

CASE 2942: Application of SUNRAY  
DX OIL CO. for creation of a new  
BOUGH "C" OIL POOL, Lea County.

*Handwritten notes:*  
SUNRAY  
DX OIL CO.  
BOUGH "C" OIL POOL

CASE No.  
2942

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.

DRAFT

JMD/esr

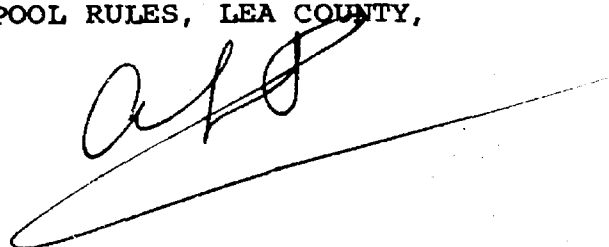
BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

  
CASE No. 2942

Order No. R-2045-A

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR THE CREATION OF A NEW POOL AND  
FOR TEMPORARY POOL RULES, LEA COUNTY,  
NEW MEXICO.

  
ORDER OF THE COMMISSION

BY THE COMMISSION:

de novo

This cause came on for hearing/at 9 o'clock a.m. on  
April 15, 1964, at Santa Fe, New Mexico, before the Oil Conser-  
vation Commission of New Mexico, hereinafter referred to as the  
"Commission."

record, NOW, on this \_\_\_\_\_ day of April, 1964, the Commission,  
a quorum being present, having considered the ~~testimony presented~~  
~~and the exhibits received at said hearing,~~ 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. ---~~

That the applicant's request for dismissal should be  
granted.

IT IS THEREFORE ORDERED:

That the application of Sunray DX Oil Company for a hearing  
de novo is hereby dismissed.

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 20, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Sunray DX Oil Company for  
the creation of a new oil pool and for special  
temporary pool rules, Lea County, New  
Mexico.

Case No. 2942

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 20, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Sunray DX Oil Company  
for the creation of a new oil pool and for  
special temporary pool rules, Lea County,  
New Mexico.

CASE NO.  
2942

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 2942.

MR. DURRETT: Application of Sunray DX Oil Company for  
the creation of a new oil pool and for special temporary pool  
rules, Lea County, New Mexico.

MR. WHITE: If the Examiner please, Charles White,  
Santa Fe, New Mexico, appearing on behalf of the applicant. We  
have two witnesses to be sworn at this time.

(Witnesses sworn)

PAUL J. BEAVER,  
called as a witness herein, having been first duly sworn, was  
examined and testified as follows:

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## DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your name for the record?

A Paul J. Beaver.

Q Whom are you employed and in what capacity?

A Employed by Sunray DX Oil Company, Division Geologist, Southwest Division, Midland, Texas.

Q Have you previously testified before this Commission or Examiner and have your qualifications been accepted?

A Yes, sir.

Q Are you familiar with the subject application?

A Yes, sir.

Q Will you briefly state what Sunray is seeking?

A We are seeking temporary pool rules for wildcat discovery well, which we drilled in Township 10 South, Range 34 East. A discovery well, which is located on subject Exhibit One there. In the Southwest Southwest of the Section 16, Township 10, Range 34 East.

Q Further referring to Exhibit Number One, will you continue to explain that exhibit?

A All of the Sunray DX acreage is colored yellow on this land plat. You will note that there is a red outline of the Southwest Quarter of Section 16, Southeast Quarter of Section 17, Northeast Quarter of Section 20, and the Northwest Quarter of Section 21. This is a working unit operated by Sunray DX. We

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have acquired all of the lands in support of our State "AO" Number One, with the exception of the Penrose tract, being the North Half of the Northwest Quarter of Section 21, and he is a working interest operator in this working unit.

Q In other words, you have acquired your interest in the Southeast Quarter of Section 17?

A Yes, sir.

Q And the Southwest of the Northeast of Section 20?

A Yes, sir.

Q What is Sunray's working interest?

A We have a 7/8ths working interest and Neville Penrose has a 1/8th working interest.

Q This also shows the offset operators?

A Yes.

Q Now, will you refer to and explain Exhibit Number Two?

A Exhibit Number Two is a lateral log survey run by Schlumberger on the Number One "AO" State, with the log commencing immediately above 4100, below the casing. The tops are marked there in red. First one being the top of the Wolfcamp, encountered at 9,070 feet, minus 4845. The top of the Waco Exhibit Point at 9344 minus 5119. The base of the Three Brothers formation, which is our mapping horizon, was encountered at 9730 minus 5505, with the Bough "C" encountered at 9929 minus 5704. We encountered four feet of net pay in the subject well, which is colored in red there. Perforated the well from 9933 to 39, and potentialled it from 230

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barrels of oil per day flowing. On 10-31-63, the well was total deepthed at 10,400 feet in the Pennsylvanian Section with no shows reported below the encountered production.

Q Now, will you refer to your sub-surface map and explain that, please?

A The next exhibit is a sub-surface map contoured on the basis of the Three Brothers point on a contour interval of 50 feet and a scale of one inch equals 4,000 feet. The working unit I do not think is outlined on this map, but it is the same four quarter sections, which we discussed. The closest production to the Northwest is the Lane, approximately four miles and the production to the Southwest is approximately four miles to the Lane, south.

Q In your opinion, is this a new and previously unencountered source of supply within this area?

A Yes, sir.

Q What do you consider the vertical limits and horizontal limits of this pool to be?

A I think the vertical limits of this field should be 9850 to 10,050 feet, and the horizontal limits to be Sections 16, 17, 20, 21, with a possibility that the North Half of Section 29, 28, and the West Half of Sections 15, 22, and the Northwest Quarter of Section 29, should be the horizontal limits of this reservoir.

Q What do you name, or what name do you suggest be given this pool?

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A I suggest we name it Simanola, which is the name of a physiographic feature in this area.

Q Does that conclude your testimony?

A Yes, sir, it does.

Q Were these exhibits prepared by you or under your direction?

A Yes, sir.

Q Except as to the log and is it true and correct to the best of your knowledge, and belief?

A Yes, sir.

MR. WHITE: That is all we have on direct.

MR. NUTTER: Are there any questions of this witness?

EXAMINATION

BY MR. NUTTER:

Q Mr. Beaver, you outlined a possible horizontal limit for this pool. How many wells have actually been drilled in that area?

A Only one, sir.

Q What do you base the horizontal limits of your proposed pool on then?

A Strictly on my sub-surface interpretation. If you will note, the Sections 16, 17, 20 and 21 are in my opinion the top approximate 100 feet of the interpretation, and I allowed some outlying area because we do not know where the water table is at this time, if one is present.

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Q This contour is on the base of Three Brothers, which has a marker approximately 200 feet above your perforations here, is that correct?

A Yes, sir. And we consider that a true reflection of the reservoir.

Q What are your vertical limits of 9850 to 10,050 based on?

A Approximately the 200 feet here, which I would consider to be this area on the sub-surface map.

Q What are you going up, approximately 100 feet and down 100 feet from the Bough "C"?

A Yes, sir.

Q Now, Sunray's proposal of 160 acres, do you have anything to substantiate the desirability or need of this 160 acre spacing in that well?

A It would be my opinion that geologically speaking, we should be allowed to develop it on 160 acre spacing, because of the relative thinness of the pay zone, which we consider to be four feet net pay, with excellent permeability.

Q Will the other witness go into permeability and so forth?

A Yes, sir.

MR. NUTTER: Are there any other questions?

MR. DURRETT: Yes. Mr. Beaver, what is the red on your unit one; I mean, on your Exhibit One, is that a unit designation?

A Does it state unit of any kind? Simple working interest between the leasehold interests.



MR. NUTTER: That is an area covered by an operating agreement, which Sunray has 7/8ths and Penrose 1/8th; is that correct?

A Yes, sir.

MR. NUTTER: Is there any other question of this witness?  
He may be excused.

HARRY A. RIGGS,

called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your name for the record, please?

A Harry A. Riggs.

Q By whom are you employed and in what capacity?

A Sunray DX Oil Company, District Production Engineer,  
Hobbs, New Mexico.

Q Have you previously testified before the New Mexico Commission, or one of the Examiners?

A No, sir.

Q Will you briefly give us your educational background and professional qualifications?

A I am a graduate petroleum engineer, from the University of Tulsa, 1949, with 14 years experience, and registered professional engineer in the State of Oklahoma.

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Q All right.

MR. WHITE: The witness' qualifications acceptable?

MR. NUTTER: Yes, sir.

Q (By Mr. White) You are familiar with the subject application, are you not?

A Yes, sir.

Q Will you refer to what has been marked Exhibit Four, and explain that diagramatic sketch?

A Yes, sir. As DX Exhibit Four, completion of the New Mexico State "AO" No. 1, located 660 feet from the South line and 660 feet from the West line, Section 16, Township 10, South, Range 34 East, Lea County, New Mexico. This well was drilled a 17½ inch hole to a depth of 375, ran 375 feet of 13 3/8ths inch OD casing, and it was cemented with 350 sax cement circulated WOC 18 hours, tested casing to 1,000 pounds for 30 minutes, test okay. Drilled 12½ OD hole to 4100 feet, ran 4100 feet 8 5/8 OD casing, cemented with 840 sax cement circulated WOC 18 hours, tested casing to one thousand pounds for 30 minutes, test okay. Drilled 7 7/8ths inch hole to 10,400 feet, ran drillstem test Number Two, 9878 to 9992, packers failed, spotted 25 sax cement plug, from 10,400 back to 10,313, and 50 sax cement plug from 10,151 back to 9961, WOC 18 hours, drilled cement to plug back total depth of 10,088 feet, ran drillstem test Number Three, interval 9884 to 10,088. Tool open 120 minutes, gas to surface in three minutes, mud to the surface in 42 minutes, oil to the surface in

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56 minutes, flow rate estimated at five to ten barrels per hour, surface choke 5/8ths inches, surface flowing pressure 550 PSI, observed gravity 46.1 degrees at six - - API at 60 degrees FH, initial hydrostatic pressure 5339 PSI, final pressure 5296 PSI, 40 minute initial shut in pressure 3409 PSI, final flow pressure 2734 PSI, final shut in pressure for one hundred minutes, 3409 PSI. Ran 10,041 feet 5½ inch OD casing, and cemented with 225 sacks, top of the cement 9390 feet by temperature survey. Tested casing to two thousand pounds for 30 minutes, test okay. Ran Lane-Wells PFC logs from 10,010 feet to 9,700 feet, perforated the Penn Bough "C" reservoir from 9933 to 9939 with two Type E bullets per foot. Ran Baker Model "R" production packer on 2 3/8ths inch OD tubing, packer at 9894, tubing point 9956, acidized perforations were five hundred gallons of acid, put well on test, well potentialled flow 230 barrels oil, no water, in 24 hours. Surface choke 12/64ths inches, flowing tubing pressure 850 PSI, gravity 45.6 degrees API, at 60 degrees FH. Gas production 195.5 MCF, gas-oil ratio 850 to one.

Q What is the present status of the well?

A The well is properly producing on a 40 acre allowable.

Q Will you now refer to Exhibit Five and explain the reservoir data?

A Exhibit Five is the reservoir data and volumetric reserve calculations on our New Mexico State "AO" Number One. The porosity is 8 %, the net pay, four feet, the water saturation,



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15%, the formation volume factor, 1.4, recovery factor, 35 percent, and gas liquid ratio of 1.498 MCF per barrel. The first three items, porosity, net pay, and water saturation, are from log analysis of our New Mexico State "AO" Number One. The volumetric calculations of gross reserve per acre foot is from the volumetric formulation and calculations to be 132 barrels per acre foot. A comparison on 160 acre spacing gives us a gross reserve of 84,480 barrels whereas, it gives us 42,240 barrels on 80 acre spacing.

Q Do you consider the porosity good?

A I consider, in my opinion, the porosity to be average.

Q How about the permeability?

A From flow tests run, subsequent to the potential, in my opinion, it is indicated that the permeability is good.

Q Will you refer to and explain Exhibit Six?

A Exhibit Six is a detailed estimated cost analysis to drill and complete a well in the Simanola area in the Penn Bough "C" Reservoir at the approximate sub-surface depth of 10,000 feet.

The intangible costs which are detailed on Exhibit Six, total 90,700.00. The tangible costs, which are detailed on Exhibit Six, total fifty-two thousand five hundred, giving a total estimated cost of \$143,200.00.

Q Now, will you refer to Exhibit Seven, and give the economic analysis for the State Well "AO" Number One?

A Exhibit Seven is an economic analysis of our New Mexico State "AO" Number One. A comparison is made on 160 acre spacing



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and on 80 acre spacing, using the calculated total reserves in gross barrels for 160 acre spacing, 84,480, for 80 acre spacing, 42,240, less 1/8th royalty. In 160 acre spacing, would be 10,560, 80 acre spacing would be 5,280. Net oil to the producer in barrels for 160 acre spacing, 73,920, and 80 acre spacing, 36,960. Calculating the gross income at \$2.99 a barrel, for 160 acre spacing would be \$221,021.00. For 80 acre spacing, \$110,511.00. Whereby, you would take your operating cost, and your operating cost for 160 acres, the well cost \$143,200.00. This cost does not include investment for pipeline to market outlet, and operating expense of \$42,240.00, based on fifty cents a barrels, which includes trucking charges. Our production taxes at 4.64 percent would be \$10,349.00, giving a total operating cost on 160 acre spacing, \$195,789.00, comparing the 80 acre spacing, well costs being the same, \$143,200.00, operating costs being \$21,120.00, production taxes being \$5,174.00, thus giving you an operating cost of, on 160 acres, \$195,789.00, and 80 acres of \$169,494.00, giving a profit from Federal Income Tax, on 160 acres, \$25,232.00 and 80 acre spacing, a debit of \$58,983.00. Discounting present worth at 5 percent on the two year life compared to the Penn Bough "c" Reservoir, in the Allison Penn Field, gives \$21,796.00, which gives a discounted profit from Federal Income Tax per dollar invested of fifteen cents.

Q In your opinion, Mr. Riggs, will one well economically and efficiently drain in excess of 160 acres in this area?



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A In my opinion, one well will drain in excess of 160 acres.

Q On what do you base this conclusion?

A I base the conclusion on the well test, which indicates good permeability and on the fact comparing the same reservoir to the same reservoir in the Allison Penn Field, which core analysis indicate the permeability to be in excess of 1,000 millidarcies. I think this well will drain 160 acres.

Q What temporary pool rules do you recommend?

A Sunray DX Oil Company recommends the wells be located on or within a unit comprising the center ten acres of the center 40 acres of the 160 acre proration unit, with 150 foot tolerance for surface irregularities with the exception of our New Mexico State "AO" Number One, which has been completed.

Q That well was drilled as a discovery well?

A Yes, sir. That well was drilled as a discovery well.

Q You recommend 160 acre proration unit?

A Yes, sir.

Q Would you mind stating a little more in detail as to why you recommend a location be ten acres within 40 acres of the center?

A It is my understanding that the state wide standard oil well locations allow a well to be drilled within the center ten acre tract of a 40 acre tract. Also, this will establish a more uniform drilling pattern and also, if the well will drain





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160 acres, there is no reason for any exception.

Q The granting of your application, in your opinion, will eliminate the drilling of unnecessary wells?

A Yes, sir.

Q Will bring about an earlier development of the pool?

A Yes, sir.

Q In the event this application is granted, will you conduct interference tests?

A Yes, sir. We will conduct interference tests, with the future producing wells. Also, we will core the Penn Bough "C" Reservoir in future drilled wells to this reservoir.

Q Are these exhibits true and correct to the best of your knowledge and belief?

A Yes, sir.

Q Does this conclude your testimony?

A Yes, sir.

MR. WHITE: At this time, we offer Exhibits One through Seven in evidence.

MR. NUTTER: Sunray's Exhibits One through Seven will be admitted in evidence.

MR. WHITE: This concludes our testimony.

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

MR. DURRETT: Mr. Riggs, what are your present plans as far as future development, if your application is granted?

A It is my understanding that we have a well pending to be



drilled. The location I do not know. The geological witness does. And as soon as the application is granted, drilling will be commenced on this prospect.

MR. DURRETT: Now, on your locations you are requesting the center ten acres of a 40 acre tract?

A Yes, we are requesting that.

MR. WHITE: That is correct.

A That is correct.

MR. DURRETT: You want 150 feet of tolerance from the center?

MR. WHITE: That is correct. As I understand it, be the same as standard spacing for 40 acres.

MR. DURRETT: That is all I have.

EXAMINATION

BY MR. NUTTER:

Q Mr. Riggs, Sunray operates wells in the Allison Penn Pool, does it not?

A Yes, sir.

Q How do the reserves for this well, as estimated here on your Exhibit Number Seven, compare with your estimates with reserves in the Allison Penn?

A The reserves, as shown on Exhibit Seven, are lower than they are in the Allison Penn Field due to the fact that we have less net feet of pay in the New Mexico State "AO" Number One.

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Q Is the Allison Penn producing from the Bough "C"?

A Yes, sir.

Q What is the net feet of pay in the Bough "C" there?

A In one well, I believe that it is 18 feet. I am not sure.

Q But, you attribute four feet of net pay in this well?

A Yes, sir.

Q What is this pool Southwest of this field on your Exhibit Number One? I presume there is a pool indicated Southwest of here approximately four miles.

A It is my understanding that this is the Lane South Pool.

Q That is producing from what formation?

A It is my understanding that it is producing from the Penn Bough "C" Reservoir.

Q Do you have any knowledge as to the net feet of pay in the Bough "C" there?

A No, sir.

Q And your computation of economics here, you have included this trucking cost in your operating expense of five cents a barrel.

A 15 cents a barrel.

Q Your total was, that is 15 cents trucking?

A Yes, sir.

Q Do you anticipate you will have to truck this oil?

A No, sir. We are approximately four miles from a pipeline.



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Q So, you expect that possibly your operating cost may be reduced then when you get a pipeline connection?

A Yes, sir. Yes, sir.

Q Have you included the value of the casinghead gas in your estimate of reservoir- - reserves or values here?

A I have not. No, sir.

Q Do you know whether this pool to the Southwest has casinghead gas connections, or not?

A I do not know, sir. Our State "I" lease, which is in the Lane Ranch Pool to the northwest, has a casinghead gas connection to the Warren Petroleum Company, which we anticipate having one on our New Mexico State "AO" within the near future.

Q Outside of the trucking cost, your operating cost would be 35 cents a barrel?

A Approximately 35 cents a barrel, yes, sir.

Q Is that the operating cost that you have experienced in the Allison Penn?

A Yes, sir. That is an average operating expense that we have expended in the Allison Penn, except for the later stages of depletion, which has run considerably higher than that.

Q This is the operating cost during- -

A That is an average operating cost during the life of the production, which at the first may be a little lower, at the end it is much higher. So, it - - the average cost was taken to be 50 cents a barrel, which includes the present trucking charge.



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Q I see. You don't have any actual measurements of permeability here at this time?

A No, sir. That is the reason we are asking for temporary pool rules, so that we can take interference tests and then, come back for permanent field rules.

Q Would you find out what the location of your next well will be and put that in the record, please?

MR. WHITE: Can you do that, Mr. Beaver?

A I believe Mr. Beaver can give us that information, Mr. Examiner.

MR. BEAVER: The next well will be located 1650 from the South, 990 from the East line.

MR. NUTTER: 1650- -

MR. BEAVER: 1650 from the South line and 990 from the East line.

MR. NUTTER: Of Section- -

MR. BEAVER: 17, 10-34.

MR. NUTTER: Are there any other questions of Mr. Riggs?

MR. DURRETT: Yes, sir. I have another question. Mr. Riggs, based on the present normal unit allowables in Southeast New Mexico, what would the allowable be for a well on 160 acre spacing, if your application was granted?

A We would prefer to produce at a maximum allowable of 80 acres, and would rather have, in the interest of prolonging the life of the reservoir, a 40 acre allowable.



MR. DURRETT: Then, you would request 160 acre well spacing with 80 acre allowable for 40 acres?

A Prefer the 40, yes, sir.

MR. DURRETT: Now, your discovery well, it can make 40 acre allowable right now; is that correct?

A That is correct, yes, sir.

MR. DURRETT: Can it make an 80?

A Yes, sir.

MR. DURRETT: Can't make 160, can it?

A It was tested on one flow test, it was not flowed at 160 acre allowable, but at the present time, it is my opinion that the well could make 160 acre allowable, but for not a prolonged period of time.

MR. DURRETT: Do you think it would drop off right away?

A Yes, I think it would. In the interest of conservation of energy, those are our recommendations.

MR. DURRETT: You would prefer 40?

A Yes, sir.

MR. NUTTER: What is 40 acre allowable, Mr. Riggs?

A 148 barrels.

MR. NUTTER: Are there any other questions of Mr. Riggs? He may be excused. Do you have anything further, Mr. White?

MR. WHITE: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2942?

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MR. DURRETT: Yes, sir. I have a question. Mr. White, just in order to clarify something here, does your client propose to prohibit the drilling of more than one well on 160 acres as such? In other words, what I am getting at, do you request the normal standard proration unit provisions in the order?

MR. WHITE: Restricted to 160.

MR. DURRETT: In other words, you want to prohibit the drilling of more than one well?

MR. WHITE: Yes, sir, that is correct.

MR. CARNES: I am John P. Carnes, of Sun Oil Company, Roswell, New Mexico. We have a statement to make.

MR. NUTTER: Would you proceed?

MR. CARNES: We have one witness, who will make the statement. Mr. R. L. Layden.

MR. NUTTER: Is this going to be sworn testimony or just a statement?

MR. CARNES: Just a statement. Mr. Layden is District Geologist for Sun Oil Company, Roswell, New Mexico.

MR. LAYDEN: Sun Oil Company supports the application of Sunray-DX Oil Company for temporary 160-acre spacing for the new Bough "C" pool found in its New Mexico-State "AO" well Number One, in Lea County, New Mexico. However, Sun requests that the distance from drilling unit lines be 660 feet rather than 990 feet in order to provide sufficient flexibility to permit efficient

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well location. We note that the Commission has previously provided for such flexibility in the 160-acre spacing orders adopted for the Lusk-Strawn pool of Lea County ---which established 660 feet distances from section lines---and for the Puerto-Chiquito-Gallup pool of Rio Arriba County---which established the requirement that wells be located within 165 feet of the center of a governmental quarter-quarter section. We respectfully request that the necessity for such flexibility continue to be recognized by setting the distance requirement in the subject field at 660 feet from drilling unit line.

MR. NUTTER: Thank you. Does anyone have anything further they wish to offer in Case 2942? Take the case under advisement.

\* \* \* \* \*





STATE OF NEW MEXICO X

COUNTY OF BERNALILIO X

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

WITNESS my Hand and Seal of Office, this 19th day of December, 1963.

*Roy D. Wilkins*  
NOTARY PUBLIC

My Commission Expires:  
September 6, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2942, heard by me on 11/20, 1963.

*[Signature]*, Examiner  
New Mexico Oil Conservation Commission

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DRAFT

JMD/esr

January 29, 1964

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. 2942

Order No. R- 2645

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR THE CREATION OF A NEW OIL POOL  
AND FOR SPECIAL TEMPORARY POOL RULES,  
LEA COUNTY, NEW MEXICO.

  
ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 20, 1963, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter <sup>x</sup> ~~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 leave blank day of January, 1964, the Commission, a quorum being present, having considered the ~~application of the~~ testimony, ~~the record, evidence and~~ the record, ~~and the~~ and the recommendations of the Examiner, ~~and the~~ 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, Sunray DX Oil Company, seeks an order creating a new Bough "C" oil pool in Lea County, New Mexico, and promulgating temporary special rules and regulations establishing 160-acre spacing and fixed well locations in said pool.

