

Case Number

4421

Application
Transcripts.

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
State Land Office Bldg.
Santa Fe, New Mexico
September 2, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of Phillips Petroleum
Company for creation of a new oil
pool, special pool rules therefor,
and redesignation of the vertical
limits of the Ranger Lake-Pennsylvanian
Pool, Lea County, New Mexico.

Case No. 4421

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

DEARNLEY MEIER REPORTING SERVICE

MR. HATCH: Application of Phillips Petroleum Company for creation of a new oil pool, special pool rules therefor, and redesignation of the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above styled cause, seeks the creation of a new pool for the production of oil from the Bough section of the Pennsylvanian formation for its Phillips West Ranger Lake Unit Well No. 1 located in Unit C of Section 26, Township 12 South, Range 34 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 80-acre spacing and proration units, with verticle limits of said pool to be the interval from sub-sea datum -5671 feet to -6016 feet as found in said Well No. 1. Applicant further seeks the contraction of the vertical limits of the Ranger Lake-Pennsylvanian Pool to that interval from sub-sea datum -6080 feet to -6236 feet as found in its West Ranger Lake Unit Tract 2 Well No. 1 located in Unit P of Section 23, said township and range.

MR. KELLAHIN: Commissioner, please, Jason Kellahin of Kellahin and Fox appearing for the applicant. I have one witness I'd like to have sworn.

(Witness was sworn)

R. J. STRINGER,

the witness, having been first duly sworn upon his oath, according to law, testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name?

A R. J. Stringer.

Q By whom are you employed and in what position,

Mr. Stringer?

A Phillips Petroleum as a Reservoir Engineer.

Q Where are you located?

A Odessa, Texas.

Q Have you ever testified before the Oil Conservation
Commission?

A No, Sir.

Q One of its Examiners?

A No, Sir.

Q For the benefit of the Examiner, would you briefly
outline your education and experience as an engineer?

A I graduated from the University of Oklahoma, 1951
with a Bachelor of Science Degree in geological engineering
and I have worked for Phillips Petroleum since then as an
exploration geologist and the last five years as a reservoir
engineer.

Q In connection with your work as reservoir engineer,
does the area involved in this application come under your
jurisdiction?

A Yes, Sir.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. UTZ: Yes. They are.

Q Mr. Stringer, are you familiar with the application of Phillips Petroleum Company in Case 4421?

A Yes, Sir.

Q Briefly what does Phillips propose in this application?

A We propose to establish that we have separate reservoirs in the Pennsylvanian -- the presently classified Ranger Lake Pennsylvanian Pool.

Q What you are saying there is there are two separate common sources of supply underlying the present pool limits, is that right?

A Yes.

Q Now, referring to what has been marked as Exhibit No. 1, would you identify that exhibit, please?

A Exhibit 1 is an eight and a half by eleven plat covering the Ranger Lake Pool area in Township 12 South, Range 34 East, of Lea County, New Mexico and it is contoured on top of the Bough "C" member of the Pennsylvanian but contour interval of ten feet. It shows all of the wells presently classified in the Ranger Lake Pool. The purple or lavender color coded wells are the Devonian formation mostly in the south part of the field. There are three in

the center that have purple slashes through them. These are depleted Devonian producers. The dark blue, represents the unitized interval of the Ranger Lake secondary recovery pool -- unit, I should say -- and the red color represents the Bough production which is above the unitized interval. The red outline in this plat designates the exploratory unit which was formed in 1956 for the building of the discovery Pennsylvanian well which is now the Ranger Lake Unit No. 2 water injection well 1 in Unit P, Section 23. The blue dashed outline is the outline of the secondary recovery Ranger Lake Unit. The apple green line AB running from north to south is a line of cross section which will be Exhibit No. 2. The second yellow area referred to here is the West Ranger Lake Unit Well No. 1 in Unit C, Section 26, what I will refer to as the subject well.

Q Now, as I understand it, the dashed line outlines the waterflood project in the Ranger Lake area, is that correct?

A Yes, Sir.

Q And when you refer to the unitized formation as shown by the blue and the wells outlined in blue, is that the formation that is unitized for water injection?

A Yes, Sir.

Q And your Bough "C" zone as shown by the wells outlined in red is not unitized and does not participate in the

waterflood project, is that correct?

A Correct.

Q Referring to what has been marked as Exhibit No. 2, would you identify that exhibit, please?

A Exhibit No. 2 is a north-south cross section A to B previously referred to; the north being on the left, the south on the right. The well symbols in colors on top of the cross section correspond with the colors and symbols on the map and the red color on the logs represents the Bough completion intervals and the blue colors on the logs represent the unitized Ranger Lake Unit intervals.

Q What is the separation between those two zones?

A The vertical scale here is one inch to 100 feet and the separation in the two zones from the base of the productive interval of the Bough to the top of the productive interval, the unitized interval is approximately 200 feet.

Q In connection with your waterflood project, you identify the unitized formation by reference to a particular well, do you not?

A Yes.

Q Which one is that?

A That is the previously referred to well in Unit P, Section 23.

Q That well does not appear on your cross-section?

A No, Sir. The correlative interval is marked on the

seventh well from the left cross-section.

Q That is the correlative interval to the one in your designated No. 2 well?

A Correct.

Q Now, the Bough "C" zone that you are referring to is shown on the exhibit, is it not -- the well to which you make reference?

A Yes. The Bough "C" top of the Bough "C" is one of the correlation points marked on the cross-section.

Q And do you identify that in any particular well or do you have it marked in all of them?

A Yes. The same well we just referred to is identified as the area colored --

Q That is the West Ranger Unit?

A Yes, in Section 26.

Q Does that complete your testimony with Exhibit No. 2, Mr. Stringer?

A Yes.

Q Referring to what has been marked Exhibit No. 3, would you identify that exhibit, please?

A To substantiate the separation, Exhibit No. 3 is the production history of the Ranger Lake Unit area. It should be noted the blue color represents the water production; the red color represents the oil production. I'd like to point out here that in the fluids and it will be noted in the early

life of this producing zone large volumes of water were produced.

Q That water production, could that have been in any way related to your water injection in the Ranger Lake Unit?

A No, Sir. I don't believe it is. It is well over a mile -- correct that -- it is in a separate area, I should say, from the flood.

Q And in your opinion, is it a separate formation?

A Yes, a separate horizon.

