CASE 5519: WESTERN OIL PRODUCERS, INC. FOR AN UNORTHODOX GAS WELL LOCATION, EDDY COUNTY, NEW MEXICO

CASE NO.

5519

APPLICATION,

TRANSCRIPTS,

SMALL EXHIBITS,

ETC.

Case 5519

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

October 25, 1977

Western Oil Producers, Inc.
P. O. Box 2055
Roswell, New Mexico 88201

Administrative Order NSL-898

Gentlemen:

Reference is made to your application for approval of a non-standard location for your Flint Well No. 2 located 330 feet from the South line and 2310 feet from the West line of Section 25, Township 17 South, Range 25 East, NMPM, Permo Penn zone, Eddy County, New Mexico.

Waivers having been received from the offsetting operator, the waiting period may be dispensed with in this instance.

By authority granted me under the provisions of Rule 104 F of the Commission Rules and Regulations, the above-described unorthodox location is hereby approved.

Very truly yours,

JOE D. RAMEY,
Secretary-Director

JDR/RLS/dr

cc: Oil Conservation Commission - Artesia
Oil & Gas Engineering Committee - Hobbs

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. 5519
Order No. R-5068

APPLICATION OF WESTERN OIL PRODUCERS,
INC. FOR AN UNORTHODOX GAS WELL
LOCATION, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 2, 1975, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 22nd day of July, 1975, 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, Western Oil Producers, Inc., seeks approval of an unorthodox gas well location of a proposed Devonian oil test well, in the event said well should also be completed as a gas well in the Morrow formation, 660 feet from the South line and 2310 feet from the West line of Section 25, Township 17 South, Range 25 East, NMPM, West Atoka-Morrow Gas Pool, Eddy County, New Mexico.

(3) That the W/2 of said Section 25 is to be dedicatod to the well.

(4) That a well at said unorthodox location will better enable applicant to produce the gas underlying the proration unit.

(5) That in and adjacent to the West Atoka-Morrow Gas Pool the primary producing interval is a channel sand or sands of limited lateral extent.

(6) That in said pool, to develop and drain their acreage, most operators have drilled and completed wells located within 660 feet of the end line of their 320-acre drilling tract.

(7) That no operator has objected, or in this case objects to, the drilling of a well in or adjacent to said pool at a location within 660 feet of any 320-acre gas proration unit boundary for said pool.

(8) That an offset operator with interests in the West Atoka-Morrow Gas Pool in the E/2 of Section 25 and the N/2 of Section 36, Township 17 South, Range 25 East, NMPM, Eddy County, New Mexico, has objected to the proposed location being closer than 660 feet to the East line of the proposed proration unit.

(9) That said offset operator does not object to said well being located within 660 feet of the South line of the proposed gas proration unit.

(10) That a well at the proposed location will have an area of drainage in the Morrow formation which extends 20 net acres into the E/2 of Section 25, Township 17 South, Range 25 East, NMPM, more than a well located 660 feet from the center line of said Section 25.

(11) That to offset the advantage gained over the protesting offset operator, production from the well at the proposed unorthodox location should be limited from the Morrow formation.

(12) That such limitation should be based upon the 20 net acre encroachment described in Finding No. (10) above, and may best be accomplished by assigning a well at the proposed location a ratable take factor of 0.94 (320 minus 20, divided by 320).

(13) That approval of the subject application subject to the above limitation will afford the applicant the opportunity to produce its just and equitable share of the gas in 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 will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That an unorthodox gas well location of a proposed Devonian oil test well, in the event said well should also be completed as a gas well in the Morrow formation, is hereby approved for a well to be located at a point 660 feet from the South line and 2310 feet from the West line of Section 25, Township 17 South, Range 25 East, NMPM, West Atoka-Morrow Gas Pool, Eddy County, New Mexico.

(2) That the W/2 of said Section 25 shall be dedicated to the above-described well.

(3) That said well is hereby assigned a ratable take factor of 0.94 in the Morrow formation, and the operator of the well, upon completion and connection thereof to a gas pipeline, shall notify the gas purchaser of the ratable take factor.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Member

JOE D. RAMEY, Member & Secretary

S E A L

jr/

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

July 23, 1975

Re: CASE NO. 5519
ORDER NO. R-5068

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Applicant:

Western Oil Producers, Inc.

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Secretary-Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 2, 1975

EXAMINER HEARING

IN THE MATTER OF:

Application of Western Oil Producers, Inc., for an unorthodox gas well location, Eddy County, New Mexico.

CASE NO. 5519

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Thomas Derryberry, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: Jason Kellahin, Esq.
KELLAHIN & FOX
500 Don Gaspar
Santa Fe, New Mexico

For Yates Petroleum: Clarence Hinkle, Esq.
HINKLE, BONDURANT, COX & EATON
Hinkle Building
Roswell, New Mexico

I N D E X

E X H I B I T S

MR. STAMETS: Case 5519.

MR. DERRYBERRY: Case 5519. Application of Western Oil Producers, Inc., for an unorthodox gas well location, Eddy County, New Mexico.

MR. STAMETS: We call for appearances in this case.

MR. KELLAHIN: If the Examiner please, Jason Kellahin, Kellahin and Fox, Santa Fe, appearing for the Applicant. I have one witness.

MR. HINKLE: Clarence Hinkle, Hinkle, Gondurant, Cox and Eaton, appearing on behalf of Yates Petroleum Corporation. We have one witness.

(Witnesses sworn.)

N. RAYMOND LAMB

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 N. Raymond Lamb.

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

A I am in the geological engineering business.

Q Where is this located?

A In Artesia, New Mexico.

Q Were you retained by Western Oil Producers, Inc. in connection with Case 5519?

A I was.

Q Mr. Lamb, have you ever testified before the Oil Conservation Commission or its Examiners and made your qualifications a matter of record?

A Yes, sir.

Q In that connection, are you a geologist?

A Yes, sir.

Q Are you also qualified as a petroleum engineer?

A Yes, sir. I am registered in the State of New Mexico.

Q And in practice as a geologist and as a petroleum engineer?

A Yes.

Q Are you familiar with the Application of Western Oil Producers in Case 5519?

A Yes, I am.

Q What is proposed by the Applicant in this case?

A It is proposed by the Applicant that well has been approved for the drilling of the Devonian at 2310 feet from the west line, 660 feet from the south line, and

in speculation of the fact that we might get Morrow production, we are here asking permission that in the event we do get Morrow production, that we be granted permission to produce this well.

Q This is a standard location for the Devonian Well?

A Yes, sir.

Q What is the status of the well at the time?

A Well, the last report I had, the well was drilling, or on changing bits at 6817.

Q In connection with the Morrow Formation, have you made any study of the geology in this area?

A Yes, I have.

Q What is your reason for asking for an unorthodox location in the Morrow?

A Well, the general philosophy of the Morrow channel in this particular area is that it runs basically north and south, and it extends from 6 or 7 miles to the south at various horizons and produces at alternating intervals, and I think that most of us agree that basically, the channel itself runs north and south, and in this particular area, we have one well that encounters the Morrow which has short gas in it, and another well which is adjacent to the south that was completed for a sizeable amount of

gas in the Morrow, penetrating some 27 feet of Morrow productive sand. The point here is that we make our effort to best locate our Morrow Well and also be a suitable location for the Devonian.

Q What tract do you propose to dedicate to the well if you do complete the well?

A It will be the west half of Section 25.

Q Have you made a study of the Morrow channel in this area?

A Yes, I have.

Q Is that one of the reasons for the proposed location?

A Yes. I have full knowledge of the erratic development of the porosity in the Morrow Sand and it has brought most of the operators in the area to take necessary steps to produce their well in the channel or penetrate the channel. The well that I referred to which had a show of gas in it is the Western Oil Producers Flint No. 1 located 1980 from the south and 660 from the west lines. We had a minor development of porosity in the Morrow. We had a good development of sand in it, but the porosity itself was not developed. The basic cementing material was a silica-type material and/or shale. So, it

prevented the well from being a commercial producer. The amount of gas that we produced on drill stem test was 52 MCF of gas with decrease to TSTM. So, with the idea of getting into the edge of the channel with a minimal location, we have selected the 660 by 2310, as we previously suggested. Now, on a strictly division basis, the 27 feet in the Yates-Arco No. 1 diminishes to the west and becomes zero at the Cisco producing well.

Q Where is that?

A It is 1980 from the south and 660 from the west of 25. Based on this simple division, which you have to put your tongue in your cheek on as far as the Morrow is concerned because it may be more drastic than is shown here, we anticipate 20 feet of Morrow sand in this location which will give us, certainly not a full section of the Morrow to produce from.

Q In your opinion, is all of the west half of the area you propose productive from the Morrow?

A Well, basically, from my projection, two-thirds of it probably will contribute, certainly on a diminished basis, but the fact that we have one small show of gas in the Morrow and are selecting another location is not new to the Morrow locations in this area. There are several of

those that have dry holes on them and have since drilled a producer.

Q Are there any other non-standard locations in the West Atoka-Morrow Pool?

A Well, actually, basically, there are about 10 of them which are -- a majority of them are 660 locations. It seems as though Section 25 seems to be the trouble spot, not only in this township, but in the township to the south. There are a number of unorthodox locations down there permissioned by the Commission to whipstock, and with an effort to get into the channel. I believe it was Case 4803 that had to do with the whipstock to an unorthodox location and by directional drilling. By the way, my calculations on that, the minimum distance permitted by this Order would permit the operator to drill within the distance of 731 feet of the proration unit corner if the extreme limits of the directional drilling were carried out, however, as I recall the results, the location was never drilled and completed as a Morrow producer for mechanical reasons.

Q Had it been completed within the provisions of the Order, it would have been bottomed closer than 660 feet to the outer boundaries of the unit, would it not?

A Yes. There was a provision in there that it be

600 by 500 with a 50-foot tolerance from the center, which you can speculate on as to how far it would be, but my calculations were minimal at 731 feet from the common corner.

Q Your proposed location, how far would it be from the common corner?

A 737.9. By the way, our location is exactly the same distance from the south quarter corner of Section 25 as the Yates-Arco No. 1, which is 737.9. The other drilling well in the area is the Yates-Jackson No. 1 which is somewhere drilling in the vicinity of 7000 feet is a 660 location and that distance to the quarter corner is 933 feet.

Q Now, in your opinion, will the approval of this location have any adverse effect on the offsetting operators?

A Well, I would like to discuss at this point a little pressure data before we get to that.

Q Yes, sir.

A The information that we have, I feel is reliable. The pressure in the Yates-Arco completed well which was completed for 46.106 MCF per day showed 3142 pressure in the pay horizon, and I would judge, probably, minus 4800 feet. The Western Flint No. 1, on the drill stem test,

which the chart is included in the exhibits, gave a shut-in pressure of 3153 at a depth of 8227, which is realistically an equal pressure which would indicate from the pressure standpoint that these two wells are probably open in the same producing horizon.

You will note to the south that there are some green dots with --

Q (Interrupting) You are referring to Exhibit No. 1?

A Yes, Exhibit No. 1. You will note that below Section 25 which is the area under discussion that there are some wells with green dots on them that have B's on them, which in my opinion are producing out of the second sand or the B-Sand of the Yates. The pressure there is somewhere in the vicinity of 3290 with one that is very erratic, a 3627, but I think probably that is the nature of the B-Zone.

Q I believe you said, "producing from the B-Zone of the Yates." You mean B-Zone of the Morrow, do you not?

A Yes. Then there are some Atoka wells and another Morrow Well which is shut in and probably in the B-Zone in Section 35, so, basically, we are talking about the A-Zone reservoir in and around the Flint 2 location as we look at it here. Now, I understand there was a case prior to this

for permission of the Commission of an unorthodox location, two unorthodox locations in Section 31 of 17, 26, but this gives the pressure data on the wells, the information that we now know.

The porosity in the Flint Well, as I said, is rather tight, siliceous material. The logs on the Arco No. 1 haven't been released, but with the calculated open flow and the rate of production on the well, you would have to assume excellent porosity, permeability. It is pretty hard to hide a good well.

The situation in the Morrow in this particular spot is not unusual. If you look back down to the channels to the south which has been discussed in a number of hearings before the Commission, one, 5486 which was a Yates case, the cluster of wells in the particular corner are not unusual because of all of our experience in drilling the Morrow, the best defence from drilling a dry hole is close in, and we all have had the experience of drilling dry holes in the Morrow. So, it is a normal protective attitude that the two new locations now being drilled close to the Arco are close in to it. We do not know the results of cluster drainage, but in time, we probably will find out. I would suggest probably that it is not the best type of

drainage, but in view of the situation, this is what we have: Three wells within 1475 feet of a common south quarter corner of Section 25 which are drilled with the idea of draining 960 acres which would be an area a mile wide and a mile-and-a-half long.

