITE: Let's introduce both of these and explain both as we go along. Which one do you want first, do you want the Pennsylvanian first or the Wolfcamp?

A I was going to explain this, but --

MR. WHITE: That's the Wolfcamp, here is the Pennsylvanian.

MR. UTZ: Off the record.

(Discussion off the record).

MR. WHITE: Could we have the record show that the testimony he's given be applied to Exhibit C, not to Exhibit E?

MR. UTZ: Well, when you were testifying about Exhibit C,

you intended it to be the other exhibit all the time, so why can't we just change the exhibit numbers?

MR. WHITE: All right, that will be fine.

MR. UTZ: Where is the Wolfcamp exhibit, the official exhibit form?

A Here it is.

MR. WHITE: That would be C.

MR. UTZ: Wolfcamp will be Exhibit C and the Pennsylvanian will be Exhibit E, is that the way you want it?

A Yes, sir.

Q (By Mr. White) Mr. Hall, will you proceed and explain Exhibit E, please?

A Exhibit E is a structural map on top of the Pennsylvanian. Comparing it with Exhibit C, the Wolfcamp structural map, it is almost identical with the Wolfcamp structure. The same base map was used and the same wells were used to pick the tops off of them.

Q Mr. Hall, will you refer to what has been marked as Exhibit F and state what that is and what it is intended to show?

A Exhibit F is a productional curve showing the oil and water production plotted against time. In the Lane Wolfcamp Pool, it shows oil in a solid line, both cumulative oil and monthly oil, and it also shows cumulative water and monthly water production. As of September the 1st, 1958, the Lane Wolfcamp Pool produced a total of 728,418 barrels of oil, 696,384 barrels of

water. August production was 20,559 barrels of oil and 30,507 barrels of water.

Q Will you refer to what has been marked Exhibit G and explain it?

A Exhibit G is a similar curve on the Lane Pennsylvanian Pool plotting production against time. It shows cumulative production and monthly production. As of September the 1st, 1958, the Lane Penn Pool had produced 240,530 barrels of oil, 1,025 barrels of water. The August production was 5,322 barrels of oil, 150 barrels of water.

Q Will you refer to Exhibit H and state what that is and what it is intended to show?

A Exhibit H is a bottomhole pressure versus cumulative production curve. It shows the bottomhole pressure decline on both the Lane Wolfcamp and the Lane Penn Pools. I have indicated the low point on each reservoir. The Wolfcamp has a bubble point of 3388 pounds per square inch gauge. The Penn zone was a bubble point of 2525 pounds per square inch gauge.

This curve shows that the reservoir has very different performance histories. The Wolfcamp has a very active water drive and produces considerable water, where the Pennsylvanian apparently has very little water drive and we expect it only to produce a trace of water.

Q Mr. Hall, were all of the exhibits to which you have referred today excepting the electric log prepared under your

direction or supervision?

A Yes, sir.

MR. WHITE: At this time, we move for the admission of the exhibits.

MR. UTZ: Without objection, Exhibits A through I will be accepted.

Q (By Mr. White) Mr. Hall, in your opinion, will the Pennsylvanian zone be damaged in any way by the injection of this proposed salt water?

A No, the Pennsylvanian zone should not be damaged. The injection of salt water into the Penn should aid in recovery of oil from the Penn by establishing pressure maintenance or partial pressure maintenance of the Penn zone.

Q Has the applicant complied with the Commission's memorandum number 5-58 by sending a letter on the proposed salt water disposal program to the State Engineer together with the water analysis?

A Yes sir, a letter was sent to the office of the State Engineer; that letter is attached to our application. We also sent copies of the water analysis from both the Wolfcamp zone and the Penn zone.

MR. WHITE: That's all the questions we have of the witness.

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

MR. MANKIN: Yes, sir.

MR. UPZ: Mr. Mankin?

MR. MANKIN: Warren Mankin of Aztec Oil and Gas Company.

CROSS EXAMINATION

BY MR. MANKIN:

Q Mr. Hall, I believe that you indicated that the disposal well at the present time would take care of only the water produced by Sunray-Mid-Continent, is that correct?

A At this time, we propose to start out injecting our water, but it has adequate capacity for other water besides Sunray Mid-Continent.

Q I believe you indicated that the present water production of Sunray wells was approximately four hundred barrels per day?

A Four hundred barrels per day, yes.

Q You feel then that the capacity of this well that you propose will be adequate enough to take care of the water produced from the Wolfcamp formation from Aztec wells if necessary arrangements could be made in the future?

A Yes, sir.

MR. MANKIN: That's all.

A The present water production from the field is approximately a thousand barrels a day, I believe.

MR. WHITE: You anticipate other operators coming into the disposal program, do you not?

A We would be glad to have them join us in the salt water

disposal.

MR. UTZ: Any other questions of the witness?

MR. FISCHER: Yes, sir.

MR. UTZ: Mr. Fischer?

CROSS EXAMINATION

BY MR. FISCHER:

Q Mr. Hall, you plan to perforate the bottom seven feet of your pipe, is that right, in that particular well?

A From 9834 to 41, yes sir, seven feet, and also inject into the open hole. It so happened that the casing was set in the porosity interval, in the middle of the porosity in the Penn zone.

MR. UTZ: What's the interval of the open hole?

A The interval on that hole is from 9841 to 9865.

Q (By Mr. Fischer) When they tested this well, do you know if they got oil at the time they tested it?

A From the Wolfcamp?

Q Yes.

A They were pumping approximately ten barrels a day.

Q They were pumping --

A Yes.

Q They were pumping from the Wolfcamp?

A Yes sir, and there was water in the Penn. Drill stem testing indicated water in the Penn. Skelly took the drill stem tests and made available the drill stem tests to us.

Q Antwell Number 1 is down in the Penn, is that correct?

A I don't believe they ever perforated, tested the Penn.