Q None of the water injected would ever be injected into what you have identified as the Bough "C", would it?

A No, Sir.

Q There were no perforations in your injection wells in that zone, were there?

A No.

Q Does this indicate to you that these are separate reservoirs?

A Yes. It indicates to me that this is -- the Bough is a water dry reservoir whereas the unitized interval is a solution gas reservoir.

Q Now, referring to what has been marked as Exhibit 5 and Exhibit 6, would you identify those exhibits, please?

A Exhibit 5 and 6 are water analysis of produced water taken the same day from the two producing horizons. Exhibit 5 represents water produced from the well in Unit D,

Section 26 and the unit or Exhibit 6 represents produced water from the well in Unit C, Section 26.

MR. UTZ: You say Unit D, Section 26?

MR. KELLAHIN: The No. 10 well.

MR. UTZ: O. K.

THE WITNESS: It will be noted in the chloride content of the water analysis the Bough formation chloride content was 12,500 -- I beg your pardon -- fifty thousand, whereas the unitized interval water production chloride content is presently twelve thousand five hundred. We interpret this as the unitized interval having been diluted with the fresh water -- relatively fresh water injected. The original chloride content in the unitized interval taken on a well in November of 1959 was sixty six thousand parts per million.

MR. UTZ: That was taken where?

THE WITNESS: That was taken in well Unit J, Section 27.

Q That was prior to the water injection program in the unitized area?

A Right.

Q So that would be the natural condition of the water?

A Yes.

Q Does the difference in the chloride as between fifty thousand and sixty six thousand parts per million indicate a separate reservoir?

A Not necessarily, but --

Q Does the fact that the chloride in the unitized area is now down to twelve thousand five hundred indicate anything?

A Yes. This, as I pointed out, indicates that it has been diluted.

Q And that it had no effect on the Bough "C"?

A No, Sir.

Q Referring to what has been marked Exhibit No. 7, would you identify that exhibit?

A One other thing, before I go on. I might point out that we have taken pressures which to us indicate separate reservoirs also. The initial pressure in the unitized interval in November of 1965 was thirty five hundred seventy per square inch. In 1963, just prior to the start of water injection, the bottom hole pressure in this unitized interval was five hundred eighty seven -- approximately a three thousand and pound drop. In August, 1970, bottom hole pressure in the unitized interval is forty nine hundred eighty five pounds per square inch.

MR. UTZ: In the unitized interval -- it is forty nine eighty five now?

THE WITNESS: Yes.

MR. UTZ: Did you give a figure for the Bough "C"?

THE WITNESS: The Bough "C" is presently three thousand seventy one. Presently over nineteen hundred pounds difference in the two reservoirs.

Q Does that indicate that they are separate sources of supply?

A Yes, Sir.

Q Now, would you identify Exhibit No. 7, please?

A Exhibit 7 is a telegram from our partners in the exploratory unit and in this subject well, Texas Pacific Oil Company, supporting us in this application.

Q Now, Mr. Stringer, in this application Phillips proposes the designation of two separate pools for oil production. How would these two pools get identified or separated for purposes of Commission Order?

A In the application, as in the application, we ask or suggest, I should say, designating the interval from sub-sea datum -5671 to -6016 as found in the Phillips West Ranger Lake Unit Well No. 1 and in Unit C, Section 26 and contraction of the vertical limits of Ranger Lake-Penn Pool to that unitized interval designated by the sub-sea datum of -6080 to a -6230 in the Ranger Lake Unit Tract 2 Well 1 in Unit P, Section 23, the same township and range.

Q Are those intervals intervals that can be correlated across the entire pool?

A Yes, Sir.

Q As to the horizontal limits of the pool, do you have any suggestions?

A Either the presently area for the Ranger Lake Pool or whatever the Commission would prefer.

Q Or it could be contracted insofar as the Bough "C" as to the area that is producing?

A Yes.

Q There would be no objection to that, would there?

A No.

Q In no way would this contraction of the Ranger Lake Pennsylvanian Pool affect the interests owned in the water-flood project, would it?

A No, Sir.

Q Or would the correlative rights of any other operator be affected?

A No, Sir.

Q Do you know of any wells in the area that are completed in both intervals?

A No. There are none.

Q Were Exhibits 1 through 6 prepared by you or under your supervision?

A Yes.

Q And Exhibit 7 is a copy of a telegram received by your company?

A Yes.

MR. KELLAHIN: At this time, I'd like to offer in evidence Exhibits 1 through 7, inclusive.

MR. UTZ: Exhibits 1 through 7 will be entered in the record in this case.

Q Do you have anything to add, Mr. Stringer?

A The only thing I would like to add was that after making the application I checked and discovered that this is similar to what was done in the North Bagley Pennsylvanian Pool where in September of 1957, under Order R-1059, the North Bagley Pennsylvanian Pool was established and October of 1962, under Order R-2313, the North Bagley Pool -- North Bagley Penn Pool was abolished and the same order created the North Bagley Upper Penn and the North Bagley Lower Penn.

Q Is this a similar situation?

A Yes, Sir.

MR. KELLAHIN: That completes our presentation, Mr. Utz.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Stringer, I seem to have lost you on the vertical limits here. Now, the vertical limits now in the Ranger Lake is just the Pennsylvanian part?

A Yes.

Q And you proposed to contract those to what sub-sea datums, now?

A The Bough interval would be sub-sea -5671 to -6016 as found in well in Unit C of Section 26. The Ranger Lake Penn would be identified as sub-sea -6080 to -6230 in well in Unit P of Section 23. Now, I used that well because that is

the well that is referred to in the unit agreement as identifying unitized interval but it is correlative with this interval that you are looking at on the cross-section.

Q That well is the --

A That is the presently named Tract 2 Water Injection Well No. 1, Ranger Lake Unit.

Q That is when I lost you. That well isn't shown on here, is it?

A No, Sir. I have a copy of the log, if you would like to have it.

Q I don't think so. I will let our geologist down in Hobbs take a look at it if he wants to. So from the top of the Bough "C" -- correction, from the top of the Ranger Lake up to the base of your proposed Bough "C" interval is what -- about sixty feet?

A Yes.

Q It is getting pretty close, isn't it -- you consider that entire interval as Bough "C"?

A No. We consider it Bough -- maybe Bough.

Q The Bough "C" would be something smaller than that?

A Yes, Sir.