Q Does that clustering have an adverse effect on on Western Oil Producers, in your opinion?

A Well, it puts in a position where we need to be positive in our own mind, and to the best of our knowledge, select a location which we can compete for the gas in the area. This brings another point which I would like to discuss at this time.

With the nationwide energy shortage and the high demands for gas in the United States, and the fortunate situation that we have found to high deliverability for Morrow gas and gas wells in the Artesia area and what is referred to as the Vendiver Channel, we take another look at the situations as pertaining to the Oil Commissions' rules and regulations. Conservation is not a big issue at this point, with people being cold, so the next point of issue comes the correlative rights of these producers. So we look at the situation of capture of your fair share of the gas in place is now the most active ingredient to

correlative rights. For example: The Yates-Arco Well probably will produce as much as a billion and a quarter cubic feet of gas before either the Yates-Jackson or the Western Flint No. 2 is completed. So, upon completion of these two wells around this common corner, each of the people owning these tracts are going to be faced with competing for their fair share of capture of gas under their reservoir. This is a matter in which we think the location as selected by Western will best protect us from the capture of gas that we feel is ours.

Q Referring to what has been marked as Exhibit No. 2, will you identify that exhibit and discuss it?

A Exhibit No. 2 is a well logging unit description of the formation of the Morrow as well as the compensated neutron density formation log

The blue line at the top is my selection of the Morrow clastic zone, and the orange colored area of the Morrow Sand is what I feel will be the A-Zone and then below the yellow is the B-Zone, and then the purple is the Mississippian lime marker.

Q What wells are you talking about?

A I am talking about the Flint No. 1 which had a

show of gas in the Morrow. You will note that at a depth of 8260 we entered the sandy zone which had a gas kick in it, however, on the electric log, it didn't show to be clean sand. It showed to be contaminated with silicas and probably shales. Then, to reliably test this zone, we took drill stem test No. 4 which gave us 52 MCF of gas on the initial opening and decreased to too small to measure and covered an interval from 8250 to 8300. Then, as previously recited, we got a pressure of 3158, and the best knowledge that I can figure, we had less than 5 feet of porosity which is not commercial in this particular well.

Based on the information that I have, the Yates-Arco Morrow clastic was at a depth of 8304, and transplanting that figure on top of this log, we find there perforations at 8338 at the top and 8365 as the bottom, which gives 27 feet of perforations and the pressure is reported -- that I have -- is 3142, and the calculated open flow of 46.106. This corresponds, basically, with the lower A-Zone in the Flint No. 1 and from this and other knowledge of the area, I would say that the Flint No. 2 location will probably lose that part of the porosity in the lower part of the Arco 2. What porosity we get will probably be in the upper section, somewhere in the neighborhood, we hope, of 20 feet.

Now, the B-Zone, we had a show of gas in it, but the porosity and permeability didn't indicate any gas separation at all. So, structurally, we are some 56 feet high. The Flint 1 is 56 feet high to the Yates-Arco 1. We are not enthusiastic one way or the other about the structural position because it has very little bearing on the development of sands in the Morrow.

Q In your opinion, is the Arco 2 draining Western Oil Producers' field at the present time?

A The Arco 1?

Q Arco 1?

A Well, it is highly questionable, but when you are taking 18 million cubic feet of gas a day, you would assume a reasonable drainage in a circular pattern around the well that you certainly would have a reasonable chance of pulling gas from the entire area, including parts of Section 25.

Q In your opinion, can Western Oil Producers best protect their correlative rights by drilling at the proposed locations?

A Let me answer that by saying that in reading the transcripts of the hearings held here, I find one expression repeated again and again having to do with unorthodox

locations in the Morrow Channel, and I certainly agree with it, and at this time I would like to read it into the record:

(Reading) If you get in the channel, you've got good drainage. If you don't get in the channel, you get poor drainage. To get in the channel, you need to locate your well at the best possible place. (End of Reading). And that is the attitude in the location of the Western Well in this particular case.

Q Would you agree with the testimony that has been offered in other cases that a well location in the channel, then, will more efficiently drain the acreage?

A Certainly, and within a reasonable time.

Q Now, would you refer to what has been marked as Exhibit No. 3 and identify that exhibit?

A Exhibit No. 3 is purely a report prepared by Haliburton relating to the drill-stem test which is referred to here on this Flint No. 1.

Q Is that the basis of your testimony, in part?

A In part, but this was prepared solely from recorded data taken from the well by Haliburton. I had no part in it.

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

A They were.

Q And Exhibit No. 3 is a report by Haliburton on the well that you have discussed?

A That's right.

MR. KELLAHIN: At this time, I would like to offer into evidence Exhibits 1, 2 and 3.

MR. STAMETS: Is there any objection to these exhibits being admitted? They will be admitted.

(Whereupon, Applicant's Exhibits Nos. 1, 2 and 3 were marked for identification, and were offered and admitted into evidence.)

MR. KELLAHIN: I have nothing further at this point.

MR. STAMETS: Are there any other questions of the witness?

(Whereupon, a discussion was held off the record.)

CROSS EXAMINATION

BY MR. HINKLE:

Q Mr. Lamb, I believe you stated that you were familiar with the Application of Western Oil Producers in this case?

A Yes, sir.

Q And their well is projected to test the Devonian Formation, is that not right?

A That is right.

Q In case you encounter production in the Morrow Formation of gas, do you intend to go ahead and complete the well in the Devonian?

A It is the full intent of the operator to go to the Devonian unless mechanical conditions in the hole prohibit it.

Q What depth do you figure you will have to go to test the Devonian?

A We are looking at a 9100 or 9200-foot zone. The nearest Devonian in the area that we know has been drilled east of Artesia on the Navajo Bolton. It is projected that far across. We are looking at least to 9100 or 9200.

Q Now, the cross section which is Exhibit No. 2 is really a north and south cross section, is it not?

A Mr. Hinkle, it is basically not a cross section. This is one single well. All of the data on this chart is a single well. It all has to do with the Western Flint No. 1. It is the electric log and the logging-unit data on a composite sheet, so it is not really a cross section. It is the composite data that we have on this particular well.

Q Then Exhibit No. 2 has nothing to do with showing that this proposed location is in the West Atoka-Morrow Gas Pool, is that right?

A I don't believe that West Atoka Pool has been extended up in that direction at this point.

Q Well, your Application states that this location is in the West Atoka-Morrow Gas Pool?

A Well, technically, Mr. Hinkle, I believe the situation is this -- and I am not preempting the Commission in their rules and regulations, but I believe that the Yates-Arco, by the basic rules of the Commission, is within a mile of West Atoka-Morrow gas, and by rules and regulations, it is to be a part of it, however, I don't think it has been officially promoted. So, we would be offsetting the Yates-Arco No. 1 which is anticipated to be in the West Atoka.

MR. KELLAHIN: If the Examiner please, I believe there is a case on the docket today in the nomenclature No. K.

MR. HINKLE: I understand that has been deleted, is that right?

MR. STAMETS: That is correct. It is my understanding that Paragraph K of the nomenclature case today

will be dismissed pending further study.

BY MR. HINKLE:

Q So, you really can't state that this proposed location is in the West Atoka-Morrow Gas Pool. is that right?

A I would refer you to Page 4, and I will read this for you. Case 5486, and it has to do with the Yates-Jackson M No. 1, and it has to do with a question:

(Reading) Would you explain the purpose of this modified Application?

Yates Petroleum would request approval to drill an unorthodox gas location in the Atoka-West Morrow Gas Pool. This is the Yates-Jackson No. 1; and that is a direct east offset to the well we propose. (End of reading.)

So, if it is a technicality, we are following the leader, and that's all I have to say about that.

Q You testified about there being a well in Section 25, I believe, in the next township which is closer than 660 feet to the quarter boundary?

A The one I have here in hand is Case 4803 that had to do with the Yates re-entry and directional drilling of an unorthodox location in Eddy County, and my interpretation of the case, if it is correct, is Section 25 of 18, 26, and if I also read the testimony and the exhibits,

there is another well in the same Section that is closer than 660 feet.

Q But none of these wells are producing wells, are they?

A Unfortunately, no.

Q In other words, there are no wells that you know of in the West Atoka-Morrow Gas Pool that is closer than 660 feet to the outer boundary of the tract which is dedicated to the well, is that right?

A That is now producing, that is correct, but permissions were granted for these wells in the event production was obtained and they would have been given an allowable.

Q Isn't it true that in connection with the well you referred to in Section 25 that this was an original straight hole, 600 feet from the north and 620 feet from the east line and that the well was whipstocked and directionally drilled in an effort to bottom it where it wouldn't obtain production, but it was not successful, is that right?

A That's right.

Q Isn't it true that if that well had been successful that it would have been necessary to have a hearing before

the Commission to approve the production of that well?

A I would --

MR. KELLAHIN: (Interrupting) I think that calls for a legal conclusion and the Order would speak for itself. It was an approved location. I think you are asking the witness to make a legal conclusion.

MR. STAMETS: I take it you withdrew that question, Mr. Hinkle?

MR. HINKLE: I will withdraw the question.

BY MR. HINKLE:

Q Now, the proposed bottom of that hole which was whipstocked in Section 25 would have been 2000 feet from the nearest production, isn't that correct?

A Probably so. I don't have that figure and I would accept your --

Q (Interrupting) You gave some testimony in regard to the pressures in the No. 1 Well drilled by Western and the Yates Well in 36, is that right?

A Yes, sir.

Q Now, do these have any indication at all that this acreage that you are drilling on is still in the West Atoka-Morrow Gas Pool?

A If the Commission so decides that that is the

name for it, but I would say there was little doubt in my mind that the Flint No. 1 and the Arco No. 1 are in the same horizon, probably in the same pressure zone, but whether the Commission names it as West Atoka, that is not really in my hands.

Q Well, these pressures you testified to indicate virgin pressures, do they not?

A Well, you would have to have the wells and have the first pressures, so I would say, basically, it would be virgin.

Q And if there had been any drainage from the wells in the West Atoka, those pressures would have been down, would they not?

A Well, I could elaborate on this fact, Mr. Hinkle, that the pressures, the virgin pressures in the wells to the south that I have been able to record are somewhat less than the pressures shown in here, and if it is the feeling that it is a separate reservoir, I think that point will have to be pursued. Further, if you want to take the fact that the Yates have completed a C.K. Well north of Artesia in Section 4 of 17, 26 in the Morrow, I think the pressure there is 3235, which is still different from those two.

Q I now refer to your Exhibit No. 1. You have indicated, as I interpret this exhibit, what might be the thickness of the sand in the channel which you have running north and south, is that right, through 25 and 36?

A Yes, sir.

Q Now, if you moved your present location, which is 330 feet from the east line of the west half of 25, to a 660 location, how much difference would it be in the thickness of the sand?

A Now, let me repeat your distances again. You said 660 from the south and 1980 from the west would be the figure.

Q No. If your present location is 330 feet, as far as the Morrow is concerned, 330 feet from the east line of Section 25 and 660 feet from the south line, is that right?

A Our location is in the west half of the section.

Q Well, the west half on that west half.

A Okay. On a simple division in spacing the distance from 27 feet in the Yates-Arco to zero or thereabout on the Flint No. 1, if you had a simple division, the depth or thickness at the location we are on would be 20 feet and on the location you are referring to would be

17 feet.

Q 17 to 17½?

A Well, the thing that is running through my mind is that those of us who know the Morrow realize that this division is a picture situation.

Q In other words, you might have gained three feet?

A If this division stands.

Q 330 feet for these?

A That's right. And it might mean the difference between zero again and a well.

Q Now, I believe you mentioned the fact that because of the energy shortage and so forth that the general conception is to compete for the gas in the area. Do you mean to compete for it in any way regardless of how you get it, regardless of correlative rights?

A Well, basically, this boils down to the situation that each operator makes every effort to capture his fair share of the gas as is provided to him by correlative rights. He has the desire to get at least his percentage, and that is the ultimate hope is to get exactly that much.

Q Regardless of correlative rights, shouldn't the Commission protect correlative rights?

A That's part of the law.

(Whereupon, a discussion was held off the record.)

BY MR. HINKLE:

Q Your No. 1 Well in the west half of Section 25 was completed as a producer, was it not?

A In the Cisco, not in the Morrow.

Q That is above the Morrow Formation?

A That's right.

Q And by the drilling of that well, did you earn any rights or did Western earn any lease rights in the west half of the section?

A Yes. They earned the lease rights to the depth drill plus, as I remember, 100 feet.