Q I know they got some oil in the tests, but that was all Wolfcamp oil.

A Yes sir, they tested it for several months with the pumping unit on it and the test that we got was approximately ten barrels of oil and five hundred barrels of water a day. I don't believe that they got enough oil so that they could run a tank until they salvaged the tanks.

Q On your cross section here, as far as I can make out, there is no connection between this Pennsylvanian pay interval to the west, I guess, or the left side, and this blue colored interval on the right?

A I didn't understand the question.

Q There is no connection except for this part in here in red between this pay interval, Pennsylvanian pay interval there and this here, is that correct?

A Yes sir, it is the same producing zone. The red indicates the oil bearing formation and the blue the water bearing.

Q So actually your Pennsylvanian pay interval should be up in the red part?

A Yes sir, that's it. All color is Penn.

MR. FISCHER: All right, thank you.

CROSS EXAMINATION

BY MR. UTZ:

Q On your Antweil Hobbs "G" Number 1, what is the water-oil

contact?

A We have fixed an oil-water contact of approximately minus 5542. That is based on drill stem tests, production tests from the numerous wells.

Q And the top of the injection zone, what is the subsea datum on that?

A It is 5554.

Q Your injection is approximately twelve feet below the water-oil contact?

A I'm sorry, that was 5544, it's two feet.

Q 5544?

A Yes, sir.

Q 5542 is the top of it?

A That is approximately the contact.

Q Do you believe that injecting that close to the water-oil contact, there would be any danger of contaminating the oil zone?

A No sir, I believe that it will go into the water column. It will certainly lack a pressure maintenance in the Penn zone.

Q You don't feel that it will be better practice to inject a little lower in the contact column then?

A Well, there isn't a sufficient water column in the Pennsylvanian to inject into.

Q Did I understand you to say that you didn't believe that the water drive was effective in the Pennsylvanian?

A That is correct. It had produced considerable less volume per cent of its oil in places in the Wolfcamp and still had a very rapid bottomhole pressure decline.

Q The five and a half inch will have no cement from the 8,000 feet to 4,029 feet, which is about 3571 of open hole, is that correct?

A That is correct.

Q But you will set up a packer above the perforations in the five and a half inch?

A Yes sir, and inject down to it.

Q So that the casing will not be subjected to salt water?

A That is right.

Q Do you intend to use an inhibitor to protect the tubing string?

A We haven't fully designed the treatment program for the salt water that we inject. We will certainly use a stop tank to hold the water and expect to use filters and treat it if we feel it is necessary.

Q The tubing will be lined tubing?

A We do not feel that this water is very corrosive. I imagine that we will just depend on the inhibitor rather than lining the tubing.

Q If you should have leakage of salt water in the annular zone, how would you detect it?

A We would have a pressure gauge on the casing between

the tubing and the casing which would detect a leak.

MR. UTZ: Any other questions of the witness?

MR. FISCHER: Yes, sir.

CROSS EXAMINATION

BY MR. FISCHER:

Q Mr. Hall, you are going to inject down the tubing and I think that your water that you are going to put into it won't have any gravity?

A Yes sir, the bottomhole pressure is less than 2500 pounds per square inch in the Penn and we will have a head of approximately 9800 feet of water.

Q 4300 pounds, roughly?

A Roughly.

Q Do you know what the bottomhole pressure in the State "I" Number 2 is, the last bottomhole pressure for the State "I" Number 2?

A The State "I" Number 2 has gone to water. I probably have that bottomhole pressure.

Q It has gone completely to water, the State "I" Number 2 has gone completely to water?

A Yes, sir.

Q It has?

A Yes, sir. The bottomhole pressure on the Wolfcamp has been within just a few pounds on every pressure survey, so I believe if you will look at Exhibit H, you would get a good idea

as to just what the bottomhole pressure would be.

MR. UTZ: State "I" Number 2 is a Wolfcamp?

A Yes sir, a Wolfcamp.

MR. UTZ: And it has gone to water in the Wolfcamp?

A Gone to water in the Wolfcamp.

Q (By Mr. Fischer) Has it gone to water in the Penn?

A On the State "I" Number 2, we tried a Pennsylvanian completion and it did not have sufficient porosity to make a Pennsylvanian completion.

Q What's this State "I" Number 1 producing?

A The State "I" Number 1 was a dual completion in the Wolfcamp and in the Penn.

Q What is its production in the Penn, do you know approximately?

A We have just put that on the pump and it is a little irregular. I have its--in July, it was 1144 barrels of oil and in August it was 464 barrels of oil. We expect it to increase when we have the pump operating properly.

Q And actually there may not be trouble by passing any oil injection into the Hobbs "G" Number 1 until you get over to the vicinity of State "I" Number 1?

A There are only two wells producing from the Penn, State "I" Number 1 and State "P" Number 2.

MR. FISCHER: Thank you.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Hall, did you test the Pennsylvanian at the State "I" Number 2?

A Yes sir, we tested and perforated this interval, the interval I have shown here, at approximately 9800 feet and acidized it and still not able to get oil out of the zone.

Q Did you get any water?

A No, sir.

Q Just dry?

A It was dry. We feel like the structure to the west is pinching out along this line here. It's good porosity and permeability.

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

(No response).

MR. UTZ: If not, the witness may be excused.

(Witness excused).

MR. UTZ: Are there any other statements to be made in this case?

MR. MANKIN: Yes, sir.

MR. UTZ: Mr. Mankin?

MR. MANKIN: Warren Mankin representing Aztec Oil and Gas Company. Aztec is the operator of two wells in the Lane Wolfcamp Pool, which are owned jointly by Aztec and Delhite. These wells were both originally driven to the Pennsylvanian and were completed

only in the Wolfcamp. One well is flowing, one well is pumping. They are both making considerable quantities of water. In fact, the quantities of water are quite similar to the water being produced by all other Sunray wells. We are at the present time attempting to negotiate disposal of our water into this same well at some future date.