Q I don't think -- the only thing that entered my mind at the moment is fifty or sixty feet is not much separation between the two pools. What is the bottom of the sub-sea datum of the -- the bottom of the perms in Ranger Lake Unit

No. 1 well?

A That is 5821.

Q 5821?

A Yes, Sir.

Q Do you think that you need all that interval below there?

A Not necessarily, but if we don't, the object was to bring the two together -- not leave any separation and in my opinion, all the unitized interval is developed in the Unit.

Q It is your testimony then, that that fifty or sixty feet is enough to affect a separation vertically?

A Yes, Sir. You will note several shale -- continuous shale stringers in this two hundred feet from the base of the productive interval in the Bough "C" to the top of the productive interval in the unitized interval.

Q And your No. 10 well in Section 26, you feel that this produced water over here in the No. 10 well is injection water from the No. 2 water injection well. Do you have more injection wells than that one?

A It could be from either or both.

Q Are those the only two injection wells in the project?

A No. The injection wells are all designated with "W" before their number and a straight line through the center.

Q I see. The fact that this water is less salty, could

be that the use is just pushing a blanket of salt water ahead of the fresh water -- couldn't it? In other words, the water doesn't all become fresh at the same time in a reservoir, does it -- if you got salty water in the reservoir, your fresh water will push a blanket of salt water ahead of it?

A Yes, Sir.

Q You don't think that could be the reason for this water being salty?

A Well, part of it is the formation water. It is a combination of formation and the injection. We are injecting produced water also.

Q Of course, you have another argument that your pressures at this time are substantially different?

A Yes, Sir.

MR. UTZ: Any other questions of the witness?

MR. HATCH: What acreage would you propose to dedicate to the well, the subject well?

THE WITNESS: We propose following the same designation as in the Ranger Lake Penn which would be 80-acre spacing and the normal locations are the Northwest, Southeast Quarters of the sections. This is a non-standard location. It would have to be that we'd have to accept that. We have proposed an 80-acre north-south.

MR. HATCH: North-south 80-acres?

THE WITNESS: Yes.

MR. UTZ: You are proposing the same rules as the present rules in Ranger Lake?

THE WITNESS: Yes.

MR. UTZ: That is 80-acre spacing?

THE WITNESS: Yes.

MR. UTZ: Do you happen to have an Order number handy? If you don't, it is no problem. I just thought maybe you had it.

THE WITNESS: I can dig it out here. That is R-1418 C.

MR. UTZ: What?

THE WITNESS: 1418 C.

MR. UTZ: Thank you.

Any other questions of the witness?

The witness may be excused.

Statements in this case?

The case will be taken under advisement.

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

I, Peter A. Lumia, Court Reporter, 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.

Peter A. Lumia
Peter A. Lumia, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the hearing of Case No. 4421 heard by me on 9-2-20.
[Signature]
New Mexico Oil Conservation Commission

I N D E X

WITNESS:

R. J. STRINGER

Direct Examination by Mr. Kellahin

Cross Examination by Mr. Utz

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EXHIBITS

MARKED

Applicant's
Exhibits 1 through 7

OFFERED AND
ADMITTED

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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. 4421
Order No. R-4031
NOMENCLATURE

APPLICATION OF PHILLIPS PETROLEUM COMPANY
FOR CREATION OF A NEW OIL POOL, SPECIAL
POOL RULES THEREFOR, AND REDESIGNATION OF
THE VERTICAL LIMITS OF THE RANGER LAKE-
PENNSYLVANIAN POOL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 2, 1970, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 15th day of September, 1970, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Phillips Petroleum Company, seeks the creation of a new oil pool in Lea County, New Mexico, to be designated the Ranger Lake-Bough Pool, with vertical limits comprising the Bough zone of the Pennsylvanian formation in the interval from subsea datum -5671 feet to -6016 feet, and horizontal limits comprising the NW/4 of Section 26, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico, and the contraction of the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico, to comprise the Pennsylvanian formation in the interval from subsea datum -6080 feet to -6230 feet only.

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CASE No. 4421

Order No. R-4031

(3) That the applicant's West Ranger Lake Unit Tract 2 Well No. 1, located in Unit P of Section 23 of the aforesaid Township and Range, encountered the pay section of the Ranger Lake-Pennsylvanian Pool at a subsea depth of -6080 feet to -6230 feet.

(4) That the applicant recently recompleted its West Ranger Lake Unit Well No. 1, located in Unit C of the aforesaid Section 26, in the Bough zone of the Pennsylvanian formation at a subsea depth of -5671 feet to -6016 feet.

(5) That the Bough zone of the Pennsylvanian formation underlying the NW/4 of the aforesaid Section 26 in the interval from subsea datum -5671 feet to -6016 feet as found on the log of the aforesaid West Ranger Lake Unit Well No. 1 constitutes a separate common source of supply from the pay section of the Ranger Lake-Pennsylvanian Pool as described in Finding No. 3 above.

(6) That in order to prevent waste and protect correlative rights, the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico, should be contracted to comprise the Pennsylvanian formation in the interval from subsea datum -6080 feet to -6230 feet only as found on the log of the aforesaid West Ranger Lake Unit Tract 2 Well No. 1, and that a new pool, classified as an oil pool for Pennsylvanian production should be created and designated the Ranger Lake-Bough Pool with vertical limits comprising the Bough zone of the Pennsylvanian formation in the interval from subsea datum -5671 feet to -6016 feet as found on the log of the aforesaid West Ranger Lake Unit Well No. 1, and horizontal limits comprising the NW/4 of the aforesaid Section 26.

(7) That the applicant further seeks the promulgation of special rules and regulations governing the newly created Ranger Lake-Bough Pool, including a provision for 80-acre spacing and proration units.

(8) That 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, special rules and regulations providing for 80-acre spacing units should be promulgated for the Ranger Lake-Bough Pool.

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CASE No. 4421
Order No. R-4031

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

IT IS THEREFORE ORDERED:

(1) That, effective October 1, 1970, the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico, are hereby contracted to comprise the Pennsylvanian formation in the interval from subsea datum -6080 feet to -6230 feet as found on the log of the Phillips Petroleum Company West Ranger Lake Unit Tract 2 Well No. 1, located in Unit P of Section 23, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico.