Q That is all the lease rights they have?

A That is all the lease rights they had. Those rights have been extended to the present total depth drilled plus 100 feet.

Q You mean in this well that you are drilling?

A In the well that we were drilling, when it is drilled to the Devonian will earn the operator additional rights.

Q You will have the Devonian rights?

A Yes.

Q Do you have those of record? Is there anything of record to show that?

A I have them in my file.

(Whereupon, a discussion was held off the record.)

MR. HINKLE: That's all on cross.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Lamb, where is the closest Devonian production to the proposed location?

A Mr. Examiner, as I remember, it is some 15 or 18 miles and it is insignificant production to the southeast.

Q Do you recall the name of the well?

A No, I don't. We don't consider the Devonian as one of the prime prospects in Eddy County. As I remember, there are three producing fields in Eddy County.

Q Mr. Lamb, is a part of the reason for setting spacing patterns, well locations, to provide for good drainage and counter-drainage on completed wells?

A That would be the basic engineering reason for locating the wells.

Q This is part of the concept of protecting correlative rights, is it not?

A Yes.

Q So, would it follow, then, that if you varied significantly from the spacing pattern, you would tend to disturb this concept of drainage and counter-drainage?

A Well, I meant to leave the impression that three wells clustered at this common corner in 960 acres would not be the best location for the best drainage.

Q I am speaking primarily now to the counter-drainage concept where, certainly, your well may drain somebody else's acreage, but because of the location, they may be draining your acreage and the two offsetting drainages would result in sort of a standoff. No one really is gaining over the other operator?

A Well, I think that on a reasonable pattern this certainly has to happen, but we have to remember that the narrow channel situation alters a lot of things in those patterns, and enough of us have drilled the normal locations in search of a channel and find that it is productive at an unorthodox location, so, we find ourselves staying in close based on sad experiences. I think that is exactly what has happened here.

Q In this particular area, even though it is covered by statewide rules for 320-acre spacing, has a 660 location

become more or less standard?

A Well, from what I have seen lately, I would say that 80 percent of the Morrow locations in this area are 660's. As a matter of fact, I am looking at 1, 2, 3, 4 here now in this immediate area, two to be drilled and two drilling. Actually, there is one 330 by 660.

Q So, although the well in question here is only 330 feet from the center section line of Section 25, it is still 660 from the south line?

A That is right.

Q So, what has become "standard spacing" in this area, the line that is being crowded, then, is the center line of the section?

A That's right.

Q When in a pool an operator crowds closer than the other operators to a line, is there drainage which cannot be offset by counter-drainage?

A Well, the location of these three wells, if Western has an equal shot at their proportioned part of the gas in competition with the two wells, the chances are that we won't have much counter-drainage in competition with those two because we are going to be -- we might get a little of Yates gas, but chances are, we are going to be

lucky to get our own.

Q I would like to put that question to you again one more time, Mr. Lamb, but not going back and considering the production that has occurred before this time, I would say only from the point where the Western Oil Producers oil went on production, if you can speculate on that?

A Well, it is hard for an engineer to sit here and tell you that when he has a well 330 feet from somebody else's land that not any gas is going to cross that line because your drainage is not going to be in the channel. It is circular. It is going to be along the channel, and probably out of the depth of the channel. At this point we do not know what the deepest part of the channel is or where it is.

Q Based on the evidence that you have at the present time, the better part of the channel lies to the east of this location?

A That is the indication, and personally, that is the way I have it mapped.

Q Mr. Lamb, do you have any evidence that high rates of gas production in this area has resulted in waste?

A I don't basically think that we have enough information to purely evaluate it and you never have enough

until the reservoir is depleted, but where you have a reservoir under gas expansion with little or no water encroachment, chances are that you are not affecting any ultimate recovery of gas by the high rate of production.

Q Is that the situation that exists here?

A I think that is right here. I would have a question on the margin of the channel as you go north. Some of the tighter stuff might not be drained. It might take another well up there. I don't think the high rate has been any violation of conservation under this particular type of reservoir. If you have an active water-drive reservoir I think you need to be concerned.

Q I believe you said you felt like two-thirds of the west half of Section 25 would contribute to production of this proposed well. Is that a hard and fast figure, or it could be more or could be less?

A It could be more.

Q Do you feel like this situation is any different from what you might find on a number of the other wells produced on non-standard locations?

A Yes. Actually, it probably has a better status than some of the wells that I have seen where there is a dry hole on the tract and then the well in the channel, but

this is no different than those. I don't believe there is any in this immediate area. I think they are further south.

Q Do you have any recommendations as to what action the Commission might take to offset any advantage that Western Oil Producers might gain over the offset operator here because of the location?

A No, sir, I wouldn't.

MR. STAMETS: Are there any other questions of this witness?

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Lamb, along the lines of the questions that Mr. Stamets was asking you, is this the type of reservoir in which you can apply the concept of radial drainage in all directions?

A No, radial drainage is pretty much out of the question here. If you had a single well at the depth of the channel, the thickest part of the channel, I think you could start looking at it as being an eliptical sort of thing, but I don't think it would ever be circular.

Q Would the axis of drainage lie along the axis of the channel?

A That's right.

Q Would a location 660 by 660 protect the correlative rights of Western Oil Producers in this reservoir?

A We feel that this location would better protect the correlative rights of the operator.

MR. KELLAHIN: That's all I have.

MR. STAMETS: Any other questions of the witness? He may be excused.

(Witness dismissed.)

MR. STAMETS: Does that conclude your testimony?

MR. KELLAHIN: Yes, thank you.

MR. HINKLE: I have one witness.

RAY BECK

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence and by whom you are employed?

A Ray Beck, Yates Petroleum Corporation, Artesia, New Mexico, as a geologist.

Q Have you previously testified before the Commission and qualified as a petroleum geologist?

A Yes, I have.

Q Are your qualifications a matter of record with the Commission?

A Yes, they are.

MR. HINKLE: Are his qualifications acceptable?

MR. STAMETS: They are.

BY MR. HINKLE:

Q Have you made a study of the area which is the subject of this case?

A Yes, I have.

Q And of all of the wells and geological information that is available for the area?

A Yes, I am familiar with it.

Q Have you prepared or has there been prepared under your direction exhibits for introduction in this case?

A Yes, I prepared three exhibits.

Q Are they the ones that have been marked Exhibits 1, 2 and 3 of Yates Petroleum Corporation?

A That's correct.

Q Refer to Exhibit 1 and explain what this is and what it shows?

A Exhibit 1 is a land plat showing the Western Oil Flint No. 2 in relation to the surrounding leaseholds.

Yates leases are solid yellow and leases in which Yates has part interest are diagonal stripes on yellow. The Western Oil Producers Flint No. 2 is located 330 feet west of the Yates lease covering the east half of Section 25, 17 South, 25 East.

Q Does this also show other wells which have been drilled in the area?

A Yes, sir, it does. It is fairly well up to date.

Q What well is that in the north half of Section 36, 17, 25?

A The well you refer to is the Yates-Arco E. C. No. 1, 2310 from the east line and 660 from the north, a standard location and the dedicated acreage is the north half of Section 36.

Q Has that been completed as a Morrow gas well?

A Yes, it has.

Q What is the potential of that well?

A The potential is approximately 46,000 absolute open flow.

Q How long has it been on production?

A Approximately 48 days, I believe.

Q At approximately what rate has it been producing?

A It has produced between 17 and 18-million cubic

feet a day.

Q Now, to the north of that in the east half of Section 25, what well is that?

A Would you repeat that question, please?

Q To the north of the well in 36, the well that is shown in the east half of Section 25?

A That is a drilling Jackson, Yates-Jackson A.M.

Q Yates Petroleum Corporation is drilling that well?

A Yes, they are.

Q What is the footage location of that well?

A That well is located 1980 from the east line and 660 from the south line, an approved unorthodox location.

Q That is 660 feet from the west line of the east half of Section 25?

A True.

Q This also shows a No. 1 Flint Well, does it not, in the west half of Section 25?

A That's right. It shows the No. 1 Flint, an orthodox location and it shows the No. 2 Flint, the proposed unorthodox location.

Q Now, refer to Exhibit No. 2 and explain what that is and what it shows?

A Exhibit No. 2 is a Devonian structure map covering

12 townships around the Western Oil Producers' Flint No. 2 Well. The contour interval is 100 feet. The wells penetrating the Devonian are circled. Of the 14 Devonian or deeper tests in these 12 townships, not one is productive in the Devonian or deeper horizons. The nearest Devonian oil production to my knowledge is Little Lucky Lake Field in Chaves County, some 32 miles to the east northeast and Little Lucky Lake is an anticlinal trap.

Q Does this Exhibit No. 2 show any particular unusual structural condition as far as the subject location is concerned?

A Utilizing the data, this exhibit shows that there is no indication Devonian anticlinal closer or even anticlinal nosing at the Flint No. 2 location. In fact, using the data available it appears that the Flint No. 2 location is in a slight geosynaclinal swael -- I mean, slight synclinal swale, therefore, it appears from the subsurface geological information that this Flint No. 2 location has little or nothing to recommend it as a Devonian oil prospect.

Q In your opinion, would changing this location to 660 feet from the east line of the west half of Section 25 make any difference as far as the Devonian Formation is concerned?

A Considering the very scattered Devonian control in the area, we frankly can't understand why they would drill a contested location of 330 feet from the side boundary rather than an uncontested location 660 feet from the side boundary.

Q What do you mean by "uncontested location"?

A Well, Yates Petroleum would not have protested on a 660 location.

Q Do you have any further comments with respect to Exhibit No. 2?

A No.

Q Refer to Exhibit No. 3 and explain what it shows?

A Exhibit No. 3 is a map which shows the thickness of the Morrow Channel Sand Reservoir area in solid and/or dashed contours. All wells shown here have penetrated the Morrow or deeper horizons. The dotted contours show the structure attitude on top of the Morrow clastic interval.

I might stop here and make a side comment that even on the Morrow clastics, the Western Flint doesn't seem to have a very favorable structural position.

The linear north-south body on the southern part of the map is the partially depleted West Atoka-Morrow Channel

Reservoir. Moving toward the northern portion of the map, the Yates Arco Well in the north half of Section 36, 17 South, 25 East has encountered what we believe to be a separate new Morrow Channel Sand Reservoir.

Q On what do you base that opinion that it is a separate reservoir?

A Geologically, there is room for different opinions on this, but considering the pressure information, we think it probably has to be a new reservoir. I would direct your attention to the Yates Vandiver D. O. Well in Section 7 of 18, 26, which in October of '74 had a bottomhole pressure of 614 pounds per square inch. This is measured by bottomhole pressure bomb. The Yates-Arco Well back up in Section 36 of 17, 25, the new well, in April of '75 had a pressure of 3154 pounds, considerably higher than depleted pressures which we are finding out by bottomhole pressures in the West Atoka Field.

Q Is this differential in pressure good evidence that they are in separate pools?

A I think it is good evidence.

Q About the best there is?

A About the best there is, really. At least, it is a fact.

Q Now, if the Applicant's well which they are drilling is completed as a gas well in the Morrow, in your opinion, will this give the Applicant an undue advantage?

A Considering any reasonable interpretation of the geology of the area, Western would obtain an undue advantage in drilling 330 feet from the Yates lease for a geologically improved Morrow gas well location. The Yates-Arco Well in 36 is in an orthodox location. The Yates-Jackson Well in the east half of 25 is an approved unorthodox location, 660 from the side end boundary. Yet, Western seeks approval for a Morrow completion 330 feet from a competitive boundary.

Q Do you know of any producing well in the West Atoka-Morrow Gas Pool or otherwise in this area that is closer than 660 feet to the side boundary of the tract that is dedicated to the well?

A There are no producing wells on the area covered by this map that are closer than 660.

Q In your opinion, would correlative rights be violated by the completion of this subject well in the Morrow Formation?

A Yes, I believe they would. I might make one -- I remember from Mr. Lamb's exhibit that he showed 20 feet

of pay at the 330 location and about 17 or 18 feet at what would be an uncontested location, 1980 from the west and 660 from the south, or a 660 location. We would not have protested that because we believe that 660 locations are probably realistically flexible, whereas, 330 is really crowding the line.

Q Now, isn't it a fact that in the drilling of most any well, particularly at this depth, there will be some deviation as far as the location of the bottom of the hole as related to the location at the surface?

A That's right. There could be a deviation. I believe the State allows up to 5-degrees deviation.

Q Now, how much deviation would be required if the well deviated toward the east to bottom this subject well on the line between the east half of the west half or over on the Yates lease?

