

CASE 4189: Application of CAYMAN
CORPORATION FOR AN UNORTHODOX
OIL WELL LOCATION, LEA COUNTY.

Case Number.

4189

Application

Transcripts.

Small Exhibits

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 6, 1969

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of Cayman Corporation)
for an unorthodox oil well)
location, Lea County, New Mexico.)

Case No. 4189

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

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MR. NUTTER: Case No. 4189.

MR. HATCH: Case No. 4189. Application of Cayman Corporation for an unorthodox oil well location, Lea County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin of Kellahin and Fox, Santa Fe, appearing for the Applicant. I have two witnesses that I would like to have sworn.

(Witnesses sworn.)

MR. KELLAHIN: If the examiner please, this is an Application filed on behalf of Cayman Corporation for approval of an unorthodox well location in the High Plains-Pennsylvanian Pool. Actually, the well is located within a mile of the exterior boundary of the pool which boundaries were recently reduced by Order No. R-3801. The High Plains-Pennsylvanian Pool requires that wells be located either in the NE/4 or the SW/4 of a Governmental quarter section and the Applicant in this instance desires to locate a well within the SE/4 or the NE/4 of Section 15, Township 14 South, Range 34 East, Lea County which would be an exception to the Rules for the High Plains-Pennsylvanian Pool, as contained in Order No. R-2874.

(Whereupon, Applicant's Exhibits Nos. 1 through 2 were marked for identification.)

MARVIN GROSS

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Marvin Gross.

Q What business are you engaged in, Mr. Gross?

A I am a consulting geologist.

Q In connection with your work as a consulting geologist, were you retained by Cayman Corporation to do some work in Case No. 4189 presently before the Examiner?

A Yes, sir.

Q Mr. Gross, have you testified before the New Mexico Oil Conservation Commission and made your qualifications as a geologist a matter of record?

A No, sir, I have not.

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

A I graduated from Midwestern University in 1952 with a B.S. in geology. I worked for Reno Oil Company and Tenneco until 1960 at which time I moved to Roswell, New Mexico as a consulting geologist.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

BY MR. KELLAHIN:

Q Mr. Gross, you say you have done some work in connection with the Application presently before the Examiner. Have you made an examination of the area involved in this Application?

A Yes, sir, I have.

Q Referring to what has been marked as Applicant's Exhibit No. 1, would you identify that, please?

A Exhibit No. 1 in the upper lefthand corner is a cross -- excuse me -- Exhibit No. 1 is a land plat of the area in question showing Cayman's recent well and leases and the expiration.

Q Would you identify the leases held by Cayman either directly or under farm-out agreements?

A Cayman has at the present time all of Section 14, the north half of 23, the northeast of 15 and the south half of 15 under option to drill.

Q Does Cayman have a producing well in the High Plains-Pennsylvanian Pool at the present time?

A I don't know how to answer that. I thought it

was until we read a few moments ago where the well had been deleted.

Q Let me rephrase the question: Does Cayman have a High Plains-Pennsylvanian well located within the pool or within one mile of the exterior boundaries of the pool?

A Yes, sir, they have a well in Unit "K" of Section 14 of 34 which is within one mile of production in the High Plains field.

Q Now, does Exhibit No. 1 show the location of your proposed well in Section 15?

A No, sir, Exhibit No. 1 does not. Exhibit No. 2 shows that location.

Q Now, turning to Exhibit No. 2 would you identify that Exhibit?

A Exhibit No. 2 contains two cross sections going across the High Plains field into some wells to the north. Also, a structural map on top of Permo-Penn which is approximately the top of the producing interval. Also, an isopach map of the net pay of the producing interval in the High Plains -Pennsylvanian Pool.

Q Now, Exhibit No. 2 does show the proposed well location, does it not?

A Yes, sir, it does.

Q What is that location?

A The SE of the NE of 15.

Q And the well would be located in the center of the quarter quarter section, is that correct?

A Yes.

Q Now, for what reason is it proposed to locate a well at this location rather than at an orthodox location under the High Plains-Pennsylvanian Pool rules?

A According to our information in the area, a well in this location will have between 10 and 20 feet of net porosity -- of net pay, in other words -- where an orthodox location would be somewhere less than 10 feet which we feel could be non-commercial.

Q Now, do you have anything that would support that reflected on your Exhibit No. 2?

A Only sub-surface geology. The cross section at the top, AA, going from your Delaware-Apache High Plains well which is the discovery well through the No. 2 well which is structurally a higher well, but dry, into the Southern Minerals No. 1-9 up in Section 9 which is a tight well and was non-productive, in other words.