We concur in Sunray's application for converting this well into a salt water disposal well to take care of surface disposal in the Lane Wolfcamp and Pennsylvanian Pools.

MR. UTZ: Any other statements?

(No response).

MR. UTZ: If not, the case will be taken under advisement.

STATE OF NEW MEXICO)

: ss

COUNTY OF BERNALILLO)

I, JERRY MARTINEZ, 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 in stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record, to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 24th day of October, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Jerry Martinez
Notary Public

My Commission Expires:
January 24, 1962

I do hereby certify that the foregoing is
a complete record of the proceedings in
the State of Bernalillo, Case No. 1532,
heard by me on Oct 22, 1958.

James H. [Signature] Examiner
New Mexico Oil Conservation Commission

BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

EXHIBIT NO. *A*

CASE NO. *1532*

See Page 11

R-33-E

R-34-E

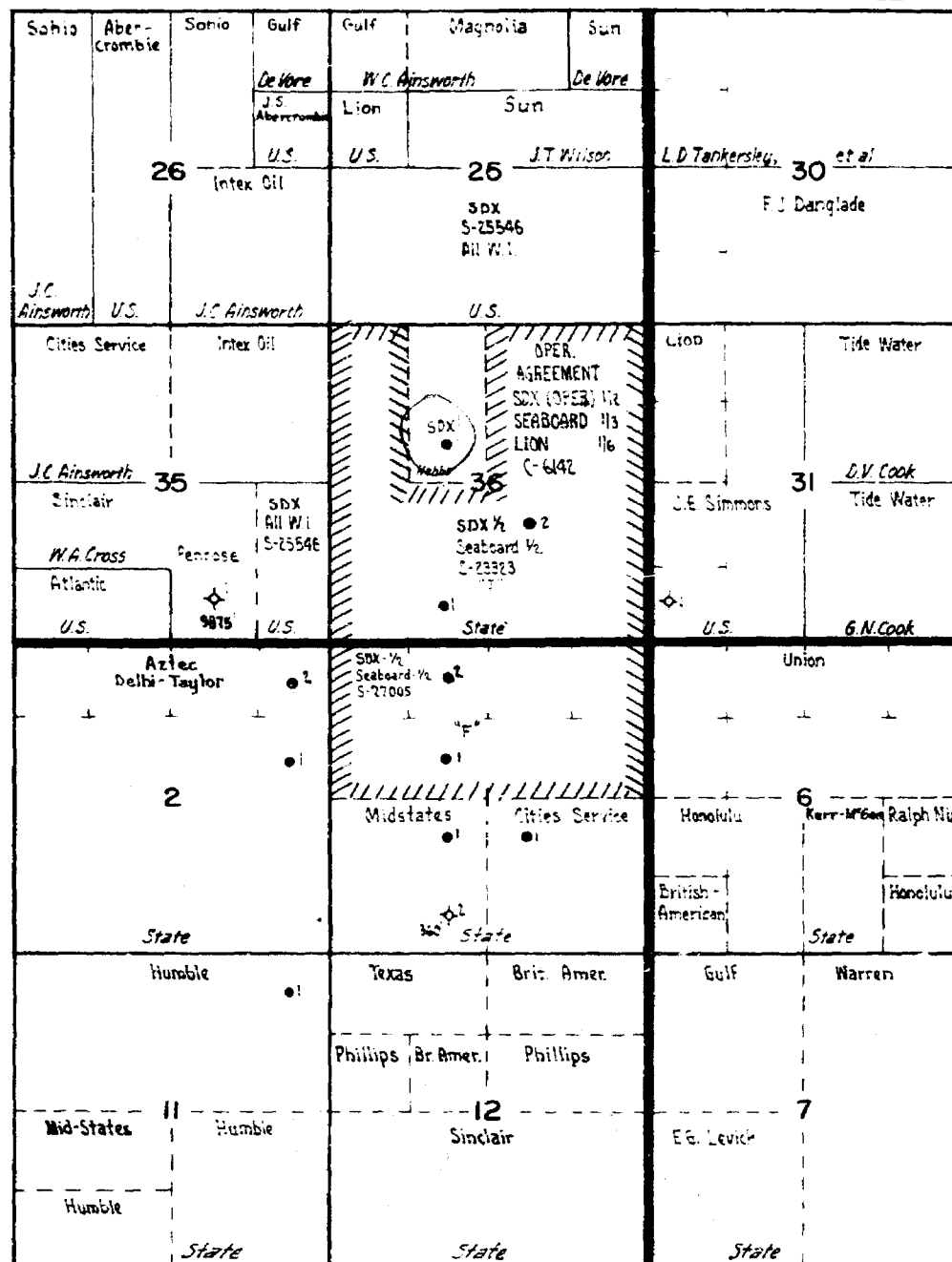


EXHIBIT "A"

PRODUCING FORMATION		SUNRAY MID-CONTINENT OIL COMPANY	PRODUCING LEASES
NAME	AVERAGE DEPTH	FIELD LANE (WOLFCAMP & PENNSYLVANIAN)	STATE "F" STATE "I"
		DISTRICT N&W TEXAS TATUM COUNTY LEA ST. N. MEXICO	
		SCALE 3000 1500 0 1500 3000 6000 FEET	

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

December 13, 1968

C
O
P
Y

Mr. Harold L. Hensley, Jr.
Hinkle, Bondurant & Christy
P. O. Box 10
Roswell, New Mexico

Dear Mr. Hensley:

Enclosed is a certified copy of Commission
Order No. R-1278, dated November 5, 1958.