A Well, just as some helpful numbers, for instance, if there was a straight deviation to the east of just three degrees from the surface to the Morrow pay about 8310 feet, it would bottom at 435 feet to the east.

Q Of the surface?

A Of the surface location. That is if you went straight east. Now, we are not saying -- you know, a well

could deviate in any direction.

Q In that case, the 435 feet would place the bottom of the well over on the east half of Section 25, would it not?

A Assuming they deviate straight east from the surface 8310 feet, it would take underneath the Yates lease.

Q Now, does it necessarily follow that if they deviate 2 percent, you are going to go proportionately less, or 290 feet?

A Using the same depth, 8310 feet, 2 degrees deviation in a straight direction would be 290 feet.

Q What would it be if you deviated 1 percent?

A One degree deviation in a straight direction would be 145 feet.

Q In your opinion, is there any way to safeguard the well being bottomed closer than 330 feet to the east line of the west half of Section 25?

A There is one way to find out, and that is to run a directional survey.

Q Do you have any recommendations to make to the Commission with regard to a directional survey in this case?

A Since the possibility exists, due to the 330 location that the Flint Well may bottom closer than 330 to the west boundary of their lease, or even beyond their

lease, not that it has, Western Oil should be required to make a directional survey of the well by a reliable company and the survey to be witnessed by the State and all information furnished to the State.

Q Now, in your opinion, if it should be determined by a directional survey that the well is located an appreciable distance less than 330 feet from the east line of 25, would it be possible to directionally drill the well so that it would be bottomed either 660 feet or 330, which ever the Commission deems to be appropriate?

A If a survey was run and the bottom of the well showed them to be closer than a 330, I think it would be possible for Western to come up the hole and directionally drill the thing back to what the Commission determines to be -- what they approve as a bottomhole location. If they approve it to be a 330 location, then they should move to a 330. If they think it should be 660, then they could have them directionally drill the well bottom to 660 feet from the line, at which point we would have no contest.

Q Would this directional drilling, in your opinion, be practical and economical?

A Well, it would be more economical than drilling a new hole at an approved location.

Q And that is one way that you can safeguard in this case against a well being more than 330 feet or more than 660 or less than 660 feet from the east line of the west half of 25?

A That is a feasible way to do it, yes.

Q Now, in the event the Commission should see fit to approve an unorthodox location in this case for the Morrow Formation, do you have any recommendation to make to the Commission as to a penalty factor that should be invoked?

A Yes. As to a penalty, we ask that the Commission take into account the undue advantage of drilling a location 330 from the side boundary in the West Atoka or the new Yates-Arco Reservoir or closer to a boundary than 660, the penalty should be based on where the well is bottomed and an account taken of the thickness of the reservoir, which we cannot do that until the wells are down and/or if a survey is taken. In addition, we ask that the Commission to take into consideration the fact that the Flint No. 1 Well that was drilled at an orthodox location in the same 320-acre spacing unit was a dry hole in the Morrow.

Q Now, to your first recommendation there, as to the penalty, it is your opinion that the Commission cannot

really determine a practical penalty factor until they know where the well is bottomed, is that correct?

A That is really true.

Q Because it could be east or west of the surface location?

A That is true.

Q So, there should be a time factor after this well is completed, when it is authorized to be completed, before this determination is made?

A That's right. After the wells are down, there should be a considerable time period, say, 30 days in which to assess the data and to make other recommendations or consult with the Commission.

Q Well, as a matter of practicality, these penalty factors would not be effective unless you had prorationing?

A That's true.

Q Is it your opinion in this case that if you do find that there is a penalty factor to be invoked that you should be given a reasonable time to request prorationing?

A Yes, sir, I do.

Q What about the status of the well during that period of time?

A Well, we don't believe that the Flint No. 2 Well,

that if it is found to be Morrow gas productive, that it should be allowed to be produce when we don't know what the penalty is and what the proration is going to be.

Q Based on your study of the geology of the area and the dry hole which was drilled as the Flint Well in the west half of Section 25, in your opinion, what portion of the west half of Section 25 would prove productive as far as the Morrow Formation is concerned?

A Well, one advantage over Mr. Lamb in that he has not seen the log on the Yates-Arco Well in the north half of Section 36, we found, actually --

MR. KELLAHIN: (Interrupting) If the Commission please, I am going to object to the question and answer unless they are prepared to produce the log.

MR. STAMETS: Do you have that log here and are you prepared to admit it into evidence?

THE WITNESS: The log is here.

MR. HINKLE: Yes, we will turn the log over to them.

MR. STAMETS: I would suggest that you give the log to the witness and have it marked as an exhibit.

(Whereupon, a short recess was held.)

MR. STAMETS: The Hearing will please come to

order. I believe you are ready to introduce this exhibit, Mr. Hinkle.

MR. HINKLE: I don't believe the witness has answered the last question. If you will, have the Reporter read the last question, please?

(Whereupon, the last question was read by the Reporter.)

THE WITNESS: Mr. Hinkle, we have now furnished the Commission and the representatives of Western Oil Producers a copy of the Morrow section in the Yates-Arco E. C. No. 1 in the north half of Section 36, 17, 25 so that they can refer to that log along with us. I was about to say that the Yates-Arco Well encountered 38 feet of Morrow Channel Sand Reservoir. The Western Flint No. 1 in the west half of Section 25 at the unorthodox location,-- excuse me, the orthodox location -- 1980 from the south and 660 from the west encountered zero Morrow Channel Sand Reservoir. Based on these figures and more or less patterning it after the channel sand reservoir to the south in West Atoka, we come up with figures that would seem to show that the Western Flint Well drilled either at the 330 or at the 660 at the unorthodox location would only effectively produce about one-third of a 320-acre

spacing unit. In other words, their penalty would be two-thirds of the allowable.

BY MR. HINKLE:

Q Do you feel that that penalty should be invoked in this case?

A That would be our recommendation.

Q Mr. Beck, if this same procedure is followed as in this case of locating Devonian wells on 40-acre spacing and they located those in the section corners and later on these wells were approved as unorthodox locations in the Morrow Formation, what would be the ultimate result?

A You would have four locations competing for 10 acres. They would be 660 feet apart and between them, all there would be is an area of 10 acres.

Q It has been called to my attention that when you stated the pressures in connection with the Vanderver Well at 614, you meant 1614?

A 1614, yes, excuse me. I am sorry.

Q What Vanderver Well are you referring to, please?

A It is in Section 7. When I said 614, I meant 1614.

MR. HINKLE: We would like to offer Exhibits 1 through 4. We have marked this well log as the No. 4

Exhibit.

MR. STAMETS: Is there any objection to the admission of these exhibits?

MR. KELLAHIN: No objection.

MR. STAMETS: They will be admitted.

(Whereupon, Yates Petroleum's Exhibits Nos. 1 through 4 were marked for identification, and were offered and admitted into evidence.)

MR. HINKLE: That's all.

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

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Beck, in connection with the well pressures you just gave on the Vandiver D.O. at 1614, how does that pressure compare with the one to the south, the Vandiver C.M.?

A The Vandiver C.M.?

Q Yes, sir.

A Well, the Vandiver C.M., the last information I have on that -- now, maybe we have other information here with us that I don't know about -- but in August of 1973 is the last date I know that they took a pressure, it was 2789. Now, the Vandiver D.O. was measured in October

of '74 and we've got about four good gas wells down there draining a lot out, so the differential there can be taken up by the dates.

Q How long has that well, the Vandiver D. O., been producing?

A Just about since somewhere around August of '73. I forget the exact date.

Q It is approximately 3 miles from --

A (Interrupting) The Vandiver D. O., did you say?

Q The Vandiver D. O.?

A I am sorry. The Vandiver D. O. has been on since about October of '74.

Q Less than a year?

A That's right, less than a year.

Q Did it then surprise you to find virgin pressures in Section 36, almost 3 miles away?

A Not really.

Q So, that is really no indication that that is a separate reservoir?

A The pressures?

Q Yes, sir.

A I think it is very good information that it is a separate reservoir. I believe if you drilled another

well in this reservoir down here, you would be looking at pressures even lower than 1600 pounds, where we've got pressures of 3154 up here.

Q Isn't that due to drainage?

A I don't believe it is.

Q What was the initial reservoir pressure down there?

A Initial reservoir pressure was 3600 pounds in the Mountain States McCall.

Q Now, in connection with your comments about the directional or deviation, have you run surveys on your wells?

A We have run surveys on wells that we have side-tracked, yes. As far as I remember, as we were side-tracking, we were making our survey.

Q Let's be specific: Have you run directional surveys on any well within the area involved here?

A No, we haven't, not any except the well in Section 25 of 18, 25, the Kincaid B.I. which has been referred to earlier.

Q You were required by the Commission to run a survey on that one, were you not?

A Well, we knew we were going to have to show where we bottomed up. We originally drilled the well at a

660 location. It was somewhat less than 660. I don't have the figures in front of me right now, but it was to get out of the Penasco Riverbed. It was tight in the Morrow and we side-tracked it and it was a lesser location and we were running a survey as we were doing this so that we would know where we bottomed up, but the well was again tight in the Morrow and was non-productive, so we never had to come before the Commission to get a penalty, although we expected to get a penalty if we had.

Q Have you run a directional survey on any other wells in the pool, in either one of these pools, if you will?

A No, we have not run any directional survey on any of the producing wells.

Q So, you do not know what the directional deviation would be when you are drilling in this area?

A No, we do not.

Q What degree of deviation have you experienced?

A Oh, ordinarily, just searching from memory, I would say anywhere from a half up to 2 degrees or something like that. We try to stay below 5.

Q Now, you made some assumptions to show that we might well bottom on your lease. I believe you said that if we deviated up to 3 percent, was it?

A Yes, sir.

MR. HINKLE: Three degrees.

BY MR. KELLAHIN:

Q Three degrees would deviate what?

A 360 feet. The assumption was that if there was a deviation, straight deviation to the east of 3 degrees from the surface to the Morrow pay at 8310, it would bottom up approximately 435 feet to the east. I realize fully that we don't know, if the thing deviated, if it did to some degree, we don't know which way it deviated. All we are trying to do is protect our lease line.

Q Now, if we make the same assumption as to your well offsetting this location and assume, again, that it deviated to the west, you would be considerably closer than 660 feet from the line?

A Under those same assumptions, yes.

Q So, you would have an advantage over Western if we make such an assumption as that?

A Well, we would, but we've got 330 more feet to play with than you do.

Q 330 more feet?

A Right, to the line. If you are talking about the Yates-Arco Well, that is 660 from the side boundary.

Q Now, I believe you said that the penalty, if it was going to be assessed in this case would be based on the well location, that is, where the bottom location is, and the thickness of the reservoir?

A Yes, sir.

Q Now, in all cases that have been presented to this Commission, has it not been the position of the Applicant that the best drainage is achieved by the bottom of the well in the channel, the thickest part of the channel?

A Yes, sir.

Q Did you not so testify in Case No. 5486, an application for two unorthodox well locations in this pool?

A Yes, sir.

Q So, in that case, I would read you the question. Do you remember the question? (Reading)

"Q So, if you get the channel, you've got good drainage, and if you don't get the channel, you've got poor drainage?

A That's right." (End of reading.)

A That's true.

Q (Reading) "Q And to get the channel, you need to be able to locate your well where it is the best

possible place?

A The best possible place." (End of reading.)

A That's right.

Q On your Exhibit No. 2, what is the basis of the information on that exhibit?

A Would you mind repeating that, sir?

Q What is that exhibit based on? What is the source of your information?

A The information here is that we searched for all the Devonian wells in these 12 townships and these are the ones that we came up with, and we correlated them on the top of the Devonian. It is a very easily correlatable pick and from that information, we drew this structural map.

Q In other words, all you had was these Devonian tests and nothing else?

A That's right.

Q You haven't made an independent study of this yourself, have you, to determine if there is any nosing in the area of the proposed well location?

A Well, sir, I correlated the logs and I drew the contours.

Q You don't know of any seismic information or any other information that might be available?

A I have no information of any seismic information.

Q According to your exhibit, however, the location would be up-structure from the other Devonian tests, would it not?

A Well, I can see 1, 2, 3, 4 wells that are up-structure on this whole map. All of them have never been productive or even been close to being productive in the Devonian.

Q In connection with your Exhibit 3, you show the Yates-Jackson to be located 660 feet from the western line and, yet, your exhibit would seem to indicate that the thickest part of the channel would be east of that location, is that correct?

A Yes, sir. That is true.

Q You weren't aware of that at the time you drilled the well, of course?

A No, we weren't aware of it at that time.

Q So, you are definitely in the thickest part of the section according to your interpretation, is that correct?

A That is what we hope for.