(2) That, effective October 1, 1970, a new pool in Lea County, New Mexico, classified as an oil pool for Pennsylvanian production, is hereby created and designated the Ranger Lake-Bough Pool, with vertical limits comprising the Bough zone of the Pennsylvanian formation in the interval from subsea datum -5671 feet to -6016 feet as found on the log of the Phillips Petroleum Company West Ranger Lake Unit Well No. 1, located in Unit C of Section 26, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico, and horizontal limits comprising the following-described area:

LEA COUNTY, NEW MEXICO
TOWNSHIP 12 SOUTH, RANGE 34 EAST, NMPM
Section 26: NW/4

(3) That, effective October 1, 1970, Special Rules and Regulations for the Ranger Lake-Bough Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
RANGER LAKE-BOUGH POOL

RULE 1. Each well completed or recompleted in the Ranger Lake-Bough Pool or in the Bough zone of the Pennsylvanian formation within one mile thereof, and not nearer to or within the limits of another designated Bough zone oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

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RULE 2. Each well 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 governmental quarter section; provided, however, that nothing contained herein shall be considered 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 governmental quarter-quarter section or lot, or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. 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 initial well on any 80-acre unit in said pool shall be located within 150 feet of the center of either the NW/4 or the SE/4 of the quarter section on which the well is located.

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. All operators offsetting the proposed 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 operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) 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

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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 as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Ranger Lake-Bough Pool or in the Bough zone of the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before October 1, 1970.

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

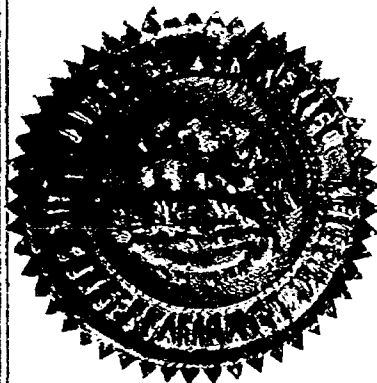
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID F. CARGO, Chairman


ALEX J. ARMIÑO, Member


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



esr/

Case 4421

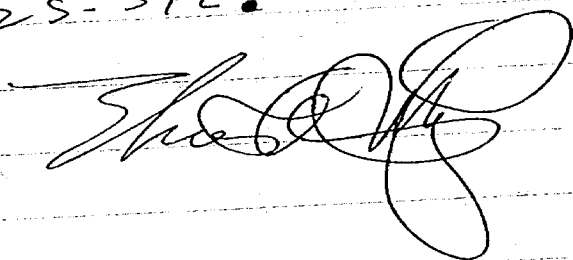
Heard 9-2-70

Rec. 9-8-70

Grant Phillips's request for a new Pool
for their West Ranger Lake #1 660/N,
1980/W sec. 26-125-34 E. to be called Ranger
Lake - Bough Pool. The Vertical limits
shall be -5671 to -6016 as found in
Auden Log on above mentioned well.
Horizontal limits shall be NW/4 of said
sec. 26.

Pool rules shall be as in R-1418C for
Ranger Lake - Penn Pool.

The Ranger Lake - Penn Pool shall be
(Vertical limits) contracted -6080 to 6230 on the log of.
their Ranger Lake creek tract #2, Well
#1, P-23-125-34 E.



Docket No. 20-70

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 2, 1970

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

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

CASE 4415: Application of Depco, Inc. for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by injection into the Grayburg and San Andres formations through 6 wells located in Sections 27, 33 and 34, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 4416: Application of Robert L. Parker Trust for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a cooperative waterflood project in the Langlie-Mattix Pool on its George L. Erwin Lease by the injection of water through its Erwin Well No. 2 located in Unit L of Section 35, Township 24 South, Range 37 East, Lea County, New Mexico.

CASE 4417: Application of J. Cleo Thompson for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico. Said exception would be for the applicant's Evans Wells Nos. 9 and 12 located, respectively, in Units A and B of Section 33, Township 16 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico. Applicant seeks authority to dispose of water produced by said wells in unlined surface pits located in the vicinity of said wells.

CASE 4418: Application of Texas Pacific Oil Company for amendment of Order No. R-3200, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3200, which order authorized the applicant to institute a waterflood project in the South Eunice Pool, Lea County, New Mexico, by the injection of water through six wells located in Sections 5, 8, and 9 of Township 22 South, Range 36 East. Applicant seeks authority to delete the six wells authorized in said Order R-3200 and substitute therefor six other wells located in said Sections 8 and 9.

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Docket No. 20-70

CASE 4419: Application of Billings, Keyser and Kennedy for a non-standard gas proration unit, Eddy County, New Mexico. Applicant in the above-styled cause, seeks, in exception to Rule 104 B I, approval of a 320-acre non-standard gas proration unit comprising the NW/4 of Section 2 and Lots 1, 2 and 3 and the SE/4 NE/4 of Section 3, Township 22 South, Range 26 East, Eddy County, New Mexico, said unit to be dedicated to a wildcat gas well to be drilled in the NE/4 NE/4 of said Section 3.

CASE 4420: Application of Xplor Company for a dual completion, authority to gas-lift oil production, and to flare gas, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Cleveland Well No. 1 located in Unit G of Section 23, Township 12 South, Range 32 East, Lea County, New Mexico, in such a manner as to produce oil from the East Caprock-Devonian Pool through 2 3/8-inch tubing and gas from the Pennsylvanian formation within one mile of the East Caprock-Pennsylvanian Pool. Applicant further seeks authority to use a portion of said gas to gas-lift said oil production and to subsequently flare said gas in exception to Rule 404 of the Commission Rules and Regulations.

CASE 4421: Application of Phillips Petroleum Company for creation of a new oil pool, special pool rules therefor, and redesignation of the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of oil from the Bough section of the Pennsylvanian formation for its Phillips West Ranger Lake Unit Well No. 1 located in Unit C of Section 26, Township 12 South, Range 34 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 80-acre spacing and proration units, with vertical limits of said pool to be the interval from sub-sea datum -5671 feet to -6016 feet as found in said Well No. 1. Applicant further seeks the contraction of the vertical limits of the Ranger Lake-Pennsylvanian Pool to that interval from sub-sea datum -6080 feet to -6230 feet as found in its West Ranger Lake Unit Tract 2 Well No. 1 located in Unit P of Section 23, said township and range.