Also, a second cross section labeled "BB" running

from Featherstone No. 1 Elkin -- that is in Section 11 -- through Cayman's recently completed High Plains well in Section 14 into the Texas Crude Well in Section 23 which produced from the High Plains formation. That is a very poor producer. This section shows that the pay is not present in the Featherstone Well to the north in Section 11. The other section shows that the pay is not present in the Southern Mineral Wells in Section 9. So we have made an isopach of the net pay and we feel that due to the fact that it is pinching out to the north and to the northwest, the closer we can drill to the presently located well, the better chance we have to making it commercial.

Q Mr. Gross, do you consider the structure of importance in this pool?

A Not primarily, but structure is always important because if you get too low, you will get water. I mean to say that the northeast of 15 probably will produce. It will not be below the oil-water contact, but the southeast of the northeast will have structural position on the northeast.

Q Do you consider the porosity development of more significance in this particular area?

A Yes, sir, I do.

Q Is that the reason for the location of the well as it is proposed by Cayman in this case?

A This is the reason, yes, sir.

Q Now, from the geological point of view and your knowledge of this area, would you consider all of the NE/4 of Section 15 productive of oil or gas?

A Yes, sir, it would be as far as I am concerned and as far as geological information available to us shows, however, to what extent the north part would be productive is unknown at this time.

Q Now, the only other producing well in the area is the well in Section 14, is it not?

A No, sir. There are two other wells in the area.

Q What are those wells?

A The well in the NE NE of Section 22 is a Pennsylvanian well. The well in the SW SW of 23 is a Pennsylvanian well. The well in the NE of the SW of 14 is a Pennsylvanian well, all producing from basically the same interval.

Q Do you have any other information that you wish to give in connection with Exhibit No. 2?

A No, sir, not unless there are some questions.

Q Were Exhibits 1 and 2 prepared by you or under your supervision?

A Under my supervision.

MR. KELLAHIN: At this time I would like to offer in evidence Exhibits 1 and 2.

MR. NUTTER: Applicant's Exhibits 1 and 2 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 and 2 were offered and admitted in evidence.)

MR. NUTTER: Mr. Kellahin, what is your other witness going to testify about?

MR. KELLAHIN: He is an engineer and he is going to testify on some pressure information and possibly some drainage and productive acreage.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Gross, your isopack map here in the upper righthand corner of Exhibit 2, you indicate that your well in Section 14 has 22 feet of pay, is that correct?

A Yes, sir.

Q And the High Plains No. 1 to the southwest had 26 feet?

A Yes, sir.

Q And the well which you indicated was not a prolific producer in the SW SW of Section 23 has only 8 feet of pay?

A Yes, sir.

Q According to your interpretation of the isopack here, we would expect to find about 15 feet of pay at the proposed location?

A That is correct, 12 to 15 feet, yes, sir.

Q Now, the nearest control that you have for feet of pay would be this well that was a dry hole in the SW of the SE of this section. There was 3 feet of pay in that?

A That's correct, yes, sir.

Q And they still didn't make a well in it?

A No, sir.

Q Now, that well is included in one of these cross sections --

A AA, I believe.

Q It is the middle well on that cross section?

A Yes.

Q Would you review the data on that well. Describe the attempts made to complete it there and find out why it was a dry hole?

A All right, sir. This is the Delaware-Apache-High Plains No. 2. The Core No. 1 was taken from 10,410 to 428 and recovered 18 feet of which 10 foot was dense lime, 7 feet shale interval and 1 foot of fossiliferous lime, a show of oil. Core No. 2 was taken from 10,428 to 452. It recovered 24 feet of dense lime with no show. A D.S.T. was made over the interval from 10,485 to 550. The tube was open one and one half hours. The recovery was 920 feet of gas in the drill pipe, 120 feet of mud. The flow pressure was zero. The initial shut-in pressure was 178 in 30 minutes and final shut-in pressure was 959 in one hour.

The second D.S.T. was taken from 10,620 to 10,660. The tube was open one and one half hours. Recovery was 5525 feet of salt water. Flow pressure was 151 to 2514. The initial shut-in pressure was 4091 in 30 minutes. The final shut-in pressure was 3912 at 30 minutes.

May I say that this second drill-stem test that recovered water is below the producing interval in the field. The first D.S.T. is a test of a portion of the interval and geologically speaking, the cores and the drill-stem tests indicate that this is a tight well and is not capable of producing hydrocarbons.

Q It appears from the pressure build-up and everything that the only place you had permeability was down in the salt water?

A In the salt water, yes, sir.

Q Everything else was tight?

A Right. It had the limestone, the clean limestone reef or build-up which we are producing from in the field, but the interval was tight -- no permeability, in other words.

Q Well, I wonder if this kind of a test -- there with 3 feet of net pay -- reflects on the productivity of the NE/4 of this section where you are asking for this unorthodox location?

