STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

Cases: 9870, 9863, 9864, 9873, 9819, 9875, 9876, 9877, 9878, 9827

CONTINUATIONS AND DISMISSALS FROM THE EXAMINER HEARING

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

February 21,1990

ORIGINAL

A P P E A R A N C E S

FOR THE DIVISION: ROBERT G. STOVALL
Attorney at Law
Legal Counsel to the Divison
State Land Office Building
Santa Fe, New Mexico

HEARING EXAMINER: This hearing will come to order for Docket No. 6-90. I'm Michael E. Stogner, today's hearing officer, February 21, 1990. I'll start out first by calling the continued and dismissed cases.

Page 1, I'll start with Case 9870.

MR. STOVALL: Application of Siete Oil & Gas Corporation for special pool rules, Eddy County, New Mexico.

Applicant requests this case be continued to March 7, 1990.

HEARING EXAMINER: Case No. 9870 will be so continued.

* * * * *

HEARING EXAMINER: I'll call next case, No. 9873.

MR. STOVALL: Application of Hixon Development Company for compulsory pooling, San Juan County, New Mexico.

Applicant requests this case be continued to March 21, 1990.

HEARING OFFICER: Case No. 9863 will be so continued.

* * * * *

HEARING EXAMINER: Call next case, No.

9864.

MR. STOVALL: Application of Hixon Development Company for compulsory pooling and an unorthodox gas well location, San Juan County, New Mexico.

Applicant requests this case be dismissed.

HEARING OFFICER: Case No. 9864 is hereby dismissed.

* * * * *

HEARING EXAMINER: Call next case, No. 9873.

MR. STOVALL: Application of Tahoe Energy, Inc., for an unorthodox gas well location, nonstandard gas proration unit and simultaneous dedication, Lea County, New Mexico.

Applicant requests this case be continued to March 7, 1990.

HEARING OFFICER: Case No. 9873 will be so continued.

* * * * *

HEARING EXAMINER: On the second page, I'll call next case, No. 9819.

MR. STOVALL: The application of Blackwood & Nichols Company, Ltd., for compulsory pooling and an unorthodox gas well location, San Juan and Rio Arriba

Counties, New Mexico.

Applicant requests this case be continued to March 7, 1990.

HEARING OFFICER: Case No. 9819 will be so continued.

* * * * *

HEARING EXAMINER: I'll call next case, No. 9875.

MR. STOVALL: Application of Explorers Petroleum Corporation for compulsory pooling, Eddy County, New Mexico.

Applicant requests this case be dismissed.

HEARING OFFICER: Case 9875 is hereby dismissed.

* * * * *

HEARING EXAMINER: Call next case, No. 9876.

MR. STOVALL: Application of Explorers Petroleum Corporation for compulsory pooling, Eddy County, New Mexico.

Applicant requests this case be dismissed.

HEARING OFFICER: Case No. 9876 is hereby dismissed.

* * * * *

HEARING EXAMINER: Call next case, No.

9877.

MR. STOVALL: Application of Explorers Petroleum Corporation for compulsory pooling, Eddy County, New Mexico.

Applicant requests this case be dismissed.

HEARING OFFICER: Case No. 9877 is hereby dismissed.

* * * * *

HEARING EXAMINER: Call next case, No. 9878.

MR. STOVALL: Application of Chevron USA Inc. for a nonstandard gas proration unit and simultaneous dedication, Lea County, New Mexico.

This case needs to be continued and readvertised for March 7, 1990.

HEARING EXAMINER: Case No. 9878 will be continued and readvertised for the Examiner's Hearing scheduled for March 7, 1990.

* * * * *

HEARING EXAMINER: On the third page, I'll call Case No. 9827.

MR. STOVALL: Application of Exxon Corporation for special casinghead gas allowable, Lea County, New Mexico.

Applicant requests this case be dismissed.

CERTIFICATE OF REPORTER

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

I, Deborah O'Bine, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL February 21, 1989.

Deborah O'Bine

DEBORAH O'BINE
CSR No. 127

My commission expires: August 10, 1990

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case Nos. 9870, 9863, 9864, 9873, 9819, 9875, 9876, 9877, 9878, 9827 heard by me on February 21 1990.

Examiner
Oil Conservation Division

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 9870

EXAMINER HEARING

IN THE MATTER OF:

Application of Siete Oil & Gas Corporation for Special Pool Rules, Eddy County, New Mexico

TRANSCRIPT OF PROCEEDINGS

BEFORE: DAVID R. CATANACH, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

March 7, 1990

ORIGINAL

CUMBRE COURT REPORTING
(505) 984-2244

A P P E A R A N C E S

FOR THE DIVISION:	ROBERT G. STOVALL Attorney at Law Legal Counsel to the Divison State Land Office Building Santa Fe, New Mexico
FOR THE APPLICANT:	ERNEST L. PADILLA, ESQ. Padilla & Snyder 200 West Marcy, Suite 212 Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

APPLICANT'S EXHIBITS:

EXAMINER CATANACH: Call the hearing back to order at this time, and call Case 9870.