Very truly yours,

GEORGE M. HATCH
Attorney

GSH/esr
Enclosure

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

November 10, 1958

C
O
P
Y

Mr. L. C. White
Gilbert, White & Gilbert
P.O. Box 787
Santa Fe, New Mexico

Dear Mr. White:

On behalf of your client, Sunray Mid-Continent Oil Company,
we enclose two copies of each of the following orders issued November 5,
1958, by the Oil Conservation Commission:

Order R-1270 in Case 1519
Order R-1271 in Case 1524
Order R-1278 in Case 1532

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

bp
Encls.

**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. 1532
Order No. R-1278**

**APPLICATION OF SUNRAY MID-CONTINENT
OIL COMPANY FOR AN ORDER AUTHORIZING
A SALT WATER DISPOSAL WELL IN SECTION
36, TOWNSHIP 9 SOUTH, RANGE 33 EAST,
NMPL, LEA COUNTY, NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 22, 1958, at Santa Fe, New Mexico, before Elvis A. Uts, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 5th day of November, 1958, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Uts, and being fully advised in the premises,

FINDINGS:

- (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, Sunray Mid-Continent Oil Company, is the owner and operator of the Hobbs "G" Well No. 1, located 1880 feet from the North line and 1880 feet from the West line of Section 36, Township 9 South, Range 33 East, NMPL, Lea County, New Mexico.
- (3) That the applicant proposes to inject salt water down tubing in the said Hobbs "G" Well No. 1 into the Pennsylvanian formation below the water-oil contact with the proposed injection zone from 9834 feet to 9865 feet.
- (4) That a packer should be set above the injection interval.
- (5) That the applicant's proposed salt water injection program will not jeopardize the production of oil, gas or fresh water in the area and is consonant with sound conservation practices.

-2-
Case No. 1532
Order No. E-1276

IT IS THEREFORE ORDERED:

(1) That the applicant, Sunray Mid-Continent Oil Company, be and the same is hereby authorized to utilize its Hobbs "G" Well No. 1, located 1980 feet from the North line and 1980 feet from the West line of Section 36, Township 9 South, Range 33 East, NEPM, Lea County, New Mexico, for the purpose of disposing of produced salt water into the Pennsylvanian formation below the water-oil contact in the zone from 9834 to 9865 feet.

PROVIDED HOWEVER, That the salt water shall be injected through tubing and provided further that a packer shall be set above the injection interval.

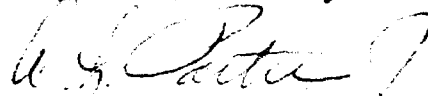
(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1119 of the Commission's Rules and Regulations.

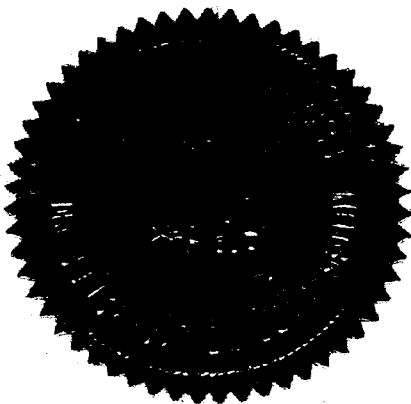
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


EDWIN L. MECHEM, Chairman


MURRAY E. MORGAN, Member


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



OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 10-29-58

CASE NO. 1532

HEARING DATE 10-22-58

My recommendations for an order in the above numbered case(s) are as follows:

1. approve the SWD of Sunray Mid-Continent Oil Co., known as their Well "B" # 1, 1950/N, 1950/W-36 - 95-33E.
2. Salt Water shall be injected below the Water-oil Contact in the Pennsylvanian formation.
3. a packer shall be set above the injection interval and SW shall be injected thru tubing.
4. After requesting the opportunity to negotiate with Sunray to dispose of their SW in this well.


Staff Member

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF
SUNRAY MID-CONTINENT OIL COMPANY FOR
AN ORDER AUTHORIZING THE DISPOSAL OF
SALT WATER INTO THE LANE PENNSYLVANIAN
OIL POOL, LEA COUNTY, NEW MEXICO.

CASE NO. 1532

A P P L I C A T I O N

TO THE HONORABLE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO:

COMES NOW the Applicant, Sunray Mid-Continent Oil Company, and respectfully alleges and states as follows:

1. That it is the co-owner and operator of oil and gas leases within the vertical and horizontal limits of the Lane Pennsylvanian and Lane Wolfcamp Oil Pools, Lea County, New Mexico.
2. That its wells completed in the Lane Wolfcamp Oil Pool are producing salt water and it is desired to dispose of salt water produced in the Lane Field into the Pennsylvanian formation.
3. That attached hereto, and made a part hereof, is a plat marked Exhibit "A" showing the location of the proposed intake well; the location of all oil and gas wells, including drilling wells and dry holes, and the names of the lessees within one-half mile of the proposed intake well; and the names of each off-set operator.
4. That the wells in this field are producing from the Wolfcamp and Pennsylvanian formations.
5. That it is planned to dispose of the produced salt water into the Pennsylvanian formation through the well bore of the Hobbs "G" Well No. 1, located 1980 feet from the North line and 1980 feet from the West line of Section 36, Township 9 South, Range 33 East, Lea County, New Mexico, between the interval of 9834 to 9865 feet.
6. That a log of the proposed disposal well will be submitted to the Commission at the time of the hearing of this application.
7. That 13-3/8 inch O.D. casing has been set at 352 feet with 360 sacks of cement; that 8-5/8 inch O.D. casing has been set at 4029 feet with 2100 sacks of cement; and that 5-1/2 inch casing has been set at 9841 feet with 340 sacks of cement. That the casing will be tested to 1000 psi for 30 minutes before the well is used for the disposal of salt water.
8. That it is estimated that a minimum of 400 barrels of salt water will be injected daily into the proposed disposal well with an estimated future maximum of 3000 barrels of salt water to be injected daily. This water will be salt water produced with the oil from wells completed in the Lane Field.
9. That attached hereto and made a part hereof is a copy of a letter to the Office of the State Engineer, marked Exhibit "B", which complies with Commission Memorandum No. 5-58 dated January 31, 1958.
10. That Sunray Mid-Continent Oil Company, P. O. Box 2039, Tulsa, Oklahoma, will be the operator of this proposed project.