A Sir, we have no definite way of knowing that. These fields are so erratic that just being perfectly frank with you, the one we are drilling could be dry, but we feel like from the information that we have, that most of the NE/4 of 14 would produce from, say, 3 feet upward which would contain all this water is what I am trying to say. It might be commercially productive on the northern part. At this time we feel that if we drill for less than 10 to 15 feet of net pay, it isn't commercial for the cost involved in drilling a well.

Q Well, your extrapolation of the curves here of the contour lines would indicate about 15 feet of pay, possibly 16?

A I can draw you a parallel of this if you would like. Look in the East Saunders Field at the isopack. You have a 15 and a 22 and a 13. Those three wells produced from 300,000 to 500,000 apiece.

Q Those were the only wells that were in the pool for a long time with the exception of that one down there that has the 8 feet?

A Yes, sir, the one over here that has the 5 feet has only produced 33,000. It has not been in as long, but it is only making 800 to 900 barrels per well per month now, whereas, the one immediately southeast with the 11 feet is still making 9000 barrels a month. So there is an indication where you have 10 to 15 feet of porosity versus 4 or 5, you will get a stronger well. I think that's a real good parallel in this case.

Q How about this well in the original High Plains No. 1 well; how much oil has that well made to date?

A I have that right here. It made 229,983 barrels through May.

Q That has been a good well?

A Yes, sir. This well, if my memory is correct, was completed in 1963, '63 or '64.

Q What is it making now?

A Excuse me just a moment. I will get that. It was completed in 1965, January of 1965. 1-A of 22 in the month of May produced 1567. The prior month was 1367. It varies 1300 to 1500 barrels a month.

Q About 50 barrels a day?

A 50 barrels a day approximately.

Q Now, I think you indicated that Cayman had options on all of 14, on the northeast and south half of 15 and on all of 23?

A North half of 23.

Q North half of 23. I am sorry. So a standard location in the NE/4 of Section 15 for the High Plains-Pennsylvanian Pool would have been in the NE/4 or the SW/4 of that quarter section?

A That is right, sir.

Q And you are seeking a location in the center of the SE/4 of the NE/4?

A Yes, sir.

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

You may be excused.

(Witness excused.)

JOHN S. GOODRICH

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A John S. Goodrich.

Q By whom are you employed and in what position, Mr. Goodrich?

A I am employed by Cayman Corporation in the position of an engineer for Texas and New Mexico.

Q Where are you located?

A Midland, Texas.

Q Have you ever testified before the Oil Conservation Commission and made your qualifications as an engineer a matter of record?

A Yes, I have.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

BY MR. KELLAHIN:

Q Mr. Goodrich, in connection with the Application

of Cayman Corporation in Case No. 4189, have you made a study of the pressures in that area?

A Yes, I have.

Q For the benefit of the Examiner, would you give the information pertaining to the pressures that are found here originally and presently?

A Original bottom-hole pressure was determined by the D.S.T. on Apache's well located in Section 22, NE of NE of 22, was 3942 pounds. Two years and four months later, they had produced 199,000 barrels of oil from this well with a pressure loss of 3174 pounds. Their bottom-hole pressure at that point was 768 pounds.

Q Were there other wells producing at the same time?

A One other well approximately a mile south and east, Texas Crude well, in the SW corner of Section 23 was producing part of that time.

Q Do the pressures subsequent to the discovery pressure indicate that drainage had occurred in this pool?

A Yes, sir, it does. When we drilled our well, Cayman drilled their well in the NE of the SW of Section 14, 14 South, 34 East, after producing 900 barrels of oil immediately after our potential test, we were shut in for 3 days, 72 hours, and we had a bottom-hole pressure of

2854 pounds which was 1088 pounds less than the original bottom-hole pressure in the reservoir.

Q Does that indicate to you that the SE/4 of the NE/4 of Section 15 has probably already suffered some drainage?

A Yes, sir. These dry holes just to the west and south of the discovery well would indicate that the reservoir has to be feeding in from -- in all probability -- not from the west, but to the east, under our present well and if the reservoir extends this far north as it possibly can, it has to be some drainage from up in that direction.

Q Now, you heard the testimony by Mr. Gross regarding the reason for desiring to drill in the SE/4 of the NE/4. Do you have anything to add to that testimony?

A The best location for drilling in this northeast 160 acres of Section 15 would be as far south and east as you could get. Based on testimony that the structure as well as the possible porosity development, you would attempt to get as close to the reservoir as possible. We believe that based on these pressures that this is a limited reservoir. It is not an extensive reservoir covering many miles. If it was that large, then you would not have pressures of the magnitude of our well.