CASE 4422: Application of Atlantic Richfield Company for amendment of Order No. R-3588, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3588, which order authorized the disposal of produced salt water into the Yates and Seven Rivers formation in the perforated

September 2, 1970 - Examiner Hearing

Docket No. 20-70

-3-

Case 4422 continued

and open-hole interval from 3110 feet to 3300 feet in the Sinclair ARC Federal Well No. 1 located in Unit O of Section 9, Township 20 South, Range 33 East, West Teas Pool, Lea County, New Mexico. Applicant now seeks authority to dispose into said zones in the interval from 3010 feet to 3300 feet.

CASE 4423: Application of Union Oil Company of California for compulsory pooling, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down to and including the San Andres formation underlying the N/2NE/4 of Section 20, Township 8 South, Range 38 East, Bluitt-San Andres Associated Pool, Roosevelt County, New Mexico. Said acreage to be dedicated to a well to be drilled at an orthodox location in the NW/4 NE/4 of said Section 20. Also to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4410: (Continued from the August 19, 1970 Examiner Hearing) Application of Major, Giebel & Forster for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the SE/4 of Section 28, Township 25 South, Range 37 East, Crosby-Devonian Pool, Lea County, New Mexico, said acreage to be dedicated to a well to be drilled in said quarter section. Also, to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.



western union

Telegram

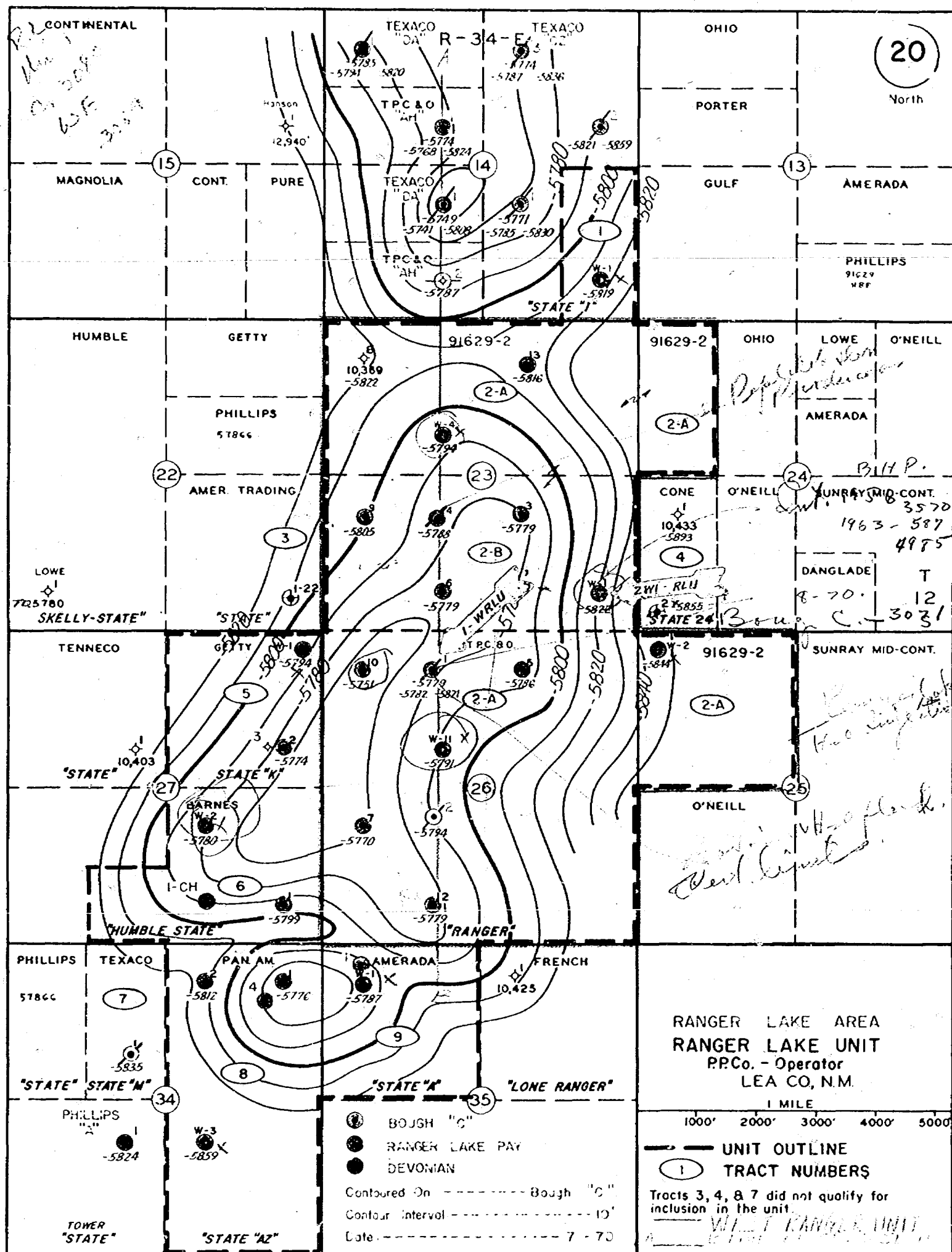
(28).

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S DGA031 PDB=DG DALLAS TEX 25 427P CST=
NEW MEXICO OIL CONSERVATION COMMISSION=
SANTA FE NMEX=