WHEREFORE, Applicant prays that this application be set for hearing, that notice thereof be given as required by law and that upon the evidence adduced at such hearing, the Commission issue an order granting to Applicant permission to dispose of salt water produced in the Lane Field into the Pennsylvanian Formation through the Hobbs "G" Well No. 1.

DATED this 15th day of September, 1958.

SUNRAY MID-CONTINENT OIL COMPANY

By William R. Loar
William R. Loar, Its Attorney

*copy of application
+ 2nd Exhibits given
to Mr. F. H. A.
10-13-58 EP*

R-33-E

R-34-E

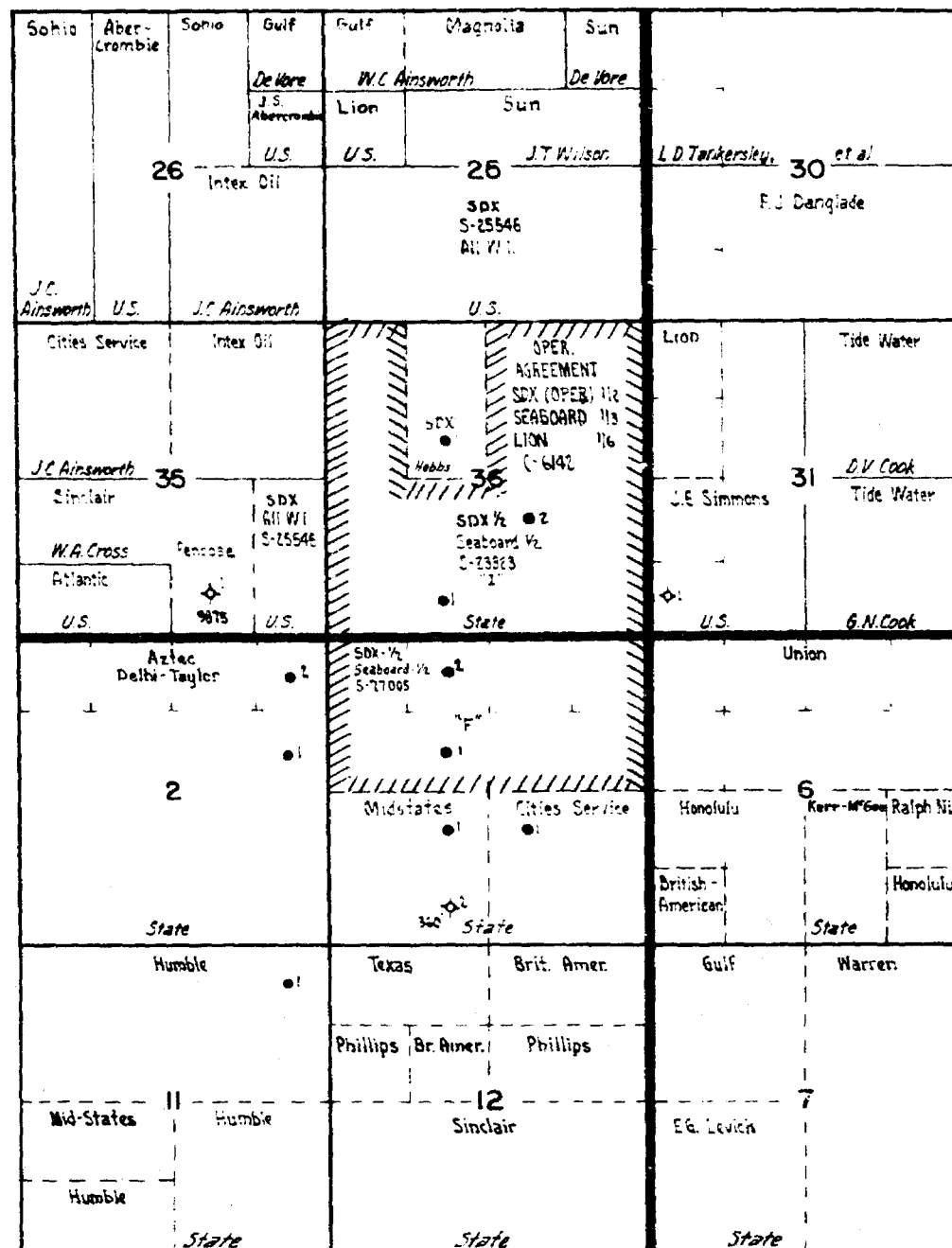


EXHIBIT "A"

PRODUCING FORMATION		SUNRAY MID-CONTINENT OIL COMPANY		PRODUCING LEASES	
NAME	AVERAGE DEPTH	FIELD LANE (WOLFCAMP & PENNSYLVANIAN)		STATE "E"	STATE "I"
		DISTRICT: NW TEXAS			
		COUNTY: LEA			
		SCALE			
		3000 1500 0 1500 3000 6000			
		FEET			

SUNRAY MID-CONTINENT OIL COMPANY

P. O. BOX 2039

~~Tulsa, Oklahoma~~

R. E. FOSS, VICE PRESIDENT

R. W. GRIFFITH, ASST. TO THE VICE PRESIDENT

M. S. PATTON, JR., MANAGER
ENGINEERING DIVISION

PRODUCTION DEPARTMENT

September 15, 1958

C. J. KERWIN, SUPERINTENDENT
OIL DIVISION

L. G. RODGERS, GENERAL MANAGER
GAS DIVISION

J. H. DOUMA, MANAGER
JOINT OPERATIONS DIVISION

The Office of the State Engineer
P. O. Box 1079
Santa Fe, New Mexico

Gentlemen:

In compliance with the New Mexico Oil Conservation Commission's Memorandum No. 5-58 dated January 31, 1958, Sunray Mid-Continent Oil Company respectfully furnishes to your office the following information:

1. Copy of Sunray's application to dispose of salt water into a well in the Lane Field, Lea County, New Mexico.
2. The geographical location of the water source is the Lane Field, Township 9 and 10 South, Ranges 33 and 34 East, Lea County, New Mexico, located approximately 19 miles Northwest of the Town of Tatum, New Mexico.
3. The water to be injected will be salt water produced with the oil from the Wolfcamp and Pennsylvanian formations found at a depth of approximately 9600 feet and 9750 feet, respectively.
4. A copy of a water analysis from the Wolfcamp formation and a copy of a water analysis from the Pennsylvanian formation are attached.