The pressure drop wouldn't be as great as it has been. So based on that, we feel like it is not a huge reservoir, and for that reason we would like to stay as close into the existing producing wells as possible.

Q From the point of view of an engineer, would flexible well locations have been a better order in this particular pool, in your opinion; that is, that would permit you to drill in any quarter quarter section?

A Well, from a geologic standpoint, I think that would be true. From a pressure standpoint --

Q (Interrupting) It wouldn't make a great deal of difference?

A It would not matter a terrific amount.

Q Now, Mr. Goodrich, in your opinion, could you consider all of the NE/4 of Section 15 as productive oil and gas from the High Plains-Pennsylvanian formation?

A It is conceivable, but it all would contribute some. It is also very possible and plausible that the northern part of it would contribute very little. It might be just a foot or three foot of pay up in the north part.

Q Well, bearing in mind that the Oil Conservation Commission of New Mexico in granting permission to drill an unorthodox well location has taken into consideration

productive acres, what productive acres would you say should be assigned to a well drilled in the SE/4 of the NE/4 of Section 15?

A You might be stretching it 160 acres, but it is conceivable that all 160 acres would contribute something, although certainly not the north part -- would contribute anywhere near as much as the south part would.

Q Now, is a well located in the SE/4 of the NE/4 necessary in your opinion to prevent further drainage of the NE/4?

A Yes, sir. Again, this is something that will only be determined by a drill bit, but it is entirely possible you would have a dry hole in the NE of the NE and still have a producing well in the SE of the NE of Section 15.

Q Now, by a "dry hole," you mean a well that is completely non-productive or one that is not commercial?

A One that is not commercial. It could be that you would have 3 feet of pay that would be non-commercial, yet that would contribute something to the reservoir.

Q Now, if you will concede that the Commission in orders approving non-standard locations has also assessed some penalty against such wells because of an

advantage gained by moving the location, what would the effect of this location be on the off-set operators as proposed by Cayman; would it have any adverse effect on any off-set operator?

A If there would be any disadvantage or advantage, it would be strictly from the Cayman standpoint since they control the acreage to both the east and south of this proposed location.

Q If there were any drainage, it would be coming from the east?

A It would be Cayman that would be suffering and not another operator.

Q Do you know of any other unorthodox well locations in the vicinity of this pool?

A Yes, sir. H. C. Hood's well is off pattern for this unit, although it is not in the unit. It is off pattern if it was considered part of this --

Q (Interrupting) And that well is presently more than one mile from the exterior boundary of the pool, is it not?

A Yes, sir.

Q But your proposed well is within one mile of the pool boundaries?

A That is correct.

Q That would therefore be governed by the pool rules?

A That is correct.

Q Do you have anything to add to that, Mr. Goodrich?

A No, sir.

Q Is there any urgency in regard to obtaining an order in this Application?

A Yes, sir, there is. The lease expires the 18th of August of 1969, and if this off location is granted, we don't have much time to get the location prepared and a rig in there and drill it.

MR. KELLAHIN: That is all I have on direct examination of this witness, Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:

Q Now, Mr. Goodrich, you mentioned that the NE/4 of Section 15 has been drained. Now presumably that drainage, if such has occurred, has been by the well which is in the NE of the NE of Section 22?

A Yes, sir, that's correct.

Q All right. You also mentioned that since Cayman controls the acreage to the south and east, you wouldn't

be violating anyone's correlative rights because you would be moving closer to your own acreage?

A That is correct.

Q But you are moving closer to the well in the NE NE of 22. That would be possible under the pool rules?

A That is correct, yes, sir.

Q So why wouldn't it be true that if that well down there has drained your acreage you wouldn't be draining theirs just by moving farther south of your well?

A Their drainage of our acreage has already taken place.

Q The only difference is that your drainage of their acreage would take place in the future?

A Their bottom-hole pressure is so much less than we anticipate our bottom-hole pressure to be that if the location is granted, we will be still feeding from that tract toward their well. It will not be in reverse because of the pressure drainage. Their pressure is so much lower -- I do not have their recent bottom-hole pressure data -- but as of '67, in May of '67 it was 768 pounds. Well, obviously, their pressure is lower than that now and they could not be forcing oil back up in our direction. Our pressure, we anticipate of being

in the order of what we found in our No. High Plains in Section 14.

Q That was 2854, you said, I believe?

A Yes, sir. So therefore, the pressure gradient would indicate that oil is migrating toward their well. It will not be reversed.

Q Okay. Now, I think I got these figures correct. You said that the original bottom-hole pressure on that well in 22 was 3942?

A Yes, sir, that's correct.

Q Then in May of '67 or about 2 years later and 200,000 barrels of production later, the pressure had declined to 768?

