CASE 5629: (Reopened)

In the matter of Case 5629 being reopened pursuant to the provisions of Order No. R-5192, which order established temporary special pool rules for the Chacon-Dakota Oil Pool, Rio Arriba and Sandoval Counties, New Mexico. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 5889: (Continued & Readvertised)

Application of Saturn Oil Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down to and including the Abo formation underlying the NE/4 SE/4 of Section 11, Township 23 South, Range 37 East, Lea County, New Mexico, to be dedicated to its Lineberry Well No. 1 located in Unit I of said Section; and underlying the NW/4 SE/4 of said Section 11 to be dedicated to its Lineberry Well No. 2 located in Unit J of said Section. In the event re-entry into either well is unsuccessful, applicant proposes to drill a replacement well at a standard location on its tracts. Also to be considered will be the costs of recompletion or drilling and completing said wells and the allocation of the costs thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the wells and a charge for risk involved in recompletion or drilling of said wells.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 20, 1977

EXAMINER HEARING

IN THE MATTER OF:	)	
Application of Odessa Natural Gas Co. for special pool rules, Rio Arriba County, New Mexico.	)	CASE 5911
Case 5629 being reopened pursuant to the provisions of Order No. R-5192, which order established temporary special pool rules for the Chacon-Dakota Oil Pool, Rio Arriba County, New Mexico.	)	CASE 5629 (Reopened)

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: Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: Owen M. Lopez, Esq.
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I N D E X

EXHIBIT INDEX

MR. STAMETS: I believe without objection the Commission will call these next two Cases, 5911 and 5629 and consolidate those for purposes of testimony. Is there any objection to that? We will call both of those cases then.

MS. TESCHENDORF: Case 5911, application of Odessa Natural Gas Company for special pool rules, Rio Arriba County, New Mexico.

Case 5629 in the matter of Case 5629 being reopened pursuant to the provisions of Order No. R-5192, which order established temporary special pool rules for the Chacon-Dakota Oil Pool, Rio Arriba and Sandoval Counties, New Mexico.

MR. STAMETS: Call for appearances in these cases.

MR. LOPEZ: If the Examiner please, my name is Owen Lopez with the law firm of Montgomery, Andrews and Hannahs appearing on behalf of the applicant in Case Number 5911, Odessa Natural Gas Company, and also on behalf of that same company as an interested party in Case 5629.

Also, Mr. Examiner, we will propose to introduce two exhibits with respect to our application in Case 5911. We would also like them to be considered as exhibits in Case 5629 if there is no objection.

MR. STAMETS: These should be marked with both case numbers.

MR. LOPEZ: Right, we will so do.

MR. STAMETS: Are there any other appearances in

these two cases?

MR. MILLER: Gilbert Miller, Amerada Hess, we wish to make a statement.

MR. STAMETS: Any other appearances?

MR. THOMAS: Dave Thomas, independent producer, I would like to make a statement.

MR. STAMETS: Mr. Lopez, you may proceed.

MR. LOPEZ: Thank you, Mr. Examiner.

EWELL N. WALSH

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

DIRECT EXAMINATION

BY MR. LOPEZ:

Q. Would you please state your name, residence, by whom you are employed and in what capacity?

A. My name is Ewell N. Walsh, my residence is 925 East Navajo, Farmington, New Mexico and I'm President of Walsh Engineering and Production Corporation in Farmington, New Mexico.

Q. Are you familiar with the application of Odessa Natural Gas Company in Case 5911 and the Order to show cause of hearing in Case 5629?

A. Yes, I am.

MR. LOPEZ: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q. (Mr. Lopez continuing.) Mr. Walsh, would you please describe what Odessa Natural seeks with this application in Case 5911?

MR. STAMETS: I don't believe the witness has been sworn in this case.

MR. LOPEZ: No, I don't believe he has.

(THEREUPON, the witness was duly sworn.)

MR. STAMETS: Are the answers to Mr. Lopez' questions to this point the same answers that you gave the first time?