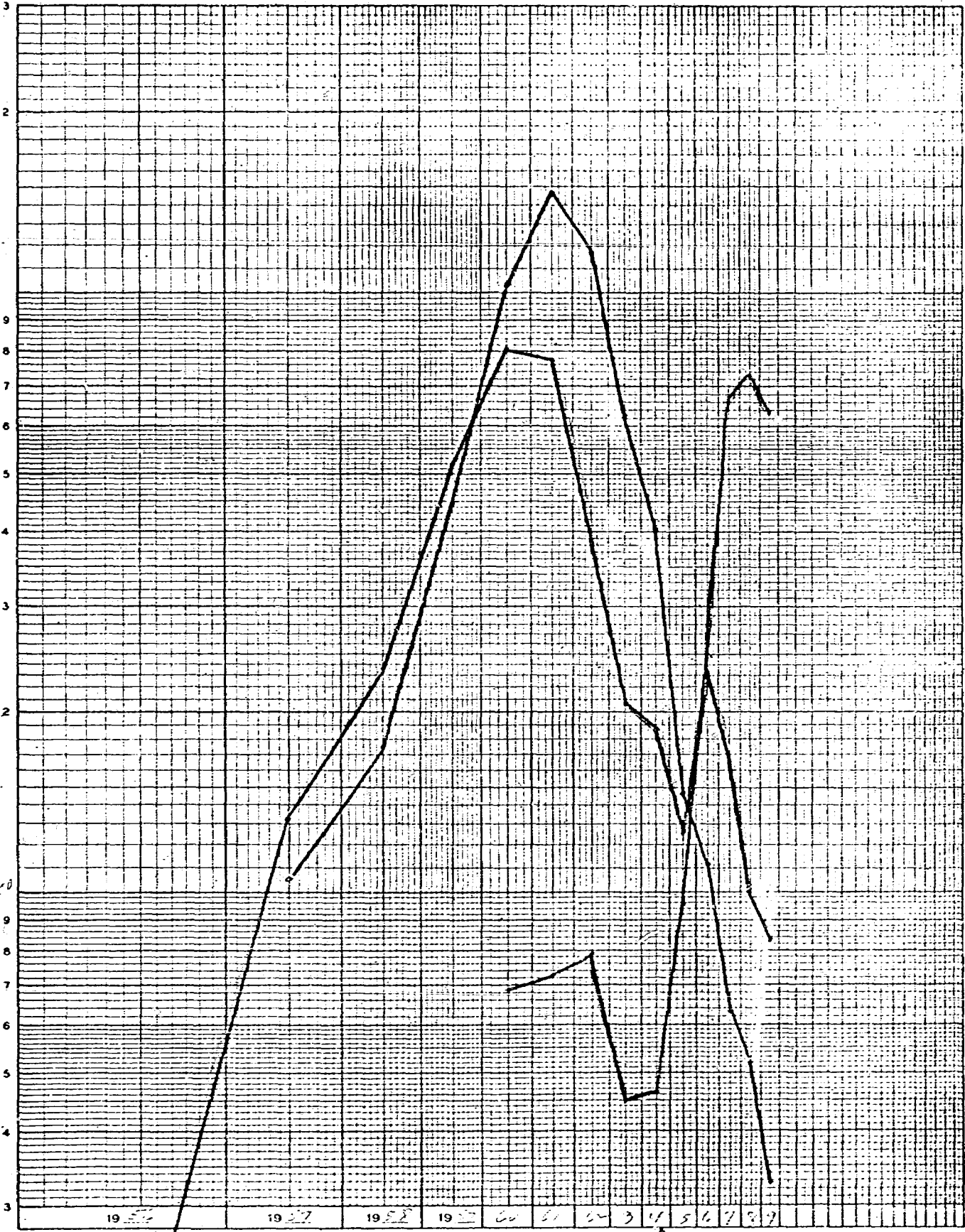
1970 AUG 25 PM 4 41

RE BOUGH COMPLETION W RANGER LAKE UNIT WELL #1 LEA
COUNTY N MEXICO TEXAS PACIFIC OIL COMPANY INC SUPPORTS
THE APPLICATION SUBMITTED PHILIPS PETROLEUM COMPANY
FOR NEW POOL DESIGNATION FOR THE BOUGH COMPLETION IN
THE RANGER LAKE POOL, LEA COUNTY, NEW MEXICO. THIS
APPLICATION APPEARS AS CASE NBR 4421 ON THE SEPT 2, 1970
NMOCC DOCKET=
L B JEFFERS MGR PROD SERVICES=



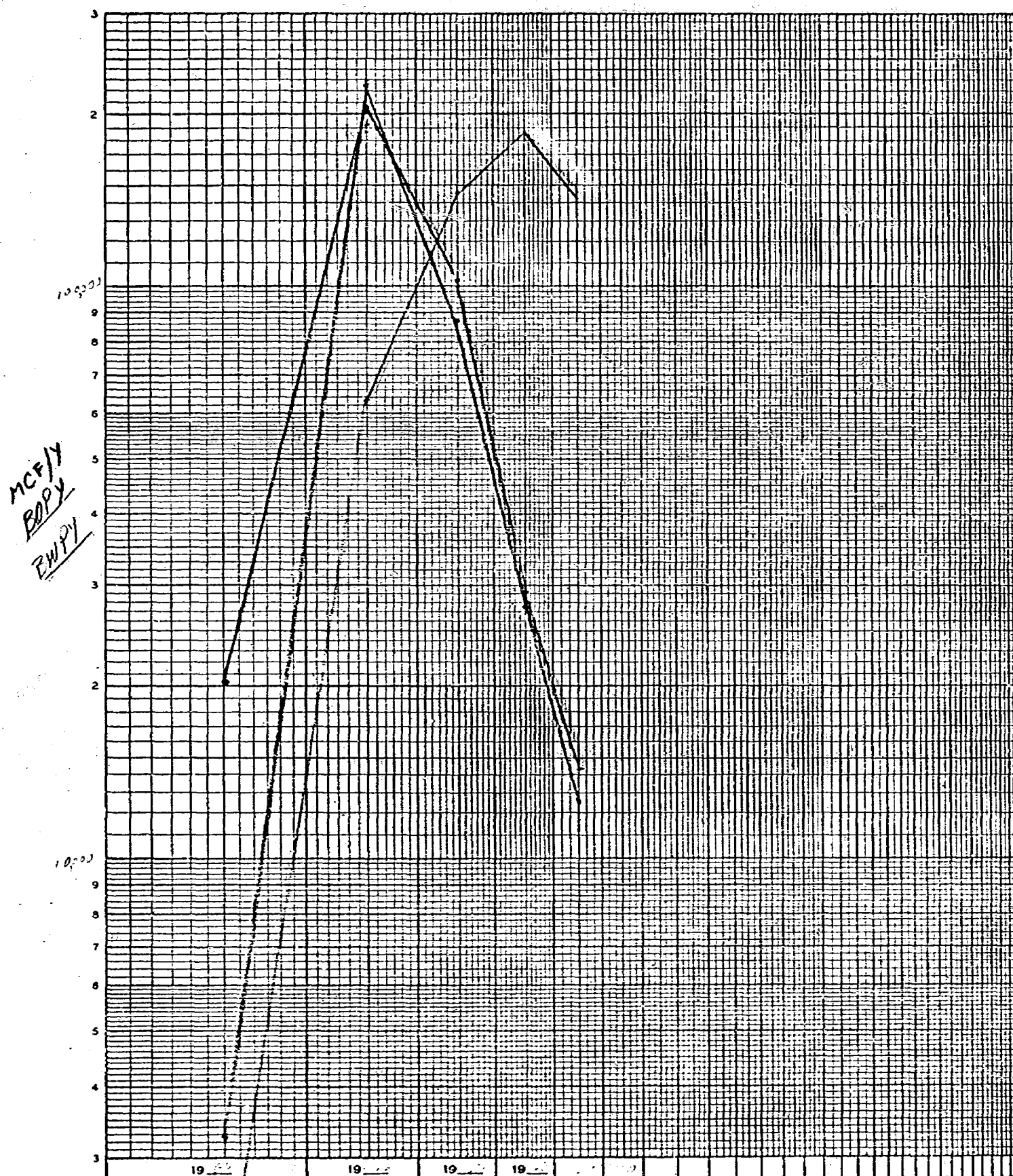
MCFN
BOPY
BMPY

100,000



17932
16011

Start WI 9-64
Ringer Lake Penn
(Unitized Interval)