A That is correct. They had lost 3174 pounds of pressure.

Q What kind of pressure was that that was taken there in May of '67; how long was the well shut in; do you have that there?

A Yes, sir.

Q That is a tremendous pressure decline.

A It certainly is.

Q Did this well make water?

A Yes, sir, they are making about 20 barrels of

water a day. Now, our well is making 60 barrels of water.

Q What is the mechanism here; is it solution gas drive or would it be a little bit of water encroachment?

A There has been no indication at all of water encroachment.

Q There couldn't be much encroachment with that kind of a pressure drop.

A No, sir. This pressure was taken May 23rd, 1967 and they do not give the time the well -- how long the well had been shut in -- but I feel like it is comparable to prior shut-in tests that have ranged from as low as 27 hours to as much as 75 hours. I have checked the barrels of oil produced per pound loss in pressure and it is comparable in this interval. To give you an example, the previous bottom-hole pressure taken was November 3rd, 1966. They had 1047 pounds of pressure at that point. Then in May --

Q (Interrupting) How much production at that point?

A They had 177,000 barrels of oil. Then in May of '67 when they had this 768 pounds of pressure, they had recovered roughly 79 barrels of oil for each pound drop in pressure. Prior to that, prior to November 3rd of '66, that figure was 74.2 barrels of oil per pound drop

in pressure, one of the reasons being that this low recovery at that point was that gas had -- that the gas-oil ratio had shot up. Otherwise, their recovery would have been like it had been prior to that, something on the order of 125 to 150 barrels of oil per pound drop in pressure.

Q Now, I think you or Mr. Gross mentioned that the well is making about 50 barrels at the present time?

A Yes, sir. It had made in the past two years which would be from June 1st of '67 to June 1st of '69, it made 31,000 barrels of oil.

Q In the two year period?

A In that two year period. Whereas in the first two years and four months, it made 199,000 barrels of oil.

Q Has the Cayman well shown signs of dropping off?

A Yes, sir.

Q It came in with a pretty good potential as I recall?

A It surely did. It had a potential of 488 barrels of oil. Since then, the well is logging up with water. With the 60 barrels of water we are making a day -- we have made this several times -- and we are preparing to put it on the pumps. We anticipate having it on the pump

by next week.

Q How long did that well in 22 flow?

A It flowed two -- it flowed two years exactly. It flowed until the end of January of '67. It had produced 189,000 barrels of oil. But they are a little higher structurally, they have a little thicker pay and they did not make water initially and until the water started coming in and the bottom-hole pressures were down, it flowed. At that point, they had to put it on a pump.

Q According to Mr. Gross' structure map, this proposed location is going to be slightly lower than your location in Section 14, just a little bit?

A That is correct, yes, sir. We have not determined that by being a little bit lower that it will bring us into anymore water. We have a water zone below us, but we feel certain that neither Apache's well nor Cayman's well is producing water from underneath the producing formation.

Q That would be that zone that that No. 2 drill-stem test --

A (Interrupting) Yes, that is correct. That zone there. Our bottom-hole pressures in that zone were about comparable to what Apache's bottom-hole pressures

were when they ran theirs. In fact ours was probably another 150 pounds higher than theirs at that time.

Q How far down is the Hood well at the present time?

A I don't have any recent record on it.

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

You may be excused.

(Witness excused.)

MR. KELLAHIN: Mr. Nutter, in connection with the witness' statement on the expiration of the lease, I have examined the title on this particular property. It is held by a State Lease which expires August 18th. Being that it is in its 10th year, it will be necessary to obtain prior to drilling, the permission of not only the Oil Conservation Commission, but the State Land Commissioner as well. Anything that can be done to expedite the order will be appreciated.

MR. NUTTER: All right, sir. Does anyone have anything they wish to offer in Case No. 4189? We will take the case under advisement. The Hearing is adjourned.

(Whereupon, the Hearing was concluded at approximately 3:30 P.M.)

STATE OF NEW MEXICO)
) SS.
COUNTY OF SANTA FE)

I, RICHARD L. NYE, 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 the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Richard L. Nye
COURT REPORTER

My Commission Expires April 8, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4189 heard by me on 8/6 1969.
Richard L. Nye, Examiner
New Mexico Oil Conservation Commission

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. 4189
Order No. R-3810

APPLICATION OF CAYMAN CORPORATION
FOR AN UNORTHODOX OIL WELL LOCATION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 6, 1969, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 8th day of August, 1969, 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, Cayman Corporation, seeks an exception to Rule 4 of the Special Rules and Regulations governing the High Plains-Pennsylvanian Pool as promulgated by Order No. R-2874 to drill a well at an unorthodox location in the center of the SE/4 NE/4 of Section 15, Township 14 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the Special Rules and Regulations governing the High Plains-Pennsylvanian Pool provide that each well shall be located within 150 feet of the center of either the northeast quarter or the southwest quarter of a governmental quarter section.