Q And according to your exhibit, an orthodox location, that is, a 660-foot location would be close to a

dry hole for Western, is that correct?

A Well, I don't know what you mean by "close to a dry hole." I would put them in the channel.

Q You show a zero line immediately adjacent to that point?

A I would say that there is about 7 or 8 feet there, maybe.

Q Are you suggesting to this Commission that it require evidence that all wells are no closer to the unit boundary than that specified by their order?

A You mean that all wells should be directionally surveyed?

Q Yes, sir.

A No, sir. I think that is probably asking too much. I believe that 660 locations are reasonably flexible, and I wouldn't ask for a directional survey on a 660, but on a 330, I do.

Q You don't consider that a flexible location?

A No, sir.

(Whereupon, a discussion was held off the record.)

BY MR. KELLAHIN:

Q Do you know what the average deviation was on

this well in Section 25?

A The deviation of which well in which section?

Q You had a deviation survey while you were drilling a well, did you not?

A Yes, sir. I did not have. That is the engineering department and I really don't keep up with that, sir.

Q Would Yates be willing, if this location is approved for Western and a survey required, to determine the bottomhole location of this well?

A No.

MR. KELLAHIN: That's all I have.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Beck, from your testimony, I gather that Yates Petroleum would have had no objection if this well had been located 660 out of the corner?

A That is correct, sir.

Q And the real objection, then, is crowding the center section line by 330?

A That is the objection.

Q I believe that you said you have no evidence that there is any general deviation one way or another in that area?

A No, sir. We have no evidence whatsoever. We are just pointing out that at 330, things like this could happen.

Q Normally, what do you see in the way of deviation when a well is drilled? Is it straight one direction or a corkscrew pattern or what?

A I am really not the best witness to answer that question, but I believe that they do tend to corkscrew around until they get to kind of a stable situation and then start deviating more or less in one direction.

Q The situation that you have depicted here was this very strong Morrow Channel Sand, and you have a zero line on the outside. Is that a zero sand line or zero porosity line or what?

A No, sir. What these contours represent are thicknesses of the channel reservoir only. In other words, there could be a total of, say, 50 or 60 feet of Morrow Sand in any one of these areas, but they would not necessarily be what we consider to be a channel reservoir such as on Exhibit No. 4 here at about 8332 to 8370.

Q In fact, is this channel only this wide, or are there sands outside which you have shown as a zero contour line? Are there sands outside that line which are, in fact,

draining into the charnel?

A This could happen. The channel could be cut down into previously laid-down sands and actually you could get some measure of drainage, but it is very difficult to determine exactly what happens.

Q I believe you said that a penalty factor would not be effective unless there is gas proration in the area. What evidence do you have that substantiates that?

A Well, we believe that if the Commission finds that the unorthodox locations would be allowed, that they should be penalized, and the only way I guess you can effectively invoke a penalty is to prorate the pool. Does that answer your question?

Q I am afraid it doesn't. Assuming for the moment that you have a single pipeline serving the area, and a rateable take factor is applied and the pipeline is advised of the rateable take factor, would that resolve your problem without proration?

A Yes, sir, I believe it would, if they could do it that way.

Q Is the West Atoka-Morrow Pool served by more than one pipeline at the present time?

A Just one, I believe. No, it is two. I keep

thinking of the channel wells. I believe they are served by one, but some of the other wells have been assigned to West Atoka and they may have been taken by another pipeline.

Q In Section 7 of 18, 26, the southwest quarter, there are a couple of wells labeled Fasken-Vandiver No. 7 and they show zero beside each one, and then as you move to the east, you see the Yates-Vandiver D.O. which has been discussed several times. Based on what you testified to in Section, the subject of this hearing, would this show that only approximately half of the 320 dedicated to the Vandiver Well would be productive or is the south half dedicated there?

A The south half is now dedicated, I believe.

Q So, in that case, based on your testimony, something like 75 percent of that 320 might be productive?

A 75 percent might be productive from the channel sand reservoir.

Q Is any penalty factor assessed there?

A There is no penalty factor assessed on the Vanderver D.O. It is an orthodox location.

Q Looking down through the pool as a whole, does the situation that you discussed exist in many of the wells that are completed in the West Atoka-Morrow Pool?

A Yes, sir.

Q Were any of those wells penalized for the fact that on your testimony there was no -- the total acreage was not productive?

A The total acreage would not be productive in many of these cases, but these are still 660 locations where they are unorthodox.

Q Mr. Beck, assuming two factors, now, I would like you to make a recommendation on a possible penalty factor. Let's assume that the entire west half of Section 25 is productive and assume that the hole is bottomed directly under the surface location, what penalty factor would you recommend, and based on what parameter?

A If Section 25 of 17, 25, you say, if the whole west half is productive?

Q Yes.

A Well, sir, I really don't understand because the Western Flint No. 1 is already dry in the Morrow.

Q I am asking you to make an assumption?

A Well, knowing that or without knowing that?

Q Just make the assumption.

A If the whole west half, okay, I see. All right. If the whole west half was productive and they bottomed up

at a 660 location?

Q No, bottomed up at the surface location.

A Of 330?

Q Yes, sir.

A I still believe that there should be some penalty because they are crowding the line.

Q But I am asking you to make a recommendation of what it should be if those situations exist. I am asking you if you will, sir?

A Well, sir, assuming those conditions, I guess that you would just have to use the New Mexico Oil Conservation Commission method to circle on 320 acres.

Q Utilizing the radial drainage method, would you expect some error to be introduced because, in fact, we don't always find radial drainage?

A Yes, sir, I would expect some.

Q But with the wells that we have completed here and the various ways, patterns in which the Morrow Sands are laid down, is there any better method of making this determination?

A If we can show by good geology and by very incontrovertible geology and by reasonable geology that the channel situation exists, maybe you can come to a closer

approximation than the radial method, but in certain cases, I can understand how it can be argued geologically on one side or the other and you just couldn't come to an agreement on exactly where the main part of the reservoir laid.

Q Is that the situation we have now with only one well completed in the reservoir and two wells drilling?

A Right now, that is true. We will soon have other information.

MR. STAMETS: Are there any other questions of this witness?

REDIRECT EXAMINATION

BY MR. HINKLE:

Q You made the assumption to the Examiner's question that the hole in the west half of 25 would be productive in fixing the penalty factor. Now, I believe your testimony shows that a large portion of it would not be productive in your opinion, due to the fact of the dry hole. In addition to the penalty factor to which you have testified to, should there be added a penalty factor on account of a portion of this unit being dry?

A Very definitely, that should be taken into consideration.

Q You also testified there with respect to other

methods than the accepted radial drainage method. Would it be possible to take into consideration the thickness of the pay section and perhaps deliverability?

A It could, yes, sir.

MR. HINKLE: That's all I have.

MR. STAMETS: Are there any other questions of this witness?

RECROSS EXAMINATION

BY MR. KELLAHIN:

Q If the bottom of your hole should prove to be closer than 660 to the line, could your well be penalized?

A No, because we drilled an orthodox location.

Q That is the difference?

A Well, we have a signed statement by the engineer that we didn't deviate more than 5 degrees.

Q I asked you that question before and you told me you didn't have that information.

A Well, I am sure that if we had had a well that had deviated more than 5 degrees, we would have had to come up before the Commission, and I am not aware of any such thing as that. I am not worried about the details on the day-to-day deviations, though.

Q If the well went one direction, that would be

more than 640 feet, wouldn't it?

A If it all went only one direction, yes.

Q Now, on this productive acreage --

A (Interrupting) Wait a minute. What did you say now? How many degrees?

Q You said 5 degrees.

A Oh, 5 degrees.

Q At 4 and 3/4 of a degree, it is 640 acres at that depth, I believe. Isn't that correct?

A I assume your figures are right. It could happen.

Q Now, on the productive acreage, you have shown by this exhibit, on the Yates-Vandiver D.O., you show dry acreage dedicated to that acreage, don't you?

A Would you mind saying that over again?

Q I say, don't you show you have dry acreage in that unit dedicated to the Vandiver D.O.?

A There is a certain portion of that south half that is dedicated to it that's shown to have been dry by these two -- by the straight hole, the Fasken-Vandiver and the side-tracked hole; however, there is a considerable portion of it that is productive even under the main channel reservoir, and the well was drilled at an orthodox location.

MR. KELLAHIN: That's all I have.

MR. STAMETS: Are there any other questions of the witness? He may be excused.

(Witness dismissed.)

MR. STAMETS: Is there anything further in this case?

I believe we have received some telegrams or correspondence?

MR. DERRYBERRY: Mr. Examiner, the Commission has received several telegrams, one from Hanagan Petroleum Corporation, another from Franklin, Aston and Fair, another from Atlantic Richfield Company and from Lonnie Kemper, all of which oppose the granting of an unorthodox location 330 feet from the east line of the west half of Section 25.

(Whereupon, a discussion was held off the record.)

MR. STAMETS: Mr. Hinkle?

MR. KELLAHIN: If the Examiner please, Mr. Hinkle has indicated he wanted to make a statement and probably I should preceed him. I don't intend making any statement for looking at the transcripts in previous cases, I think all of them, maybe with one or two exceptions, have been heard by the same Examiner. I think he is thoroughly familiar with this situation here and I feel we have

presented our case, and we are willing to stand on that.

MR. HINKLE: Mr. Examiner, this is a rather unusual case in my opinion. Here we have an Application for a Devonian case which is an orthodox location, 40 acres. This Application was made for the drilling of that well after a large gas well had been completed by Yates Petroleum Corporation in Section 36, and the implication to me, at least, is that the purpose of making a Devonian location in this case was not to wait to have a hearing before the Commission for the approval of an unorthodox location for a Morrow Gas Pool Well. In other words, it is very obvious that the purpose of it is to circumvent the regulations of the Commission.

On view of this situation, we think it warrants the Commission taking some unusual steps in this case. We think that Western Oil Producers should be required to make a directional survey of the well by a reliable company engaged in the business of making such surveys and that all information with respect thereto should be furnished to the Commission and to Yates, and that this survey should witnessed by both representatives of the Commission and of Yates Petroleum Corporation.

Now, in the event that Western Oil Producers

should encounter gas in paying quantities in the Morrow Formation, they should not be permitted to complete the well until such time as they set a whipstock at an appropriate depth above the Morrow Formation and directionally drill said well so that it would be bottomed at least 660 feet from the east line of the west half of Section 25.

The reason for this is that there is no other producing well in this area that is located closer than 660 feet to the outer boundary of the tract that is dedicated to the well. There have been several protests that have been filed here by major independent operators who own acreage in the area, and all of them seem to agree that no well in the Morrow Formation should be located closer than 66- feet to the outer boundary of the tract to be dedicated to the well.

Now, in the event the Commission should see fit to approve the unorthodox location for a Morrow well, which in this case would be a surface location of 330 feet from the east line of the west half of Section 25, we do not believe that the Commission should permit this well to be completed until the following have been complied with:

First, a directional survey has been completed and a copy thereof furnished to the Commission and Yates

showing that the well has not been bottomed closer than 330 feet to the east line of the west half of 25.

As I indicated before, this directional survey should be witnessed by representatives of the Commission and by Yates.

Second, a penalty has been fixed by the Commission to offset the undue advantage which would be obtained by the Applicant by the 330 location. Said penalty would be based upon where said well is bottomed as shown by the directional survey.

Now, heretofore it has been the practice, as I understand it, that the Commission will sometimes affix a penalty prior to the completion of the well, but when it comes right down to it, as a practical matter, you cannot or we do not believe that the Commission can fix a fair and equitable penalty until they know definitely where the well is bottomed, and the evidence of this case shows that a slight deviation could throw the bottom of this well very close to the section dividing line or even over on the Yates lease. It may work otherwise. It may work to our disadvantage in which the deviation may be to the west, but that is only fair and equitable that it would be based upon where the well is bottomed.

The third factor should be that Yates should have 30 days from the time the Commission enters an Order approving the unorthodox well location within which to make application to the Commission for proration, and if the application is filed by Yates within that time, the well would not be permitted to be produced until the hearing is had for the purpose of protating the pool.

Now, if a penalty factor is invoked, as we believe it should be in this case, in our opinion, a proration unit is the only way that it is going to be fair and equitable of any consequence at all, and the penalty factor, in our opinion should very definitely take into consideration the fact that a dry hole has been drilled in the west half of Section 25, and because of that, a large portion of the west half is non-productive.

I believe that is all.

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

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.

COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5512, heard by me on 7-30, 1975.