Ranger Lake Penn
(N. Area - Bough Pay)

HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISIONLABORATORY WATER ANALYSIS No. W1-295-70To Phillips Petroleum CompanyDate 8/10/70Box 1178Lovington, New Mexico 88260

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by _____ Date Rec. 7/20/70Well No. Ranger Lake Unit 2-10 Depth 10,300 Formation PennCounty _____ Field _____ Source Well HeadResistivity _____ .324 @ 72 FSpecific Gravity _____ 1.018pH _____ 7.3Calcium (Ca) _____ 2,000Magnesium (Mg) _____ 300Chlorides (Cl) _____ 12,500Sulfates (SO₄) _____ 100Bicarbonates (HCO₃) _____ 244Soluble Iron (Fe) _____ N11

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Robert Lansford
cc:

HALLIBURTON COMPANY

By

Robert Lansford
DIVISION CHEMIST

NOTICE

This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether it be to act or omission, resulting from such report or its use.

HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISION

LABORATORY WATER ANALYSIS No. W1-294-70

To Phillips Petroleum Company

Date 8/10/70

Box 1178

Lovington, New Mexico 88260

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by _____

Date Rec. 7/20/70

Well No. West Ranger Lake # 1 Depth 9,940

Formation Bough C

County _____ Field _____

Source Swab

Resistivity108 @ 72 F

Specific Gravity 1.064

pH 6.9

Calcium (Ca) 4,550

*MPL

Magnesium (Mg) 300

Chlorides (Cl) 50,000

Sulfates (SO₄) 100

Bicarbonates (HCO₃) 122

Soluble Iron (Fe) 150

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Robert Lansford

cc:

HALLIBURTON COMPANY

By

DIVISION CHEMIST

NOTICE

This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether it be to act or omission, resulting from such report or its use.



Telegram

513P CDT AUG 25 70 NSA117 DB384 (36)NSD352

1970 AUG 25 PM 5 19

D NS DGA032 PDB DG DALLAS TEX 25 427P CST
PHILLIPS PETROLEUM CO

RM 32 PHILLIPS BLDG ATTN F F LOVERING ODESSA TEX
RE BOUGH COMPLETION W RANGER LAKE UNIT WELL #1 LEA
COUNTY N MEXICO TEXAS PACIFIC OIL COMPANY INC SUPPORTS THE
APPLICATION SUBMITTED BY PHILLIPS PETROLEUM COMPANY FOR NEW
POOL DESIGNATION FOR THE BOUGH COMPLETION IN THE
RANGER LAKE POOL, LEA COUNTY, NEW MEXICOWM THIS APPLICATION
APPEARS AS CASE NBR 4421 ON THE SEPT 2, 1970 NMOCC DOCKET

L B JEFFERS MGR PROD SERVICES
(30).

87-1201 (R5-80)

BEFORE EXAMINED
OIL CONSERVATION
app, EXHIBIT NO. 7
CASE NO. 4421

JASON W. KELLAHIN
ROBERT E. FOX

KELLAHIN AND FOX
ATTORNEYS AT LAW
54½ EAST SAN FRANCISCO STREET
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

August 13, 1970

1970 AUG 13 PM 4 39

*Case
4421*

Oil Conservation Commission of
New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

Enclosed, in triplicate, is the application of Phillips
Petroleum Company for creation of a new pool for production
from the Bough formation, to be designated as the Ranger Lake-
Bough Pool, Lea County, New Mexico.

We request that this application be set for hearing before
the Commission examiner on September 2, 1970, if possible.

Yours very truly,

Jason W. Kellahin
Jason W. Kellahin

jwk;jh

Enclosures as stated.

cc: Mr. Joe V. Peacock w/enc
Mr. R. J. Stringer w/enc

DOCKET MARKED
Date 8-21-70

70 AUG 13 PM 4 39

BEFORE THE

OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF PHILLIPS PETROLEUM COMPANY
FOR CREATION OF A NEW POOL FOR
BOUGH PRODUCTION, LEA COUNTY, NEW MEXICO

Case 4421

A P P L I C A T I O N

Comes now Phillips Petroleum Company and applies to the Oil Conservation Commission of New Mexico for establishment of a new pool, designated as the Ranger Lake-Bough Pool, Lea County, New Mexico, and redesignation of the present Ranger Lake-Pennsylvanian Pool, on the following basis:

1. The Ranger Lake-Pennsylvanian Pool to be identified as that unitized interval between sub-sea datum of -6080 feet and -6230 feet, in the Phillips operated well No. 2-W-1 Ranger Lake Unit, located in Unit P, Section 23, Township 12 South, Range 34 East, N.M.P.M., Lea County, New Mexico.

2. The Ranger Lake-Bough Pool to be identified as that interval between sub-sea datum of -5671 and -6016 feet in the Phillips No. 1 West Ranger Lake Unit Well, located in Unit C of Section 26, Township 12 South, Range 34 East, N.M.P.M., Lea County, New Mexico, the horizontal limits of said pool to consist of the NW/4 of Section 26, Township 12 South, Range 34 East, pending further development of the pool.

Applicant further requests the adoption of pool rules for the new pool for Bough production, said rules to be the same as the rules presently in effect for the Ranger Lake-Pennsylvanian Pool, with suitable exception for any well presently existing in the horizontal and vertical limits of the proposed Ranger Lake-Bough Pool which do not conform to said rules.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner, and that after notice and hearing as required by law, the Commission enter its order creating a new pool and adopting pool rules, as prayed for.