If there is any other information desired, please advise and we will be happy to furnish it to you.

Yours very truly,

SUNRAY MID-CONTINENT OIL COMPANY

William R. Loar

William R. Loar
Chief Proration Engineer

WRL/at
Attachments



D-X SUNRAY OIL COMPANY IS A WHOLLY-OWNED REFINING & MARKETING SUBSIDIARY

EXHIBIT "B"

100-1000

100-1000

NOT RECORDED

Sunray-Mid-Continent Oil Co.
Box 128
Hobbs New Mexico

S. 100, New Mexico

MA 0768

Starya

N.M. State R-2

Lane Penn.

New Mexico

Laf.

Penn. Lane zone

complete

September 6, 1958

Separator

CALCIUM 3,000

MAGNESIUM 1,010

SODIUM 26,600

IRON

HYDROGEN

SULFIDE

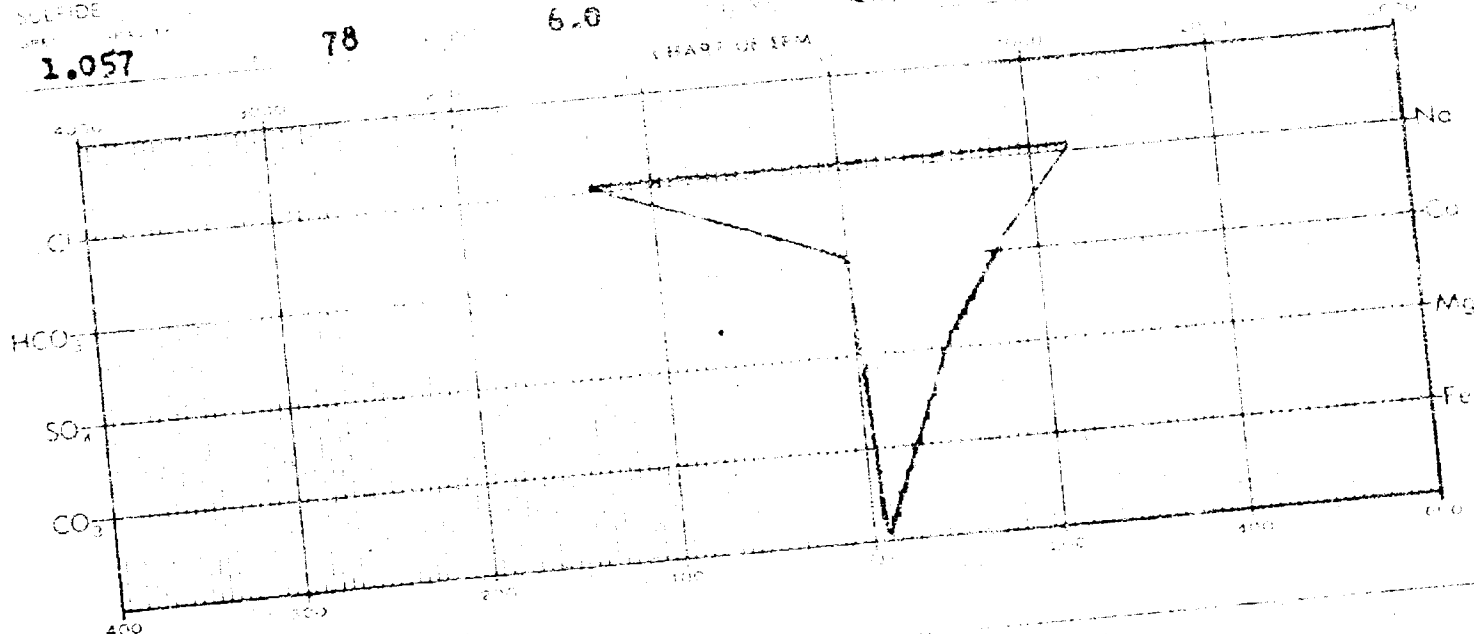
1.057

78

6.0

2.1

7.808



REMARKS

cc: Sunray-Mid-Continent (8 copies)
Hurst, Rosene, Stewart, file

Rosson

Sept. 8, 1958

10247



DOWELL INCORPORATED

FIELD LABORATORY REPORT

WATER ANALYSIS

Sunray MidContinent Oil Co.
Box 128,
Hobbs, New Mexico

Hobbs, New Mexico MX 0769

Sunray N. State I #1

A Lane Wolfcamp

Lee New Mexico

DATE RECEIVED

September 6, 1958

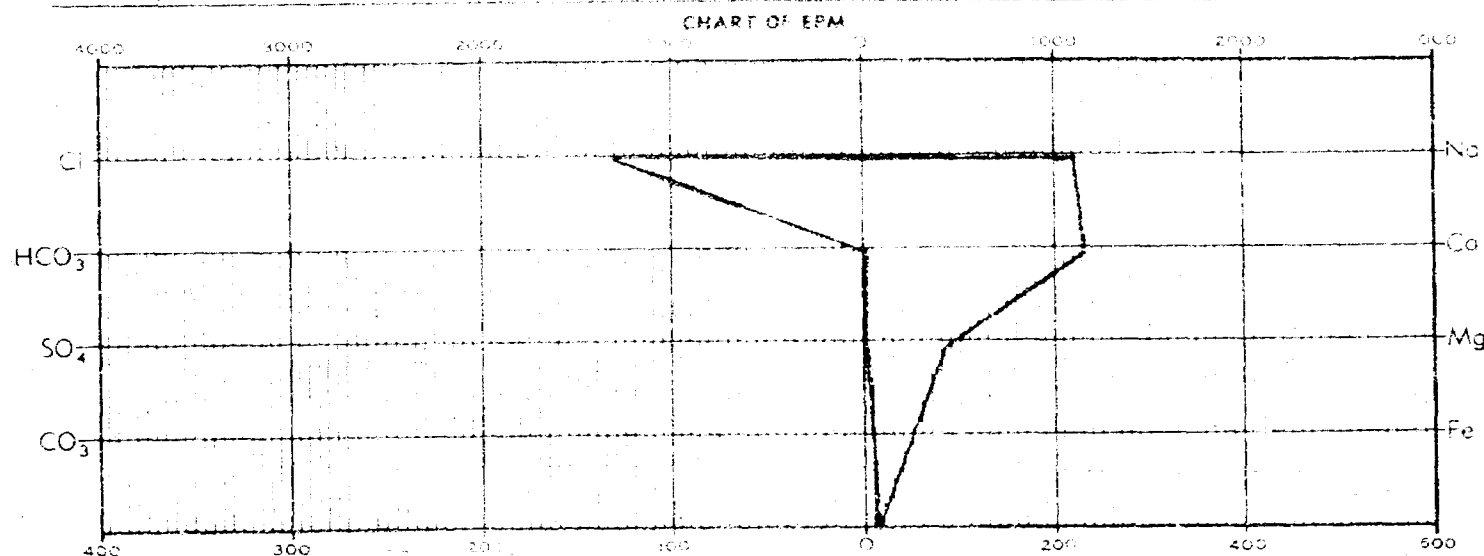
SEPARATOR

Separator

Wolfcamp zone

complete

	ITEM	ITEM	ITEM	ITEM
CALCIUM	4,480	224	48,200	1360
MAGNESIUM	890	73	190	3.9
SODIUM	24,600	1070.7	243	3.8
IRON				
HYDROGEN SULFIDE				
DENSITY	1.063	AT 78	PH 6.0	CaCl ₂ MgCl ₂ 3.55
				7.712



REMARKS

cc: Sunray Mid-Continent (8 copies)
Hurst, Rosene, Stewart, file

Repson:

Sept, 8, 1958

DOCKET: EXAMINER HEARING OCTOBER 22, 1958

Oil Conservation Commission 9 a.m. Mabry Hall, State Capitol, Santa Fe

The following cases will be heard before Elvis A. Utz, Examiner:

- CASE 982: Application of Humble Oil & Refining Company for the amendment of a unit agreement. Applicant, in the above-styled cause, seeks an order amending the South Four Lakes Unit Agreement approved by Order R-710 to enlarge the unit area to include the N/2 SW/4 of Section 1, Township 12 South, Range 34 East, Lea County, New Mexico.
- CASE 1527: Application of Tennessee Gas Transmission Company for permission to commingle the oil produced from two separate oil pools. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the oil produced from its State A. A. Kennitz "B" Well No. 5, located in the SW/4 NW/4 of Section 25, Township 16 South, Range 33 East, Lea County, New Mexico, from the Kennitz-Wolfcamp Pool and an undesignated Pennsylvanian (Cisco) pool. Applicant proposes to separately meter the production from each zone prior to commingling.
- CASE 1528: Application of Tennessee Gas Transmission Company to commingle the production from two separate oil pools from three of its state leases. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the oil produced from the Kennitz-Wolfcamp and Kennitz-Cisco Pools from the wells on its State "B", State "C" and State "D" Leases located in Sections 21 and 28, Township 16 South, Range 34 East, Lea County, New Mexico.
- CASE 1529: Application of Kersey & Company for permission to commingle production from two separate oil pools. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the production from the Grayburg-Jackson Pool and the Fren Pool from two wells located on the SE/4 SW/4 of Section 16, Township 17 South, Range 31 East, Eddy County, New Mexico. Applicant does not propose to meter the production from each pool.