THE WITNESS: Yes, they are.

A. In Case 5911 Odessa Natural Gas Company requests special pool rules in the area that is now currently called Chacon-Dakota Oil Pool. These pool rules are to provide for a hundred and sixty acre spacing or proration unit in what we have determined to be an oil portion of the pool and re-classification of wells in what we call the gas portion of the pool from oil to gas and removal of such gas wells from the oil pool into the Basin-Dakota Gas Pool.

Q. (Mr. Lopez continuing.) Now, if you will refer to Exhibit Number One, does this help support the application and will you please describe the exhibit and what it shows?

A. This exhibit basically is for the Township 23 North, Range 3 West and certain portions around that township. On the map are indicated the wells that have been currently

completed in the reservoir and the wells that are proposed to be drilled by the operators. The wells that are completed are the solid dots. The proposed locations are your circles, for the various operators.

Your lines going across the map is what we call a structure map. This structure is as determined on what is called the top of the Graneros formation or the base of the Greenhorn as it appears on the logs that were run in the well at that depth in relation to sea level, therefore, you have varying figures there from plus three fifty down to zero or sea level.

Also on this map you will notice that with each well in the most cases, you have at least two and sometimes three figures. The top figure is the February GOR for the well. The second figure is the API gravity at sixty degrees of the oil or condensate produced. The third figure is the pour point of the oil in terms of the degrees Fahrenheit.

Now, on the left-hand portion there you notice that there are no numeral values. All of these wells had a pour point less than zero. The numeral value that is on the other side on the three wells indicate pour points of twenty degrees Fahrenheit and forty degrees Fahrenheit.

The two wells, the Amerada I-3 located in the southeast quarter of Section 15, I believe, 14, does not have this value nor the Mobil well in the southwest quarter of

Section 13 due to oil samples were not taken on these wells. The gravities are from, based on the run tickets determination, at API degrees of sixty degrees.

Through this grouping of wells you have a line going from the northwest down to the southeast. This is what we have determined and are estimating the position of a fault. As you see the structure lines tend to vary coming into that fault area.

This map has all of the current wells in the area. At the call of the original hearing we only had three wells to work with a year ago. The one is the Thomas D No. 1, an Odessa D No. 1 and the Odessa D No. 2. Those were the three wells that were completed at that time. Right now, including Chace wells that have been completed, there are sixteen wells completed.

We have presented this information concerning the GOR's and the oil like this to indicate that we believe that we have two separate pools at the present time. Further evidence of this would be on the March production in which the wells to your left-hand side of the fault, their GOR's have even increased somemore. The wells, the GOR's on what we call oil wells, are on the right-hand side and are relatively the same, there is not much change.

In addition to the oil analysis, the examination of the gas analysis performed by El Paso Natural Gas Company who

is a purchaser of the gas, there is a difference in the natural gas content, especially in the methane.

On the oil side, all of the wells are pumping. There is one well that is capable of selling gas into a pipeline and that's Odessa's D No. 3 which is located in the northwest quarter of Section 23 of 23 North, 3 West. All of the other wells to the right of the fault are pumping and produce very nominal amounts of gas, in fact, the Mobil well is almost nil. They hardly have enough to run the pumping unit. The Amerada well is practically nil, they don't have too much gas there either.

I would like now to go to Exhibit Number Two.

Q. Before we go to Exhibit Number Two let's describe for the record the specific lands which you propose to have redesignated in the Basin-Dakota Gas Pool and withdrawn from the Chacon-Dakota Oil Pool and which lands you propose to leave on the designation as the Chacon-Dakota Pool.

A. For redesignation into the Basin Dakota Gas Pool I would recommend that all of Section 9, all of Section 15, all of Section 16, the east half of Section 21 and all of Section 22. These, either full sections or three hundred and twenty acres, all have what we call a gas well producing in either half of the section or the half.