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(4) That the proposed location, in the SE/4 NE/4 of said Section 15, is an off-pattern quarter-quarter section location.

(5) That the applicant proposes to dedicate the entire NE/4 of the aforesaid Section 15 to the subject well.

(6) That the productivity of certain acreage in the west and northwest of the subject quarter section is doubtful in the High Plains-Pennsylvanian Pool.

(7) That the evidence indicates that a well drilled at the proposed non-standard location in the SE/4 NE/4 of said Section 15 should result in greater ultimate recovery of oil than a well drilled at a standard location, thereby preventing waste.

(8) That the correlative rights of other operators in the pool will be impaired if the subject well is assigned a standard allowable for the subject pool.

(9) That approval of the proposed unorthodox location will not violate correlative rights and will afford the applicant the opportunity to produce its just and equitable share of the oil from the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste, provided the subject well, in order to offset any advantage gained by the applicant over other producers by reason of said unorthodox location, receives no more than 80 percent of a standard allowable for the High Plains-Pennsylvanian Pool.

IT IS THEREFORE ORDERED:

(1) That the applicant, Cayman Corporation, is hereby authorized to drill a well at an unorthodox location in the center of the SE/4 NE/4 of Section 15, Township 14 South, Range 34 East, NMPM, adjacent to the High Plains-Pennsylvanian Pool, Lea County, New Mexico;

PROVIDED HOWEVER, that the subject well shall be assigned no more than 80 percent of a standard allowable for said pool.

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CASE No. 4189

Order No. R-3810

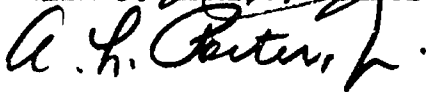
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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. ARMILLO, Member


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


esr/

Docket No. 22-69

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 6, 1969

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 4179: Application of Petroleum Corporation of Texas 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 applicant's Flint "B" Federal Well No. 1 located in Unit M of Section 14, Township 17 South, Range 30 East, Grayburg-Jackson Pool, Eddy County, New Mexico. Applicant seeks authority to dispose of salt water produced by said well in an unlined surface pit located in said Unit M.

CASE 4180: Application of Union Oil Company of California 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 applicant's Federal "E" and Federal "F" leases in Section 31, Township 18 South, Range 31 East, Shugart Field, Eddy County, New Mexico. Applicant seeks authority to dispose of salt water produced by wells on said leases in unlined surface pits on the subject leases.

CASE 4167: (Continued from the July 9, 1969 Examiner Hearing)
Application of Charles B. Read for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete his Hobbs "Y" Well No. 1 located in Unit J of Section 29, Township 12 South, Range 34 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the East Hightower-Pennsylvanian Pool and the disposal of produced salt water through the intermediate casing-production casing annulus into the San Andres, Glorieta, Yeso, and Abo formations in the open-hole interval from approximately 4195 feet to 7720 feet.

- CASE 4181: Application of J. M. Huber Corporation for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Stoltz Federal Well No. 1 located in Unit J of Section 12, Township 15 South, Range 34 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Morton-Wolfcamp Pool and the disposal of produced salt water through the 8 5/8 X 4 1/2-inch casing-casing annulus into the San Andres, Tubb, Abo, and possibly other formations in the open-hole interval from approximately 4330 feet to 9750 feet.
- CASE 4182: Application of Franklin, Aston & Fair, Inc. 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 certain of applicant's Loco Hills Field wells located in Units I and P of Section 20, Township 17 South, Range 30 East, Unit A of Section 17 and Unit F of Section 4, Township 18 South, Range 30 East, and Unit O of Section 36, Township 17 South, Range 29 East, Eddy County, New Mexico. Disposal would be into unlined surface pits in the vicinity of said wells.
- CASE 4183: Application of Pan American Petroleum Corporation for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Cedar Point Unit Area comprising 5,120 acres, more or less, of State and Federal lands in Township 15 South, Range 30 East, Chaves County, New Mexico.
- CASE 4172: (Continued from the July 23, 1969. Examiner Hearing)
Application of Pennzoil United, Inc. for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the East Lovington-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 80-acre oil proration units.
- CASE 4184: Application of Pennzoil United, Inc. for the creation of a new oil pool, promulgation of special rules therefor, and a non-standard oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Pennsylvanian oil pool for its Gallagher "8" State Well No. 1 located in the NW/4 NW/4 of Section 8, Township 17 South, Range 34 East, Lea County, New Mexico, and for the promulgation

(Case 4134 continued)

of special rules therefor including a provision for 160-acre proration units and well locations in either the Northwest or Southeast quarter of a quarter section. Applicant further seeks an exception to said proposed rules to re-enter its Monsanto Gallagher State Well No. 1 located 660 feet from the South and West lines of said Section 8 and to recomplete said well in the subject pool.