- CASE 1530: Application of Rice Engineering & Operating, Inc. for an order authorizing a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water through its E-M-E SWD Well No. A-32 to be located 1320 feet from the North and East lines of Section 32, Township 21 South, Range 36 East, Lea County, New Mexico. Applicant proposes to inject the produced salt water into the San Andres formation in the interval from 4250 feet to 4600 feet.

- CASE 1531: Application of Rice Engineering & Operating, Inc. for an order authorizing a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water through Amerada Petroleum Corporation's Adkins Well No. 2, located 990 feet from the South line and 330 feet from the West line of Section 5, Township 20 South, Range 37 East, Lea County, New Mexico. Applicant proposes to inject the produced salt water into the San Andres formation in the interval from 4490 feet to 4950 feet.
- CASE 1532: Application of Sunray Mid-Continent Oil Company for an order authorizing a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water through its Hobbs "G" Well No. 1, located 1980 feet from the North and West lines of Section 36, Township 9 South, Range 33 East, Lea County, New Mexico. Applicant proposes to inject the produced salt water through the well bore into the Pennsylvanian formation in the interval from 9834 feet to 9865 feet.
- CASE 1533: Application of El Paso Natural Gas Products Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its Frontier No. 1-B Well, located 890 feet from the South line and 890 feet from the East line of Section 9, Township 27 North, Range 11 West, San Juan County, New Mexico, in such a manner as to permit the production of oil from an undesignated Gallup oil pool and the production of gas from an undesignated Dakota gas pool through parallel strings of tubing.
- CASE 1534: Application of Zapata Petroleum Corporation for permission to commingle production from nine non-contiguous state leases. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the production from nine separate state leases in the Vacuum Pool, all in Townships 17 and 18 South, Range 35 East, Lea County, New Mexico.
- CASE 1535: Application of Carper Drilling Company for permission to commingle the oil produced from two separate oil pools. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the production from three wells completed in the Corbin Pool and one well completed in the Maljamar Pool, all on its Wyatt lease in Sections 33 and 34, Township 17 South, Range 33 East, and Section 5, Township 18 South, Range 33 East, Lea County, New Mexico, and to ascertain the production from each well by means of periodic tests.
- CASE 1536: Application of Shell Oil Company for permission to commingle the oil produced from four separate leases. Applicant, in the above-styled cause, seeks an order authorizing it to commingle the production from four separate state leases in Sections 8 and 9, Township 16 South, Range 34 East, Hume-Queen Pool, Lea County, New Mexico.