Q. Now, with respect to the lands that will remain within the Chacon-Dakota Oil Pool, will you describe those?

A. The land that will remain in the Chacon-Dakota Oil Pool, this would be all of the west half and the southeast quarter of Section 14 and the southwest quarter of Section 13 and the north half of Section 23.

Q. Now, referring to Exhibit Two would you describe it?

A. Exhibit Two, if I may, is a cross section prepared from the logs run on the Odessa Natural D No. 2 and this well is located in the southeast quarter of Section 16. The Odessa D No. 1 located in the southeast quarter of Section 15; the Odessa D No. 3 located in the northwest quarter of Section 23. These are designated from left to right across this exhibit.

The producing intervals for this area we call the Dakota "A" and the Dakota "B" intervals. These are indicated on the logs as "A" or "B" and also the "A" in connection between wells there is cross hatched in red, the "B" in green. The other intervals that are indicated on these logs, the "D" and the "DC", the Dakota "D" in the Odessa D No. 1 was perforated, it was acidized and swabbed back but was determined to be nonproductive. It was almost like a barren reservoir.

The Burro Canyon member of the Dakota is considered to be water bearing, therefore, our main producing horizons are the Dakota "A" and "B".

Throughout this area basically your Greenhorn section

which is in the Odessa D No. 2 is from seventy-two fifty to seventy-three ten. It will be of approximately sixty to sixty-five feet interval. That is pretty well through in this one, in the Odessa D 2 and the Odessa D 3. However, in the Odessa D 1, the middle log of these three, we are missing about twenty feet. This was kind of confusing at the time but at the time the well was drilled and we had essentially only three wells in the pool area. The completion method for these wells is to frac the "B" zone by itself with approximately forty thousand gallons and forty thousand pounds and the "A" zone with approximately eighty thousand gallons and eighty thousand pounds.

After the development of the area and we started seeing our GOR's increase on the left-hand side of that fault and our GOR's remaining relatively the same on the right-hand side especially where structuraly-wise you can be at the same level, we were having a well structurally the same level on the oil side producing oil and pumping and a very low gas-oil ratio over on what we call the gas side we had a high GOR flowing.

With geological work it was determined we had to have a barrier and we had to have a fault in the Odessa D No. 1 as evidenced by this cross section in Exhibit Number Two and this was given as a barrier between what we call the oil side and the gas side. The throw of the fault is sufficient to

give, evidently, as far as we can tell, a complete barrier.

Q. In the event your application is granted to re-designate the wells on the west side of the fault as gas wells and to be placed in a gas pool, is it your opinion that the Basin-Dakota gas rules should apply to these wells and if so, should there be any exceptions to the rules as they now stand?

A. The Basin-Dakota Gas Pool Rules should apply with possibly the one exception which is due to the under-developed area we have here, we have not even outlined what is considered as productive area yet, essentially there has not been a dry hole drilled, would be to, instead of the rule where you can drill within a hundred and thirty feet of a quarter-quarter line within a section, that that should be changed to three hundred and thirty in the event that a well is drilled and comes up maybe like an oil well it still could be an orthodox location.

Q. Do you feel that another exception should be granted with respect to grandfathering in the present locations of these gas well if they are not drilled with standard locations?

A. Yes, for those wells which are currently drilled or locations prepared and approved that are not located as orthodox wells and under the Basin-Dakota gas rules that they should be automatically approved by the rules and regulations for this area.

Q. Now, referring to Case 5629, the order to show cause

case, what is your opinion as to the spacing that should be applied to the oil field or to the area east of the fault line?

A. In my opinion, the area, the proration unit should be assigned a well in what we call the oil portion. It should be a hundred and sixty acres.

Q. What is your reason for reaching that conclusion?

A. Basically right now my main reason is on economics. These wells cost approximately, an average, two hundred and eighty thousand dollars to drill and complete and be put on production.