(3) That the applicant's New Mexico State "AO" Well No. 1, located in Unit M of Section 16, Township 10 South, Range 34 East, NMPM, Lea County, New Mexico, has encountered a separate common source of supply which should be designated the Simanola-Pennsylvanian Pool.

(4) That the applicant's New Mexico State "AO" Well No. 1 was completed October 31, 1963; that the top of the perforations

in the Pennsylvanian formation in said well is at 9933 feet.

(5) That although the evidence concerning reservoir characteristics and economics will not justify temporary 160-acre spacing, temporary special rules and regulations providing for 80-acre spacing should be promulgated for the subject pool in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights.

(6) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(7) That the temporary special rules and regulations promulgated herein should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(8) That this case should be reopened <sup>J. Bradley</sup> in January, 1965, at which time the operators in the Simanola-Pennsylvanian Pool should appear and show cause why said pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That a new pool in Lea County, New Mexico, classified as an oil pool for Pennsylvanian production is hereby created and designated the Simanola-Pennsylvanian Pool with vertical limits comprising the Pennsylvanian formation and horizontal limits consisting of the following-described area:

NEW MEXICO PRINCIPAL MERIDIAN

LEA COUNTY, NEW MEXICO  
TOWNSHIP 10 SOUTH, RANGE 34 EAST  
Section 16: SW/4  
Section 17: SE/4  
Section 20: NE/4  
Section 21: NW/4

(2) That Special Rules and Regulations for the Simanola-Pennsylvanian Pool are hereby promulgated as follows, effective February 15, 1964.

SPECIAL RULES AND REGULATIONS  
FOR THE  
SIMANOLA-PENNSYLVANIAN POOL

RULE 1. Each well completed or recompleted in the Simanola-Pennsylvanian Pool or in the Pennsylvanian formation within one mile of the Simanola-Pennsylvanian Pool, and not nearer to or within the limits of another designated Pennsylvanian pool, shall be spaced, drilled, <sup>operated,</sup> and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Simanola-Pennsylvanian Pool shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a single governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a single quarter-quarter section or lot. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. The first well drilled on every standard or non-standard unit in the Simanola-Pennsylvanian Pool shall be located within 200 feet of the center of either the NE/4 or the SW/4 of a governmental quarter section. *All wells shall be located within 200 feet of the center of a governmental quarter-quarter section.*

RULE 5. The Secretary-Director may grant an exception to the <sup>features</sup> requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon, <sup>provided the well will be located no nearer than 330 feet to the center boundary of the unit.</sup> All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) in the Simanola-Pennsylvanian Pool shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable in the Simanola-Pennsylvanian Pool as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Pennsylvanian formation within the Simanola-Pennsylvanian Pool or within one mile thereof that will not comply with the well location requirements of Rule 4 is hereby granted an exception to said rule; that the operator of any such well shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before <sup>February 15,</sup> ~~March 1,~~ 1964.

(2) That any operator desiring to dedicate 80 acres to a well presently drilling to or completed in the Simanola-Pennsylvanian Pool shall file a new Form C-128 with the Commission on or before <sup>February 15,</sup> ~~March 1,~~ 1964.

-5-

CASE No. 2942

(3) That this case shall be reopened at an examiner hearing in <sup>February</sup> ~~January~~, 1965, at which time the operators in the subject pool may appear and show cause why the Simanola-Pennsylvanian Pool should not be developed on 40-acre spacing units.

(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.

DOCKET: EXAMINER HEARING - WEDNESDAY - NOVEMBER 20, 1963

9:00 A. M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

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

- CASE 2939: Application of Texaco Inc. for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Square Lake 31 Unit Area comprising 480 acres, more or less, of Federal land in Section 31, Township 16 South, Range 30 East, Eddy County, New Mexico.
- CASE 2940: Application of Texaco Inc. for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Square Lake Pool, Eddy County, New Mexico, by the injection of water into the Premier Sand through six wells located in Section 31, Township 16 South, Range 30 East.
- CASE 2941: Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (tubingless) of its L. R. Kershaw Well No. 9, located in Unit B of Section 13, Township 20 South, Range 37 East, Lea County, New Mexico, to produce oil from the Skaggs Glorieta and East Weir Blinebry Pools and gas from the Weir Tubb Gas Pool through parallel strings of 2 7/8 inch casing cemented in a common well bore.
- CASE 2942: Application of Sunray DX Oil Company for the creation of a new oil pool and for special temporary pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Bough "C" Oil Pool for its New Mexico State "AO" Well No. 1, located in Unit M of Section 16, Township 10 South, Range 34 East, Lea County, New Mexico, and the establishment of temporary pool rules therefor, including a provision for 160-acre proration units and for fixed well locations.
- CASE 2943: Application of Gulf Oil Corporation to combine two existing gas pools, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of the Monument-Ellenburger and Monument-McKee Gas Pools, Lea County, New Mexico, into a single pool to be operated and prorated under the existing rules for the Monument-McKee Pool.

PAGE -2-  
Docket No. 34-63

CASE 2944: Application of Socony Mobil Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for a proposed triple completion in the Vacuum-Devonian, Vacuum-Wolfcamp and North Vacuum-Abo Pools, Lea County, New Mexico, said well to be drilled at a point 600 feet East of the center of the NW/4 SW/4 of Section 36, Township 17 South, Range 34 East.

Oil Conservation Commission

ir/



**CLASS OF SERVICE**  
 This is a fast message unless its deferred character is indicated by the proper symbol.

# WESTERN UNION TELEGRAM

**SYMBOLS**  
 DL = Day Letter  
 NL = Night Letter  
 LT = International Letter Telegram

The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination.

W. P. MARSHALL, PRESIDENT

1220 (R 11-54)

1963 DEC 5 6:13.30

LA109 DB304  
 D MDA138 LONG PD=FAX MIDLAND TEX 5 411P CST=  
 NEW MEXICO OIL CONSERVATION COMMISSION=  
 PO BOX 871 SANTA FE NMEX=

*Handwritten initials*

ATTENTION: MR A L PORTER, JR. SECRETARY-DIRECTOR.  
 REFERENCE IS MADE TO CASE 2942, TEMPORARY FIELD RULES FOR SUNRAY'S NEW MEXICO STATE "AO" NO. 1, WHICH WAS HEARD ON NOVEMBER 20, 1963. HUMBLE OIL & REFINING COMPANY IS IN ACCORD WITH 160-ACRE SPACING BUT WOULD FAVOR MORE FLEXIBILITY IN WELL LOCATION. HUMBLE RECOMMENDS THAT WELL LOCATIONS BE ALLOWED 660 FEET FROM GOVERNMENTAL QUARTER SECTION LINES. IF THE ORDER IN THIS CASE HAS NOT BEEN WRITTEN, WE WOULD APPRECIATE YOUR CONSIDERATION OF OUR RELATED RECOMMENDATION. YOURS TRULY,=  
 HUMBLE OIL & REFINING CO H E MEADOWS.=

1963 DEC 5 PM 3:48  
 MAIN OFFICE OCC

=2942 "AO" NO. 1 20 1963 160 660.=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

1 BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

2

3 IN THE MATTER OF THE APPLICATION OF )  
4 SUNRAY OIL COMPANY for an Order )  
5 establishing the creation of the )  
6 Bough "C" Oil Pool and for special )  
7 temporary Pool rules, including )  
8 uniform proration units for the further )  
9 development of the Bough "C" formation )  
10 underlying Sections 16, 17, 20 and 21 )  
11 Township 10 South, Range 34 East, N.M.P.M. )

Case No. 2942

9

10

A P P L I C A T I O N

11

12

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

13

14 Comes now Sunray DX Oil Company and respectfully states and alleges  
15 as follows:

15

16

1. It is the owner and operator of certain oil and gas leases, among  
17 others, within the following described area located in Lea County, New  
18 Mexico, Sections 16, 17, 20 and 21, Township 10 South, Range 34 East, N.M.P.M.

18

19

2. Applicant has drilled and completed its New Mexico "AO" Well No. 1  
20 located in unit 10 of Section 16, Township 10 South, Range 34 East. The  
21 Bough "C" formation was encountered at a depth of approximately 9930 feet  
22 below the surface of the ground and is productive of oil in commercial  
23 quantities.

23

24

3. Applicant believes the Bough "C" formation underlies all or a major  
25 portion of the above-described area and constitutes a new and previously  
26 unencountered common source of supply.

26

27

4. In the interest of preventing waste of oil, the elimination of  
28 unnecessary wells, the recovery of the greatest amount of oil, and the pro-  
29 tection of collateral rights, the vertical and horizontal limits of the pool

29

GILBERT, WHITE AND GILBERT  
ATTORNEYS AT LAW  
SANTA FE, NEW MEXICO

MAIN OFFICE OCC

1963 NOV 4 AM 8:37

1 should be defined and designated and temporary special pool rules established,  
2 including a provision for 160 acre proration units and for fixed well locations.

3 5. Applicant requests that the location of future wells within the  
4 subject area be located on a unit within the 40 acres in the center of the  
5 proration unit, and applicant's New Mexico State "AO" Well No. 1 be declared  
6 an exception thereto.

7 6. Attached hereto is a list of the names and addresses of all  
8 principal lessees or operators known to applicant to be interested in this  
9 application and the hearing thereon.

10 7. This application may be set for hearing before an Examiner if it is  
11 so desired.

12 WHEREFORE, applicant prays that this application be set for hearing,  
13 that notice thereof be given according to law, and that upon the hearing of  
14 this application an Order be entered establishing this unnamed Bough "C"  
15 Pool and temporary special Pool rules, including 160 acre proration units  
16 for the development and production of oil from the Bough "C" formation  
17 common source of supply, and for such other and further relief as the  
18 Commission may deem proper in the premises.

19 DATED at Santa Fe, New Mexico, this 1st day of November, 1963.

20  
21 SUNRAY OIL COMPANY  
22 BY WILLIAM R. LOAR

23 GILBERT, WHITE & GILBERT  
24 BY L. C. White  
25 L. C. White  
26  
27  
28  
29

GILBERT, WHITE AND GILBERT  
ATTORNEYS AT LAW  
SANTA FE, NEW MEXICO

STAIN OFFICE 000

1963 NOV 4 AM 8 37

LIST OF INTERESTED LESSEES OR OPERATORS

GILBERT, WHITE AND GILBERT  
ATTORNEYS AT LAW  
SANTA FE, NEW MEXICO

- 1
- 2
- 3 HANCOCK OIL COMPANY CABOT CORPORATION  
Address Unknown Box 4395  
Midland, Texas
- 4 HUMBLE OIL & REFINING COMPANY  
Post Office Box 1600 LA MAR HUNT  
Midland, Texas Address Unknown
- 5 HUMBLE OIL & REFINING COMPANY
- 6 Post Office Box 120
- 7 Denver, Colorado
- 8 PENROSE PRODUCTION COMPANY
- 9 Box 988
- 10 Eunice, New Mexico
- 11 SUN OIL COMPANY
- 12 Post Office Box 2880
- 13 Dallas 21, Texas
- 14 R. E. WILLIAMS
- 15 Address Unknown
- 16 SKELLY OIL COMPANY
- 17 Box 1650
- 18 Tulsa 2, Oklahoma
- 19 L. C. HARRIS
- 20 Post Office Box 1714
- 21 Roswell, New Mexico
- 22 MARATHON OIL COMPANY, formerly
- 23 OHIO OIL COMPANY
- 24 Post Office Box 3128
- 25 Houston 1, Texas
- 26 NEVILLE G. PENROSE
- 27 1813 Fair Building
- 28 Fort Worth 2, Texas
- 29 R. G. HANAGAN
- 30 Post Office Box 1737
- 31 Roswell, New Mexico
- 32 TIDEWATER OIL COMPANY
- 33 Post Office Box 1404
- 34 Houston 1, Texas
- 35 TIDEWATER OIL COMPANY
- 36 Post Office Box 1231
- 37 Midland, Texas
- 38 MURPHY CORPORATION
- 39 940 Petroleum Club Building
- 40 Denver 2, Colorado

HOBBS OFFICE O. C. C.  
**REQUEST FOR THE EXTENSION OF AN EXISTING POOL**  
OR **Nov 1 8 42 AM '63**  
**THE CREATION OF A NEW POOL**

TO: The Oil Conservation Commission  
State of New Mexico

Date: October 31, 1963

The Sunray Oil Company New Mexico State "AOC"  
Name of Operator Name of Lease

1 Well No. Located 660 feet from the South line and 660 feet  
from the West line of 16 Section 108 Township 31E Range

is outside the boundaries of any pool producing from the same formation. On the basis of the information submitted here-  
with on form C-105, we hereby request that the  
pool be extended to include the following described area.

or that a new pool be created to include the following described area. SW/4 Section 16, T10S, R31E  
Lea County, New Mexico

Suggested name: Bell Point - Penn.

Sunray Oil Company  
Operator

Name of Producing Formation: Penn Bough C  
V. R. Mayabb  
Representative District Engineer

Case 2942 Nov. 20

Dan Nutter

# SUN OIL COMPANY

SOUTHWEST DIVISION  
P.O. BOX 1553  
DALLAS, TEXAS

P. O. Box 1553  
Roswell, New Mexico 88201  
February 6, 1964

TOM F. HILL  
MANAGER  
CECIL A. COLVILLE  
ASSISTANT MANAGER

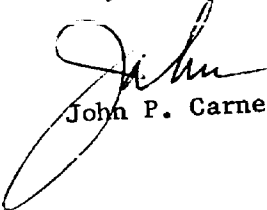
Miss Ida Rodriguez  
Oil Conservation Commission  
State of New Mexico  
Santa Fe, New Mexico

Re: Lse. #97353, Case #2942,  
Order #R2645, T10S, R34E,  
Lea County, New Mexico

Dear Ida:

Thanks very much for the copy of the above captioned order.

Very truly yours,

  
John P. Carnes

JPC\*pma

DOCKET MAILED

Date 3-27-64

DOCKET MAILED

Date 3-5-64

DOCKET: REGULAR HEARING - WEDNESDAY - APRIL 15, 1964

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

- ALLOWABLE: (1) Consideration of the oil allowable for May, 1964;
- (2) Consideration of the allowable production of gas for May, 1964, from ten prorated pools in Lea and Eddy Counties, New Mexico, also consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico for May, 1964.

CASE 3029: Application of Pan American Petroleum Corporation for permission to drill in the Potash-Oil Area, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well to the Mississippian formation at an approximate depth of 12,600 feet, said well to be located 660 feet from the South line and 660 feet from the East line of Section 17, Township 20 South, Range 30 East, Eddy County, New Mexico, or to drill said well at an alternate location anywhere within a circle of 100 feet radius around the Barber Well No. 4-A, located 1639.2 feet from the South line and 2304.5 feet from the East line of said Section 17. The above location and the alternate location are in the Potash-Oil Area as defined by the Commission in Order No. R-111-A as amended.

CASE 2942: (De Novo - Continued from the March Regular Hearing)  
Application of Sunray DX Oil Company for the creation of a new pool and for temporary pool rules, Lea County, New Mexico. Upon application of Sunray DX Oil Company, this case will be heard De Novo under the provisions of Rule 1220. The case may be continued to the next regular hearing.

CASE 3030: Southeastern New Mexico nomenclature case calling for an order for the creations, extensions, abolishment, and contraction of certain pools in Lea, Eddy, and Roosevelt Counties, New Mexico:

- a) CREATE A new oil pool for San Andres production, designated as the Allison-San Andres Pool, and described as:

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM  
SECTION 31: NE/4

- b) CREATE A new oil pool for San Andres production, designated as the North Allison-San Andres Pool, and described as:

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM  
SECTION 19: NW/4

- c) CREATE A new gas pool for Pennsylvanian (Morrow) production, designated as the Antelope Ridge-Morrow Pennsylvanian Gas Pool, and described as:

TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM  
SECTION 4: NE/4

- d) CREATE A new oil pool for San Andres production, designated as the Flying "M"-San Andres Pool, and described as:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM  
SECTION 21: NW/4

e) CREATE A new gas pool for Paddock production , designated as the North Paddock Gas Pool, and described as:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM  
SECTION 2: Lots 3, 4, 5, and 6

f) CREATE A new oil pool for San Andres production, designated as the Tamano-San Andres Pool, and described as:

TOWNSHIP 17 SOUTH, RANGE 31 EAST, NMPM  
SECTION 35: SE/4 SE/4

g) ABOLISH the North Justis-Blinebry Pool described as:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM  
SECTION 34: E/2 SE/4  
SECTION 35: S/2 and NE/4  
SECTION 36: W/2

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM  
SECTION 1: W/2  
SECTION 2: ALL  
SECTION 11: N/2

h) EXTEND the Justis Blinebry Pool to include:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM  
SECTION 34: E/2 SE/4  
SECTION 35: S/2 and NE/4  
SECTION 36: W/2

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM  
SECTION 1: W/2  
SECTION 2: ALL  
SECTION 11: N/2, SW/4, and N/2 SE/4  
SECTION 35: SE/4

i) EXTEND the Atoka-San Andres Pool to include:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM  
SECTION 13: SE/4 SW/4

j) EXTEND the South Brunson-Ellenburger Pool to include:

TOWNSHIP 22 SOUTH, RANGE 38 EAST, NMPM  
SECTION 31: SE/4

k) EXTEND the Drinkard Pool to include:

TOWNSHIP 22 SOUTH, RANGE 38 EAST, NMPM  
SECTION 17: NW/4

l) EXTEND the Flying "M"-Abo Pool to include:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM  
SECTION 23: W/2



- 3 - April 15, Nomenclature

m) EXTEND the Gladiola-Wolfcamp Pool to include:

TOWNSHIP 12 SOUTH, RANGE 38 EAST, NMPM  
SECTION 5: SE/4

n) EXTEND the North Hackberry-Yates Pool to include:

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM  
SECTION 29: SE/4 NE/4

o) EXTEND the Inbe-Pennsylvanian Pool to include:

TOWNSHIP 11 SOUTH, RANGE 33 EAST, NMPM  
SECTION 12: SE/4

TOWNSHIP 11 SOUTH, RANGE 34 EAST, NMPM  
SECTION 7: E/2 NW/4

p) EXTEND the North Justis Tubb-Drinkard Pool to include:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM  
SECTION 11: N/2 SE/4

q) EXTEND the Kemnitz-Wolfcamp Pool to include:

TOWNSHIP 16 SOUTH, RANGE 34 EAST, NMPM  
SECTION 27: NW/4

r) EXTEND the Lusk-Strawn Pool to include:

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM  
SECTION 8: SW/4  
SECTION 17: NW/4  
SECTION 19: SW/4  
SECTION 29: SW/4

s) EXTEND the Mescalero-San Andres Pool to include:

TOWNSHIP 10 SOUTH, RANGE 32 EAST, NMPM  
SECTION 11: SW/4

t) EXTEND the Milnesand-San Andres Pool to include:

TOWNSHIP 8 SOUTH, RANGE 34 EAST, NMPM  
SECTION 25: S/2 NE/4

TOWNSHIP 8 SOUTH, RANGE 35 EAST, NMPM  
SECTION 30: NW/4

u) EXTEND the Monument-Tubb Pool to include:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM  
SECTION 3: W/2  
SECTION 9: SE/4  
SECTION 10: NW/4

- 4 - April 15, Nomenclature

u) EXTEND the Oil Center-Blinebry Pool to include:  
TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM  
SECTION 32: SW/4

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM  
SECTION 10: SE/4

w) EXTEND the Paddock Pool to include:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM  
SECTION 22: S/2 SW/4

x) EXTEND the Scharb-Bone Springs Pool to include:

TOWNSHIP 19 SOUTH, RANGE 35 EAST, NMPM  
SECTION 8: NW/4

y) EXTEND the Shugart Pool to include:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM  
SECTION 25: E/2 NE/4

z) EXTEND the Vacuum-Abo Reef Pool to include:

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM  
SECTION 24: SE/4  
SECTION 25: NE/4

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM  
SECTION 3: S/2 SE/4  
SECTION 10: NE/4

aa) EXTEND the East Weir-Blinebry Pool to include:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM  
SECTION 13: NE/4

bb) EXTEND the Artesia Pool to include:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM  
SECTION 7: W/2

cc) CONTRACT the Loco Hills Pool by the deletion of the following area:

TOWNSHIP 18 SOUTH, RANGE 29 EAST, NMPM  
SECTION 7: W/2

GILBERT, WHITE AND GILBERT  
ATTORNEYS AND COUNSELORS AT LAW

BISHOP BUILDING  
SANTA FE, NEW MEXICO

CARL H. GILBERT (1891-1963)  
L. C. WHITE  
WILLIAM W. GILBERT  
SUMNER S. KOCH  
WILLIAM BOOKER KELLY  
JOHN F. MCCARTHY, JR.

November 1, 1963

MAIN OFFICE OCC  
1963 NOV 4 AM 8:37  
POST OFFICE BOX 787  
TELEPHONE 983-4324  
(AREA CODE 505)

*Ord 2942*

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

Attention: Mrs. Ida Rodriguez

Dear Ida:

Enclosed herewith please find Sunray's application  
for the creation of the Bough "C" Oil Pool, etc.

Sincerely,

*Charles*

L. C. WHITE

LCW: bg

DOCKET MAILED

11-8-63  
~~DATE~~

dearnley-meier reporting service, inc.

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

1120 SIMMAS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
February 10, 1965

EXAMINER HEARING

IN THE MATTER OF:

Case No. 2942 being reopened pursuant to  
the provisions of Order No. R-2645, which  
order established temporary 160 acre  
spacing and fixed well locations for  
the Simanola-Pennsylvanian Pool, Lea  
County, New Mexico, for a period of  
one year.

Case No. 2942  
(reopened)

BEFORE:

DANIEL S. NUTTER, Examiner  
ELVIS A. UTZ: Alternate Examiner

TRANSCRIPT OF HEARING

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

REGISTER

HEARING DATE FEBRUARY 10, 1965 TIME: 9 A.M.

NAME:	REPRESENTING:	LOCATION:
L. C. White	<i>[Signature]</i>	Santa Fe
B. F. D'Awley	Sunray DX Oil Co.	Hobbs, N.M.
L. V. Stone	Sunray DX Oil Co.	Roswell, N. Mex.
H. A. Seidel, Jr.	Sunray DX Oil Co.	Midland Tex
R. C. Spurlink	Sunray DX Oil Co.	Midland, Texas.
H. L. Porter, Jr.	Sunray DX Oil Co.	Tulsa, Okla.
R. S. Cooke	O.C.C.	Santa Fe, N.M.
Chas. W. Browning	Union Oil Co. of Cal.	Midland, Texas
J. B. Jordan	" " " " "	" " " " "
V. T. Lyon	Commercial Oil Co.	Roswell, N.M.
N. DeWanna	Gen. Bullmoose	Hobbs, N.M.
John D. Russell	Union	Santa Fe
Sally Mann	Apache	Roswell
John H. Black	Apache	Midland
Charles E. Hines	"	Midland
Jason Kellaher	Kellaher & Co.	Santa Fe

MR. UTZ: The Hearing will come to order. The first case this morning will be Case No. 2942.

MR. DURRETT: In the matter of Case No. 2942 being reopened pursuant to the provisions of Order No. R-2645, which order established temporary 160 acre spacing and fixed well locations for the Simanola-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year.

MR. WHITE: If the Examiner please, Charles White of the law firm of Gilbert, White and Gilbert, Santa Fe, New Mexico, appearing on behalf of the Applicants, and we have two witnesses to be sworn at this time.

(Witnesses sworn.)

MR. WHITE: If the Examiner please, am I right in my assumption that the transcript of the former Hearing will be part of this record?

MR. UTZ: That is correct.

(Whereupon, Sunray's Exhibits No's 1 to 13, both inclusive, marked for identification.)

EDWARD V. STINE, called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Stine, will you state your full name for the record?



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A Edward V. Stine.

Q And by whom are you employed?

A By Sunray DX Oil Company and as Division Exploration Engineer.