Examiner
New Mexico Oil Conservation Commission

THE NYE REPORTING SERVICE
STATE-WIDE DEPOSITION NOTARIES
225 JOHNSON STREET
SANTA FE, NEW MEXICO 87501
TEL. (505) 982-0386

BEFORE THE

OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF WESTERN OIL PRODUCERS, INC.,
FOR APPROVAL OF AN UNORTHODOX WELL
LOCATION, EDDY COUNTY, NEW MEXICO

A P P L I C A T I O N

COMES NOW WESTERN OIL PRODUCERS, INC., and applies to the Oil Conservation Commission of New Mexico for approval of an unorthodox well location in the west Atoka-Morrow Gas Pool, Eddy County, New Mexico, and in support thereof would show the Commission:

1. Applicant proposes to drill a well of sufficient depth to test the Morrow formation at a location 2310 feet from the West line and 660 feet from the South line of Section 25, Township 17 South, Range 25 East, N.M.P.M., Eddy County, New Mexico, within one mile of the exterior boundaries of the West Atoka-Morrow Gas Pool.

2. Applicant will also test the Devonian formation and the location appears better for that formation, thus preventing the drilling of an unnecessary well, and preventing waste.

3. The proposed location will result in the production of hydrocarbons from the Morrow formation that would not otherwise be recovered, will prevent waste, and the correlative rights of offset operators will not be impaired by approval of the proposed location.

WHEREFORE applicant prays that this application be set for hearing before the Commission's duly appointed examiner, and that after notice and hearing as required by law the Commission enter its order approving the proposed location.

Respectfully submitted,

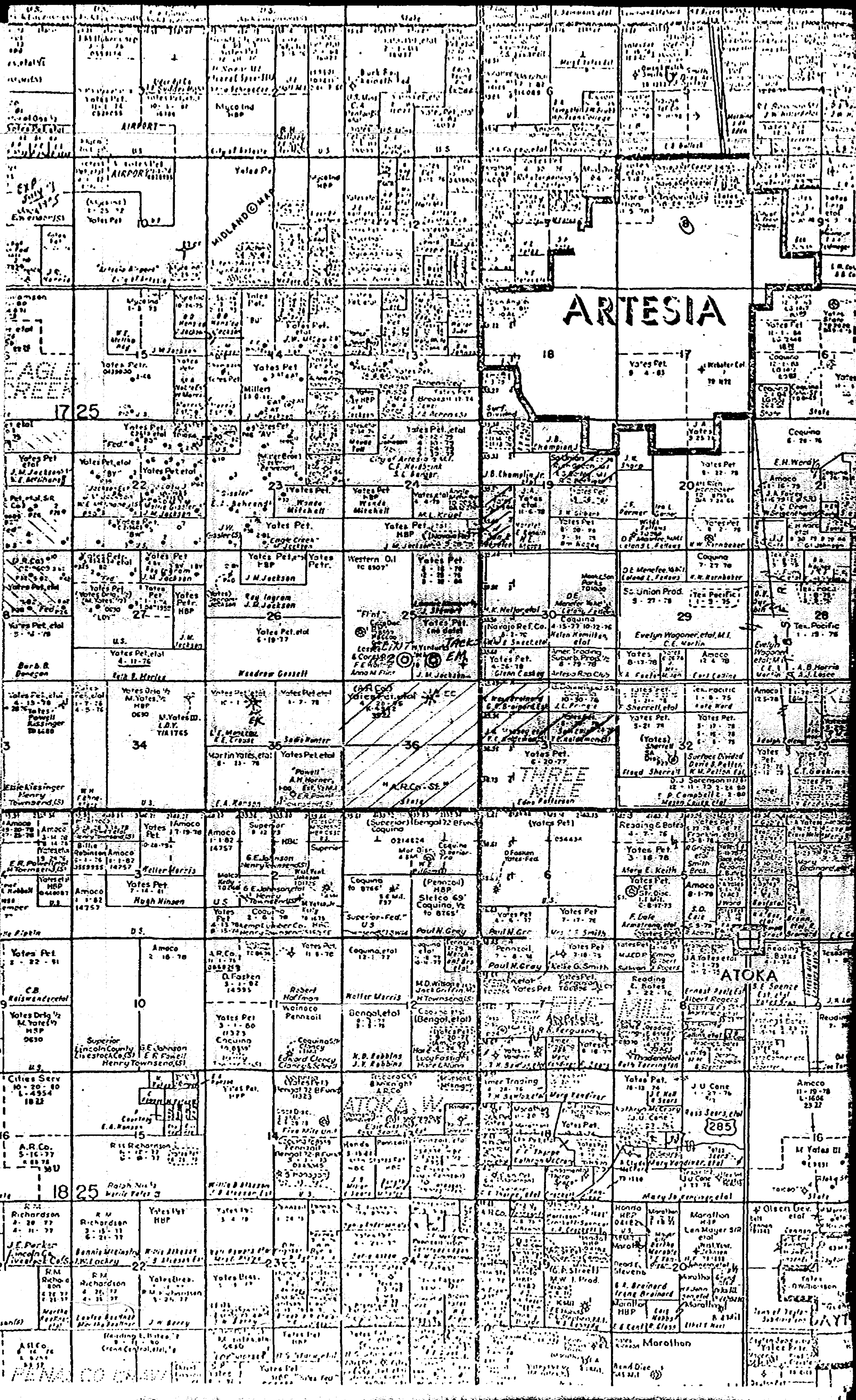
WESTERN OIL PRODUCERS, INC.

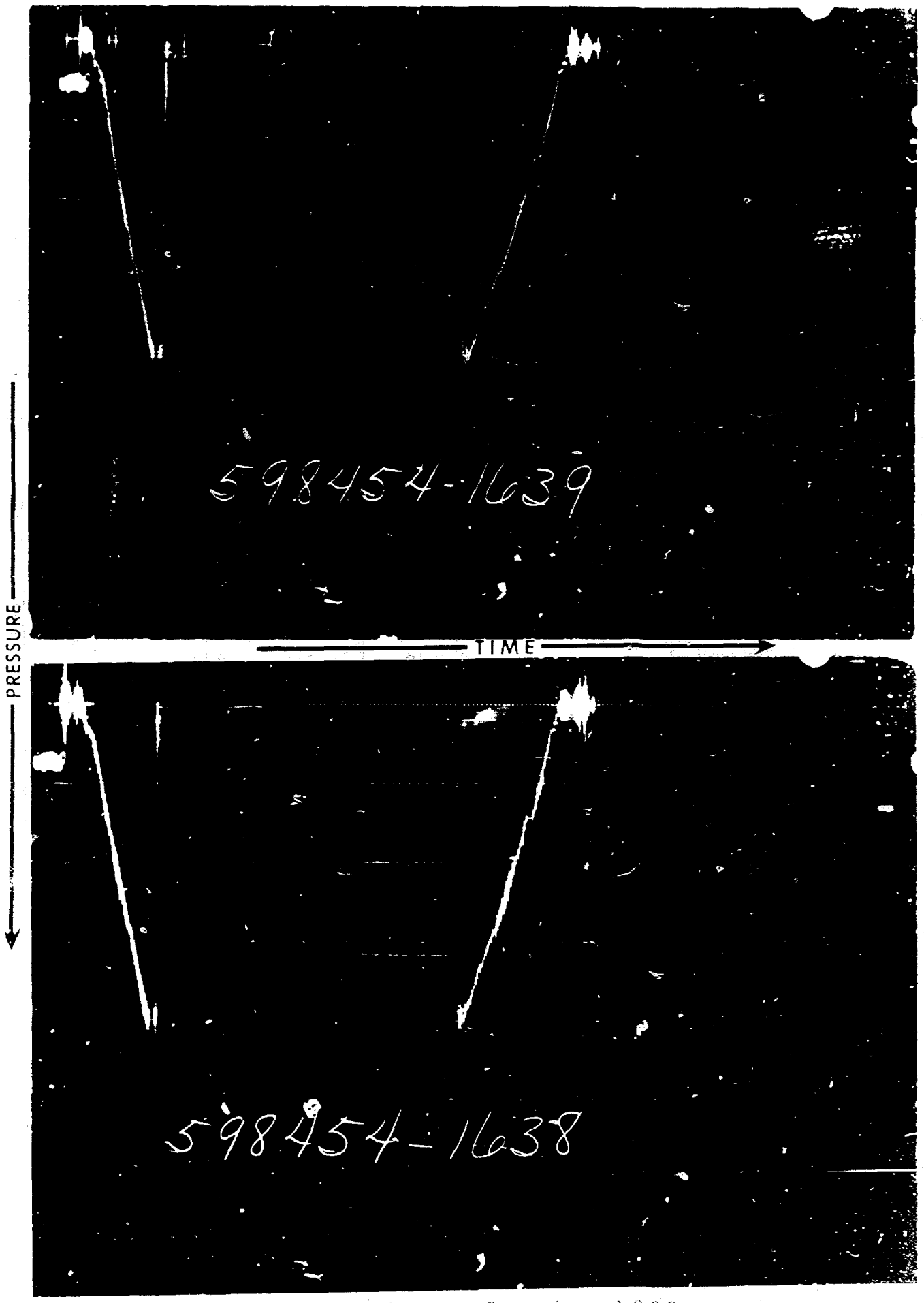
By Jason W. Kellahin

KELLAHIN & FOX
Post Office Box 1769
Santa Fe, New Mexico 87501

DOCKET MAILED

Date 6/18/75


ARTESIA
ATOKA
AIRPORT
MIDLAND MAP
Yates Pet.
Amoco
Coquina
Pennzoil
Superior
Marathon
"A.R.Co.-St."
State
U.S.
285



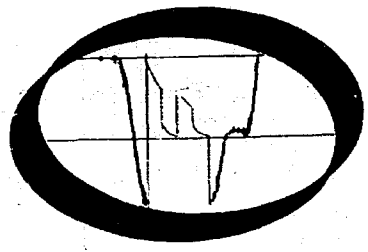
Each Horizontal Line Equal to 1000

Formation Testing Service Report

Before Examiner Stamets
WESTERN OIL PRODUCERS, INC.
OIL CONSERVATION COMMISSION

Exhibit No. 3

CASE NO. 5519
Submitted by
Hearing date 7-2-75



BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
applicants EXHIBIT NO. 3
CASE NO. 5519
Submitted by Raymond Lamb
Hearing Date July 2, 1975

HALLIBURTON SERVICES
DUNCAN, OKLAHOMA

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

		RESISTIVITY		CHLORIDE CONTENT
Recovery Water	____ @	____ °F.		____ ppm
Recovery Mud	____ @	____ °F.		____ ppm
Recovery Mud Filtrate	____ @	____ °F.		____ ppm
Mud Pit Sample	____ @	____ °F.		____ ppm
Mud Pit Sample Filtrate	____ @	____ °F.		____ ppm

Mud Weight 9.2 vis 48 cp

Date 3-5-74 Ticket Number 598454
Kind of Job OPEN HOLE Halliburton District ARTESIA
Tester MR. MURDOCK Witness MR. REYNOLDS
Drilling Contractor W & K DRILLING COMPANY BC S

EQUIPMENT & HOLE DATA

Formation Tested Morrow
Elevation 3467' GL Ft.
Net Productive Interval 24' Ft.
All Depths Measured From 12.60' Above Ground Level
Total Depth 8300' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 783' I.D. 2.25"
Drill Pipe Length 7517' I.D. 3.826"
Packer Depth(s) 8244' - 8250' Ft.
Depth Tester Valve 8222' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve
Surface Choke 1" ADJ. Bottom Choke .75"

Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

MAILED
MAR 13 1974
Halliburton Company
Duncan, Oklahoma

Remarks See production test data sheet.....

TEMPERATURE	Gauge No. 1639 Depth: 8227' Ft.	Gauge No. 1638 Depth: 8296' Ft.	Gauge No. Depth: Ft.	TIME
	24 Hour Clock	24 Hour Clock	Hour Clock	Tool Opened 1:15 P.M.
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off	Opened P.M.
Actual 136 °F.	Pressures	Pressures	Pressures	Bypass 9:50 P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		3970	3940	3946	3956				
First Period Flow	Initial	44	35	43	44			____	____
	Final	44	49	43	57			30	30
	Closed in	2922	2929	2910	2932			90	90
Second Period Flow	Initial	44	46	43	57 Q			____	____
	Final	10	24	10	35			60	60
	Closed in	3145	3158	3152	3170			335	336
Third Period Flow	Initial							____	____
	Final								
	Closed in								
Final Hydrostatic		3948	3920	3946	3940			____	____

Q = Questionable

FORM 161—PRINTED IN U.S.A.