Respectfully submitted,

PHILLIPS PETROLEUM COMPANY

By Jason W. Kellahin
Kellahin & Fox
P. O. Box 1769
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

RECORDS CENTER

CASE No. 4421

Order No. R- 4031
NOMENCLATURE

APPLICATION OF PHILLIPS PETROLEUM COMPANY
FOR CREATION OF A NEW OIL POOL, SPECIAL
POOL RULES THEREFOR, AND REDESIGNATION OF
THE VERTICAL LIMITS OF THE RANGER LAKE-
PENNSYLVANIAN POOL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 2, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this day of September, 1970, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

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

(2) That the applicant, Phillips Petroleum Company, seeks
the creation of a new oil pool in Lea County, New Mexico, to be
designated the Ranger Lake - Bough Pool, with vertical
limits comprising the Bough zone of the Pennsylvanian formation
in the interval from subsea datum -5671 feet to -6016 feet, and
horizontal limits comprising the NW14 of Section 26, Town-
ship 12 South, Range 34 East, NMPM, Lea County, New Mexico,
and the contraction of the vertical limits of the Ranger Lake-
Pennsylvanian Pool, Lea County, New Mexico, to comprise the
Pennsylvanian formation in the interval from subsea datum -6080
feet to -6230 feet only.

(4) That the applicant ~~completed~~ its West Ranger Lake Unit Well No. 1, located in Unit C of the aforesaid Section 26, ~~and~~ that said well encountered the Bough zone of the Pennsylvanian formation at a ^{subsea} depth of -5671 feet to -6016 feet.

(3) (4) That the applicant ~~completed its~~ West Ranger Lake Unit Tract 2 Well No. 1, located in Unit P of Section 23 of the aforesaid Township and Range, and that said well encountered the ~~Pennsylvanian formation at a~~ ^{pay section of the Ranger Lake - Pennsylvanian Pool at a subsea} depth of -6080 feet to -6230 feet.

(5) That the Bough zone of the Pennsylvanian formation underlying the NW 1/4 of the aforesaid Section 26 in the interval from subsea datum -5671 feet to -6016 feet as found on the log of the aforesaid West Ranger Lake Unit Well No. 1 ^{constitutes} is a separate common source of supply from the ^{pay section of the} Ranger Lake - Pennsylvanian Pool as described in Finding No. 3.

(6) That in order to prevent waste and protect correlative ^{above} rights, the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico, should be contracted to comprise the Pennsylvanian formation in the interval from subsea datum -6080 feet to -6230 feet only as found on the log of the aforesaid West Ranger Lake Unit Tract 2 Well No. 1, and that a new pool, classified as an oil pool for Pennsylvanian production should be created and designated the Ranger Lake - Bough Pool, with vertical limits comprising the Bough zone of the Pennsylvanian formation in the interval from subsea datum -5671 feet to -6016 feet as found on the log of the aforesaid West Ranger Lake Unit Well No. 1, and horizontal limits comprising the NW 1/4 of the aforesaid Section 26.

(7) That the applicant further seeks the promulgation of special rules and regulations governing the newly created Ranger Lake - Bough Pool, including a provision for 80-acre spacing and proration units.

(8) That 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, special rules and regulations providing for 80-acre spacing units should be promulgated for the Ranger Lake - Bough Pool.

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

IT IS THEREFORE ORDERED:

(1) That, effective October 1, 1970, the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico, are hereby contracted to comprise the Pennsylvanian formation in the interval from subsea datum -6080 feet to -6230 feet ~~only~~ as found on the log of the Phillips Petroleum Company West Ranger Lake Unit Tract 2 Well No. 1, located in Unit P of Section 23, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico.

(2) That, effective October 1, 1970, a new pool in Lea County, New Mexico, classified as an oil pool for Pennsylvanian production, is hereby created and designated the Ranger Lake - Bough Pool, with vertical limits comprising the Bough zone of the Pennsylvanian formation in the interval from subsea datum -5671 feet to -6016 feet as found on the log of the Phillips Petroleum Company West Ranger Lake Unit Well No. 1, located in Unit C of Section 26, Township 12 South, Range 34 East, NMPM, Lea County, New Mexico, and horizontal limits

comprising the following-described area:

LEA COUNTY, NEW MEXICO
TOWNSHIP 12 SOUTH, RANGE 34 EAST, NMPM
Section ~~22~~: NW 1/4

(3) That, effective October 1, 1970, Special Rules and Regulations for the Ramsey Lake - Bough Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS

FOR THE

Ramsey Lake - Bough POOL

or recompleted

RULE 1. Each well completed/in the Ramsey Lake - Bough

Pool or in the Bough zone of the Pennsylvanian formation within one mile thereof, and not nearer to or within the limits of another designated Bough zone ~~Pennsylvanian~~ oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well 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 governmental quarter section; provided, however, that nothing contained herein shall be considered 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 governmental quarter-quarter section or lot, or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. 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.

See
Part 12
R 1218-B

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. ~~Each well shall be located~~ *The initial well on any 80-acre unit in sand pond shall be located within 150 feet of the center of either the NW 1/4 or the SE 1/4 of the quarter section on which the well is located.*

R7-100
none in R1418-B
RULE 5. ~~Footage~~ The Secretary-Director may grant an exception to the 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. All operators offsetting the proposed 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 operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (79 through 81 acres) shall be assigned an 80-acre proportional factor of 4.72 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 as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Ramsey Lake - Bough Pool or in the Bough zone of the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before October 1, 1970.

(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.

Case 4418

Dec 9-2-70

Rec. 9-10-70

Grant D & P. the substitution
requested for 6 sup. wells in
their So. Emico-Seven River-Luna
Waterfloods granted in R-3200.
New Wells are:

Dec P - Lt. A A/C-2	#51 ¹ / ₄ -8-8-22S-36E.L	✓
✓ - ✓ ✓ ✓	#61 J	✓ ✓ ✓
✓ - ✓ ✓	#324 L 9	✓ ✓ ✓
✓ - ✓	#55 P 8	✓ ✓ ✓
✓ - ✓	#23 1/4 8	✓ ✓
✓ -	#76 B 8	✓ ✓ ✓

Thos. H. H.

CASE 4422: Appli. of ATLANTIC
RICHFIELD FOR AN AMENDMENT OF
ORDER R-3588, LEA COUNTY, N. MEX.