Q And where are your main offices located?

A Out of Midland, Texas.

Q Have you previously testified before the New Mexico Oil Conservation Commission or one of its Examiners?

A No, sir.

Q Will you briefly state your educational and professional background?

A I graduated from the University of Wichita in Kansas, with a Bachelor's Degree in 1948 and did three semesters of graduate work at the University of Oklahoma and started to work for Sunray in February of 1949 and have been with them ever since.

Q Mr. Stine, are you familiar with Sunray's application in the subject Case 2942?

A Yes, sir.

Q And are you familiar with Order Number R-2645?

A Yes, sir.

Q And have you made any studies to show cause for approval of this order since the last Hearing of November 20, 1963?



A Yes, sir, we have.

MR. WHITE: Are the witness' qualifications acceptable?

MR. UTZ: Yes, sir, they are.

Q (By Mr. White) Will you refer to Exhibit Number 1?

A Exhibit 1 is an ownership map of the Simanola Field area in 10 South, 34 East. Sunray's acreage is designated by yellow colors. The actual scale of this map is one to four thousand and is not indicated on our index. In the Southwest Quarter of Section 16 is the State AO which was the discovery well for the Simanola Field.

Also, the State AP well in the Northeast of the Southeast of Section 17 is designated, which has been temporarily abandoned; and also, in the Northeast Quarter of Section 20 is our presently drilling State AO No. 1. The red outline on this exhibit represents the working unit, of which Sunray has a seven-eighths working interest, and Reynolds has a one-eighth working interest.

Bringing you up to date, the original working area did include the North Half of the Southeast Quarter of Section 17 and also the Southwest Quarter of the Northeast Quarter of Section 20; that is no longer in this working unit.

Q Is the Exhibit you originally introduced similar to this?

A Yes.



Q Now, refer to Exhibit 2 and explain your structural map.

A Exhibit 2 is a structural map on the base of the Pennsylvanian-Three Brothers formation. The scale on the map again, is one to four thousand, the contour interval is fifty feet.

Also, as on Exhibit 1, the various wells are so designated again along with the working units outlined in red. The nearest comparable production to our existing Simanola production is our Lane Field which is about four miles to the northeast, and our South Lane and MB Field, about four miles to the southwest.

Q Now, will you refer to, and explain, Exhibit 3?

A Exhibit 3 is a structural cross-section from our State AP No. 1 to the State AO. Now, these are gamma-ray lateral logs. The vertical scale is one inch to fifty feet and we have made no application on the horizontal scale.

The various formations picked being the Wolfcamp Huero "X", the base of the Three Brothers, which is the mapping horizon on Exhibit 1, and the Pennsylvanian Cisco (Bough C) which is the producing formation in the Simanola Field.

The actual perforated intervals in both wells are designated in red in the Bough C portion. The drill stem test information and completion information has been plotted below

each well.

Q Does this Exhibit alter the vertical limit as originally determined and identified by Exhibit 2?

A Yes, sir, we originally asked for a vertical limit or stated a vertical limit of 9850 to 10,050. We would request a change of that, remaining at 9850 on the upper portion, but bringing up the lower one to an approximate 9960.

Q Mr. Stine, were these Exhibits prepared by you or under your direction?

A Yes, sir.

MR. WHITE: At this time, we offer Exhibits 1 through 3 into evidence and that concludes our Direct Examination.

(Whereupon, Applicant's Exhibits 1 through 3 offered into evidence.)

MR. UTZ: Without objection, Exhibits 1 through 3 will be admitted into evidence.

(Whereupon, Applicant's Exhibits 1 through 3 admitted into evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Stine, the well in the Northeast of the Southeast of Section 17 swabbed salt water on the drill stem test, or after it was perforated?

A Yes, sir.

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Q Did you have a structure map at the first Hearing of this case?

A Yes, sir.

Q Were the contours brought in as a result of the drill stem test, or the salt water on the perforation on this well?

A The AP well was approximately 25 feet low to the AO well. Now, our original interpretation was to the Northeast. However, due to the lowness of this AP well, we did move our structural features to the south.

Q So there has been a shift southerly in the structure?

A Yes.

Q Now, at what depth is the State AO number 1 drilling now?

A They were below 3,000 Monday; I would assume in the neighborhood of 4,000.

Q It's not far enough down to know yet?

A No, sir.

Q So, actually there is one well producing from this pool and that was the status of the pool a year ago also?

A Right.

MR. UTZ: Does anyone have any questions of Mr. Stine?

He may be excused.

(Witness excused.)

HOWARD A. SEIDEL, called as a witness herein, having



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

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Seidel, would you state your full name, please?

A Howard A. Seidel, S-e-i-d-e-l.

Q And by whom are you employed, and in what capacity?

A I work for Sunray DX Oil Company as Division Oil Engineer.

Q And where is your main office located?

A In Midland.

Q Have you previously testified before the New Mexico Oil Conservation Commission or one of its Examiners?

A No, sir, I have not.

Q Will you briefly state your educational and professional background?

A I have a B.S. in Petroleum Engineering from the University of Texas obtained June 19, 1951. Upon graduation I went to work for Petroleum Research Corporation, and in 1955, December, I went to work for Sunray as Production Engineer.

Q Are you familiar with the application in Case No. 2942?

A Yes, sir.

MR. WHITE: Are the witness' qualifications acceptable?

MR. UTZ: Yes, sir, they are.

Q (By Mr. White) What has Sunray done in developing the

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pool since October, 1963?

A We have drilled, and are drilling the New Mexico State AP No. 1 which is on Mr. Stine's Exhibits Numbers 2 and 3.

Q Has the well been abandoned?

A Yes, sir, it is temporarily abandoned because we wanted to run interference tests and we used this well as a shut-in well for these interference tests.

Q Will you refer to and explain Applicant's Exhibit Number 4?

A Well, this is up-to-date with the Commission's records of the schematic completion of wells in the field. This is completion information on the second well, New Mexico State E Number 1, and the well was completed March 29, 1964. After testing, it showed 100 per cent water.

Perforations were 9962 to 9966. Now, on April the 1st, 1964, the well was shut-in for these pressure observations after testing 100 per cent water.

The total depth of the well is 10,015 feet and ten feet has to be added to this depth to tie into the logging depths.

Q Is the Exhibit otherwise self-explanatory.

A Yes, sir, it is.

Q Now, will you refer to Exhibits 5, 6 and 7 and explain them?

A These all pertain to the pressure information that was obtained in the last year or since completion, actually, on the New Mexico State AO No. 1. Pressures have been corrected to sub-sea datum of 6700 feet. The New Mexico State AP No. 1 has been shut-in essentially all of the time that we have had these pressures recorded.

Q Are you referring to Exhibit 5?

A Yes, sir, this is on Exhibit 5. The initial pressure we measured in the New Mexico State AP No. 1 is probably not completely built up with only two hours shut-in time; all the rest of the pressures are indicated to be built up. The New Mexico State AO No. 1 is indicated to have reached static conditions.

Exhibit 6 is a tabulation of the production from the New Mexico State AO No. 1. Average production has been about 170 barrels per day over this fourteen month period to January 1st, 1965. The initial water production was 2 per cent. We are currently producing 24 per cent salt water with cumulative production as of 11/64 of 5800 barrels. We do not fear that the water is increasing, since the drawdown tests were not able to draw.

Exhibit 7 is a graphical presentation of the data presented in Exhibit 5, namely of the pressure history of the two wells and our interference test area. The last three

pressure points plotted for the New Mexico State AP No. 1, which is the shut-in well, parallel those of the New Mexico State AO No. 1, while it has been producing this 170 barrels per day.

Q Now, will you tie Exhibit 7 in with the data shown on Exhibit 5?

A We have plotted our pressure interference data versus cumulative production. This is using the information presented in Exhibit 5 and Exhibit 6. Here again, you can see for the last three points plotted for the New Mexico AP No. 1 that the pressure decline parallels the New Mexico State AO No. 1 very nicely. And also on this exhibit, we have a little plot on the area of the interference tests, showing that area affected by these two wells, namely 251 acres.

Q What conclusions did you draw from these Exhibits?

A We think that, or I think, that this is excellent evidence of interference between the two wells and this will prove that we can economically and efficiently bring in in excess of 160 acres.

Q How did you account for the initial pressure of your New Mexico State AP No. 1 being lower than the New Mexico State AO No. 1 well as shown on Exhibit 8?

A Well, this initial pressure at cumulative production of about 24,000 barrels is probably not built up. This is the



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24-hour shut-in pressure. The second pressure point at 30,000 barrels cumulative production is undoubtedly built up and yet, the pressure is slightly lower than the New Mexico State AO No. 1 pressure.

Q Do you have an Exhibit showing the reservoir rock properties?

A We can refer to Exhibit 9. In order to explain why the pressures are lower on the non-producing well, we have prepared a pressure profile of the Lane-Simanola Field areas and up in the upper left-hand corner, we have a schematic diagram of this area with our pressures crossing through the Lane pool to the Simanola pool.

The straight line -- the uppermost line in the actual profile was calculated. We do not know what the pressures are at Lane, but based on core analysis data from the New Mexico State AP No. 1, we have calculated this uppermost line on the basis of 185 millidarcies permeability average.

The initial pressure established at Lane was 3680 psig at minus 5700 feet. At simanola, our initial pressure was 3386 at this same sub-sea depth. This indicates that some interference has occurred within the Lane pool and the Simanola pool. Each one of the points on this curve at a radial distance of 20,000 feet represents the New Mexico State AP No. 1's approximate location from the Lane pool.



The 22,000 foot point represents the New Mexico State AO No. 1 distance from this pool, and as can be seen, we would expect the pressures in the AP No. 1 initially, probably, to be lower than the AO No. 1 pressures. The AO No. 1 continued to produce at these pressures. As you go south on this chart, the time progresses and it can be seen why these pressures are level.

Q Now, will you refer to Exhibit 10, please?

A This is a tabulation of the core analysis data which we obtained from the New Mexico State AP No. 1. Again, these are drill depths and we have to add ten feet to these to get the log depths. Our total porosity pay amounts to some eleven feet. The good or better permeability pay amounts to some seven feet. The average permeability for the seven feet of pay is 185 millidarcies, varying from 67 to 394. The average porosity is 4.4 per cent.

Q Do these interference tests and the other studies that you have made bear out Sunray's testimony that was offered in the former Hearing?

A Yes, sir, we believe they do.

Q Now, as to the economics, at the last Hearing certain testimony was given as to the economics which we feel will have a bearing on the case. Have the economic features varied any since then?

A We can change some of the parameters that went into our calculations. We have done this to let the Commission see how these changes affect the economics. We don't feel that these have any real bearing on the case.

Q In other words, the economic features are not as important as you originally considered them?

A Yes, sir.

Q Now, as a matter of interest, the economics are set out by Exhibits 11, 12 and 13, is that correct?

A That's true.

Q Would you briefly review those Exhibits?

A Right. Exhibit Number 11 is a calculation sheet showing our reservoir data and reservoir information. The only change in this information from what was presented at our last Hearing is an increase in the net pay from four feet to seven feet.

Q How did you arrive at the net pay of seven feet?

A I should explain how we came by this from our logs. We had two feet of net pay in the New Mexico State AO No. 1 on the permeability logs. On the porosity logs we have six feet. This is why we averaged these two pays together, because we really don't know what this lower permeability rock will be for these wells.

In the AP No. 1 we have taken our core analysis data

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and utilized the seven feet of permeability and pay with the eleven feet of porosity. When this nine foot average and four foot average were averaged together, we have seven feet of net pay. When this is applied to the 132 barrels per acre foot which was originally calculated to be recoverable from this rock, we have 148,000 barrels recoverable on 160 acre spacing; on 80 acre spacing, we have 74,000 barrels recoverable.

Q Now, will you explain Exhibit 12?

A All right, sir. This is a revised estimate on our drilling completion costs. The initial exhibit showed our total cost and was a little higher than our experience in the New Mexico State AP No. 1.

Q And Exhibit 13?

A Here we have applied the gross income values to our reserves; and for 160 acre spacing, we have \$387,000.00 of gross income, whereas on 80 acre spacing we have \$194,000.00. We continued to use the operating expense of 50 cents per barrel. We have used the lower well cost consistent with the cost indicated in the New Mexico AP No. 1. Production taxes are used at 4.64 per cent of gross income. When these costs are withdrawn from the gross income before Federal income tax profits amount to \$16,000.00 on 160 acre spacing; \$13,000.00 on 80 acre spacing.

When these future profits are discounted at 5 per cent



for a short two year life, we have a dollar and nine cents per dollar invested on 160 acre spacing and one dollar and seven cents invested on 80 acre spacing. The main difference here, I think, we actually have a loss shown for our first presentation; this will show some profit on the 80 acre spacing.

Q What recommended revisions, if any, do you have to make in regard to Order R-2645?

A We would respectfully suggest that we return to the 160 acre permanent rules. This would, of course, modify Rule 2 to read, "Each well completed or recompleted in the Simanola pool shall be located on the standard unit containing 160 acres more or less, consisting of a single governmental section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter sections in the unit".

On Rule 4, we would suggest that it would read like this, "The first well drilled on every standard or non-standard unit in the Simanola-Pennsylvanian Pool shall be located at the center of either the Northeast Quarter or the Southwest Quarter of the governmental section. All wells shall be located at the center of the governmental quarter section."

In Rule 5: "Three hundred thirty feet to the outer boundaries", mentioned on the second line, we would suggest five hundred and ten feet for this three hundred thirty



feet.

For Rule 6, we would recommend a standard proration unit in the Simanola-Pennsylvanian pools shall be assigned a 160 acre proportional factor of 6.77 for allowable purposes, and in the event there is more than one well on a 160 acre proration unit, the operator may produce the allowable assigned to the well on the unit.

Q Will you suggest that the amendments conform to similar special rules in regard to the 160 acres?

A Yes, sir.

Q If the order is so revised, in your opinion, will this prevent unnecessary drilling of wells and protect correlative rights?

A Yes, sir.

Q Were Exhibits 4 through 13 prepared by you or under your direction?

A Yes, sir.

MR. WHITE: At this time, we would offer Exhibits 4 through 13 in evidence.

(Whereupon, Applicant's Exhibits 4 through 13 were offered into evidence.)

MR. UTZ: Without objection, Sunray's Exhibits 4 through 13 will be admitted into evidence.

(Whereupon, Applicant's Exhibits  
4 through 13 were admitted into  
evidence.)

MR. UTZ: Does anyone have any questions of Mr.  
Seidel?

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Seidel, the original application in this case  
was for 160 acre spacing, is that correct?

A Yes, sir.

Q And the Commission entered an order providing for  
80 acre spacing for a period of approximately one year?

A That is correct.

Q And since that time you have drilled one well which  
was lower on the structure and you are drilling your third well  
in the pool now?

A That's correct.

Q Now, as far as production history is concerned, the  
original well is still the only one available?

A Yes, sir, actual production history.

Q And your computation of reserves indicates you got  
about 74,000 barrels of recoverable reserves on 80 acre spacing  
and 148,000 barrels of recoverable reserves on 160 acre  
spacing?

A Yes, sir.

A And cumulative production from your AO No. 1 has been some 73,000?

A Almost as much as we have for the 80 acre spacing. We think, of course, if we go to 80 acres we will drain only 80 acres.

Q Now, you are estimating that you got about seven feet of good net pay?

A Yes, sir.

Q But the well is perforated over four foot interval, is that correct?

A I'm sorry --

Q Now, that's the AP No. 1 perforated at four feet, that's the one that made the salt water?

A Yes, sir, we were trying to stay high.

Q What's the perforated interval in the AO No. 1?

A 9933 to 39. We have six feet perforated there and we are looking at pay intervals at a depth of 10,000 feet. It's awfully difficult at times to be sure you're shotting the holes in the pipe where you think you are.

Q Now, this well potentialied for 130 barrels on original completion; what's it capable of making now?

A During December it produced 5724 barrels of oil and the tubing pressure was some 500 pounds. We don't know what it would be capable of producing, but it could easily produce

300 barrels per day.

Q It's capable of making top allowable and you believe it will be able to make more than that?

A Yes, sir.

Q Now, have you made any estimate of the remaining producible reserves from this well by any kind of a pressure decline or any extropolation of the previous performance of the well?

A We have a field and material balance type of calculation on the reserves in this particular pool, and granted that they can be grossly in error, we have something on the order of a million barrels of oil in place. This well will produce probably its proportional share of these reserves.

It depends on the ultimate development, of course, in the field, how many wells we will finally wind up with.

Q Now, while the radius of the interference between the AO and the AP is shown on your Exhibit Number 8 as 1867 feet encompassing a circle of 251 acres, actually these wells and the well that is being drilled at the present time, are all located on a staggered 80 acre spacing pattern, rather than any on 160 acre spacing pattern?

A That's correct.

Q Mr. Seidel, I don't completely understand your pressure profile exhibit. I wonder if you would explain that

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in a little more detail?

A Well, I had a little trouble in deciding how to present this. I could have done it with an area map showing what we think are the pressures decreasing away from the Simanola area to the Lane Pool, which was originally produced in 1955.

Q Well, first of all, this Simanola is in the Bough C zone, these wells that you are talking about in the Lane are also Bough C wells?

A Yes, sir, this is the Lane-Wolfcamp pool, the Conservation Commission's nomenclature for the field, but our geologists have assured us that this is the same.

Q Well, I was thinking that, and we are talking about the Bough C pool of the Pennsylvanian here?

A Yes.

MR. WHITE: Do you want to put the geologist back on?

MR. STINE: There are two zones within the zones themselves, one definitely in the Wolfcamp Huero, a comparable section to the Pennsylvanian in the area.

MR. UTZ: Now, are these two zones being produced in a common well bore or are they separate pools by the Commission's designation and dually completed?

MR. STINE: We have some dually completed wells.

A We actually have what we call the Cisco Penn producing,

which is still producing, as a matter of fact, but this Wolfcamp has ceased producing in the latter part of 1964.

Q (By Mr. Utz) Well, now, assuming that this pressure profile is out of the Bough C in the Lane area, proceed from there.

A All pressure -- Let's talk about intransigent pressure behavior in a reservoir so far as your producing wells. You'll always observe or we have always observed pressure away from this producing area, increasing of pressures, and this is what we more or less hypothesized for the reason of some 294 pounds of pressure at the Lane and the pressure at the Simanola and we have more or less drawn this initial pressure profile.

Q In other words, are you saying that 20,000 feet away in the Lane pool, the production in that area has caused a decline of initial pressures in the Simanola of 290 some odd pounds?

A Yes, sir. This curve is calculated. It won't necessarily behave this way. I have assumed that the reservoir properties are homogeneous to it and this calculated pressure is certainly not a straight line, it's away from this producing area. The south Lane Field began production in March of '62 and if we say we should possibly have interference there, we haven't observed it; and I don't think that sufficient time and withdrawals have occurred from the South Lane Pool to cause

any pressure disturbance. We would anticipate this, though.

Q Of course, making this comparison now of pressures from the Simanola to the Lane, you've also included the Wolf-camp zone which is contributing some pressures to the Lane pool?

A No, sir, these are dual completions and it is -- Well, our geologist advised me that there is comparable zone which we are producing in the State AO No. 1.

Q And the 600 pounds originally in the Lane area would be the pressure in the low Bough C at a minus 5700?

A Yes, sir.

Q But it's a Bough C pressure?

A Yes, sir, it's a Bough C pressure.

Q Well, now, what is the current pressure in the Lane area on this Exhibit, or is there one?

A We don't have any. Actually, our initial pressure data terminated shortly after we got production going and we don't really know what the pressure is there. I suspect that it's building up now because we are not producing from the area and this flow from the Simanola will continue, will continue to exist until the pressure --

Q Now, you said that you had a rough material balance estimate of a million barrels in this area; if you include the pressure profile in there, that would also include the Lane

Pool, wouldn't it?

A Well, sir, we tried to use our water influx. We feel that we do have fairly good water drive and I'm not sure just what effect the pressure decrease toward the Lane Pool would have on these calculations.

Q In your estimation, what is the drive mechanism that you have from this small structure?

A I would estimate this is probably on the order of 80 per cent water drive and 20 per cent solution gas drive. I have not calculated this, however.

Q Have you made any estimate yet, as to the water-oil contact other than somewhere in between the AP and the AO?

A After reviewing the Lane Pool for water contact information, we seemed to have a rather long gradient of transition zone and we have tested water as high as minus 5731, this is in the AP No. 1.

Q Did the AP No. 1 make any oil at all?

A Yes, sir, initially I think it made something on the order of 40 to 60 barrels of oil.

Q Was it ever completed as a producer or was this just --

A It was never placed on production.

Q There was no test on completion; it made some oil and then made one hundred per cent water and then was plugged?

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A Yes, sir.

MR. UTZ: Are there any other questions of Mr. Seidel?

You may be excused.

(Witness excused.)

MR. HINKLE: Clarence Hinkle of Hinkle, Bondurance and Christy, Roswell, New Mexico, representing Humble Oil and Refining Company. The Humble Company doesn't have any acreage within the Simanola-Pennsylvanian Pool; however, it does have acreage in the vicinity of the pool which it has under consideration for development and we would like to go on record as supporting the position of Sunray in this case for 160 acre spacing.

MR. UTZ: Does anyone have anything to offer in this case? Do you have anything further, Mr. White?

MR. WHITE: No.

MR. DURRETT: For the record, we have a letter from Sun Oil Company indicating they are opposed to 40 acre spacing.

MR. UTZ: If there is nothing further, we will take the case under advisement.

\* \* \*





I N D E X

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E X H I B I T S

EXHIBIT	MARKED	OFFERED	ADMITTED
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STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I, ADA DEARNLEY, a Notary Public, do hereby certify that the foregoing and attached Transcript was taken before the Oil Conservation Commission by JOHN ORFANIDES, Court Reporter, and is a correct and true Transcript of that Hearing.

*John Orfanides*  
*Ada Dearnley*  
NOTARY PUBLIC

My Commission Expires:  
June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2842, heard by me on *Mar. 19*, 19*65*.  
*Miss G. J. [Signature]* Examiner  
New Mexico Oil Conservation Commission

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MR. UTZ: The hearing will come to order, please. We have first on the docket three cases which will be called for the purposes of appearances only. If someone doesn't appear to add something to the direct testimony, they will be taken under advisement. Case Number 2942.

MR. DURRETT: In the matter of Case No. 2942 being reopened pursuant to the provisions of Order No. R-2645, which order established temporary 160-acre spacing and fixed well locations for the Simanola-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year.

MR. UTZ: Are there other appearances in this case? ... Let the record show that there were none.

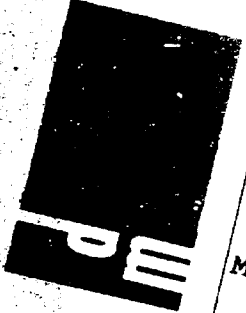
STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) ss

I, ELIZABETH K. HALE, Notary Public and Court Reporter, hereby certify that proceedings in Case Number 2942 were taken by me in shorthand and transcribed by me, and that such proceedings are a true and accurate reflection of proceedings to the best of my knowledge, skill and ability.

My commission expires  
May 23, 1968.

*Elizabeth K. Hale*  
Notary Public

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2942 heard by me on *July 24*, 19*65*.  
*[Signature]*  
New Mexico Oil Conservation Commission



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 18, 1964

REGULAR HEARING

IN THE MATTER OF:

Application of Sunray DX Oil Company for  
the creation of a new pool, and for  
temporary pool rules, Lea County, New  
Mexico.