A volumetric reservoir reserve calculation for the oil side, I calculated approximately eighty-eight thousand barrels of oil under a hundred and sixty acre tract, applying a current value of, excuse me, all of these leases down there have sixteen and two-thirds royalty with the Indian tribe involved and applying the net oil to the working interest would be some seventy-four thousand barrels. Using the current value of ten dollars and sixty-nine cents a barrel, this oil would have a value of seven hundred and eighty-seven thousand dollars. After making allowance for production taxes and operating costs which come to approximately a hundred and seventy-five thousand dollars you have a net income of working interest of six hundred and twelve thousand dollars. This is if you got every drop of oil of that eighty-eight thousand barrels.

Well for that much, if you are going to earn that

much income and you are going to take two hundred and eighty thousand dollars, essentially you are getting a two point two return, rate of return on your money, but even appling a further factor of bringing that to a present discounted income which is some three hundred and thirty-seven thousand dollars you only have a rate of return of one point two. In addition to that at this present time with the newness of the field and the knowledge we have I believe the well should drain a hundred and sixty acres. This formation is tight as we know Dakota formations. However, through visual observations of cores that have been obtained in these producing intervals there is a natural fracturing, therefore, this has given us our pipeline to produce through and with this knowledge I would say that I believe a hundred and sixty acre proration unit is a satisfactory proration unit for the oil wells.

Q. Do you have an opinion as to what the yardstick measure is with respect to the minimal economic return a reasonably prudent operator would have to expect before he drilled such a well?

A. The minimum for this type of a well would be approximately four to one.

Q. Do you believe it is economically feasible to develop this pool on forty acre spacing?

A. No.

Q. Do you believe it is economically feasible to develop

a pool on eighty acre spacing?

A. No, I do not.

Q. Are there other oil pools in the vicinity presently on one hundred and sixty proration spacing?

A. Yes, the Lindrith-Gallup-Dakota West Oil Pool is a hundred and sixty acre proration unit. The Lindrith-Gallup-Dakota South Oil Pool also has a hundred and sixty acre proration unit and these two pools lie within eight to ten miles of that area.

Q. Were Exhibits One and Two prepared by you or under your supervision?

A. They were.

MR. LOPEZ: I would like to introduce Exhibits One and Two.

MR. STAMETS: These Exhibits will be admitted.

(THEREUPON, applicant's Exhibits One and Two were admitted into evidence.)

Q. (Mr. Lopez continuing.) Mr. Walsh, if our application is granted and the order to show cause is denied, in your opinion would this prevent waste and protect correlative rights?

A. Yes, sir.

MR. LOPEZ: I have nothing further of this witness.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Walsh, in looking at your Exhibit Number One it

would appear that all of the development up to this time would fit into a hundred and sixty acre spacing pattern pretty well, it doesn't look like there are any wells, any situations where we would have two wells completed on a hundred and sixty, is that correct?

A. No, there are no two wells on a one sixty. However, the development on what we call the gas side, we believe that three hundred and twenty acres at the present time is the proper spacing or whatever you want to call it to be developed on there.

Q. In talking about the gas side, you know our statewide rules define a gas well in an oil pool of having a GOR of one hundred thousand to one?

A. Yes, sir.

Q. And on your gas side here I see a range of four thousand seven hundred and thirty to like thirty-one thousand four hundred. I also see some interesting variations. In Sections 21 and 22 you have a couple of relatively low gas-oil ratio wells and you move up north of that and you run across four higher gas-oil ratio wells, including the highest. If you continue further north then you drop back down. Here's one with a GOR of seventy-seven hundred and then on back up to thirteen thousand and then further north yet to twenty-five thousand. There doesn't seem to be any uniformity in these gas-oil ratios on the gas side.

A. The reason for the nonuniformity is due virtually to the time of production. Many of these wells have only been on production three months. The wells you are seeing with the higher gas-oil ratios, essentially the Odessa D 1 and D-2. They have been on production for a year. The other wells, as I said, varied in time. I can give you figures if you desire on a relative to time basis that will indicate that on the gas side your GOR's increase fairly rapidly up to where the higher ones are indicated. Now, it is only a matter of time here that the GOR's are not as high.