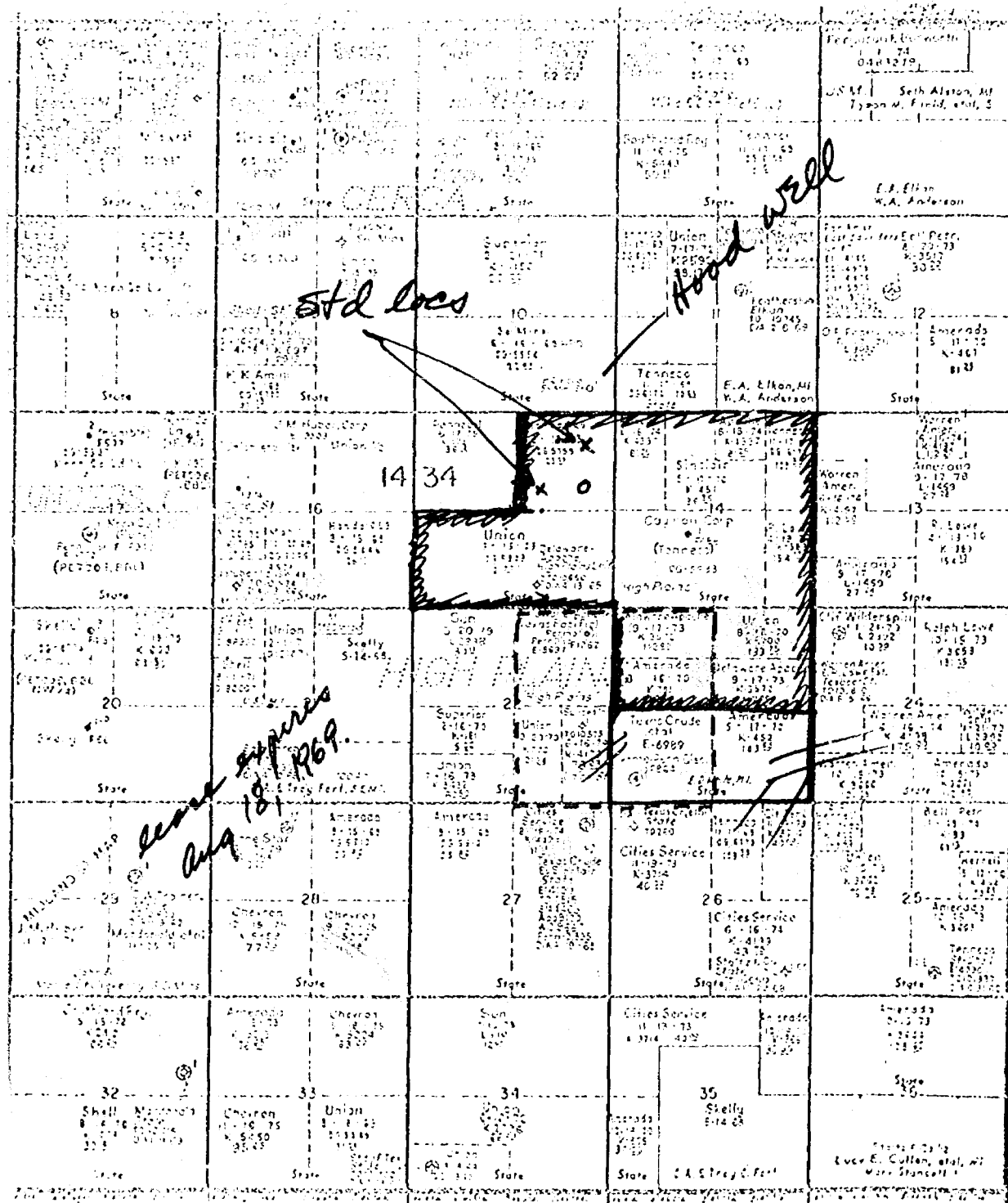
CASE 4185: Application of Pennzoil United, Inc., for the creation of a new oil pool and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Wolfcamp oil pool for its Sinclair "6" State Well No. 1 located 660 feet from the South line and 760 feet from the East line of Section 6, Township 17 South, Range 34 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 160-acre proration units and well locations in either the Northwest or Southeast quarter of a quarter section.