FORMATION TEST DATA

LITTLE'S 99974 6M 8/73

Legal Location Sec. - Twp. - Rge. 25 - 17 - 25
Lease Name FLINT
Well No. 1
Test No. 4
Tested Interval 8250' - 8300'
Field Area WILDCAT
Map From Tester Valve
County EDDY
State NEW MEXICO
Lease Owner/Company Name WESTERN OIL PRODUCERS, INCORPORATED

Casing perfs. _____ Bottom choke _____ Surf. temp. _____ °F Ticket No. 598454

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
1:15					Opened tool with a fair blow
1:17	½"	0			Opened choke
1:41	½"	0			Reset choke
1:45					Closed tool
3:15					Opened tool with a strong blow
3:17	½"	20	51.45		Gas to surface
3:20	½"	18	48.51		Flaring gas
3:30	½"	11			Gas too small to measure
3:45	½"	6			"
4:00		3			"
4:15		1			Closed tool
9:50					Pulled tools

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PRODUCTION TEST DATA

LITTLE'S

7

Gauge No. 1639			Depth 8227'				Clock No. 6728			24 hour	Ticket No. 598454				
	First Flow Period		First Closed In Pressure			Second Flow Period		Second Closed In Pressure			Third Flow Period		Third Closed In Pressure		
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.
0	.0000	35	.0000		49	.0000	46	.0000		24					
1	.0162	38	.0302		496	.0335	38	.0470		1157					
2	.0323	42	.0604		914	.0670	29	.0941		1949					
3	.0485	46	.0906		1296	.1005	24	.1411		2494					
4	.0647	49	.1208		1657	.1340	24	.1882		2820					
5	.0809	49	.1510		1978	.1675	24	.2352		2982					
6	.0970	49	.1812		2268	.2010	24	.2822		3058					
7			.2114		2497			.3293		3096					
8			.2416		2678			.3763		3118					
9			.2718		2823			.4234		3129					
10			.3020		2929			.4704		3136					
11								.6048		3147					
12								.7392		3154					
13								.8736		3158					
14								1.0080		3156					
15								1.1290		3158					
Gauge No. 1638					Depth 8296'			Clock No. 4365			24 hour				
0	.0000	44	.0000		57	.0000	57 Q	.0000		35					
1	.0167	46	.0302		520	.0337	50	.0472		1140					
2	.0333	50	.0604		926	.0673	41	.0943		1956					
3	.0500	55	.0906		1302	.1010	35	.1415		2482					
4	.0667	55	.1208		1665	.1347	31	.1887		2811					
5	.0834	57	.1510		1980	.1684	33	.2358		2978					
6	.1000	57	.1812		2261	.2020	35	.2830		3060					
7			.2114		2498			.3302		3102					
8			.2416		2684			.3773		3126					
9			.2718		2829			.4245		3137					
10			.3020		2932			.4717		3143					
11								.6064		3150					
12								.7412		3161					
13								.8759		3166					
14								1.0107		3168					
15								1.1320		3170					
Reading Interval	5		9			10		*							Minutes

REMARKS: *First 10 intervals = 14 minutes each; next 4 intervals = 40 minutes each; last interval = 36 minutes

Q = Questionable

TICKET NO. 598454

	O.D.	I.D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	7517'	
Drill Collars	6 1/8"	2.25"	783'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.82"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	8222'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.75"	5'	8227'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	6'	8244'
Distributor				
Packer Assembly	6 3/4"	1.53"	6'	8250'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5 3/4"	2.87"	45'	
Blanked-Off B.T. Running Case	5 3/4"	2.50"	5'	8296'
Total Depth				8300'

FORM 187—PRINTED IN U.S.A.

EQUIPMENT DATA

LITTLE'S [illegible]

July 2, 1975

Western Union Telegram

Hanagan
Roswell, New Mexico

Docket No. 15-75, Case 5519, July 2, 1975, we object in principle to:

1. The approval for an unorthodox gas well location of a proposed oil test well in advance of the completion of said oil test well.

2. Any gas well from the Pennsylvanian and deeper being located less than 660 feet (other than for recognized reasons, i.e. topographic) from a dedicated unit boundary line.

Signed: Hanagan

TELEGRAM JUNE 30, 1975

MIDLAND, TEXAS FROM ATLANTIC RICHFIELD CO.

This is to advise the Commission that Atlantic Richfield Co. as a leasholder owner in Section 36, Township 17 South, Range 25 East, Eddy County, New Mexico strongly objects to the application of West Oil Producers, Inc. Case No. 5519 docketed for hearing before the Commission July 2, 1975,at 9 a.m. for an unorthodox Morrow well location as set out in said application. We object in principle to any Morrow location which is less than 660 feet of a lease boundary line of the acreage to be dedicated to such well.

S/ Atlantic Richfield Company

Telegram will be mailed.

western union **Mailgram**

MGMABQA ABQ
2-043464E181 06/30/75
ICS IPMBNGZ CSP
9156828631 MGM TDBN MIDLAND TX 100 06-30 0444P EST
ZIP

NEW MEXICO OIL CONSERVATION COMMISSION, FONE
PO BOX 2088
SANTA FE NM 87501

THIS IS TO ADVISE THE COMMISSION THAT ATLANTIC RICHFIELD COMPANY AS A LEASEHOLD OWNER IN SECTION 36 17-S, 25-E, EDDY COUNTY NEW MEXICO STRONGLY OBJECTS TO THE APPLICATION OF WESTERN OIL PRODUCERS INC. CASE #5519 DOCKETED FOR HEARING BEFORE THE COMMISSION JULY 2 1975 AT 9AM FOR AN UNORTHODOX MORROW WELL LOCATION AS SET OUT IN SAID APPLICATION. WE OBJECT IN PRINCIPLE TO ANY MORROW LOCATION WHICH IS LESS THAN 660 FEET OF A LEASE BOUNDARY LINE OF THE ACREAGE TO BE DEDICATED TO SUCH A WELL
ATLANTIC RICHFIELD CO

1645 EST

MGMABQA ABQ

TO REPLY BY MAILGRAM, PHONE WESTERN UNION TOLL FREE ANY TIME, DAY OR NIGHT:

ALABAMA	800 325 5300
ARIZONA	800 648 4100
ARKANSAS	800 325 5100
CALIFORNIA	800 648 4100
COLORADO	800 325 5400
CONNECTICUT	800 257 2211
DELAWARE	800 257 2211
DISTRICT OF COLUMBIA	800 257 2211
FLORIDA	800 325 5500
GEORGIA	800 257 2231
IDAHO	800 648 4100
ILLINOIS	800 325 5100
INDIANA	800 325 5200
IOWA	800 325 5100
KANSAS	800 325 5100
KENTUCKY	800 325 5100
LOUISIANA	800 325 5300
MAINE	800 257 2231
MARYLAND	800 257 2211
MASSACHUSETTS	800 257 2221
MICHIGAN	800 325 5300
MINNESOTA	800 325 5300
MISSISSIPPI	800 325 5200
MISSOURI	800 342 5700
MONTANA	800 325 5500
NEBRASKA	800 325 5100
NEVADA	800 992 5700
NEW HAMPSHIRE	800 257 2221
NEW JERSEY	800 632 2271
NEW MEXICO	800 325 5400
NEW YORK	
Areas 315, 518, 607 & 716	800 257 2221
Areas 212, 516 & 914	800 257 2211
Except Manhattan	962 7111
Bronx	962 7111
Queens	459 8100
Brooklyn	459 8100
NORTH CAROLINA	800 257 2231
NORTH DAKOTA	800 325 5400
OHIO	800 325 5300
OKLAHOMA	800 325 5100
OREGON	800 648 4100
PENNSYLVANIA	
Areas 215 & 717	800 257 2211
Areas 412 & 814	800 257 2221
RHODE ISLAND	800 257 2221
SOUTH CAROLINA	800 257 2231
SOUTH DAKOTA	800 325 5300
TENNESSEE	800 325 5100
TEXAS	800 325 5300
UTAH	800 648 4100
VERMONT	800 257 2221
VIRGINIA	800 257 2221
WASHINGTON	800 648 4500
WEST VIRGINIA	800 257 2221
WISCONSIN	800 325 5200
WYOMING	800 648 4500

OR DIAL WESTERN UNION'S INFOMASTER SYSTEM DIRECTLY:

FROM TELEX 6161

FROM TWX 910 420 1212

Western Union Telegram

RECEIVED
JUL 1 - 1975
OIL CONSERVATION COMMISSION
1975 JUL -1 PM 12:57

IPMFEKA SANA
2-023498A182 07/01/75
ICS IPMAYKA ABQ
01039 ARTESIA NMEX 84 07-01 1231P MDT
PMS JOE D RAMEY, DLR
NM OIL CONSERVATION COM STATE LAND OFC BLDG
SANTA FE NMEX 87501
BE ADVISED THAT LONNIE KEMPER, A MINERAL OWNER IN THE EAST HALF OF SECTION 25 TOWNSHIP 17 SOUTH RANGE 25 EAST EDDY COUNTY NM VIGOROUSLY OBJECTS TO THE APPLICATION OF WESTERN OIL PRODUCERS INC CASE #5519 TO BE HEARD BEFORE THE COMMISSION JULY 2, 1975 FOR AN UNORTHODOX MORROW WELL LOCATION. I OBJECT IN PRINCIPLE TO ANY MORROW GAS LOCATION LESS THAN 660 FT FROM A LEASE BOUNDARY LINE OF THE ACREAGE TO BE DEDICATED TO WELL
LONNIE KEMPER BOX 1105 ARTESIA NM

1352 EST

IPMFEKA SANA

807-34

Western Union Telegram

1975 JUN 30 PM 3:53

IPMFEKA SANA
2-043446E181 06/30/75
ICS IPMBNGZ CSP
9156828631 TDBN MIDLAND TX 87 06-30 0443P EST
PMS NEW MEXICO OIL CONSERVATION COMMISSION, FONE, DUPLICATE
PO BOX 2088
SANTA FE NM 87501
THIS IS TO ADVISE THE COMMISSION THAT ATLANTIC RICHFIELD COMPANY AS A LEASEHOLD OWNER IN SECTION 36 17-S, 25-E, EDDY COUNTY NEW MEXICO STRONGLY OBJECTS TO THE APPLICATION OF WESTERN OIL PRODUCERS INC. CASE #5519 DOCKETED FOR HEARING BEFORE THE COMMISSION JULY 2 1975 AT 9AM FOR AN UNORTHODOX MORROW WELL LOCATION AS SET OUT IN SAID APPLICATION. WE OBJECT IN PRINCIPLE TO ANY MORROW LOCATION WHICH IS LESS THAN 660 FEET OF A LEASE BOUNDARY LINE OF THE ACREAGE TO BE DEDICATED TO SUCH A WELL
ATLANTIC RICHFIELD CO

1649 EST

IPMFEKA SANA

TIME 4:00 P
TO NMOCC Santa Fe
BY Mia

Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Re: OCC Case 5519
Examiner's Docket July 2, 1975

Gentlemen:

The captioned case involves the application of Western Oil Producers, Inc. for an unorthodox gas well location, Eddy County, New Mexico. The proposed unorthodox location would be 660 feet from the south line and 330 feet from the east line of the W½ Section 25, which would be dedicated to the well in the event it is completed as a gas well in the Morrow formation. All of the undersigned parties have interests in the N½ Section 36, Township 17 South, Range 25 East which adjoins Section 25 on the south and upon which a gas well has been completed producing from the Morrow formation, said well being located 660 feet from the north line of the N½ said Section 36.

All of the undersigned parties respectfully request that the Commission not approve any unorthodox well location for the Morrow formation which is closer than 660 feet from any boundary line of the tract to be dedicated to the well. The approval of the unorthodox gas well location for the Morrow formation covered by the subject application will, in the opinion ofthe undersigned, give the applicant an undue advantage which cannot be properly offset by a penalty factor or otherwise.

Respectfully submitted,

FRANKLIN, ASTON & FAIR

By Tom P. Stephens

R. R. Aston

R. R. Aston

Rogers Aston

Rogers Aston, Trustee for Aston Trust No. A

Rogers Aston

Rogers Aston, Trustee for Aston Trust No. B

Tom P. Stephens

Tom P. Stephens

CASE 5517: Application of Petro Lewis Corporation for an unorthodox oil well location, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of an oil well to be drilled 1305 feet from the North line and 2310 feet from the East line of Section 22, Township 19 North, Range 3 West, Southwest Media-Entrada Oil Pool, Sandoval County, New Mexico.

CASE 5512: Application of NRM Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox gas well location, as amended, for a well to be drilled at a point 910 feet from the North line and 660 feet from the West line of Section 33, Township 20 South, Range 30 East, Golden Lane Gas Field, Eddy County, New Mexico.