Case No. 2942

BEFORE: Honorable Jack M. Campbell, Governor  
A. L. (Pete) Porter, Secretary-Director

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
PHONE 325-1182

SANTA FE, N. M.  
PHONE 823-3871

ALBUQUERQUE, N. M.  
PHONE 243-6891



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 18, 1964

REGULAR HEARING

-----  
IN THE MATTER OF: )

Application of Sunray DX Oil Company )  
for the creation of a new pool and for )  
temporary pool rules, Lea County, )  
New Mexico. )

CASE NO. 2942

BEFORE: Honorable Jack M. Campbell, Governor  
A. L. (Pete) Porter, Secretary-Director

TRANSCRIPT OF HEARING

MR. DURRETT: De Novo hearing on the application of Sunray DX Oil Company for the creation of a new pool and for temporary pool rules, Lea County, New Mexico.

MR. LOAR: If the Commission please, when I filed this I had estimated we would have this well which we are now drilling in this pool tested by this time. Seems that I have missed my estimate by about seven days. It will be about seven days before we will have the well cored. With that in mind, we would like to have this matter continued until the April statewide hearing.

MR. PORTER: Mr. Loar, the Commission will continue the

DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Phone 243-6691

Albuquerque, New Mexico

Suite 1120 Simms Building



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building

Albuquerque, New Mexico

Phone 243-6691

case to April. It may be possible that we can hear it at that time. I think the chances are pretty good that we could hear it, but because of a case which has been previously scheduled for the April docket that will be time consuming, this case may have to be carried over until May. You understand that?

MR. LOAR: Yes, sir. We would like to have the opportunity to be present if time allows. We will hold up the drilling of the third well in this pool awaiting the outcome of the Commission's decision on this De Novo matter since the well location might be rather critical. With that in mind, we would appreciate very much if we could be heard in April.

MR. PORTER: We will see what can be done. The case will be continued to the April Regular Hearing.

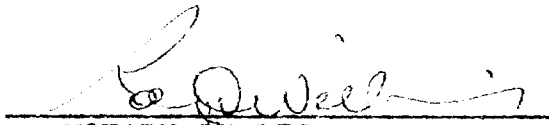
\* \* \* \*



STATE OF NEW MEXICO |  
COUNTY OF BERNALILLO |

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

WITNESS my Hand and Seal of Office, this 20th day of March, 1964.

  
NOTARY PUBLIC

My Commission Expires:  
September 6, 1967.

DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building

Albuquerque, New Mexico

Phone 243-6691



GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



P. O. BOX 871  
SANTA FE

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

LAND COMMISSIONER  
E. B. JOHNNY WALKER  
MEMBER

April 28, 1964

Mr. Booker Kelly  
Gilbert, White & Gilbert  
Attorneys at Law  
P. O. Box 787  
Santa Fe, New Mexico

Re: Case No. 2942  
Order No. R-2645-A  
Applicants:

Sunray DX Oil Company

DOCKET MAILED

Date 1-29-65  
JK

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.*

A. L. PORTER, JR.  
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC X

Artesia OCC \_\_\_\_\_

Astos OCC \_\_\_\_\_

OTHER \_\_\_\_\_

Mr. John P. Carnes - Sun Oil Co. Box 1553, Roswell, N.M.

DOCKET MAILED

Date 1-29-65 *JK*

CARL H. GILBERT (1891-1963)  
L. C. WHITE  
WILLIAM W. GILBERT  
SUMNER S. KOCH  
WILLIAM B. KELLY

GILBERT, WHITE AND GILBERT  
ATTORNEYS AND COUNSELORS AT LAW  
BISHOP BUILDING  
SANTA FE, NEW MEXICO

MAIN OFFICE OCC

1964 APR 14 PM 1:35

April 14, 1964

Mr. Jim Durrett, Attorney  
New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Re: Sunray DX Oil Company - Application for  
De Novo Hearing (Simanola-Pennsylvanian Pool,  
Lea County, New Mexico)  
Case No. 2942

Dear Mr. Durrett:

This letter is to inform you that Sunray DX Oil Company wishes to drop its application for a de novo rehearing in the above-referred to cause. We therefore ask that the application be withdrawn.

Very truly yours,

*William B Kelly*  
WILLIAM B. KELLY

WBK/ab

*Case 2942*

GILBERT, WHITE AND GILBERT

ATTORNEYS AND COUNSELORS AT LAW  
DIVISION OF OIL AND GAS

SANTA FE, NEW MEXICO

MAIN OFFICE OCC

MAIN OFFICE OCC

CARL H. GILBERT (1891-1963)

L. C. WHITE  
WILLIAM R. LOAR  
SUMNER S. KOCH  
WILLIAM BOOKER KELLY  
JOHN F. MCCARTHY, JR.

1964 FEB 27 AM 8:13

1964 FEB 27 AM 8:14  
February 26, 1964

POST OFFICE BOX 767  
TELEPHONE 983-4324  
(AREA CODE 505)

New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

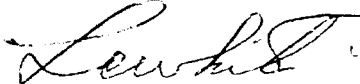
Attention: Ida Rodriguez

Re: Simanola Pennsylvanian Pool  
Lea County, New Mexico

Gentlemen:

Enclosed please find original and two copies of Sunray DX  
Oil Company's application for de novo hearing in regard to  
case No. 2942 and Order No. R-2645.

Sincerely,



L. C. WHITE

LCW/ab  
Encl: 3

c.c.Mr. William R. Loar, Sunray DX Oil Company

DOCKET MAILED  
4-3-64  
~~3-27-64~~  
Date

1964  
3-5-64



MAIN OFFICE OCC

1964 FEB 27 AM 8:13

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. 2942  
Order No.

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR THE CREATION OF A NEW OIL POOL  
AND FOR SPECIAL TEMPORARY POOL RULES,  
LEA COUNTY, NEW MEXICO.

APPLICATION FOR DE NOVO HEARING BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

COMES NOW SUNRAY DX OIL COMPANY and respectfully states:

1. That the application in the above-entitled cause came on for hearing before Examiner Daniel S. Nutter on the 10th day of November, 1963. Thereafter, on the 31st day of January, 1964, this Honorable Commission issued its order No. R-2645, all as more fully appears from the official file and record of said proceeding.

2. That the applicant herein is adversely affected by the terms and conditions of said order and desires to have the matter heard de novo before this Honorable Commission.


WHEREFORE, pursuant to Section 65-3-11.1 of the 1953 N.M.S.Anno., Sunray DX Oil Company requests its application for the creation of a new Bough "C" oil pool in Lea County, New Mexico, and for the promulgation of temporary special rules and regulations be heard de novo before the New Mexico Oil Conservation Commission.

SUNRAY DX OIL COMPANY

By

  
\_\_\_\_\_  
William R. Loar

and

  
\_\_\_\_\_  
L. C. White

**DEARNLEY-MEIER REPORTING SERVICE, Inc.**

FARMINGTON, N. M.  
PHONE 325-1182

SANTA FE, N. M.  
PHONE 983-3871

ALBUQUERQUE, N. M.  
PHONE 243-6891

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 18, 1964

REGULAR HEARING

IN THE MATTER OF:

Application of Sunray DX Oil Company for  
the creation of a new pool, and for  
temporary pool rules, Lea County, New  
Mexico.

Case No. 2942

BEFORE: Honorable Jack M. Campbell, Governor  
A. L. (Pete) Porter, Secretary-Director

TRANSCRIPT OF HEARING



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 18, 1964

REGULAR HEARING

-----  
IN THE MATTER OF: )  
)

Application of Sunray DX Oil Company )  
for the creation of a new pool and for )  
temporary pool rules, Lea County, )  
New Mexico. )

CASE NO. 2942

BEFORE: Honorable Jack M. Campbell, Governor  
A. L. (Pete) Porter, Secretary-Director

TRANSCRIPT OF HEARING

MR. DURRETT: De Novo hearing on the application of Sunray DX Oil Company for the creation of a new pool and for temporary pool rules, Lea County, New Mexico.

MR. LOAR: If the Commission please, when I filed this I had estimated we would have this well which we are now drilling in this pool tested by this time. Seems that I have missed my estimate by about seven days. It will be about seven days before we will have the well cored. With that in mind, we would like to have this matter continued until the April statewide hearing.

MR. PORTER: Mr. Loar, the Commission will continue the



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building

Albuquerque, New Mexico

Phone 243-6691

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MR. PORTER: We will see what can be done. The case will be continued to the April Regular Hearing.

\* \* \* \*



DEARNLEY, MEIER, WILKINS and CROWNCOVER

General Court Reporting Service

Phone 243-6691

Albuquerque, New Mexico

Suite 1120 Simms Building

STATE OF NEW MEXICO §

COUNTY OF BERNALILLO §

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

WITNESS my Hand and Seal of Office, this 20th day of March, 1964.

*Roy D. Wilkins*  
NOTARY PUBLIC

My Commission Expires:  
September 6, 1967.



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
*APRIL 15, 1964*

REGULAR HEARING

**DEARNLEY-MEIER REPORTING SERVICE, Inc.**

FARRINGTON, N. M.  
PHONE 325-1162

SANTA FE, N. M.  
PHONE 961-3971

ALBUQUERQUE, N. M.  
PHONE 243-6691

IN THE MATTER OF:

(De Novo - Continued from the March  
Regular Hearing.)

Application of Sunray DX Oil Company for  
the creation of a new pool and for  
temporary pool rules, Lea County, New  
Mexico. Upon application of Sunray DX  
Oil Company, this case will be heard  
De Novo under the provisions of Rule 1220.  
The case may be continued to the next  
regular hearing.

Case No. 2942

BEFORE: Honorable Jack M. Campbell, Governor  
A. L. "Pete" Porter, Secretary-Director

TRANSCRIPT OF HEARING

MR. PORTER: The hearing will come to order, please.

The Commission will consider the application of Sunray DX Oil  
Company for the creation of a new pool and for temporary pool  
rules, Lea County, New Mexico.

MR. DURRETT: I would like to state for the record that  
this case which was continued from the March Regular Hearing was



to be heard De Novo today. I would further like to state for the record I have been contacted by Mr. Booker Kelly, one of the attorneys for the Applicant in this case. He has forwarded a letter to the Commission which has been placed in the Commission's file requesting that this Case be dismissed. On this basis, I would like to move the Commission to dismiss this Application.

MR. PORTER: If there are no objections, the Commission will dismiss Case Number 2942.

\* \* \*

**DEARNLEY-MEIER REPORTING SERVICE, Inc.**

FARMINGTON, N. M.  
PHONE 325-1182

SANTA FE, N. M.  
PHONE 983-1971

ALBUQUERQUE, N. M.  
PHONE 243-6691



STATE OF NEW MEXICO )  
 )  
COUNTY OF BERNALILLO ) ss.

I, CHARLES FLOYD WALKER, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission 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 11th day of July, 1963.

*Charles Floyd Walker*  
Notary Public-Court Reporter

My Commission Expires:

March 25, 1964.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
PHONE 325-1182

SANTA FE, N. M.  
PHONE 983-3971

ALBUQUERQUE, N. M.  
PHONE 243-6691





OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Date Jan 22, 1964

CASE 2942

Hearing Date 9 am Nov 20, 1963

DSN (C) SF

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

- Enter an order creating the Simanala Pennsylvanian Pool in Lea County, New Mexico, defining the vertical limits to be the Rough "C" zone of the Pennsylvanian formation. Pool was discovered by Suncor Oil Co's State No 1 well no 1, located in Unit 11 of Sec 16, Twp 10S, Rge 34E. It was completed Oct 31, 1963. The top of the perforations is at 9933.
- SDX asked that the horizontal limits include all of Secs. 16, 17, 20, 21, the N $\frac{1}{2}$  of 28 & 29, the W $\frac{1}{2}$  of 15 & 22, and the NW $\frac{1}{4}$  of 27. However, there is no evidence yet that all this is productive acreage and the horizontal limits should more properly be defined as the SW $\frac{1}{4}$  of Sec 16, SE $\frac{1}{4}$  Sec 17, NE $\frac{1}{4}$  Sec 20 and NW $\frac{1}{4}$  Sec 21.
- SDX asked that special rules be promulgated including provision for 160-acre spacing. The 160-acre spacing should be denied inasmuch as applicant offered insufficient evidence to warrant <sup>the</sup> same particularly insofar as drainage characteristics of the reservoir and economics are concerned. Authorize 80-acre spacing on a one-year temporary basis because from all

Staff Report

over

appearances. This reservoir ~~is~~ is essentially the same as other Bough "C" reservoirs <sup>in this area</sup> which have demonstrated that they can be efficiently drained and developed on 80 acre spacing without causing waste. Require that wells be located within 200 feet of the center of the NE/4 or the SW/4 of a governmental quarter section. Provide for 80 acre depth factor of 4.77. Otherwise use standard order for 80-acre pools.

make order effective Feb 1, 1964,  
and call case back ~~off~~ on for  
hearing in January, 1965.

SUN OIL COMPANY

SOUTHWEST DIVISION  
NEW MEXICO

~~XXXXXXXXXX~~  
P. O. Box 1553  
Roswell, New Mexico 88201  
November 22, 1963

TOM F. HILL  
MANAGER  
CECIL A. COLVILLE  
ASSISTANT MANAGER

1963 NOV 23 PM 12 08

OIL CONSERVATION COMMISSION  
P. O. Box 871  
Santa Fe, New Mexico

Re: Case #2942, Docket #34-63  
Wednesday, November 20, 1963

Dear Sirs:

In connection with Case #2942 being an application by Sunray DX for creation of a new oil pool and special temporary field rules, we made a statement at the hearing before Mr. Daniel S. Nutter, Examiner, to the affect that while Sun Oil Company supported Sunray's request for 160-acre spacing, we felt that the distance from drilling unit lines should be 660' rather than 990'. It will be appreciated if you will have a copy of the order sent to me as soon as it is handed down.

Yours very truly,



John P. Carnes

JPC\*pma  
cc Mr. Granville Dutton

GILBERT, WHITE AND GILBERT  
ATTORNEYS AND COUNSELORS AT LAW  
BISHOP BUILDING

*Case 2942*

1963 OCT 31 PM 2:35  
OCTOBER 31, 1963  
SANTA FE, NEW MEXICO

CARL H. GILBERT (1291-1963)  
L. C. WHITE  
WILLIAM W. GILBERT  
SUMNER S. KOCH  
WILLIAM BOOKER KELLY  
JOHN F. MCCARTHY, JR.

POST OFFICE BOX 787  
TELEPHONE 963-4324  
(AREA CODE 505)

*OK*

Dear Dan:

The following is a suggested advertisement for Sunray DX Oil Company's requested hearing. I will get the application to you the first part of next week.

"Application of Sunray DX Oil Company for the creation of a Bough "C" Oil Pool and for Special Temporary Pool Rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Bough "C" Oil Pool for its New Mexico State "AO" Well No. 1, located in ~~Unit 10~~ of Section 16, Township 10 South, Range 34 East, Lea County, New Mexico, and the establishment of temporary pool rules therefor, including a provision for 160-acre proration units and for fixed well locations."

*Unit M*

Sincerely yours,

*L. C. White*

L. C. WHITE

LCW:bg

GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
E. B. JOHNNY WALKER  
MEMBER

P. O. BOX 871  
SANTA FE

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

January 31, 1964

Re: Case No. 2942

Order No. R-2645

Applicants:

SUNRAY DX OIL COMPANY

Mr. Charlie White  
Gilbert, White & Gilbert  
Attorneys at Law  
Post Office Box 787  
Santa Fe, New Mexico

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

ix/

Carbon copy of order also sent to:

Hobbs OCC   x  

Artesia OCC           

Antec OCC           

OTHER Mr. John P. Carnas, Sun Oil Company, Box 1553, Roswell, N. Mex.

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. 2942  
Order No. R-2645-A

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR THE CREATION OF A NEW POOL AND  
FOR TEMPORARY POOL RULES, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing de novo at 9 o'clock a.m.  
on April 15, 1964, at Santa Fe, New Mexico, before the Oil Con-  
servation Commission of New Mexico, hereinafter referred to as  
the "Commission."

NOW, on this 28th day of April, 1964, the Commission, a  
quorum being present, having considered the record, and being  
fully advised in the premises,

FINDS:

That the applicant's request for dismissal should be  
granted.

IT IS THEREFORE ORDERED:

That the application of Sunray DX Oil Company for a hearing  
de novo is hereby dismissed.

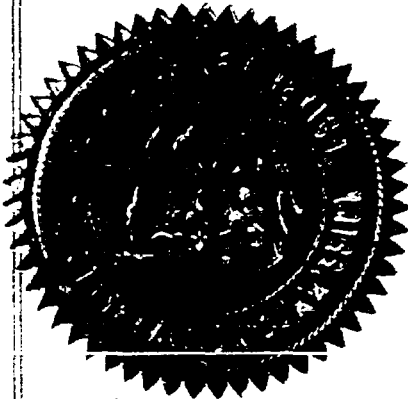
DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Jack M. Campbell*  
JACK M. CAMPBELL, Chairman

*E. S. Walker*  
E. S. WALKER, Member

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



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. 2942  
Order No. R-2645  
NOMENCLATURE

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR THE CREATION OF A NEW OIL POOL  
AND FOR SPECIAL TEMPORARY POOL RULES,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 20, 1963, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 31st day of January, 1964, 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, Sunray DX Oil Company, seeks an order creating a new Bough "C" oil pool in Lea County, New Mexico, and promulgating temporary special rules and regulations establishing 160-acre spacing and fixed well locations in said pool.
- (3) That the applicant's New Mexico State "AO" Well No. 1, located in Unit M of Section 16, Township 10 South, Range 34 East, NMPM, Lea County, New Mexico, has encountered a separate common source of supply which should be designated the Simanola-Pennsylvanian Pool.
- (4) That the applicant's New Mexico State "AO" Well No. 1 was completed October 31, 1963; that the top of the perforations in the Pennsylvanian formation in said well is at 9933 feet.
- (5) That although the evidence concerning reservoir characteristics and economics will not justify temporary 160-acre

-2-

CASE No. 2942  
Order No. R-2645

spacing, temporary special rules and regulations providing for 80-acre spacing should be promulgated for the subject pool in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights.

(6) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(7) That the temporary special rules and regulations promulgated herein should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(8) That this case should be reopened in February, 1965, at which time the operators in the Simanola-Pennsylvanian Pool should appear and show cause why said pool should not be developed on 40-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That a new pool in Lea County, New Mexico, classified as an oil pool for Pennsylvanian production is hereby created and designated the Simanola-Pennsylvanian Pool with vertical limits comprising the Pennsylvanian formation and horizontal limits consisting of the following-described area:

NEW MEXICO PRINCIPAL MERIDIAN

LEA COUNTY, NEW MEXICO  
TOWNSHIP 10 SOUTH, RANGE 34 EAST  
Section 16: SW/4  
Section 17: SE/4  
Section 20: NE/4  
Section 21: NW/4

(2) That Special Rules and Regulations for the Simanola-Pennsylvanian Pool are hereby promulgated as follows, effective February 15, 1964.

SPECIAL RULES AND REGULATIONS  
FOR THE  
SIMANOLA-PENNSYLVANIAN POOL

RULE 1. Each well completed or recompleted in the Simanola-Pennsylvanian Pool or in the Pennsylvanian formation within one mile of the Simanola-Pennsylvanian Pool, and not nearer to or



-3-

CASE No. 2942  
Order No. R-2645

within the limits of another designated Pennsylvanian pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Simanola-Pennsylvanian Pool shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a single governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a single quarter-quarter section or lot. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. The first well drilled on every standard or non-standard unit in the Simanola-Pennsylvanian Pool shall be located within 200 feet of the center of either the NE/4 or the SW/4 of a governmental quarter section. All wells shall be located within 200 feet of the center of a governmental quarter-quarter section.

RULE 5. The Secretary-Director may grant an exception to the footage requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon, provided the well will be located no nearer than 330 feet to the outer boundary of the unit. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) in the Simanola-Pennsylvanian Pool shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

-4-

CASE No. 2942  
Order No. R-2645

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable in the Simanola-Pennsylvanian Pool as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Pennsylvanian formation within the Simanola-Pennsylvanian Pool or within one mile thereof that will not comply with the well location requirements of Rule 4 is hereby granted an exception to said rule; that the operator of any such well shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before February 15, 1964.

(2) That any operator desiring to dedicate 80 acres to a well presently drilling to or completed in the Simanola-Pennsylvanian Pool shall file a new Form C-128 with the Commission on or before February 15, 1964.

(3) That this case shall be reopened at an examiner hearing in February, 1965, at which time the operators in the subject pool may appear and show cause why the Simanola-Pennsylvanian Pool should not be developed on 40-acre spacing units.