CASE 4186: Application of Tenneco Oil Company for compulsory pooling and an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Basin-Dakota Gas Pool underlying the North half of Section 11, Township 29 North, Range 13 West, San Juan County, New Mexico, said acreage to be dedicated to a well to be drilled at an unorthodox gas well location 2250 feet from the North line and 600 feet from the East line of said Section 11. Also to be considered will be the costs 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 4187: Application of Aztec Oil & Gas Company for the amendment of Administrative Order NWU-341 and Commission Order No. R-2046, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Administrative Order NWU-341 and Commission Order No. R-2046, which orders established, respectively and among other units, certain non-standard gas proration units for the Blanco Mesaverde and Basin-Dakota Pools in Sections 7, 8, 9, 10, 11, 12, 18, and 19, Township 32 North, Range 8 West, San Juan County, New Mexico. Applicant seeks to amend said orders in such a manner as to establish eight co-extensive Mesaverde and Dakota gas proration units in Sections 7, 8, 9, 10, 11, 12, and 18, said units to average 318.89 acres each.

CASE 4188: Application of Coastal States Gas Producing Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Lower San Andres formation in the open-hole interval from approximately 5025 feet to 5125 feet in its Santa Fe State Well No. 2 located in Unit F of Section 33, Township 9 South, Range 37 East, West Sawyer San Andres Pool, Lea County, New Mexico.

CASE 4189: Application of Cayman Corporation for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the well location requirements for the High Plains-Pennsylvanian Pool as promulgated by Rule 4 of Order No. R-2874, to permit the drilling of a well at an unorthodox location in the center of the SE/4 NE/4 of Section 15, Township 14 South, Range 34 East, Lea County, New Mexico.



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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. 4189

Order No. R- 3810

APPLICATION OF CAYMAN CORPORATION
FOR AN UNORTHODOX OIL WELL LOCATION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 6, 1969,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of August, 1969, 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, Cayman Corporation, seeks an excep-
tion to Rule 4 of the Special Rules and Regulations governing the
High Plains-Pennsylvanian Pool as promulgated by Order No. R-2874
to drill a well at an unorthodox location in the center of the
SE/4 NE/4 of Section 15, Township 14 South, Range 34 East, NMPM,
Lea County, New Mexico.

(3) That the Special Rules and Regulations governing the
High Plains-Pennsylvanian Pool provide that each well shall be
located within 150 feet of the center of either the northeast
quarter or the southwest quarter of a governmental quarter
section.

(4) That the proposed location, in the SE/4 NE/4 of said Section 15, is an off-pattern quarter-quarter section location.

(5) That the applicant proposes to dedicate the entire NE/4 of the aforesaid Section 15 to the subject well.

That the productivity of certain geologic in the west and northeast of the NE/4 subject quarter section is doubtful in the High Plains-Pennsylvanian Pool.

(6) That the entire ~~of the aforesaid Section 15~~ can reasonably be presumed productive of oil in the High Plains-Pennsylvanian Pool.

(7) That the evidence indicates that a well drilled at the proposed non-standard location in the SE/4 NE/4 of said Section 15 should result in greater ultimate recovery of oil than a well drilled at a standard location, thereby preventing waste.

(8) That the correlative rights of ^{other} ~~offset~~ operators ^{in the pool} will be impaired if the subject well is assigned a standard allowable for the subject pool.

(9) That approval of the proposed unorthodox location will not violate correlative rights and will afford the applicant the opportunity to produce its just and equitable share of the oil from the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste, provided the subject well, in order to offset any advantage gained by the applicant over other producers by reason of said unorthodox location, receives no more than 80% percent of a standard allowable for the High Plains-Pennsylvanian Pool.

IT IS THEREFORE ORDERED:

(1) That the applicant, Cayman Corporation, is hereby authorized to drill a well at an unorthodox location in the center of the SE/4 NE/4 of Section 15, Township 14 South, Range 34 East, NMPM, ^{adjacent to the} High Plains-Pennsylvanian Pool, Lea County, New Mexico;

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CASE No. 4189

PROVIDED HOWEVER, that the subject well shall be assigned no more than 80 percent of a standard allowable for said pool.

(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.

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Case 4189

Application of ~~the~~ Cayman Corporation for an unorthodox oil well location, Lea County, New Mexico.

2874

Applicant, in the above-styled cause, seeks ~~authority to drill at~~ an exception to the well location requirements for the High Plains Pennsylvanian Pool as promulgated by Rule 4 of Order No-R2874, to permit the drilling of a well at an unorthodox location in the center of the ~~SE~~ SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 15, Township 14 South, Range 34 E, Lea County, New Mexico.

Cayman Corp.
Atty
Bill to Roger Holmes

PO # 2099

Calvin Verden
Pennsylvanian Calif

90274

Jack Russell