Q. For instance how about the Odessa Natural D 5, how long has that been on production?

A. It has been on three months and the GOR for March which we just got the information yesterday, we couldn't put on the map, with eighty-four hundred.

Q. That's a significant increase?

A. It is.

Q. Do they appear to increase to this twenty to thirty thousand level and stabilize at that point or do those decrease?

A. In one case, the Odessa D 2, in February went from thirty-one thousand four hundred and now it's forty-one thousand eighty-eight in March. There seems to be a general increase but somewhat -- once they reach the thirty thousand figure the increase is not as rapid as before.

The increase in GOR is due to your oil production

declining and the gas production is relatively level. It will decline some, yes, from the first flush period but it is mainly due to declining oil production.

Q. Do you have any figures available there on the current rate of oil production on these wells?

A. Yes, sir.

Q. Could you read those off to me so I could mark them on this Exhibit Number One here?

A. I'll take Odessa's wells first. Odessa D No. 1 located in the southeast of Section 16 for March was four hundred and one barrels and thirteen million, seven hundred and sixty gas. Odessa D No. 2 located in the southeast of 15 in March was three hundred and fifty-five barrels of oil, gas was fourteen million eight hundred and sixty-six. Odessa D No. 3 located in the northwest of Section 23, this is a pumping well, the oil production was sixteen hundred and twenty-eight barrels, gas production was two thousand eight hundred and seventy-seven MCF or two million eight hundred and seventy-seven, either way. Odessa's E No. 4 which is located in the northwest quarter of Section 22, March production three hundred and sixty-two barrels of oil, gas twelve million and seventeen, twelve thousand and seventeen MCF. Odessa's D No. 5 which is located in the southwest quarter of Section 22, the oil production was fifteen hundred and three barrels in March and the gas was twelve million, seven hundred and forty. Odessa's D No. 6

which is located in the southwest quarter of Section 21, the oil production eight hundred and fifty, gas production sixteen million six hundred and thirty-one. Odessa's D No. 8 located in the northwest quarter of Section 9, oil production of twelve hundred and forty barrels, gas production thirty million four hundred and seventy-five.

Q. Now, has that well just been on a short period of time?

A. March would be its third month.

Q. That is a similar situation to what you have on the D 5?

A. Yes.

Q. Except it has apparently much better producing characteristics?

A. It does especially in relation to gas.

Q. Okay.

A. For the Dave M. Thomas, Junior wells, his D 1 located in the northeast of Section 23, March was four hundred and seventy-seven barrels and your gas with that one would be approximately two hundred and fifty MCF, only that is a pumping oil well and no gas connection. The Thomas D No. 2 located in the northwest of Section 14, this is also a pumping oil well, very little gas, the oil production is eleven hundred and five barrels, therefore, it would have gas production by GOR around seven hundred thousand for the month, seven hundred

MCF. Dave Thomas's D No. 3, located in the northwest of Section 14, March production sixteen hundred and twenty-eight barrels of oil, gas seventeen million two hundred and ninety-seven. Thomas D No. 4 located in the southeast of Section 9, oil production thirteen hundred and thirty-five barrels, gas sixteen million three hundred and seventy-two. Dave Thomas D No. 5 located in the northwest quarter of Section 16, oil production of fifteen hundred and three barrels, gas production sixteen million two hundred and eighty-six.

Q. You don't have the production for the Amerada and Mobil?

A. No, I do not have currently.

Q. Those would be reflected in the Commission's records?

A. They would. The two Chace wells, the 115 in the northeast quarter of Section 20 was just recently completed. It is currently being cleaned up for test and it hasn't cleaned up sufficiently to attempt any measure of gas on it right at this time. The Chace 542 located in the northwest quarter of Section 34 was also just recently completed and my information this morning from the first day of the test where the well was making some forty-six barrels of oil and possibly five hundred MCF of gas per day which would give it a GOR of about ten thousand to one.