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

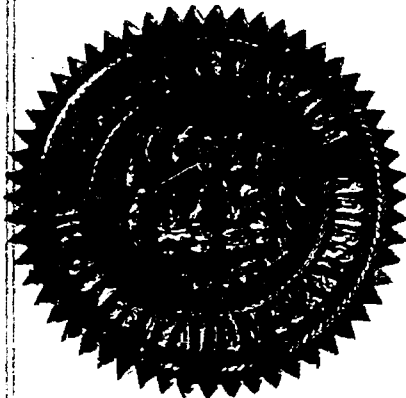
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

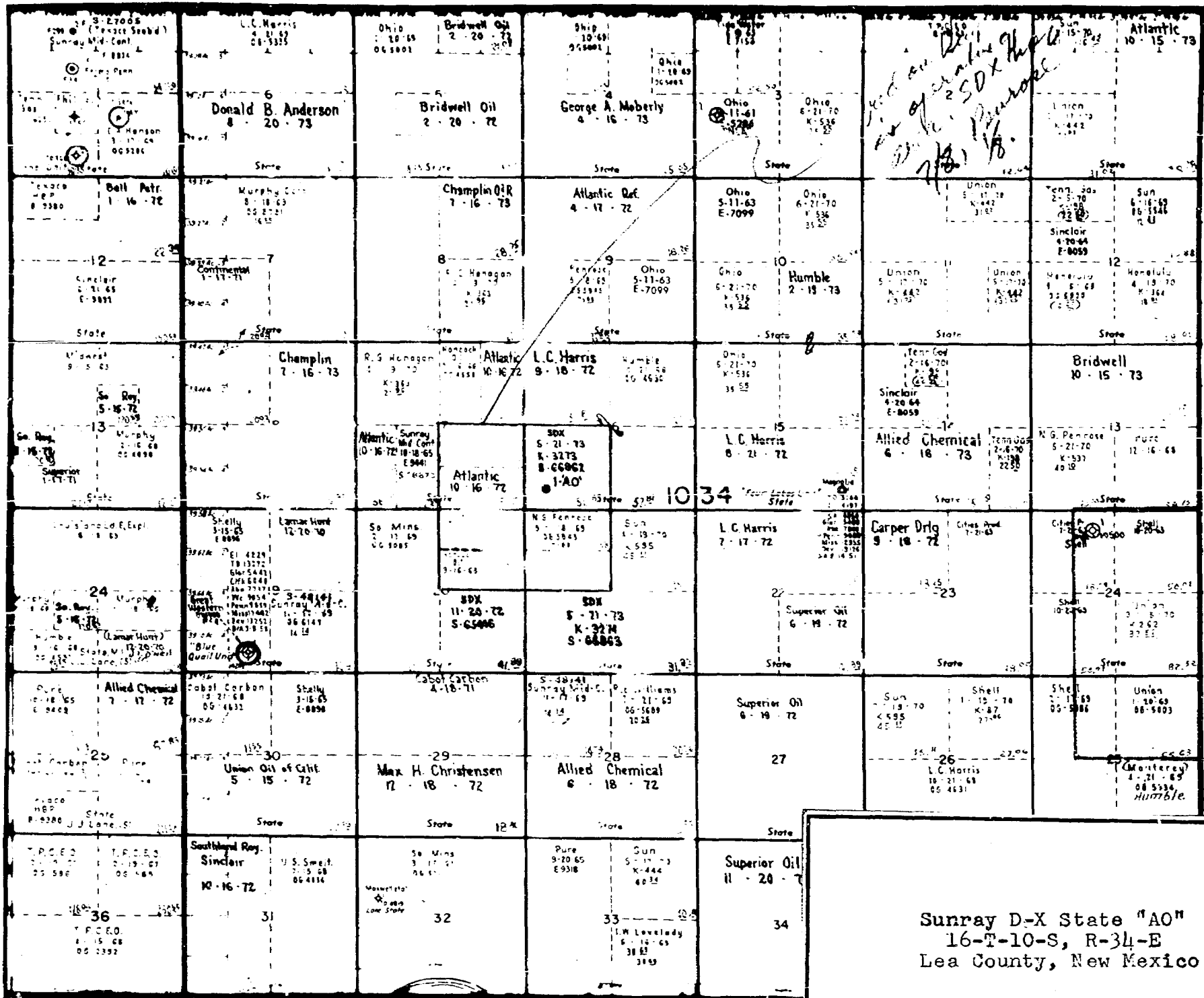
  
JACK M. CAMPBELL, Chairman

  
E. S. WALKER, Member

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



esr/

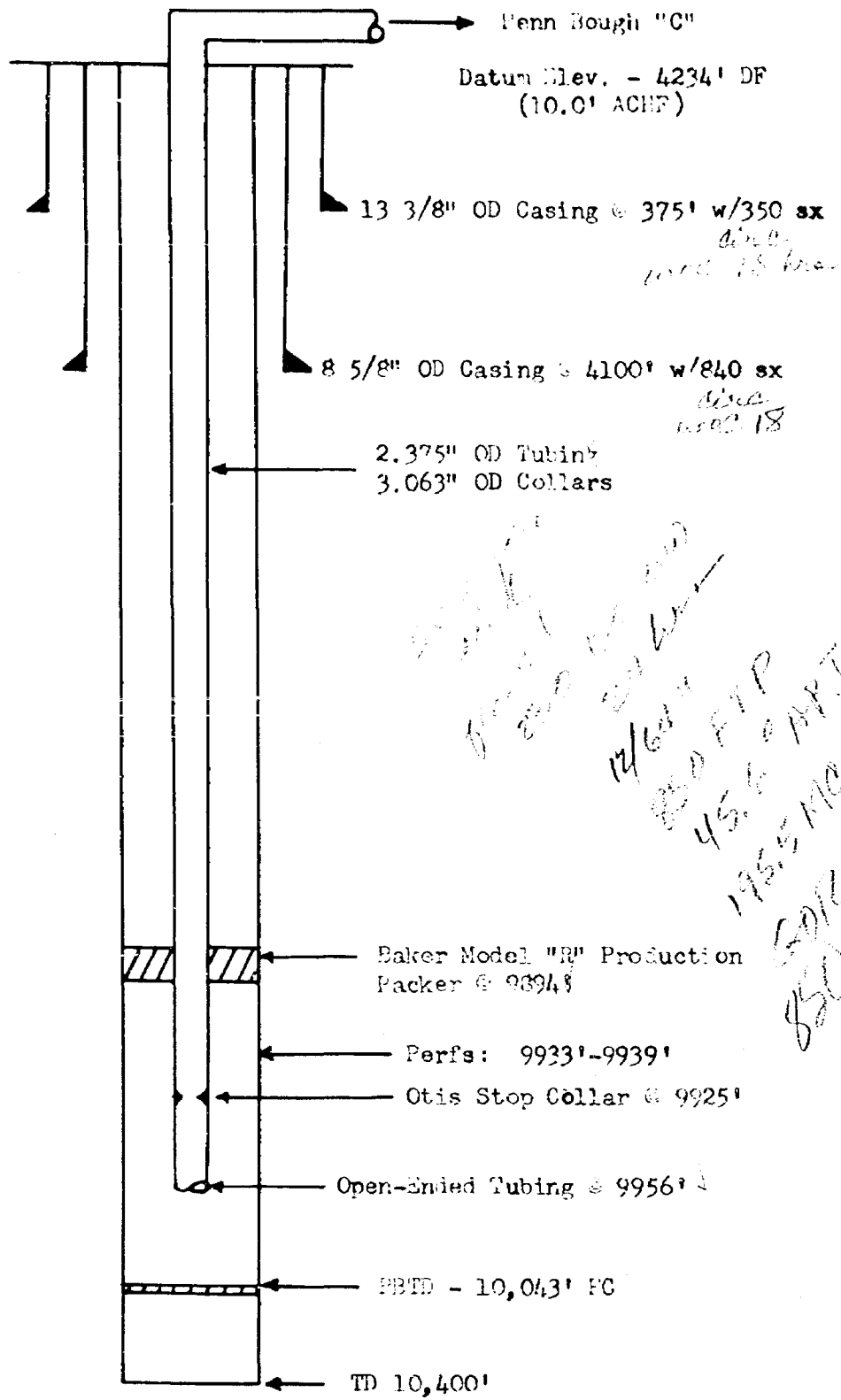


**Sunray D-X State "A0"**  
**16-T-10-S, R-34-E**  
**Lea County, New Mexico**

Land Plat  
 Scale 1" = 4000'

EXHIBIT NO. 4  
 SUNRAY OIL COMPANY  
 Completion Information  
 New Mexico State "AC" No. 1  
 660' FSL & 50' FWL section 16-1103-R34E  
 Lea County, New Mexico

Well Completed:  
 October 29, 1963



*Handwritten notes:*  
 14/63  
 45.6' API  
 195.5' MCF  
 850

Top of Penn Bough "C" - 9929'

5 1/2" OD, 17#, Casing set @ 10,076'  
 w/225 sx; TCC - 9390' TS; 17#  
 Casing: 4.767" Drift Diameter

NOT TO SCALE

EXHIBIT NO. 5  
 SUNRAY OIL COMPANY  
 RESERVOIR DATA AND RESERVE CALCULATION  
 SIMANOLA AREA, PENN BOUGH 'C' RESERVOIR  
 UNDESIGNATED FIELD, LEA COUNTY, NEW MEXICO

RESERVOIR DATA

Porosity	$\phi$ (1)	8.0 %
Net Pay	FT. (1)	4 FT.
Water Saturation	Sw (1)	15.0 %
Formation Volume Factor	$B_o$	1.4
Recovery Factor	$R$	35.0 %
Gas Liquid Ratio		1.498 MCF/bbl.

(1) From Log Analysis of Sunray DX Oil Company New Mexico State 'AO' No. 1.

Volumetric Calculation of Gross Reserves per Acre Foot

$$\begin{aligned} \text{Gross Reserves /A'} &= \frac{7758 (\phi)(1-S_w)(R)}{B_o} \\ &= \frac{7758 (0.08)(0.85)(0.35)}{1.4} \\ &= 132 \text{ bbls. per Acre Foot} \end{aligned}$$

<u>160 Acre Spacing</u>	<u>80 Acre Spacing</u>
Gross Reserves = (Bbls/A')(Net Pay)(Acres)	Gross Reserves = (Bbls/A')(Net Pay)(Acre)
= (132)(4)(160)	= (132)(4)(80)
= 84,480 bbls.	= 42,240 bbls.

EXHIBIT NO. 6  
 SURRAY OIL COMPANY  
 DETAILED ESTIMATED COST ANALYSIS TO  
 DRILL AND COMPLETE IN PENN BOUGH 'C' RESERVOIR

SILABOLA AREA, UNDESIGNATED FIELD, LEA COUNTY, NEW MEXICO

<u>INTANGIBLE</u>	
Location Preparation	\$ 6,000
Contract Drilling - 10,000'	50,000
Day Work	3,200
Casing Cementing	7,500
Geological Logging	8,300
Coring	300
Formation Testing	500
Perforating	850
Acidizing	500
Special Rig Completing	550
Other Specialized Services	1,000
Tool and Equipment Rental	1,000
Bits	300
Water and Fuel	500
Casing Supplies	1,200
Drilling Mud	7,000
Company Supervision	2,000
TOTAL INTANGIBLES	<u>\$ 90,700</u>
 <u>TANGIBLE</u>	
Surface Casing: 375' - 13 3/8" OD	\$ 2,300
Protective Casing: 4100' - 8 5/8" OD	16,200
Production Casing: 10,000' - 5 1/2" OD	22,000
Tubing: 10,000' - 2 3/8" OD	7,100
Well-Head Equipment	4,200
Subsurface Equipment	700
TOTAL TANGIBLES	<u>\$ 52,500</u>
 TOTAL COST	 \$143,200

EXHIBIT NO. 7  
 SUNRAY OIL COMPANY  
 ECONOMIC ANALYSIS FOR NEW MEXICO STATE 'AO' NO. 1  
 SIMANOLA AREA, PENN BOUGH 'C' RESERVOIR  
 UNDESIGNATED FIELD, LEA COUNTY, NEW MEXICO

	<u>160 Acre Spacing</u>	<u>80 Acre Spacing</u>
Total Reserves, Gross bbls.	81,400	12,240
Less 1/8 Royalty, bbls.	10,560	5,280
Net to Producer, bbls.	<u>73,920</u>	<u>36,960</u>
Gross Income @ \$2.99/bbl.	\$221,021 ✓	\$110,511 ✓
Less Operating Costs		
	<u>160 Acre</u>	<u>80 Acre</u>
Well Cost	\$113,200(1)	\$113,200(1)
Operating Expense	42,240(2)	21,120(2)
Production Taxes	10,349(3)	5,174(3)
Total	<u>\$195,789</u>	<u>\$169,494</u>
Profit Before F.I.T.	\$ 25,232	\$ <58,983>
(4) Present Worth Discounted @ 5%	\$ 21,796	
Discounted Profit Before F.I.T. per Dollar Invested	\$ 0.15	

- (1) Does not include investment for pipeline to market outlet.  
 (2) Operating Expense: \$0.50 per bbl. Includes trucking charge.  
 (3) Production Taxes: 4.64%.  
 (4) Present Worth based on 2 year life.

11/15/57  
 Present Worth of 2 year life  
 based on 2 year life  
 40



TOM F. HILL  
Manager, Southwest Division  
A. S. RHEA  
Superintendent Operating Department

PRODUCTION DEPARTMENT **SUN OIL COMPANY** SOUTHLAND CENTER, P.O. BOX 2880, DALLAS, TEXAS 75221

February 5, 1965

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

Gentlemen:

Sun Oil Company has been notified that Case 2942, the application of Sunray DX Oil Company, has been reopened pursuant to the provisions of Order No. R-2645, which order established temporary 160-acre spacing and fixed well locations for the Simanola-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year.

This is to advise that Sun Oil Company, as a lessee of State of New Mexico Lease located in the NE/4 of Section 21, T10S, R34E, Lea County, is opposed to 40-acre spacing for the Simanola-Pennsylvanian Pool of Lea County. We believe that testimony presented at the original hearing on November 20, 1963 by Sunray shows that one well is capable of draining 160 acres and that the production to date is evidence of drainage in excess of 80 acres.

Yours very truly,

SUN OIL COMPANY

A. R. Ballou

ARB:mo

cc Mr. William Lore  
Sunray DX Oil Company  
P. O. Box 2039  
Tulsa, Oklahoma



GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

State of New Mexico  
Oil Conservation Commission



LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

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

P. O. BOX 2088  
SANTA FE

March 15, 1965

Mr. Charles White  
Gilbert, White & Gilbert  
Attorneys at Law  
Post Office Box 787  
Santa Fe, New Mexico

Re: Case No. 2942  
Order No. R-2645-B  
Applicant:

SUNRAY DX OIL COMPANY

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

ir/

Carbon copy of order also sent to:

Hobbs OCC   x  

Artesia OCC       

Aztec OCC       

OTHER       Mr. Clarence Hinkle

# Memo

From

JAMES M. DURRETT JR.  
GENERAL COUNSEL

To Dan

Will you see that  
request for re-designation  
gets on next nomenclature  
hearing as we did not  
put it in order.

DRAFT

JMD/esr

March 4, 1965

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CF Subj. \_\_\_\_\_

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

CASE No. 2942

Order No. R-2645-B

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR THE CREATION OF A NEW OIL POOL  
AND FOR SPECIAL TEMPORARY POOL RULES,  
LEA COUNTY, NEW MEXICO.

  
  
  
ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on  
February 10, 1965, at Santa Fe, New Mexico, before Examiner  
Daniel S. Nutter, ~~and was continued to March 4, 1965~~

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

FINDS:

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

(2) That by Order No. R-2645, dated January 31, 1964, tem-  
porary Special Rules and Regulations were promulgated for the  
Simanola-Pennsylvanian Pool, Lea County, New Mexico.

(3) That pursuant to the provisions of Order No. R-2645,  
this case was reopened to allow the operators in the subject pool  
to appear and show cause why the Simanola-Pennsylvanian Pool  
should not be developed on 40-acre spacing units.

(4) That the evidence establishes that one well in the  
Simanola-Pennsylvanian Pool can efficiently and economically  
drain and develop 80 acres.

(5) That the Special Rules and Regulations promulgated by Order No. R-2645 have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the oil in the pool.

(6) That to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-2645 should be continued in full force and effect until further order of the Commission.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Simanola-Pennsylvanian Pool promulgated by Order No. R-2645 are hereby continued in full force and effect until further order of the Commission.

(2) 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.

OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Date 2/22/65

CASE 2942 reopened Hearing Date 9am 2/10/65  
DSN @ SF

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

Enter an order continuing Order No R-2645 in effect indefinitely subject to the following amendment: SIMANOLA  
Simanola Pennsylvania  
The ~~Saint~~ pool shall be re-designated the Simanola-Cisco Pool and the vertical limits shall be defined as from ~~9850~~-9850 feet to 9960 feet in the Cisco formation, as shown on the log of Sumner Oil Company's State A0 Well No 1 located in Unit M of Sec 16, T10SR34E Lea Co, N.Mex.

Findings should include that applicant has failed to prove one well will drain 160 acres efficiently but the evidence does establish that 80 acres can be efficiently and economically drained without causing waste

[Signature]  
Secretary

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 10, 1965

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

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

CASE 2942: (Reopened)

In the matter of Case No. 2942 being reopened pursuant to the provisions of Order No. R-2645, which order established temporary 160-acre spacing and fixed well locations for the Simanola-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 2764: (Reopened)

In the matter of Case No. 2764 being reopened pursuant to the provisions of Order No. R-2439, which order established temporary 640-acre spacing units for the West Jal-Strawn Gas Pool, Lea County, New Mexico, for a period of two years. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing units.

CASE 3203: Application of Schermerhorn Oil Corporation for a non-standard location and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre non-standard gas proration unit comprising the N/2 NE/4 of Section 5, Township 19 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Linam G Well No. 1 at a non-standard location 1025 feet from the North line and 1953 feet from the East line of said Section 5.

CASE 3204: Application of Union Oil Company of California for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Wolfcamp production for their California State No. 1-7 located in Unit D of Section 7, Township 15 South, Range 35 East, Lea County, New Mexico, and the promulgation of special rules for said pool, including a provision for 80-acre spacing.

CASE 3205: Application of Continental Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 4 of the special pool rules for the Baish Wolfcamp and Maljamar-Abo Pools, to permit the location of its Baish "A" Well No. 13 at an unorthodox location for said pools 1780 feet from the North line and 460 feet from the West line of Section 22, Township 17 South, Range 32 East, Lea County, New Mexico.

CASE 3206: Application of Apache Corporation for a pool extension and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the extension of the High Plains-Pennsylvanian Pool, Lea County, New Mexico to include its Delaware-Apache Well No. 1 located in the NE/4 of Section 22, Township 14 South, Range 34 East; applicant further seeks the promulgation of temporary special pool rules for said pool including a provision for 160-acre proration units.

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. 2942  
Order No. R-2645-B

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR THE CREATION OF A NEW OIL POOL  
AND FOR SPECIAL TEMPORARY POOL RULES,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 10, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 15th day of March, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That by Order No. R-2645, dated January 31, 1964, temporary Special Rules and Regulations were promulgated for the Simanola-Pennsylvanian Pool, Lea County, New Mexico.

(3) That pursuant to the provisions of Order No. R-2645, this case was reopened to allow the operators in the subject pool to appear and show cause why the Simanola-Pennsylvanian Pool should not be developed on 40-acre spacing units.

(4) That the evidence establishes that one well in the Simanola-Pennsylvanian Pool can efficiently and economically drain and develop 80 acres.

(5) That the Special Rules and Regulations promulgated by Order No. R-2645 have afforded and will afford to the owner of

-2-

CASE No. 2942

Order No. R-2645-B

each property in the pool the opportunity to produce his just and equitable share of the oil in the pool.

(6) That to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-2645 should be continued in full force and effect until further order of the Commission.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Simanola-Pennsylvanian Pool promulgated by Order No. R-2645 are hereby continued in full force and effect until further order of the Commission.


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

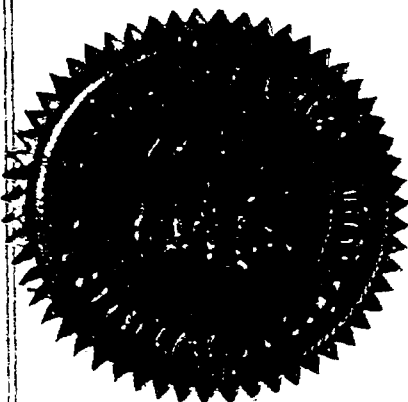
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
JACK M. CAMPBELL, Chairman

  
GUYTON B. HAYS, Member

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

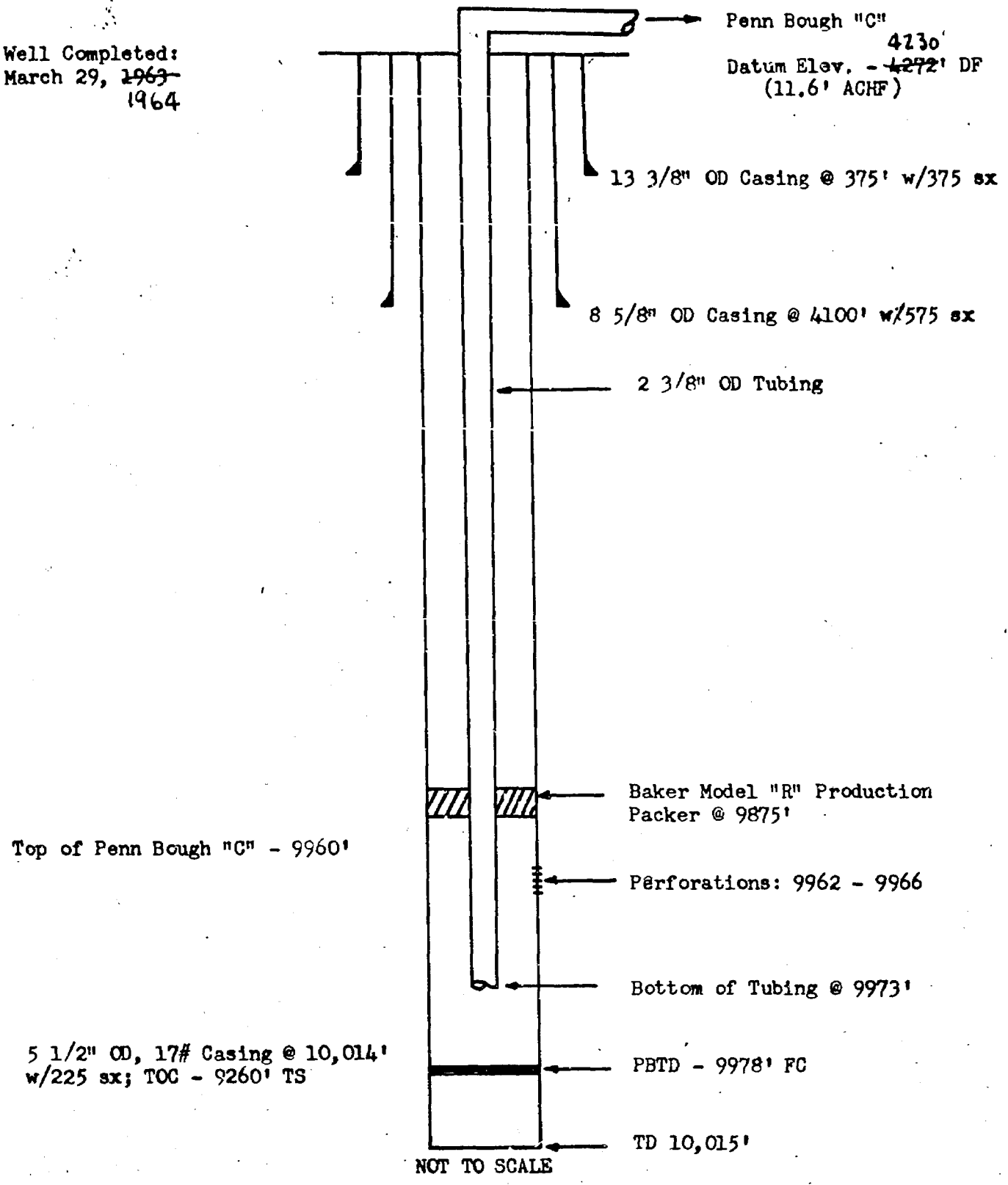


esr/



SUNRAY DX OIL COMPANY  
Completion Information  
1970' New Mexico State "AP" No. 1  
1650' FSL & 990' FEL Section 17-TLOS-R34E  
Lea County, New Mexico

Well Completed:  
March 29, 1963  
1964



NOT TO SCALE

6  
 SUNRAY OIL COMPANY  
 2-10-65

SUNRAY OX OIL COMPANY  
 GROSS PRODUCTION INFORMATION  
 NEW MEXICO STATE "AO" #1  
 660' FSL & 660' FWL SECTION 16-T10S-R34E  
 LEA COUNTY, NEW MEXICO

Date	Gross Bbls. Oil Produced	Cumulative Oil Prod Bbls.	Gross Gas Prod.-MCF	Cumulative Gas Prod. MCF
Oct.-1963	442	442	375	375
Nov.	4,508	4,950	3,832	4,207
Dec.	4,570	9,520	3,885	8,092
Jan.-1964	4,440	13,960	3,774	11,866
Feb.	4,168	18,128	3,543	15,409
Mar.	5,739	23,867	4,758	20,167
Apr.	5,104	28,971	4,337	24,504
May	5,562	34,533	4,727	29,231
June	5,354	39,887	4,467	33,698
July	5,434	45,321	4,619	38,317
Aug.	5,588	50,909	4,750	43,067
Sept.	5,440	56,349	5,418	48,485
Oct.	5,419	61,768	4,606	53,091
Nov.	5,399	67,167	5,377	58,468
Dec.	5,724	72,891	4,811	63,279

WELL NO. 5  
 SUNRAY DX OIL COMPANY  
 DATE 2-10-65

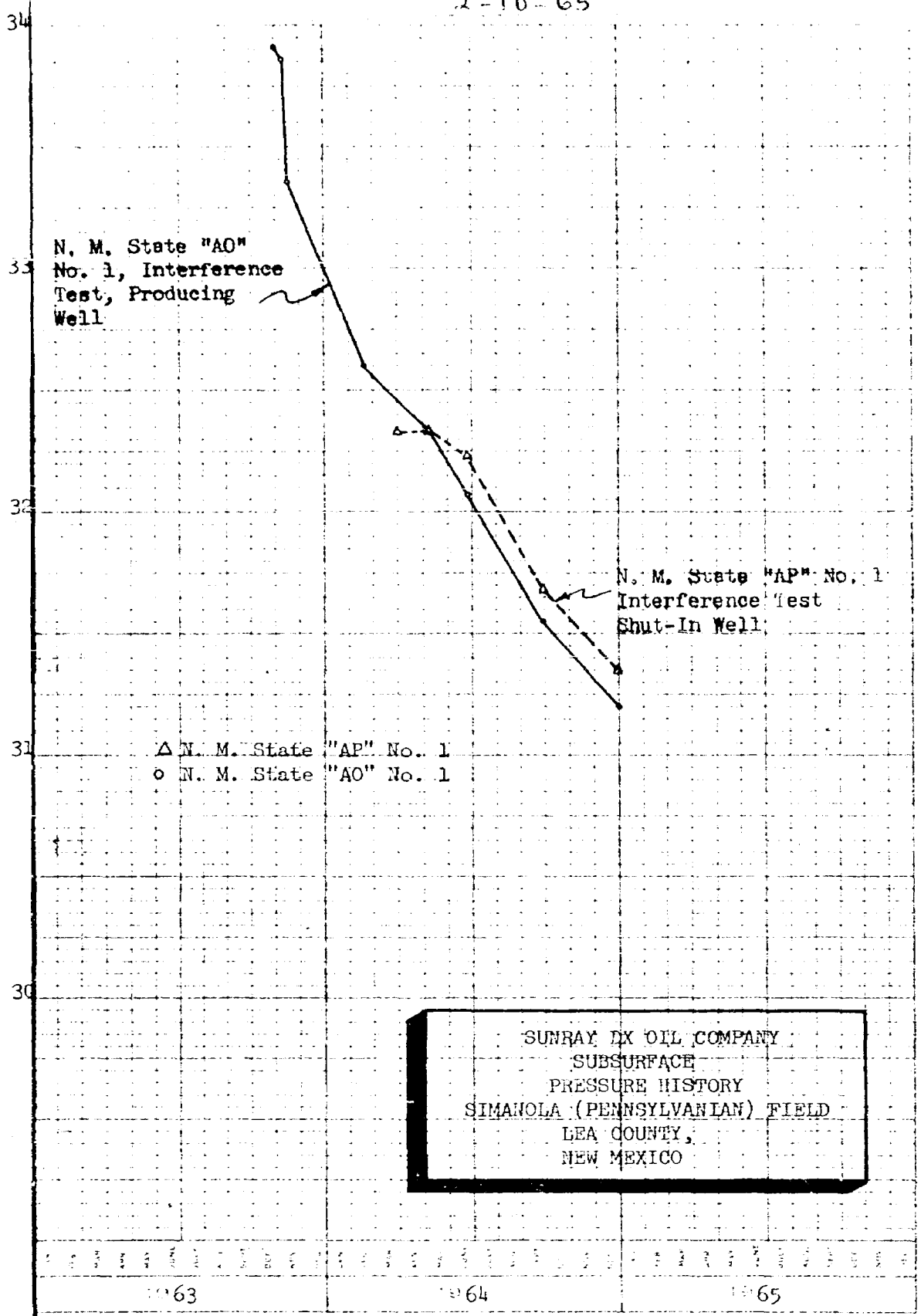
SUNRAY DX OIL COMPANY  
 SUBSURFACE PRESSURE DATA  
 SIMANOLA (PENNSYLVANIAN) FIELD  
 LEA COUNTY, NEW MEXICO

Date	Pressure, Psig at -5700' Datum	
	N. M. State "AO" #1	N. M. State "AP" #1
ISIP from DST	3,386	
November 7, 1963	3,381	
November 13, 1963	3,335 (60 hrs.)	
February 21, 1964	3,259 (28 hrs.)	
April 1, 1964		3,233 <sup>(1)</sup> (2 hrs.)
May 4, 1964	3,234 (72 hrs.)	3,233 (2 mos.)
June 26, 1964	3,207 (24 hrs.)	3,223 (3 mos.)
September 28, 1964	3,155 (49-1/2 hrs.)	3,168 (6 mos.)
December 31, 1964	3,120 (26-1/2 hrs.)	3,135 (9 mos.)