CASE 5508: Application of Dugan Production Corporation for a non-standard gas proration unit, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 160-acre non-standard gas proration unit comprising the SW/4 of Section 14, Township 24 North, Range 5 West, Basin-Dakota Pool, Rio Arriba County, New Mexico, to be dedicated to a well at a standard location in Unit L of said Section 14.

CASE 5518: Application of Anadarko Production Co. for two waterflood projects and an administrative procedure, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute two waterflood projects in the Square Lake Pool by injection of water into the Grayburg-San Andres formations through its Kennedy Well No. 1, located in Unit M of Section 21, and its Baxter "A" Federal Well No. 1, located in Unit O of Section 20, both in Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the adoption of an administrative procedure whereby the aforesaid projects as well as those projects operated under authority of Orders Nos. R-2920, R-2977, and R-3677 could be combined for purposes of operation, control, and reporting, and whereby additional wells could be placed on injection or production without notice and hearing.

CASE 5519: Application of Western Oil Producers, Inc. for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox gas well location of a proposed Devonian oil test well, in the event said well should also be completed as a gas well in the Morrow formation, said well to be located 660 feet from the South line and 2310 feet from the West line of Section 25, Township 17 South, Range 25 East, West Atoka-Morrow Gas Pool, Eddy County, New Mexico.

CASE 5520: Application of Yates Petroleum Corporation for two unorthodox gas well locations, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of two proposed gas wells, the first being 1980 feet from the North line and 660 feet from the West line of Section 31, Township 17 South, Range 26 East, West Atoka-Morrow Gas Pool, Eddy County, New Mexico, to have dedicated the N/2 of said Section 31; and the second being 880 feet from the South line and 660 feet from the West line of said Section 31, to have dedicated the S/2 of said Section 31.

BEFORE THE

OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF WESTERN OIL PRODUCERS, INC.,
FOR APPROVAL OF AN UNORTHODOX WELL
LOCATION, EDDY COUNTY, NEW MEXICO

A P P L I C A T I O N

COMES NOW WESTERN OIL PRODUCERS, INC., and applies to the Oil Conservation Commission of New Mexico for approval of an unorthodox well location in the west Atoka-Morrow Gas Pool, Eddy County, New Mexico, and in support thereof would show the Commission:

1. Applicant proposes to drill a well of sufficient depth to test the Morrow formation at a location 2310 feet from the West line and 660 feet from the South line of Section 25, Township 17 South, Range 25 East, N.M.P.M., Eddy County, New Mexico, within one mile of the exterior boundaries of the West Atoka-Morrow Gas Pool.

2. Applicant will also test the Devonian formation and the location appears better for that formation, thus preventing the drilling of an unnecessary well, and preventing waste.

3. The proposed location will result in the production of hydrocarbons from the Morrow formation that would not otherwise be recovered, will prevent waste, and the correlative rights of offset operators will not be impaired by approval of the proposed location.

WHEREFORE applicant prays that this application be set for hearing before the Commission's duly appointed examiner, and that after notice and hearing as required by law the Commission enter its order approving the proposed location.

Respectfully submitted,

WESTERN OIL PRODUCERS, INC.

By Jason W. Kellahin

KELLAHIN & FOX
Post Office Box 1769
Santa Fe, New Mexico 87501

BILL GRESSETT

Dan

I thought you might
be interested in this

Bill

Case 5519
Recd SF OCC
6/10/75

LAW OFFICES OF
HUNKER, FEDRIC & HIGGINBOTHAM, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
RONALD M. HIGGINBOTHAM

TELEPHONE 622-2700
AREA CODE 505

May 28, 1975

RECEIVED MAY 30 1975

Western Oil Producers, Inc.
1200 South Richardson Ave.
Roswell, New Mexico 88201

RECEIVED
JUN 6 1975
O. C. C.
ARTESIA, OFFICE

Attention: Mr. Ken Reynolds

Re: Proposed #1 Flint
2310 FWL - 330 FSL
Sec. 25, T-17-S, R-25-E
Eddy County

Gentlemen:

We have been employed as special counsel by Yates Petroleum Corporation to advise your Company with respect to Yates' position concerning the drilling of a "Devonian" test well at the above location. The well is located in an area presently productive of gas in the Morrow formation and is within 990 feet, more or less, of one Yates well to the east and is 990 feet north and 990 feet west of another producing Morrow well owned by Yates or operated by Yates. Our client believes that your well may reasonably be presumed to be productive of gas rather than oil. Gas wells projected to formations of the Pennsylvanian age or older are required by the regulations to be located no closer than 660 feet to the nearest side boundary. Yates puts you on notice that it will object to the assignment of a Morrow allowable to your well at this location, and reserves the right to object to the completion in the Morrow formation and the right to urge that the New Mexico Oil Conservation Commission impose other penalties should your Company disregard the purposes and intent of the spacing and location rules and regulations.

It is hoped that you will see fit to change your location to one which will be less disturbing to the rights of the adjoining owners.

Respectfully submitted,

HUNKER, FEDRIC & HIGGINBOTHAM, P.A.

George H. Hunker, Jr.

GHH:dd
cc: Yates Petroleum Corp.

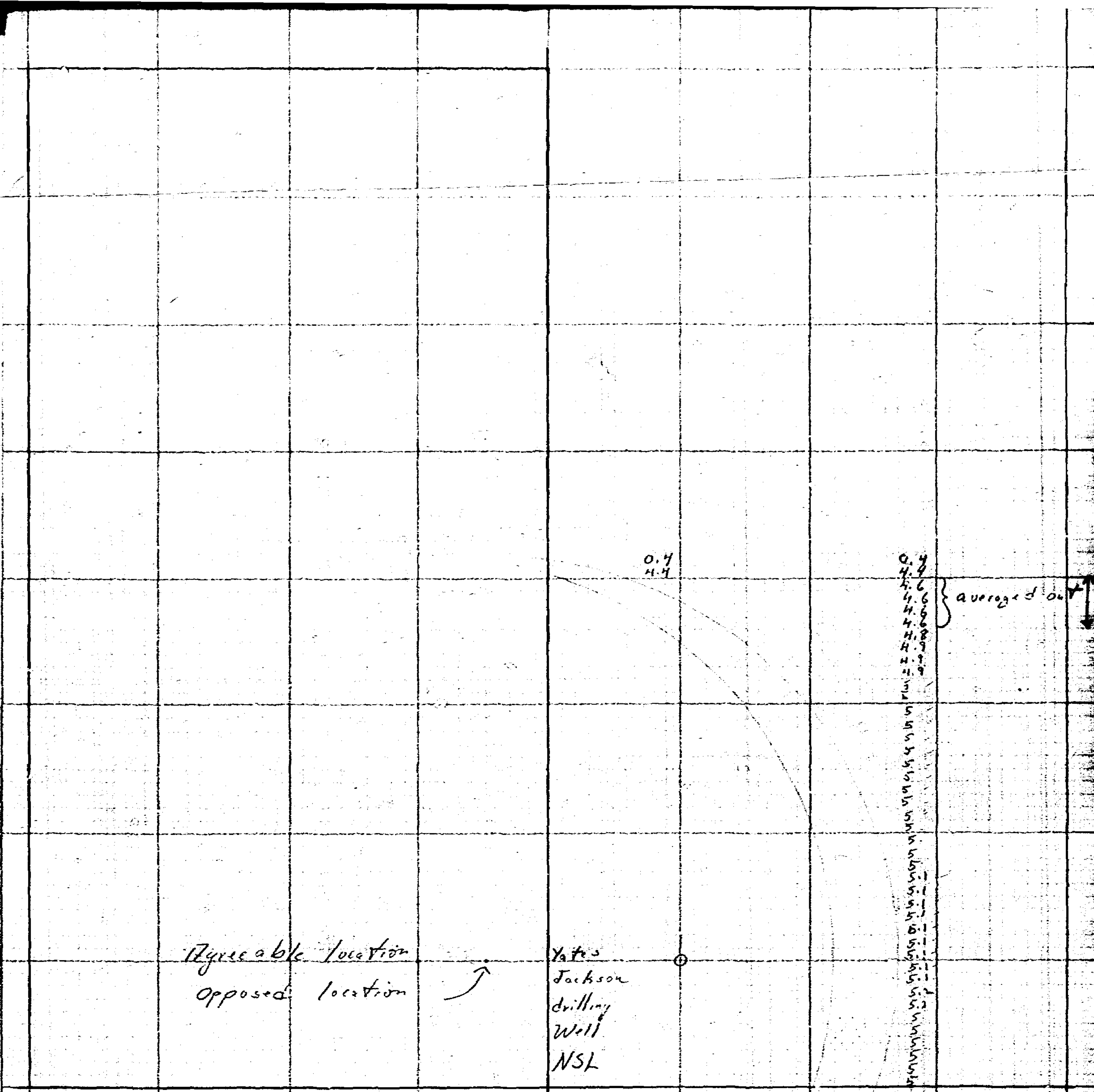
Case 5519

Western Oil Producers Inc
unorthodox gas

Morrow W Atoka-Morrow
25 17S 25E
660 FSL
2310 FWL appl w/ follow-Jason K

Application of Western Oil Producers Inc for an unorthodox gas well location, Eddy County, New Mexico

Applicant in the above styled cause, seeks approval for the unorthodox gas well location of ~~the First well to be drilled~~ a proposed Devonian oil test well, in the event said well should also be completed as a gas well in the ~~S~~ Morrow formation, said well to be located 660 feet from the south line and 2310 feet from the west line of Sec 25, T 17S, R 25E ~~S~~ West Atoka Morrow Gas Pool, Eddy County, New Mexico,



3200 squares = 320 acres
Radius of 320 acre Circle
= 32

Radial drainage infringes additional 204 squares at 330
location than at 660. 204 squares = 6.4% of 3200
Squares or 320 acres

DRAFT

RLS/jr

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. 5519

Order No. R-5068

APPLICATION OF WESTERN OIL PRODUCERS,
INC. FOR AN UNORTHODOX GAS WELL
LOCATION, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 2, 19 7
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of July, 19 75, 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, Western Oil Producers, Inc., seeks approval of an unorthodox gas well location of a proposed Devonian oil test well, in the event said well should also be completed as a gas well in the Morrow formation, 660 feet from the South line and 2310 feet from the West line of Section 25, Township 17 South, Range 25 East, NMPM, West Atoka-Morrow Gas Pool, Eddy County, New Mexico.

(3) That the W/2 of said Section 25 is to be dedicated to the well.

(4) That a well at said unorthodox location will better enable applicant to produce the gas underlying the proration unit.

(5) That in and adjacent to the West Atoka-Morrow Gas Pool the primary producing interval is a channel sand or sands of limited lateral extent.

(6) That in said pool, to develop and drain their acreage, most operators have drilled and completed wells located within 660 feet of the end line of their 320-acre drilling tract.

(7) That no operator has objected, or in this case objects to, the drilling of a well in or adjacent to said pool at a location within 660 feet of any 320-acre gas proration unit boundary for said pool.

(8) That an offset operator with interests in the West Atoka-Morrow Gas Pool in the E/2 of Section 25 and the N/2 of Section 36, Township 17 South, Range 25 East, NMPM, Eddy County, New Mexico, has objected to the proposed location being closer than 660 feet to the East line of the proposed proration unit.

(9) That said offset operator does not object to said well being located within 660 feet of the South line of the proposed gas proration unit.

(10) That a well at the proposed location will have an area of drainage in the Morrow formation which extends 20 net acres into the E/2 of Section 25, Township 17 South, Range 25 East, NMPM, more than a well located 660 feet from the center line of said Section 25.

(11) That to offset the advantage gained over the protesting offset operator, production from the well at the proposed unorthodox location should be limited from the Morrow formation.

(12) That such limitation should be based upon the 20 net acre encroachment described in Finding No. (10) above, and may best be accomplished by assigning a well at the proposed location a ratable take factor of 0.94 (320 minus 20, divided by 320).

(13) That approval of the subject application subject to the above limitation will afford the applicant the opportunity to produce its just and equitable share of the gas in 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 will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That an unorthodox gas well location of a proposed Devonian oil test well, in the event said well should also be completed as a gas well in the Morrow formation, is hereby approved for a well to be located at a point 660 feet from the South line and 2310 feet from the West line of Section 25, Township 17 South, Range 25 East, NMPM, West Atoka-Morrow Gas Pool, Eddy County, New Mexico.

(2) That the W/2 of said Section 25 shall be dedicated to the above-described well.

(3) That said well is hereby assigned a ratable take factor of 0.94 in the Morrow formation, and the operator of the well, upon completion and connection thereof to a gas pipeline, shall notify the gas purchaser of the ratable take factor.

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

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