Q. Now, in some pools we have rules which permit reclassification of oil wells to gas wells based on achievement

of a particular gas-oil ratio level. If a well came in on a pool at a GOR of five thousand then it would be classified as an oil well and once it achieved twenty thousand, twenty-five thousand, thirty thousand, it would be reclassified a gas well. Is that type of reclassification applicable to this pool, would that be a good rule or would there be problems with that?

A. I don't believe there would be problems, in fact I believe if this was adopted as part of the rules and regulations for this area, say for the oil pool side, that any well after they attained twenty-five thousand to one should be reclassified into the Basin-Dakota gas pool.

Q. Would that be a good rule for both sides of this thing?

A. Yes.

Q. That would assure that if this fault wandered around a little bit we wouldn't just arbitrarily put a well on the gas side although it turned out to be an oil well?

A. Well, we hope that wouldn't happen but the rule could apply to both sides.

Q. So at this point if I can summarize what you have testified to, if the applicant, Odessa in this case, were granted a hundred and sixty acre oil well spacing and if the pool rules were changed to provide that any well that was produced with a gas-oil ratio -- which has a gas-oil ratio on test of twenty-five thousand to one or greater would be

reclassified as a gas well and would automatically go into the Basin-Dakota gas pool that this would be a satisfactory order for the applicant?

A. Yes, it would.

Q. Now, we haven't had any testimony here today indicating the ability of a well to actually drain a hundred and sixty acres, we haven't had any pressure data, any inference tests or this sort of thing.

A. No, as I previously stated, this is a relatively new field and like we have only had wells on production for two or three months. With that, a temporary one year for the hundred and sixty acre proration unit for oil and the three hundred and twenty -- or the Basin-Dakota gas wells for the gas side would be satisfactory.

MR. STAMETS: Any other questions of the witness?

MR. KENDRICK: Yes, sir.

CROSS EXAMINATION

BY MR. KENDRICK:

Q. Mr. Walsh, do you have any idea where in or what side of the fault line the three wells to the south edge of the Exhibit One should be placed, the Bonanza Well, the Chace Well and the Northwest Exploration Well?

A. I don't believe you can place them on either one side or the other. As we have indicated there we have only carried

that fault for a very short distance. The fault is only in evidence in the Odessa D No. 1. We have not seen the evidence in any of the other wells. It must be a very high angle fault so we are not trying to extend it out of reason.

Q. Okay. Do you have any reason to believe that the wells you refer to in the gas area on the west side of the fault are separated from the Basin-Dakota wells or the Basin-Dakota gas pool further to the west?

A. Reason to believe that they are separated?

Q. Right.

A. Yes, I do by virtue of additional drilling that has been performed between the two pools which in most cases are nonproductive.

MR. KENDRICK: I believe that's all of the questions.

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

(THEREUPON, the witness was excused.)

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

MR. MILLER: Gilbert Miller with Amerada Hess.

Amerada Hess would like to support the request of Odessa Natural Gas for special field rules specifying one hundred and sixty acre spacing for the Chacon-Dakota Oil Pool and we believe that the recommended oil spacing will encourage earlier delineation of the pool and will prevent waste and provide for the protection of correlative rights.

MR. STAMETS: Mr. Thomas?

MR. THOMAS: Yes, sir. Mr. Walsh has indicated that I operate five wells and we have made an expensive independent study from Odessa and we have essentially the same picture and I would also like to recommend that Odessa's request be granted and that we have a hundred and sixty acre spacing on the oil side and the three twenty or as you have set forth the twenty-five thousand to one would certainly fit our situation on the gas side.

MR. STAMETS: Anything further in this case? We will take the case under advisement.

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand 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.

Sidney F. Morrish, C.S.R.

I hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5911 & 5629 heard by me on 4-20 1977.

Richard L. Stamets, Examiner
New Mexico Oil Conservation Commission