(1)  
 Not Complete Build-up  
 (Shut-in Time)

7  
2-10-65

Pressure @ -5700', Hundreds of Psig



NEO JACOBS & SUTZGER GRAPH PAPER  
4 YEARS IN SERVICE

SUNRAY OIL COMPANY  
SUBSURFACE  
PRESSURE HISTORY  
SIMANOLA (PENNSYLVANIAN) FIELD  
LEA COUNTY,  
NEW MEXICO

WELL NO. 10  
 SUNRAY OIL COMPANY  
 DATE 2-10-65

SUNRAY OIL COMPANY  
 CORE ANALYSIS DATA  
 1980' NEW MEXICO STATE "AP" NO. 1  
~~1650'~~ FSL & 990' FEL of Sec. 17 - T10S- R34E  
 LEA COUNTY, NEW MEXICO

Depth Range-Ft.	Perm. - Mds.		Porosity - %
	Max.	90°	
9949.0 - 9949.7	0.1	0.1	2.1
9949.7 - 9950.8	4.6	4.0	8.3
9950.8 - 9952.6	8.5	5.3	7.2
9952.6 - 9954.2	4.2	3.1	6.1
9954.2 - 9955.7	394.	263.	9.1
9955.7 - 9957.3	67.	67.	7.5
9957.3 - 9958.8	166.	79.	11.3
9958.8 - 9960.2	137.	110.	7.2
9960.2 - 9961.0	146.	137.	5.8
9961.0 - 9962.5	0.1	0.1	1.2
9962.5 - 9963.2	0.9	0.8	4.0
9963.2 - 9965.0	0.1	0.1	1.3

2-10-65

SUNRAY DX OIL COMPANY  
 RESERVOIR DATA AND RESERVE CALCULATION  
 SIMANOLA (PENNSYLVANIAN) FIELD  
 LEA COUNTY, NEW MEXICO

RESERVOIR DATA

Porosity	$\phi$ (1)	8.0 %
Net Pay	FT. (1)	7 FT.
Water Saturation	Sw (1)	15.0 %
Formation Volume Factor	Bo	1.4
Recovery Factor	R	35.0 %
Gas Liquid Ratio		1.498 MCF/bbl.

(1) From Log Analysis of Sunray DX Oil Company New Mexico State 'AO' No. 1  
 and core analysis of Sunray DX New Mexico State "AO" No. 1

Volumetric Calculation of Gross Reserves per Acre Foot

$$\text{Gross Reserves/A'} = \frac{7758(\phi)(1-S_w)(R)}{B_o}$$

$$= \frac{7758(0.08)(0.85)(0.35)}{1.4}$$

$$= 132 \text{ bbls. per Acre Foot}$$

160 Acre Spacing

$$\text{Gross Reserves} = (\text{Bbls/A'}) (\text{Net Pay}) (\text{Acres})$$

$$= (132)(7)(160)$$

$$= 148,000 \text{ bbls.}$$

80 Acre Spacing

$$\text{Gross Reserves} = (\text{Bbls/A'}) (\text{Net Pay}) (\text{Acre})$$

$$= (132)(7)(80)$$

$$= 74,000 \text{ bbls.}$$

12

2-10-65

SUNRAY DX OIL COMPANY  
 DETAILED ESTIMATED COST ANALYSIS TO  
 DRILL AND COMPLETE IN PENN BOUGH 'C' RESERVOIR  
 SIMANOLA (PENNSYLVANIAN) FIELD  
 LEA COUNTY, NEW MEXICO

INTANGIBLE

Location Preparation	\$ 3,000
Contract Drilling - 10,000'	50,500
Day Work	5,500
Casing Cementing	5,300
Geological Logging	3,600
Coring	650
Formation Testing	-
Perforating	850
Acidizing	800
Special Rig Completing	1,700
Other Specialized Services	500
Tool and Equipment Rental	500
Bits	300
Water and Fuel	500
Casing Supplies	1,100
Drilling Mud	3,600
Company Supervision	<u>3,000</u>
TOTAL INTANGIBLES	\$ 81,400

TANGIBLE

Surface Casing: 375' - 13-3/8" OD	\$ 2,400
Protective Casing: 4,000' - 8-5/8" OD	16,200
Production Casing: 10,000' - 5-1/2" OD	22,800
Tubing: 10,000' - 2-3/8" OD	7,100
Well-Head Equipment	4,000
Subsurface Equipment	<u>800</u>
TOTAL TANGIBLES	\$ 53,300

TOTAL COST	\$134,700
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2-10-65

SUNRAY OIL COMPANY  
ECONOMIC ANALYSIS FOR DEVELOPMENT WELL  
SIMANOLA (PENNSYLVANIAN) FIELD  
LEA COUNTY, NEW MEXICO

	<u>160 Acre Spacing</u>	<u>80 Acre Spacing</u>
Total Reserves, Gross Bbls.	148,000	74,000
Less 1/8 Royalty, Bbls.	<u>18,500</u>	<u>9,300</u>
Net to Producer, Bbls.	129,500	64,700
Gross Income @ \$2.99/Bbl.	\$387,000	\$194,000
Less Operating Costs		
	<u>160 Acre</u>	<u>80 Acre</u>
Well Cost	\$134,700(1)	\$134,700(1)
Operating Expense	74,000(2)	37,000(2)
Production Taxes	<u>18,000(3)</u>	<u>9,000(3)</u>
Total	\$226,700	\$180,700
Profit Before F.I.T.	\$160,300	\$ 13,300
(4) Present Worth Discounted @ 5%	\$147,000	\$ 9,000
Discounted Profit Before F.I.T. per Dollar Invested	\$ 1.09	\$ 0.07

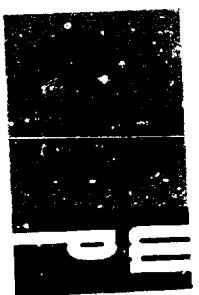
- (1) Does not include investment for pipeline to market outlet.  
(2) Operating Expense: \$0.50 per bbl. includes trucking charge.  
(3) Production Taxes: 4.64%.  
(4) Present Worth based on 2 year life.



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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
February 24, 1965

EXAMINER      HEARING

IN THE MATTER OF:

CASE NO. 2942 being reopened pursuant to  
the Provisions of Order No. R-2645, which  
Order established temporary 160-acre Spacing  
and Fixed Well Locations for the Simanola-  
Pennsylvanian Pool, Lea County, New Mexico,  
for a period of one year.

Case No. 2942

BEFORE:

ELVIS A. UTZ

TRANSCRIPT OF HEARING

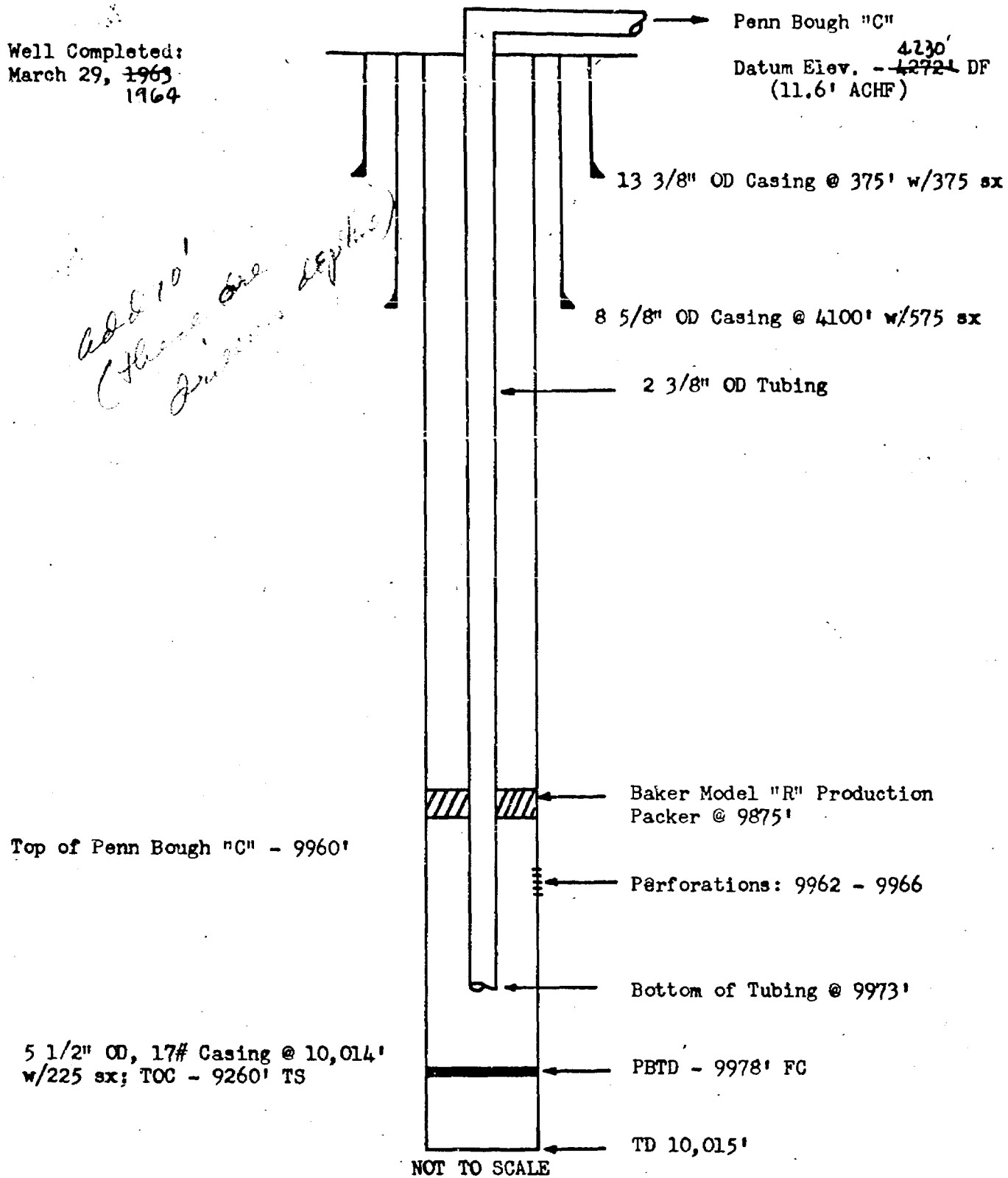


WELL NO. 4  
SUNRAY OIL COMPANY  
2-10-65

SUNRAY DX OIL COMPANY  
Completion Information  
1480' New Mexico State "AP" No. 1  
1650' FSL & 990' FEL Section 17-T10S-R34E  
Lea County, New Mexico

Well Completed:  
March 29, 1963  
1964

*add 10'  
(Change the  
production depth)*



5  
 SUNRAY OIL COMPANY  
 2-10-65

SUNRAY DX OIL COMPANY  
 SUBSURFACE PRESSURE DATA  
 SIMANOLA (PENNSYLVANIAN) FIELD  
 LEA COUNTY, NEW MEXICO

Date	Pressure, Psig at -5700' Datum	
	N. M. State "AO" #1	N. M. State "AP" #1
ISIP from DST	3,386	
November 7, 1963	3,381	
November 13, 1963	3,335 (60 hrs.)	
February 21, 1964	3,259 (28 hrs.)	
April 1, 1964		3,233 <sup>(1)</sup> (2 hrs.)
May 4, 1964	3,234 (72 hrs.)	3,233 (2 mos.)
June 26, 1964	3,207 (24 hrs.)	3,223 (3 mos.)
September 28, 1964	3,155 (49-1/2 hrs.)	3,168 (6 mos.)
December 31, 1964	3,120 (26-1/2 hrs.)	3,135 (9 mos.)

(1) Not Complete Build-up

(Shut-in Time)

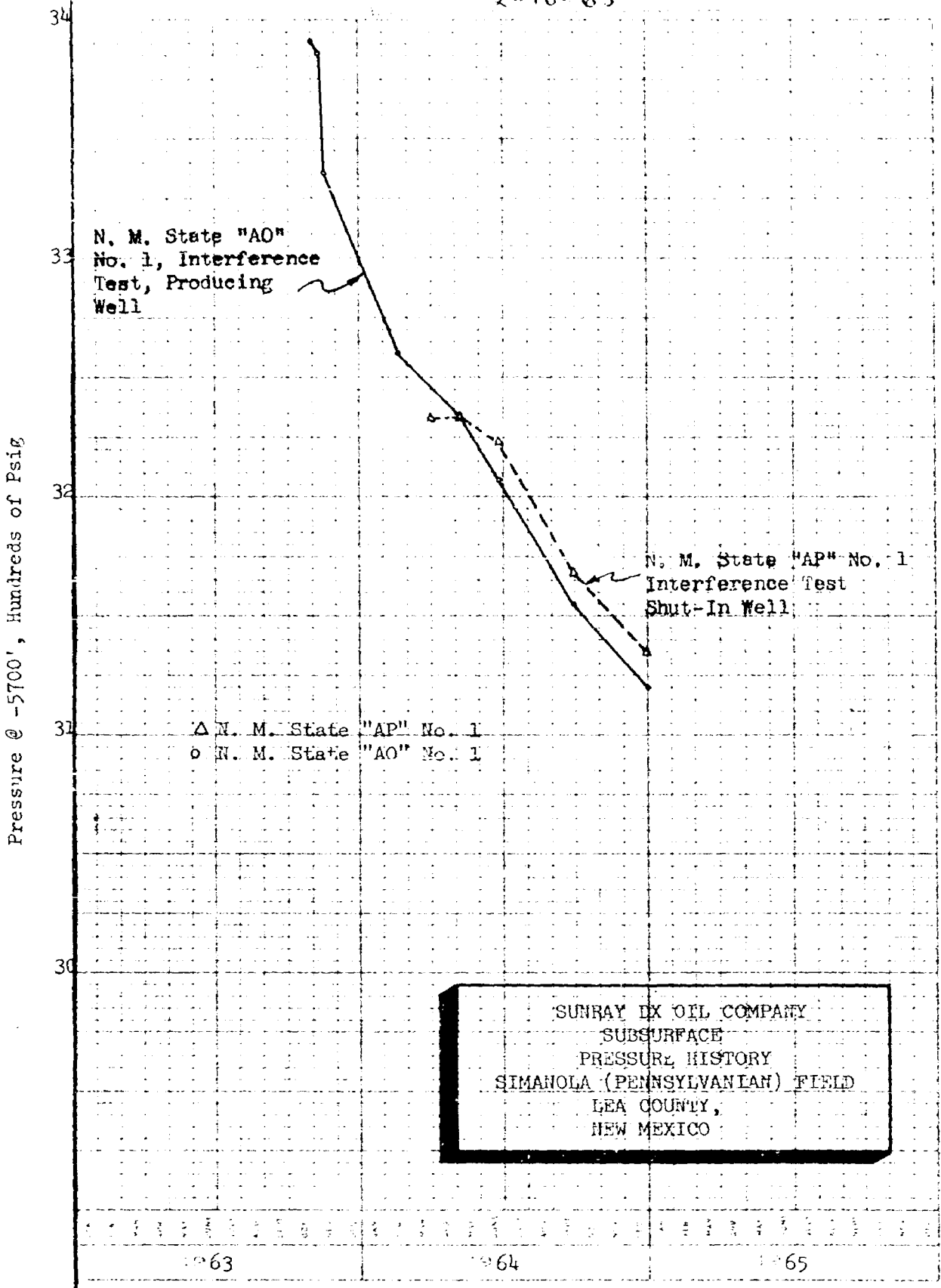
6  
 2-10-65

SUNRAY DX OIL COMPANY  
 GROSS PRODUCTION INFORMATION  
 NEW MEXICO STATE "AO" #1  
 660' FSL & 660' FWL SECTION 16-T10S-R34E  
 LEA COUNTY, NEW MEXICO

Date	Gross Bbls. Oil Produced	Cumulative Oil Prod Bbls.	Gross Gas Prod.-MCF	Cumulative Gas Prod. MCF
Oct.-1963	442	442	375	375
Nov.	4,508	4,950	3,832	4,207
Dec.	4,570	9,520	3,885	8,092
Jan.-1964	4,440	13,960	3,774	11,866
Feb.	4,168	18,128	3,543	15,409
Mar.	5,739	23,867	4,758	20,167
Apr.	5,104	28,971	4,337	24,504
May	5,562	34,533	4,727	29,231
June	5,354	39,887	4,467	33,698
July	5,434	45,321	4,619	38,317
Aug.	5,588	50,909	4,750	43,067
Sept.	5,440	56,349	5,418	48,485
Oct.	5,419	61,768	4,606	53,091
Nov.	5,399	67,167	5,377	58,468
Dec.	5,724	72,891	4,811	63,279

2.90 - 2470  
 5858  
 Summary Sta prod

2-10-65



DATE: 10-10-65

NO. 100-100 DIETZEN GRAPH PAPER  
3 YEARS BY MONTHS

11  
2-10-65

SUNRAY DX OIL COMPANY  
RESERVOIR DATA AND RESERVE CALCULATION  
SIMANOLA (PENNSYLVANIAN) FIELD  
LEA COUNTY, NEW MEXICO

RESERVOIR DATA

Porosity	Ø (1)	8.0 %
Net Pay	FT. (1)	7 FT.
Water Saturation	Sw (1)	15.0 %
Formation Volume Factor	Bo	1.4
Recovery Factor	R	35.0 %
Gas Liquid Ratio		1.498 MCF/bbl.

(1) From Log Analysis of Sunray DX Oil Company New Mexico State 'AO' No. 1  
and core analysis of Sunray DX New Mexico State "AP" No. 1

Volumetric Calculation of Gross Reserves per Acre Foot

$$\text{Gross Reserves/A'} = \frac{7758(\phi)(1-S_w)(R)}{B_o}$$

$$= \frac{7758(0.08)(0.85)(0.35)}{1.4}$$

$$= 132 \text{ bbls. per Acre Foot}$$

160 Acre Spacing

$$\begin{aligned} \text{Gross Reserves} &= (\text{Bbls/A}')(\text{Net Pay})(\text{Acres}) \\ &= (132)(7)(160) \\ &= 148,000 \text{ bbls.} \end{aligned}$$

80 Acre Spacing

$$\begin{aligned} \text{Gross Reserves} &= (\text{Bbls/A}')(\text{Net Pay})(\text{Acre}) \\ &= (132)(7)(80) \\ &= 74,000 \text{ bbls.} \end{aligned}$$

12

2-10-65

SUNRAY DX OIL COMPANY  
 DETAILED ESTIMATED COST ANALYSIS TO  
 DRILL AND COMPLETE IN PENN BOUGH 'C' RESERVOIR  
 SIMANOLA (PENNSYLVANIAN) FIELD  
 LEA COUNTY, NEW MEXICO

INTANGIBLE

Location Preparation	\$ 3,000
Contract Drilling - 10,000'	50,500
Day Work	5,500
Casing Cementing	5,300
Geological Logging	3,600
Coring	650
Formation Testing	-
Perforating	850
Acidizing	800
Special Rig Completing	1,700
Other Specialized Services	500
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Bits	300
Water and Fuel	500
Casing Supplies	1,100
Drilling Mud	3,600
Company Supervision	<u>3,000</u>
TOTAL INTANGIBLES	\$ 81,400

TANGIBLE

Surface Casing: 375' - 13-3/8" OD	\$ 2,400
Protective Casing: 4100' - 8-5/8" OD	16,200
Production Casing: 10,000' - 5-1/2" OD	22,800
Tubing: 10,000' - 2-3/8" OD	7,100
Well-Head Equipment	4,000
Subsurface Equipment	<u>800</u>
TOTAL TANGIBLES	\$ 53,300

TOTAL COST

\$134,700



2-10-65

SUNRAY DX OIL COMPANY  
ECONOMIC ANALYSIS FOR DEVELOPMENT WELL  
SIMANOLA (PENNSYLVANIAN) FIELD  
LEA COUNTY, NEW MEXICO

	<u>160 Acre Spacing</u>	<u>80 Acre Spacing</u>
Total Reserves, Gross Bbls.	148,000	74,000
Less 1/8 Royalty, Bbls.	<u>18,500</u>	<u>9,300</u>
Net to Producer, Bbls.	129,500	64,700
Gross Income @ \$2.99/Bbl.	\$387,000	\$194,000
Less Operating Costs		
	<u>160 Acre</u>	<u>80 Acre</u>
Well Cost	\$134,700(1)	\$134,700(1)
Operating Expense	74,000(2)	37,000(2)
Production Taxes	<u>18,000(3)</u>	<u>9,000(3)</u>
Total	\$226,700	\$180,700
Profit Before F.I.T.	\$160,300	\$ 13,300
(4) Present Worth Discounted @ 5%	\$147,000	\$ 9,000
Discounted Profit Before F.I.T. per Dollar Invested	\$ 1.09	\$ 0.07

- (1) Does not include investment for pipeline to market outlet.  
(2) Operating Expense: \$0.50 per bbl. includes trucking charge.  
(3) Production Taxes: 4.64%.  
(4) Present Worth based on 2 year life.