CASE 1537: Application of Pure Oil Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its South Vacuum Unit No. 2-35 Well, located 1980 feet from the South line and 860 feet from the East line of Section 35, Township 18 South, Range 35 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the South Vacuum-Devonian Pool and gas from an undesignated McKee gas pool through parallel strings of tubing.

CASE 1538: Application of Aztec Oil & Gas Company for the assignment of minimum allowables to certain gas wells in the Fulcher Kutz-Pictured Cliffs Gas Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order assigning minimum allowables to the following described gas wells in the Fulcher Kutz-Pictured Cliffs Gas Pool in order to prevent premature abandonment of said wells:

Cossens No. 3 and No. 4 Wells, both in Section 20, Township 29 North, Range 11 West;
Hart No. 1 Well, Section 11, Township 29 North, Range 12 West;
Holder No. 1 Well, Section 29, Township 30 North, Range 12 West;
Cornell No. 3 and No. 4 Wells, both in Section 12, Township 29 North, Range 12 West;

all in San Juan County, New Mexico.

CASE 1539: Application of T. J. Sivley for an exception to the casing requirements for the potash-oil area in Eddy and Lea Counties, New Mexico. Applicant, in the above-styled cause, seeks an order authorizing an exception to the casing requirements for the potash-oil area as set forth in Order R-111-A for its Federal-Silver No. 1, an exploratory well to be located 1980 feet from the South and East lines of Section 28, Township 20 South, Range 34 East, Lea County, New Mexico. Applicant proposes to drill with cable tools to the Yates formation. The casing program of applicant is as follows:

13-3/8" Casing in top of red bed at approximately 70 feet.

10-3/4" Casing as cave string to about 700 feet.

8-5/8" Casing, this being the water shutoff string to approximately 1250', but in any event below water.

5-1/2" Casing to be set at a point selected by operator above pay zone expected to be encountered at 3625', but in no event to exceed a depth greater than 600 feet below the base of salt.

That the applicant should be permitted to pull all casing except the 5-1/2" production string in the event that commercial oil or gas is found.

-4-
Docket No. 28-58

CASE 1540: Application of E. P. Campbell for an exception to Rule 505 of the Commission Rules and Regulations. Applicant, in the above-styled cause, seeks an order granting an exception to Rule 505 of the Commission Rules and Regulations and assigning an allowable proportional factor of 1.33 for the oil pool in the Abo formation discovered by applicant's Cockerham No. 1 Well, NE/4 NE/4 Section 34, Township 18 South, Range 26 East, Eddy County, New Mexico, even though the depth of the casing shoe is 4205 feet. The top of the Abo pay is at approximately 5280 feet in the above-described well.

CONTINUED CASE

CASE 1516: Application of El Paso Natural Gas Company for two non-standard gas proration units and for the approval of one unorthodox gas well location. Applicant, in the above-styled cause, seeks an order establishing a 120-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the N/2 SW/4 and the SW/4 SW/4 of Section 4, Township 25 South, Range 37 East, said unit to be dedicated to the applicant's Wells Federal No. 3 Well located 1980 feet from the South and West lines of said Section 4. Applicant further seeks the establishment of a 200-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the SE/4 SW/4 of Section 4 and the NW/4 of Section 9, Township 25 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Wells Federal No. 11 Well located 430 feet from the South line and 2317 feet from the West line of said Section 4. Applicant further seeks approval of the unorthodox gas well location of the said Wells Federal No. 11 Well.

Case 1532

SUNRAY MID-CONTINENT OIL COMPANY

MAIN OFFICE UCC

P. O. BOX 2032

DESA 2. OMAHA

1958 SEP 16 PM 2:53
R. E. FORT, VICE PRESIDENT
R. W. GRIFFITH, ASST. TO THE VICE PRESIDENT
W. S. PATTON, JR., MANAGER
ENGINEERING DIVISION

PRODUCTION DEPARTMENT
September 15, 1958

C. J. KERWIN, SUPERINTENDENT
OIL DIVISION
L. C. RODGERS, GENERAL MANAGER
GAS DIVISION
J. M. DOUMA, MANAGER
JOINT OPERATIONS DIVISION

New Mexico Oil Conservation Commission
125 Mabry Hall
Santa Fe, New Mexico

Gentlemen:

Enclosed are three copies of an application of Sunray Mid-Continent Oil Company for an order authorizing the disposal of salt water into the Lane Pennsylvanian Oil Pool, Lea County, New Mexico. Will you please set this matter for hearing before either the Commission or an examiner after giving proper notice.

Very truly yours,

SUNRAY MID-CONTINENT OIL COMPANY

William R. Loar
William R. Loar
Chief Proration Engineer

WRL/at
Attachments

*Docket mailed
10-8-58
B P*



D-X SUNRAY OIL COMPANY IS A WHOLLY-OWNED REFINING & MARKETING SUBSIDIARY