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

REGISTER

HEARING DATE FEBRUARY 10, 1965 TIME: 9 A.M.

NAME:	REPRESENTING:	LOCATION:
<i>L. C. White</i>	<i>[Signature]</i>	<i>Santa Fe</i>
<i>B. F. Brown</i>	<i>Sunray DX Oil Co.</i>	<i>Hobbs, N.M.</i>
<i>John [unclear]</i>	<i>Sunray DX Oil Co.</i>	<i>Roswell, N. Mex.</i>
<i>L. V. Stone</i>	<i>Sunray DX "</i>	<i>Midland Tex</i>
<i>H. A. Seidel, Jr.</i>	<i>Sunray DX Oil Co.</i>	<i>Midland, Texas.</i>
<i>R. C. Spurlack</i>	<i>Sunray Oil Co.</i>	<i>Tulsa, Okla</i>
<i>H. L. Porter, Jr.</i>	<i>OCC.</i>	<i>Santa Fe, N.M.</i>
<i>R. S. Cooke</i>	<i>Union Oil Co. of Calif.</i>	<i>Midland, Texas</i>
<i>Chas. W. Brownrig</i>	<i>" " " " "</i>	<i>" "</i>
<i>J. B. Jordan</i>	<i>" " " " "</i>	<i>Roswell, N.M.</i>
<i>V. T. Lyon</i>	<i>Continental Oil Co</i>	<i>Hobbs, N.M.,</i>
<i>A. [unclear]</i>	<i>Gen. Bullmoose</i>	<i>Santa Fe</i>
<i>John F. Russell</i>	<i>Union</i>	<i>Baswell</i>
<i>Larry [unclear]</i>	<i>Apache</i>	<i>Midland</i>
<i>John H. Black</i>	<i>Apache</i>	<i>Midland</i>
<i>[unclear]</i>	<i>" "</i>	<i>[unclear]</i>
<i>Jason Kelleher</i>	<i>Kelleher &amp; Son</i>	<i>Santa Fe</i>

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1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6871 • ALBUQUERQUE, NEW MEXICO

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

February 10, 1965

EXAMINER HEARING

IN THE MATTER OF:

Case No. 2942 being reopened pursuant to  
the provisions of Order No. R-2645, which  
order established temporary 160 acre  
spacing and fixed well locations for  
the Simanola-Pennsylvanian Pool, Lea  
County, New Mexico, for a period of one  
year.

Case No. 2942  
(reopened)

BEFORE: DANIEL S. NUTTER, Examiner  
ELVIS A. UTZ: Alternate Examiner

TRANSCRIPT OF HEARING



MR. UTZ: The Hearing will come to order. The first case this morning will be Case No. 2942.

MR. DURRETT: In the matter of Case No. 2942 being reopened pursuant to the provisions of Order No. R-2645, which order established temporary 160 acre spacing and fixed well locations for the Simanola-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year.

MR. WHITE: If the Examiner please, Charles White of the law firm of Gilbert, White and Gilbert, Santa Fe, New Mexico, appearing on behalf of the Applicants, and we have two witnesses to be sworn at this time.

(Witnesses sworn.)

MR. WHITE: If the Examiner please, am I right in my assumption that the transcript of the former Hearing will be part of this record?

MR. UTZ: That is correct.

(Whereupon, Sunray's Exhibits No's 1 to 13, both inclusive, marked for identification.)

E D W A R D V. S T I N E, called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Stine, will you state your full name for the record?

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

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A Edward V. Stine.

Q And by whom are you employed?

A By Sunray DX Oil Company and as Division Exploration Engineer.

Q And where are your main offices located?

A Out of Midland, Texas.

Q Have you previously testified before the New Mexico Oil Conservation Commission or one of its Examiners?

A No, sir.

Q Will you briefly state your educational and professional background?

A I graduated from the University of Wichita in Kansas, with a Bachelor's Degree in 1948 and did three semesters of graduate work at the University of Oklahoma and started to work for Sunray in February of 1949 and have been with them ever since.

Q Mr. Stine, are you familiar with Sunray's application in the subject Case 2942?

A Yes, sir.

Q And are you familiar with Order Number R-2645?

A Yes, sir.

Q And have you made any studies to show cause for approval of this order since the last Hearing of November 20, 1963?

A Yes, sir, we have.

MR. WHITE: Are the witness' qualifications acceptable?

MR. UTZ: Yes, sir, they are.

Q (By Mr. White) Will you refer to Exhibit Number 1? Exhibit 1 is an ownership map of the Simanola Field area in 10 South, 34 East. Sunray's acreage is designated by yellow colors. The actual scale of this map is one to four thousand and is not indicated on our index. In the Southwest Quarter of Section 16 is the State AO which was the discovery well for the Simanola Field.

Also, the State AP well in the Northeast of the South-east of Section 17 is designated, which has been temporarily abandoned; and also, in the Northeast Quarter of Section 20 is our presently drilling State AO No. 1. The red outline on this exhibit represents the working unit, of which Sunray has a seven-eighths working interest, and Reynolds has a one-eighth working interest.

Bringing you up to date, the original working area did include the North Half of the Southeast Quarter of Section 17 and also the Southwest Quarter of the Northeast Quarter of Section 20; that is no longer in this working unit.

Q Is the Exhibit you originally introduced similar to this?

A Yes.

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Q Now, refer to Exhibit 2 and explain your structural map.

A Exhibit 2 is a structural map on the base of the Pennsylvanian-Three Brothers formation. The scale on the map again, is one to four thousand, the contour interval is fifty feet.

Also, as on Exhibit 1, the various wells are so designated again along with the working units outlined in red. The nearest comparable production to our existing Simanola production is our Lane Field which is about four miles to the northeast, and our South Lane and MB Field, about four miles to the southwest.

Q Now, will you refer to, and explain, Exhibit 3?

A Exhibit 3 is a structural cross-section from our State AP No. 1 to the State AO. Now, these are gamma-ray lateral logs. The vertical scale is one inch to fifty feet and we have made no application on the horizontal scale.

The various formations picked being the Wolfcamp Huero "X", the base of the Three Brothers, which is the mapping horizon on Exhibit 1, and the Pennsylvanian Cisco (Bough C) which is the producing formation in the Simanola Field.

The actual perforated intervals in both wells are designated in red in the Bough C portion. The drill stem test information and completion information has been plotted below

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each well.

Q Does this Exhibit alter the vertical limit as originally determined and identified by Exhibit 2?

A Yes, sir, we originally asked for a vertical limit or stated a vertical limit of 9850 to 10,050. We would request a change of that, remaining at 9850 on the upper portion, but bringing up the lower one to an approximate 9960.

Q Mr. Stine, were these Exhibits prepared by you or under your direction?

A Yes, sir.

MR. WHITE: At this time, we offer Exhibits 1 through 3 into evidence and that concludes our Direct Examination.

(Whereupon, Applicant's Exhibits 1 through 3 offered into evidence.)

MR. UTZ: Without objection, Exhibits 1 through 3 will be admitted into evidence.

(Whereupon, Applicant's Exhibits 1 through 3 admitted into evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Stine, the well in the Northeast of the Southeast of Section 17 swabbed salt water on the drill stem test, or after it was perforated?

A Yes, sir.





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Q Did you have a structure map at the first Hearing of this case?

A Yes, sir.

Q Were the contours brought in as a result of the drill stem test, or the salt water on the perforation on this well?

A The AP well was approximately 25 feet low to the AO well. Now, our original interpretation was to the Northeast. However, due to the lowness of this AP well, we did move our structural features to the south.

Q So there has been a shift southerly in the structure?

A Yes.

Q Now, at what depth is the State AO number 1 drilling now?

A They were below 3,000 Monday; I would assume in the neighborhood of 4,000.

Q It's not far enough down to know yet?

A No, sir.

Q So, actually there is one well producing from this pool and that was the status of the pool a year ago also?

A Right.

MR. UTZ: Does anyone have any questions of Mr. Stine? He may be excused.

(Witness excused.)

HOWARD A. SEIDEL, called as a witness herein, having

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

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Seidel, would you state your full name, please?

A Howard A. Seidel, S-e-i-d-e-l.

Q And by whom are you employed, and in what capacity?

A I work for Sunray DX Oil Company as Division Oil Engineer.

Q And where is your main office located?

A In Midland.

Q Have you previously testified before the New Mexico Oil Conservation Commission or one of its Examiners?

A No, sir, I have not.

Q Will you briefly state your educational and professional background?

A I have a B.S. in Petroleum Engineering from the University of Texas obtained June 19, 1951. Upon graduation I went to work for Petroleum Research Corporation, and in 1955, December, I went to work for Sunray as Production Engineer.

Q Are you familiar with the application in Case No. 2942?

A Yes, sir.

MR. WHITE: Are the witness' qualifications acceptable?

MR. UTZ: Yes, sir, they are.

Q (By Mr. White) What has Sunray done in developing the



pool since October, 1963?

A We have drilled, and are drilling the New Mexico State AP No. 1 which is on Mr. Stine's Exhibits Numbers 2 and 3.

Q Has the well been abandoned?

A Yes, sir, it is temporarily abandoned because we wanted to run interference tests and we used this well as a shut-in well for these interference tests.

Q Will you refer to and explain Applicant's Exhibit Number 4?

A Well, this is up-to-date with the Commission's records of the schematic completion of wells in the field. This is completion information on the second well, New Mexico State E Number 1, and the well was completed March 29, 1964. After testing, it showed 100 per cent water.

Perforations were 9962 to 9966. Now, on April the 1st, 1964, the well was shut-in for these pressure observations after testing 100 per cent water.

The total depth of the well is 10,015 feet and ten feet has to be added to this depth to tie into the logging depths.

Q Is the Exhibit otherwise self-explanatory.

A Yes, sir, it is.

Q Now, will you refer to Exhibits 5, 6 and 7 and explain them?

A These all pertain to the pressure information that was obtained in the last year or since completion, actually, on the New Mexico State AO No. 1. Pressures have been corrected to sub-sea datum of 6700 feet. The New Mexico State AP No. 1 has been shut-in essentially all of the time that we have had these pressures recorded.

Q Are you referring to Exhibit 5?

A Yes, sir, this is on Exhibit 5. The initial pressure we measured in the New Mexico State AP No. 1 is probably not completely built up with only two hours shut-in time; all the rest of the pressures are indicated to be built up. The New Mexico State AO No. 1 is indicated to have reached static conditions.

Exhibit 6 is a tabulation of the production from the New Mexico State AO No. 1. Average production has been about 170 barrels per day over this fourteen month period to January 1st, 1965. The initial water production was 2 per cent. We are currently producing 24 per cent salt water with cumulative production as of 11/64 of 5800 barrels. We do not fear that the water is increasing, since the drawdown tests were not able to draw.

Exhibit 7 is a graphical presentation of the data presented in Exhibit 5, namely of the pressure history of the two wells and our interference test area. The last three

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

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pressure points plotted for the New Mexico State AP No. 1, which is the shut-in well, parallel those of the New Mexico State AO No. 1, while it has been producing this 170 barrels per day.

Q Now, will you tie Exhibit 7 in with the data shown on Exhibit 5?

A We have plotted our pressure interference data versus cumulative production. This is using the information presented in Exhibit 5 and Exhibit 6. Here again, you can see for the last three points plotted for the New Mexico AP No. 1 that the pressure decline parallels the New Mexico State AO No. 1 very nicely. And also on this exhibit, we have a little plat on the area of the interference tests, showing that area affected by these two wells, namely 251 acres.

Q What conclusions did you draw from these Exhibits?

A We think that, or I think, that this is excellent evidence of interference between the two wells and this will prove that we can economically and efficiently bring in in excess of 160 acres.

Q How did you account for the initial pressure of your New Mexico State AP No. 1 being lower than the New Mexico State AO No. 1 well as shown on Exhibit 8?

A Well, this initial pressure at cumulative production of about 24,000 barrels is probably not built up. This is the

24-hour shut-in pressure. The second pressure point at 30,000 barrels cumulative production is undoubtedly built up and yet, the pressure is slightly lower than the New Mexico State AO No. 1 pressure.

Q Do you have an Exhibit showing the reservoir rock properties?

A We can refer to Exhibit 9. In order to explain why the pressures are lower on the non-producing well, we have prepared a pressure profile of the Lane-Simanola Field areas and up in the upper left-hand corner, we have a schematic diagram of this area with our pressures crossing through the Lane pool to the Simanola pool.

The straight line -- the uppermost line in the actual profile was calculated. We do not know what the pressures are at Lane, but based on core analysis data from the New Mexico State AP No. 1, we have calculated this uppermost line on the basis of 185 millidarcies permeability average.

The initial pressure established at Lane was 3680 psig at minus 5700 feet. At simanola, our initial pressure was 3386 at this same sub-sea depth. This indicates that some interference has occurred within the Lane pool and the Simanola pool. Each one of the points on this curve at a radial distance of 20,000 feet represents the New Mexico State AP No. 1's approximate location from the Lane pool.

The 22,000 foot point represents the New Mexico State AO No. 1 distance from this pool, and as can be seen, we would expect the pressures in the AP No. 1 initially, probably, to be lower than the AO No. 1 pressures. The AO No. 1 continued to produce at these pressures. As you go south on this chart, the time progresses and it can be seen why these pressures are level.

Q Now, will you refer to Exhibit 10, please?

A This is a tabulation of the core analysis data which we obtained from the New Mexico State AP No. 1. Again, these are drill depths and we have to add ten feet to these to get the log depths. Our total porosity pay amounts to some eleven feet. The good or better permeability pay amounts to some seven feet. The average permeability for the seven feet of pay is 185 millidarcies, varying from 67 to 394. The average porosity is 4.4 per cent.

Q Do these interference tests and the other studies that you have made bear out Sunray's testimony that was offered in the former Hearing?

A Yes, sir, we believe they do.

Q Now, as to the economics, at the last Hearing certain testimony was given as to the economics which we feel will have a bearing on the case. Have the economic features varied any since then?

A We can change some of the parameters that went into our calculations. We have done this to let the Commission see how these changes affect the economics. We don't feel that these have any real bearing on the case.

Q In other words, the economic features are not as important as you originally considered them?

A Yes, sir.

Q Now, as a matter of interest, the economics are set out by Exhibits 11, 12 and 13, is that correct?

A That's true.

Q Would you briefly review those Exhibits?

A Right. Exhibit Number 11 is a calculation sheet showing our reservoir data and reservoir information. The only change in this information from what was presented at our last Hearing is an increase in the net pay from four feet to seven feet.

Q How did you arrive at the net pay of seven feet?

A I should explain how we came by this from our logs. We had two feet of net pay in the New Mexico State AO No. 1 on the permeability logs. On the porosity logs we have six feet. This is why we averaged these two pays together, because we really don't know what this lower permeability rock will be for these wells.

In the AP No. 1 we have taken our core analysis data





and utilized the seven feet of permeability and pay with the eleven feet of porosity. When this nine foot average and four foot average were averaged together, we have seven feet of net pay. When this is applied to the 132 barrels per acre foot which was originally calculated to be recoverable from this rock, we have 148,000 barrels recoverable on 160 acre spacing; on 80 acre spacing, we have 74,000 barrels recoverable.

Q Now, will you explain Exhibit 12?

A All right, sir. This is a revised estimate on our drilling completion costs. The initial exhibit showed our total cost and was a little higher than our experience in the New Mexico State AP No. 1.

Q And Exhibit 13?

A Here we have applied the gross income values to our reserves; and for 160 acre spacing, we have \$387,000.00 of gross income, whereas on 80 acre spacing we have \$194,000.00. We continued to use the operating expense of 50 cents per barrel. We have used the lower well cost consistent with the cost indicated in the New Mexico AP No. 1. Production taxes are used at 4.64 per cent of gross income. When these costs are withdrawn from the gross income before Federal income tax profits amount to \$16,000.00 on 160 acre spacing; \$13,000.00 on 80 acre spacing.

When these future profits are discounted at 5 per cent

for a short two year life, we have a dollar and nine cents per dollar invested on 160 acre spacing and one dollar and seven cents invested on 80 acre spacing. The main difference here, I think, we actually have a loss shown for our first presentation; this will show some profit on the 80 acre spacing.

Q What recommended revisions, if any, do you have to make in regard to Order R-26457

A We would respectfully suggest that we return to the 160 acre permanent rules. This would, of course, modify Rule 2 to read, "Each well completed or recompleted in the Simanola pool shall be located on the standard unit containing 160 acres more or less, consisting of a single governmental section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter sections in the unit".

On Rule 4, we would suggest that it would read like this, "The first well drilled on every standard or non-standard unit in the Simanola-Pennsylvanian Pool shall be located at the center of either the Northeast Quarter or the Southwest Quarter of the governmental section. All wells shall be located at the center of the governmental quarter section."

In Rule 5: "Three hundred thirty feet to the outer boundaries", mentioned on the second line, we would suggest five hundred and ten feet for this three hundred thirty

feet.

For Rule 6, we would recommend a standard proration unit in the Simanola-Pennsylvanian pools shall be assigned a 160 acre proportional factor of 6.77 for allowable purposes, and in the event there is more than one well on a 160 acre proration unit, the operator may produce the allowable assigned to the well on the unit.

Q Will you suggest that the amendments conform to similar special rules in regard to the 160 acres?

A Yes, sir.

Q If the order is so revised, in your opinion, will this prevent unnecessary drilling of wells and protect correlative rights?

A Yes, sir.

Q Were Exhibits 4 through 13 prepared by you or under your direction?

A Yes, sir.

MR. WHITE: At this time, we would offer Exhibits 4 through 13 in evidence.

(Whereupon, Applicant's Exhibits 4 through 13 were offered into evidence.)

MR. UTZ: Without objection, Sunray's Exhibits 4 through 13 will be admitted into evidence.

(Whereupon, Applicant's Exhibits 4 through 13 were admitted into evidence.)

MR. UTZ: Does anyone have any questions of Mr. Seidel?

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Seidel, the original application in this case was for 160 acre spacing, is that correct?

A Yes, sir.

Q And the Commission entered an order providing for 80 acre spacing for a period of approximately one year?

A That is correct.

Q And since that time you have drilled one well which was lower on the structure and you are drilling your third well in the pool now?

A That's correct.

Q Now, as far as production history is concerned, the original well is still the only one available?

A Yes, sir, actual production history.

Q And your computation of reserves indicates you got about 74,000 barrels of recoverable reserves on 80 acre spacing and 148,000 barrels of recoverable reserves on 160 acre spacing?

A Yes, sir.

A And cumulative production from your AO No. 1 has been some 73,000?

A Almost as much as we have for the 80 acre spacing. We think, of course, if we go to 80 acres we will drain only 80 acres.

Q Now, you are estimating that you got about seven feet of good net pay?

A Yes, sir.

Q But the well is perforated over four foot interval, is that correct?

A I'm sorry --

Q Now, that's the AP No. 1 perforated at four feet, that's the one that made the salt water?

A Yes, sir, we were trying to stay high.

Q What's the perforated interval in the AO No. 1?

A 9933 to 39. We have six feet perforated there and we are looking at pay intervals at a depth of 10,000 feet. It's awfully difficult at times to be sure you're shotting the holes in the pipe where you think you are.

Q Now, this well potentialed for 130 barrels on original completion; what's it capable of making now?

A During December it produced 5724 barrels of oil and the tubing pressure was some 500 pounds. We don't know what it would be capable of producing, but it could easily produce

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300 barrels per day.

Q It's capable of making top allowable and you believe it will be able to make more than that?

A Yes, sir.

Q Now, have you made any estimate of the remaining producible reserves from this well by any kind of a pressure decline or any extropolation of the previous performance of the well?

A We have a field and material balance type of calculation on the reserves in this particular pool, and granted that they can be grossly in error, we have something on the order of a million barrels of oil in place. This well will produce probably its proportional share of these reserves.

It depends on the ultimate development, of course, in the field, how many wells we will finally wind up with.

Q Now, while the radius of the interference between the AO and the AP is shown on your Exhibit Number 8 as 1867 feet encompassing a circle of 251 acres, actually these wells and the well that is being drilled at the present time, are all located on a staggered 80 acre spacing pattern, rather than any on 160 acre spacing pattern?

A That's correct.

Q Mr. Seidel, I don't completely understand your pressure profile exhibit. I wonder if you would explain that

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in a little more detail?

A Well, I had a little trouble in deciding how to present this. I could have done it with an area map showing what we think are the pressures decreasing away from the Simanola area to the Lane Pool, which was originally produced in 1955.

Q Well, first of all, this Simanola is in the Bough C zone, these wells that you are talking about in the Lane are also Bough C wells?

A Yes, sir, this is the Lane-Wolfcamp pool, the Conservation Commission's nomenclature for the field, but our geologists have assured us that this is the same.

Q Well, I was thinking that, and we are talking about the Bough C pool of the Pennsylvanian here?

A Yes.

MR. WHITE: Do you want to put the geologist back on?

MR. STINE: There are two zones within the zones themselves, one definitely in the Wolfcamp Huero, a comparable section to the Pennsylvanian in the area.

MR. UTZ: Now, are these two zones being produced in a common well bore or are they separate pools by the Commission's designation and dually completed?

MR. STINE: We have some dually completed wells.

A We actually have what we call the Cisco Penn producing,

which is still producing, as a matter of fact, but this Wolfcamp has ceased producing in the latter part of 1964.

Q (By Mr. Utz) Well, now, assuming that this pressure profile is out of the Bough C in the Lane area, proceed from there.

A All pressure -- Let's talk about intransigent pressure behavior in a reservoir so far as your producing wells. You'll always observe or we have always observed pressure away from this producing area, increasing of pressures, and this is what we more or less hypothesized for the reason of some 294 pounds of pressure at the Lane and the pressure at the Simanola and we have more or less drawn this initial pressure profile.

Q In other words, are you saying that 20,000 feet away in the Lane pool, the production in that area has caused a decline of initial pressures in the Simanola of 290 some odd pounds?

A Yes, sir. This curve is calculated. It won't necessarily behave this way. I have assumed that the reservoir properties are homogeneous to it and this calculated pressure is certainly not a straight line, it's away from this producing area. The south Lane Field began production in March of '62 and if we say we should possibly have interference there, we haven't observed it; and I don't think that sufficient time and withdrawals have occurred from the South Lane Pool to cause



any pressure disturbance. We would anticipate this, though.

Q Of course, making this comparison now of pressures from the Simanola to the Lane, you've also included the Wolf-camp zone which is contributing some pressures to the Lane pool?

A No, sir, these are dual completions and it is -- Well, our geologist advised me that there is comparable zone which we are producing in the State AO No. 1.

Q And the 600 pounds originally in the Lane area would be the pressure in the low Bough C at a minus 5700?

A Yes, sir.

Q But it's a Bough C pressure?

A Yes, sir, it's a Bough C pressure.

Q Well, now, what is the current pressure in the Lane area on this Exhibit, or is there one?

A We don't have any. Actually, our initial pressure data terminated shortly after we got production going and we don't really know what the pressure is there. I suspect that it's building up now because we are not producing from the area and this flow from the Simanola will continue, will continue to exist until the pressure --

Q Now, you said that you had a rough material balance estimate of a million barrels in this area; if you include the pressure profile in there, that would also include the Lane



Pool, wouldn't it?

A Well, sir, we tried to use our water influx. We feel that we do have fairly good water drive and I'm not sure just what effect the pressure decrease toward the Lane Pool would have on these calculations.

Q In your estimation, what is the drive mechanism that you have from this small structure?

A I would estimate this is probably on the order of 80 per cent water drive and 20 per cent solution gas drive. I have not calculated this, however.

Q Have you made any estimate yet, as to the water-oil contact other than somewhere in between the AP and the AO?

A After reviewing the Lane Pool for water contact information, we seemed to have a rather long gradient of transition zone and we have tested water as high as minus 5731, this is in the AP No. 1.

Q Did the AP No. 1 make any oil at all?

A Yes, sir, initially I think it made something on the order of 40 to 60 barrels of oil.

Q Was it ever completed as a producer or was this just --

A It was never placed on production.

Q There was no test on completion; it made some oil and then made one hundred per cent water and then was plugged?

A Yes, sir.

MR. UTZ: Are there any other questions of Mr. Seidel?

You may be excused.

(Witness excused.)

MR. HINKLE: Clarence Hinkle of Hinkle, Bondurance and Christy, Roswell, New Mexico, representing Humble Oil and Refining Company. The Humble Company doesn't have any acreage within the Simanola-Pennsylvanian Pool; however, it does have acreage in the vicinity of the pool which it has under consideration for development and we would like to go on record as supporting the position of Sunray in this case for 160 acre spacing.

MR. UTZ: Does anyone have anything to offer in this case? Do you have anything further, Mr. White?

MR. WHITE: No.

MR. DURRETT: For the record, we have a letter from Sun Oil Company indicating they are opposed to 40 acre spacing.

MR. UTZ: If there is nothing further, we will take the case under advisement.

\* \* \*

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I N D E X

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E X H I B I T S

EXHIBIT	MARKED	OFFERED	ADMITTED
App. Exs. 1-13	2		
App. Ex. 1-3		6	6
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STATE OF NEW MEXICO )  
 ) SS  
COUNTY OF BERNALILLO )

I, ADA DEARNLEY, a Notary Public, do hereby certify that the foregoing and attached Transcript was taken before the Oil Conservation Commission by JOHN ORFANIDES, Court Reporter, and is a correct and true Transcript of that Hearing.

*John Orfanides*  
\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires:  
June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No 2942, heard by me on *July 10* 19*65*.  
*Wm. C. [Signature]*, Examiner  
New Mexico Oil Conservation Commission

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 20, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Sunray Oil Company for  
the creation of a new oil pool and for special  
temporary pool rules, Lea County, New  
Mexico.

Case No. 2963

BEFORE:

DANIEL S. [REDACTED], EXAMINER

TRANSCRIPT OF HEARING

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 20, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Sunray DX Oil Company  
for the creation of a new oil pool and for  
special temporary pool rules, Lea County,  
New Mexico.

CASE NO.

2942

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 2942.

MR. DURRETT: Application of Sunray DX Oil Company for  
the creation of a new oil pool and for special temporary pool  
rules, Lea County, New Mexico.

MR. WHITE: If the Examiner please, Charles White,  
Santa Fe, New Mexico, appearing on behalf of the applicant. We  
have two witnesses to be sworn at this time.

(Witnesses sworn)

PAUL J. BEAVER,

called as a witness herein, having been first duly sworn, was  
examined and testified as follows:

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## DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your name for the record?

A Paul J. Beaver.

Q Whom are you employed and in what capacity?

A Employed by Sunray DX Oil Company, Division Geologist,  
Southwest Division, Midland, Texas.

Q Have you previously testified testified before this  
Commission or Examiner and have your qualifications been accepted?

A Yes, sir.

Q Are you familiar with the subject application?

A Yes, sir.

Q Will you briefly state what Sunray is seeking?

A We are seeking temporary pool rules for wildcat discovery  
well, which we drilled in Township 10 South, Range 34 East. A  
discovery well, which is located on subject Exhibit One there.  
In the Southwest Southwest of the Section 16, Towhship 10, Range  
34 East.

Q Further referring to Exhibit Number One, will you con-  
tinue to explain that exhibit?

A All of the Sunray DX acreage is colored yellow on this  
land plat. You will note that there is a red outline of the South-  
west Quarter of Section 16, Southeast Quarter of Section 17,  
Northeast Quarter of Section 20, and the Northwest Quarter of  
Section 21. This is a working unit operated by Sunray DX. We

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have acquired all of the lands in support of our State "AO" Number One, with the exception of the Penrose tract, being the North Half of the Northwest Quarter of Section 21, and he is a working interest operator in this working unit.

Q In other words, you have acquired your interest in the Southeast Quarter of Section 17?

A Yes, sir.

Q And the Southwest of the Northeast of Section 20?

A Yes, sir.

Q What is Sunray's working interest?

A We have a 7/8ths working interest and Neville Penrose has a 1/8th working interest.

Q This also shows the offset operators?

A Yes.

Q Now, will you refer to and explain Exhibit Number Two?

A Exhibit Number Two is a lateral log survey run by Schlumberger on the Number One "AO" State, with the log commencing immediately above 4100, below the casing. The tops are marked there in red. First one being the top of the Wolfcamp, encountered at 9,070 feet, minus 4845. The top of the Waco Exhibit Point at 9344 minus 5119. The base of the Three Brothers formation, which is our mapping horizon, was encountered at 9730 minus 5505, with the Bough "C" encountered at 9929 minus 5704. We encountered four feet of net pay in the subject well, which is colored in red there. Perforated the well from 9933 to 39, and potentialled it from 230

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barrels of oil per day flowing. On 10-31-63, the well was total deepened at 10,400 feet in the Pennsylvanian Section with no shows reported below the encountered production.

Q Now, will you refer to your sub-surface map and explain that, please?

A The next exhibit is a sub-surface map contoured on the basis of the Three Brothers point on a contour interval of 50 feet and a scale of one inch equals 4,000 feet. The working unit I do not think is outlined on this map, but it is the same four quarter sections, which we discussed. The closest production to the Northwest is the Lane, approximately four miles and the production to the Southwest is approximately four miles to the Lane, south.

Q In your opinion, is this a new and previously unencountered source of supply within this area?

A Yes, sir.

Q What do you consider the vertical limits and horizontal limits of this pool to be?

A I think the vertical limits of this field should be 9850 to 10,050 feet, and the horizontal limits to be Sections 16, 17, 20, 21, with a possibility that the North Half of Section 29, 28, and the West Half of Sections 15, 22, and the Northwest Quarter of Section <sup>27</sup> 29, should be the horizontal limits of this reservoir.

Q What do you name, or what name do you suggest be given this pool?

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A I suggest we name it Simanola, which is the name of a physiographic feature in this area.

Q Does that conclude your testimony?

A Yes, sir, it does.

Q Were these exhibits prepared by you or under your direction?

A Yes, sir.

Q Except as to the log and is it true and correct to the best of your knowledge, and belief?

A Yes, sir.

MR. WHITE: That is all we have on direct.

MR. NUTTER: Are there any questions of this witness?

EXAMINATION

BY MR. NUTTER:

Q Mr. Beaver, you outlined a possible horizontal limit for this pool. How many wells have actually been drilled in that area?

A Only one, sir.

Q What do you base the horizontal limits of your proposed pool on then?

A Strictly on my sub-surface interpretation. If you will note, the Sections 16, 17, 20 and 21 are in my opinion the top approximate 100 feet of the interpretation, and I allowed some outlying area because we do not know where the water table is at this time, if one is present.



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Q This contour is on the base of Three Brothers, which has a marker approximately 200 feet above your perforations here, is that correct?

A Yes, sir. And we consider that a true reflection of the reservoir.

Q What are your vertical limits of 9850 to 10,050 based on?

A Approximately the 200 feet here, which I would consider to be this area on the sub-surface map.

Q What are you going up, approximately 100 feet and down 100 feet from the Bough "C"?

A Yes, sir.

Q Now, Sunray's proposal of 160 acres, do you have anything to substantiate the desirability or need of this 160 acre spacing in that well?

A It would be my opinion that geologically speaking, we should be allowed to develop it on 160 acre spacing, because of the relative thinness of the pay zone, which we consider to be four feet net pay, with excellent permeability.

Q Will the other witness go into permeability and so forth?

A Yes, sir.

MR. NUTTER: Are there any other questions?

MR. DURRETT: Yes. Mr. Beaver, what is the red on your unit one; I mean, on your Exhibit One, is that a unit designation?

A Does it state unit of any kind? Simple working interest between the leasehold interests.



MR. NUTTER: That is an area covered by an operating agreement, which Sunray has 7/8ths and Penrose 1/8th; is that correct?

A Yes, sir.

MR. NUTTER: Is there any other question of this witness? He may be excused.

HARRY A. RIGGS,

called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your name for the record, please?

A Harry A. Riggs.

Q By whom are you employed and in what capacity?

A Sunray DX Oil Company, District Production Engineer, Hobbs, New Mexico.

Q Have you previously testified before the New Mexico Commission, or one of the Examiners?

A No, sir.

Q Will you briefly give us your educational background and professional qualifications?

A I am a graduate petroleum engineer, from the University of Tulsa, 1949, with 14 years experience, and registered professional engineer in the State of Oklahoma.

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Q All right.

MR. WHITE: The witness' qualifications acceptable?

MR. NUTTER: Yes, sir.

Q (By Mr. White) You are familiar with the subject application, are you not?

A Yes, sir.

Q Will you refer to what has been marked Exhibit Four, and explain that diagramatic sketch?

A Yes, sir. As DX Exhibit Four, completion of the New Mexico State "AO" No. 1, located 660 feet from the South line and 660 feet from the West line, Section 16, Township 10, South, Range 34 East, Lea County, New Mexico. This well was drilled a 17½ inch hole to a depth of 375, ran 375 feet of 13 3/8ths inch OD casing, and it was cemented with 350 sax cement circulated WOC 18 hours, tested casing to 1,000 pounds for 30 minutes, test okay. Drilled 12½ OD hole to 4100 feet, ran 4100 feet 8 5/8 OD casing, cemented with 840 sax cement circulated WOC 18 hours, tested casing to one thousand pounds for 30 minutes, test okay. Drilled 7 7/8ths inch hole to 10,400 feet, ran drillstem test Number Two, 9878 to 9992, packers failed, spotted 25 sax cement plug, from 10,400 back to 10,313, and 50 sax cement plug from 10,151 back to 9961, WOC 18 hours, drilled cement to plug back total depth of 10,083 feet, ran drillstem test Number Three, interval 9884 to 10,083. Tool open 120 minutes, gas to surface in three minutes, mud to the surface in 42 minutes, oil to the surface in

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56 minutes, flow rate estimated at five to ten barrels per hour, surface choke 5/8ths inches, surface flowing pressure 550 PSI, observed gravity 46.1 degrees at six -- API at 60 degrees FH, initial hydrostatic pressure 5339 PSI, final pressure 5296 PSI, 40 minute initial shut in pressure 3409 PSI, final flow pressure 2234 PSI, final shut in pressure for one hundred minutes, 3409 PSI. Ran 10,041 feet 5 1/2 inch OD casing, and cemented with 225 sacks, top of the cement 9390 feet by temperature survey. Tested casing to two thousand pounds for 30 minutes, test okay. Ran Lane-Wells PFC logs from 10,010 feet to 9,700 feet, perforated the Penn Bough "C" reservoir from 9933 to 9939 with two Type E bullets per foot. Ran Baker Model "R" production packer on 2 3/8ths inch OD tubing, packer at 9894, tubing point 9956, acidized perforations were five hundred gallons of acid, put well on test, well potentialled flow 230 barrels oil, no water, in 24 hours. Surface choke 12/64ths inches, flowing tubing pressure 850 PSI, gravity 45.6 degrees API, at 60 degrees FH. Gas production 195.5 MCF, gas-oil ratio 850 to one.

Q What is the present status of the well?

A The well is properly producing on a 40 acre allowable.

Q Will you now refer to Exhibit Five and explain the reservoir data?

A Exhibit Five is the reservoir data and volumetric reserve calculations on our New Mexico State "AO" Number One. The porosity is 8 %, the net pay, four feet, the water saturation,



15%, the formation volume factor, 1.4, recovery factor, 35 percent, and gas liquid ratio of 1.493 MCF per barrel. The first three items, porosity, net pay, and water saturation, are from log analysis of our New Mexico State "AO" Number One. The volumetric calculations of gross reserve per acre foot is from the volumetric formulation and calculations to be 132 barrels per acre foot. A comparison on 160 acre spacing gives us a gross reserve of 84,480 barrels whereas, it gives us 42,240 barrels on 80 acre spacing.

Q Do you consider the porosity good?

A I consider, in my opinion, the porosity to be average.

Q How about the permeability?

A From flow tests run, subsequent to the potential, in my opinion, it is indicated that the permeability is good.

Q Will you refer to and explain Exhibit Six?

A Exhibit Six is a detailed estimated cost analysis to drill and complete a well in the Simanola area in the Penn Bough "C" Reservoir at the approximate sub-surface depth of 10,000 feet.

The intangible costs which are detailed on Exhibit Six, total 90,700.00. The tangible costs, which are detailed on Exhibit Six, total fifty-two thousand five hundred, giving a total estimated cost of \$143,200.00.

Q Now, will you refer to Exhibit Seven, and give the economic analysis for the State Well "AO" Number One?

A Exhibit Seven is an economic analysis of our New Mexico State "AO" Number One. A comparison is made on 160 acre spacing

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and on 80 acre spacing, using the calculated total reserves in gross barrels for 160 acre spacing, 84,480, for 80 acre spacing, 42,240, less 1/8th royalty. In 160 acre spacing, would be 10,560, 80 acre spacing would be 5,280. Net oil to the producer in barrels for 160 acre spacing, 73,920, and 80 acre spacing, 36,960. Calculating the gross income at \$2.99 a barrel, for 160 acre spacing would be \$221,021.00. For 80 acre spacing, \$110,511.00. Whereby, you would take your operating cost, and your operating cost for 160 acres, the well cost \$143,200.00. This cost does not include investment for pipeline to market outlet, and operating expense of \$42,240.00, based on fifty cents a barrels, which includes trucking charges. Our production taxes at 4.64 percent would be \$10,349.00, giving a total operating cost on 160 acre spacing, \$195,789.00, comparing the 80 acre spacing, well costs being the same, \$143,200.00, operating costs being \$21,120.00, production taxes being \$5,174.00, thus giving you an operating cost of, on 160 acres, \$195,789.00, and 80 acres of \$169,494.00, giving a profit from Federal Income Tax, on 160 acres, \$25,232.00 and 80 acre spacing, a debit of \$58,983.00. Discounting present worth at 5 percent on the two year life compared to the Penn Bough "C" Reservoir, in the Allison Penn Field, gives \$21,796.00, which gives a discounted profit from Federal Income Tax per dollar invested of fifteen cents.

Q In your opinion, Mr. Riggs, will one well economically and efficiently drain in excess of 160 acres in this area?



A In my opinion, one well will drain in excess of 160 acres.

Q On what do you base this conclusion?

A I base the conclusion on the well test, which indicates good permeability and on the fact comparing the same reservoir to the same reservoir in the Allison Penn Field, which core analysis indicate the permeability to be in excess of 1,000 millidarcies. I think this well will drain 160 acres.

Q What temporary pool rules do you recommend?

A Sunray DX Oil Company recommends the wells be located on or within a unit comprising the center ten acres of the center 40 acres of the 160 acre proration unit, with 150 foot tolerance for surface irregularities with the exception of our New Mexico State "AO" Number One, which has been completed.

Q That well was drilled as a discovery well?

A Yes, sir. That well was drilled as a discovery well.

Q You recommend 160 acre proration unit?

A Yes, sir.

Q Would you mind stating a little more in detail as to why you recommend a location be ten acres within 40 acres of the center?

A It is my understanding that the state wide standard oil well locations allow a well to be drilled within the center ten acre tract of a 40 acre tract. Also, this will establish a more uniform drilling pattern and also, if the well will drain

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160 acres, there is no reason for any exception.

Q The granting of your application, in your opinion, will eliminate the drilling of unnecessary wells?

A Yes, sir.

Q Will bring about an earlier development of the pool?

A Yes, sir.

Q In the event this application is granted, will you conduct interference tests?

A Yes, sir. We will conduct interference tests, with the future producing wells. Also, we will core the Penn Bough "C" Reservoir in future drilled wells to this reservoir.

Q Are these exhibits true and correct to the best of your knowledge and belief?

A Yes, sir.

Q Does this conclude your testimony?

A Yes, sir.

MR. WHITE: At this time, we offer Exhibits One through Seven in evidence.

MR. NUTTER: Sunray's Exhibits One through Seven will be admitted in evidence.

MR. WHITE: This concludes our testimony.

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

MR. DURRETT: Mr. Riggs, what are your present plans as far as future development, if your application is granted?

A It is my understanding that we have a well pending to be

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drilled. The location I do not know. The geological witness does. And as soon as the application is granted, drilling will be commenced on this prospect.

MR. DURRETT: Now, on your locations you are requesting the center ten acres of a 40 acre tract?

A Yes, we are requesting that.

MR. WHITE: That is correct.

A That is correct.

MR. DURRETT: You want 150 feet of tolerance from the center?

MR. WHITE: That is correct. As I understand it, be the same as standard spacing for 40 acres.

MR. DURRETT: That is all I have.

#### EXAMINATION

BY MR. NUTTER:

Q Mr. Riggs, Sunray operates wells in the Allison Penn Pool, does it not?

A Yes, sir.

Q How do the reserves for this well, as estimated here on your Exhibit Number Seven, compare with your estimates with reserves in the Allison Penn?

A The reserves, as shown on Exhibit Seven, are lower than they are in the Allison Penn Field due to the fact that we have less net feet of pay in the New Mexico State "AO" Number One.

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Q Is the Allison Penn producing from the Bough "C"?

A Yes, sir.

Q What is the net feet of pay in the Bough "C" there?

A In one well, I believe that it is 18 feet. I am not sure.

Q But, you attribute four feet of net pay in this well?

A Yes, sir.

Q What is this pool Southwest of this field on your Exhibit Number One? I presume there is a pool indicated Southwest of here approximately four miles.

A It is my understanding that this is the Lane South Pool.

Q That is producing from what formation?

A It is my understanding that it is producing from the Penn Bough "C" Reservoir.

Q Do you have any knowledge as to the net feet of pay in the Bough "C" there?

A No, sir.

Q And your computation of economics here, you have included this trucking cost in your operating expense of five cents a barrel.

A 15 cents a barrel.

Q Your total was, that is 15 cents trucking?

A Yes, sir.

Q Do you anticipate you will have to truck this oil?

A No, sir. We are approximately four miles from a pipeline.



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Q So, you expect that possibly your operating cost may be reduced then when you get a pipeline connection?

A Yes, sir. Yes, sir.

Q Have you included the value of the casinghead gas in your estimate of reservoir -- reserves or values here?

A I have not. No, sir.

Q Do you know whether this pool to the southwest has casinghead gas connections, or not?

A I do not know, sir. Our State "I" lease, which is in the Lane Ranch Pool to the northwest, has a casinghead gas connection to the Warren Petroleum Company, which we anticipate having one on our New Mexico State "AO" within the near future.

Q Outside of the trucking cost, your operating cost would be 35 cents a barrel?

A Approximately 35 cents a barrel, yes, sir.

Q Is that the operating cost that you have experienced in the Allison Penn?

A Yes, sir. That is an average operating expense that we have expended in the Allison Penn, except for the later stages of depletion, which has run considerably higher than that.

Q This is the operating cost during--

A That is an average operating cost during the life of the production, which at the first may be a little lower, at the end it is much higher. So, it -- the average cost was taken to be 50 cents a barrel, which includes the present trucking charge.



Q I see. You don't have any actual measurements of permeability here at this time?

A No, sir. That is the reason we are asking for temporary pool rules, so that we can take interference tests and then, come back for permanent field rules.

Q Would you find out what the location of your next well will be and put that in the record, please?

MR. WHITE: Can you do that, Mr. Beaver?

A I believe Mr. Beaver can give us that information, Mr. Examiner.

MR. BEAVER: The next well will be located 1650 from the South, 990 from the East line.

MR. NUTTER: 1650- -

MR. BEAVER: 1650 from the South line and 990 from the East line.

MR. NUTTER: Of Section- -

MR. BEAVER: 17, 10-34.

MR. NUTTER: Are there any other questions of Mr. Riggs?

MR. DURRETT: Yes, sir. I have another question. Mr. Riggs, based on the present normal unit allowables in Southeast New Mexico, what would the allowable be for a well on 160 acre spacing, if your application was granted?

A We would prefer to produce at a maximum allowable of 80 acres, and would rather have, in the interest of prolonging the life of the reservoir, a 40 acre allowable.

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MR. DURRETT: Then, you would request 160 acre well spacing with 80 acre allowable for 40 acres?

A Prefer the 40, yes, sir.

MR. DURRETT: Now, your discovery well, it can make 40 acre allowable right now; is that correct?

A That is correct, yes, sir.

MR. DURRETT: Can it make an 80?

A Yes, sir.

MR. DURRETT: Can't make 160, can it?

A It was tested on one flow test, it was not flowed at 160 acre allowable, but at the present time, it is my opinion that the well could make 160 acre allowable, but for not a prolonged period of time.

MR. DURRETT: Do you think it would drop off right away?

A Yes, I think it would. In the interest of conservation of energy, those are our recommendations.

MR. DURRETT: You would prefer 40?

A Yes, sir.

MR. NUTTER: What is 40 acre allowable, Mr. Riggs?

A 148 barrels.

MR. NUTTER: Are there any other questions of Mr. Riggs? He may be excused. Do you have anything further, Mr. White?

MR. WHITE: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2942?





MR. DURRETT: Yes, sir. I have a question. Mr. White, just in order to clarify something here, does your client propose to prohibit the drilling of more than one well on 160 acres as such? In other words, what I am getting at, do you request the normal standard proration unit provisions in the order?

MR. WHITE: Restricted to 160.

MR. DURRETT: In other words, you want to prohibit the drilling of more than one well?

MR. WHITE: Yes, sir, that is correct.

MR. CARNES: I am John P. Carnes, of Sun Oil Company, Roswell, New Mexico. We have a statement to make.

MR. NUTTER: Would you proceed?

MR. CARNES: We have one witness, who will make the statement. Mr. R. L. Layden.

MR. NUTTER: Is this going to be sworn testimony or just a statement?

MR. CARNES: Just a statement. Mr. Layden is District Geologist for Sun Oil Company, Roswell, New Mexico.

MR. LAYDEN: Sun Oil Company supports the application of Sunray-DX Oil Company for temporary 160-acre spacing for the new Bough "C" pool found in its New Mexico-State "AO" well Number One, in Lea County, New Mexico. However, Sun requests that the distance from drilling unit lines be 660 feet rather than 990 feet in order to provide sufficient flexibility to permit efficient

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well location. We note that the Commission has previously provided for such flexibility in the 160-acre spacing orders adopted for the Lusk-Strawn pool of Lea County ---which established 660 feet distances from section lines---and for the Puerto-Chiquito-Gallup pool of Rio Arriba County---which established the requirement that wells be located within 165 feet of the center of a governmental quarter-quarter section. We respectfully request that the necessity for such flexibility continue to be recognized by setting the distance requirement in the subject field at 660 feet from drilling unit line.

MR. NUTTER: Thank you. Does anyone have anything further they wish to offer in Case 2942? Take the case under advisement.

\* \* \* \* \*



STATE OF NEW MEXICO I

COUNTY OF BERNALILLO I

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

WITNESS my Hand and Seal of Office, this 19th day of December, 1963.

*Roy D. Wilkins*  
NOTARY PUBLIC

My Commission Expires:

September 6, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2942, heard by me on 11/20, 19 63.

*[Signature]*, Examiner  
New Mexico Oil Conservation Commission

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