MR. STOVALL: Application of Siete Oil & Gas corporation for special pool rules, Eddy County, New Mexico.

EXAMINER CATANACH: Appearances in this case.

MR. PADILLA: Mr. Examiner, I'm Ernest L. Padilla of Padilla & Snyder of Santa Fe, and I have three witnesses.

EXAMINER CATANACH: Any other appearances? Will the three witnesses please stand to be sworn in.

(Thereupon, all witnesses were sworn.)

STUART HANSON

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. PADILLA:

Q. Mr. Hanson, for the record would you please state your full name and where you reside?

A. My name is Stuart Hanson. I live in Roswell, New Mexico.

Q. What is your connection with the Applicant, Siete Oil & Gas Corporation?

A. I'm senior vice-president and head of

exploration for the company.

Q. Mr. Hanson, have you previously testified before the Oil Conservation Division and had your credentials accepted as a geologist?

A. Yes, sir.

Q. What are your duties with Siete as director of exploration?

A. To manage exploration efforts, including four geologists and two engineers.

Q. Are you the person primarily in charge of finding oil and gas for Siete?

A. Yes, sir.

Q. Do you evaluate all prospects and decide what type of drilling Siete will do?

A. Yes, sir.

Q. You make that recommendation to your senior management?

A. Yes, sir.

Q. Are you familiar with the application and the purpose of the application here today?

A. Yes, sir.

Q. Have you prepared certain exhibits for introduction, as far as your activities with exploration in this area under consideration today, and are you familiar with the geology?

A. Yes, sir.

MR. PADILLA: Mr. Examiner, we tender Mr. Hanson as an expert exploration specialist and geologist.

EXAMINER CATANACH: He is so qualified.

Q. Mr. Hanson, can you tell us what the purpose of this hearing is today?

A. Yes, sir. The company has applied to the OCD to get increased GOR approval for the Bone Spring production in Section 34 of 19 South, 29 East, a Parkway Bone Spring field.

Q. Mr. Hanson, why is Siete seeking GOR exception to Rule 506(A), general state-wide rules?

A. Based on extensive testing of existing producing wells from the formation in that section, we have determined that it is inefficient and wasteful to produce them at the existing state-wide GOR regulation.

Q. Mr. Hanson, do you have a general description of the reservoir characteristics, as far as you know them, in Section 34?

A. Yes, sir.

Q. Where are they?

A. They're behind you on the wall.

Q. But can you generally tell us what the

characteristics of that reservoir is, as you know it?

A. Yes, sir. It is a very tight, laminated fine grain sandstone.

Q. Is that typical of oil reservoirs in this area of Eddy County?

A. Only within the Bone Spring formation.

Q. Mr. Hanson, are you ready now to testify from the exhibits that you have prepared?

A. Yes, sir.

Q. First of all, before you do that let me hand you what we've marked as Exhibit 1 and have you identify that for the Examiner.

A. Exhibit No. 1 is a map showing the well locations and the acreage position of the company in the immediate area of Section 34, 19 South, 29 East.

Q. Mr. Hanson, what is the yellow depicted on that exhibit?

A. It represents Siete's acreage position in the area.

Q. What are the wells colored in red?

A. They are wells that were drilled to the Bone Spring formation and are cased through the formation and are either completed in that formation or pending completion in that formation.

Q. Which was the first well that commenced

production from the Bone Spring formation?

A. The Siete Oil & Gas Osage Federal #9.

Q. And give me a historical development of which wells you drilled next.

A. As far as the Bone Spring, the first completion was in the #9. Subsequently we drilled a #10. We drilled after that the #13, the #15 and most recently the #16.

Q. I notice you have other locations out there that have not been drilled. Are those staked locations?

A. Yes, sir.

Q. What are your plans with regard to drilling those wells?

A. Based on the evaluation of the existing production, we may or may not drill those locations.

Q. I'm not sure if I asked you, but the yellow indicates lands controlled by Siete, is that correct?

A. Yes, sir.

Q. Let's go to what we've marked as Exhibit 2 and have you come up to the cross-section, Mr. Hanson. First of all, would you identify that exhibit, please?

A. This exhibit is a cross-section of the Bone Spring formation running in a general southwest to

northeast formation through the subject section. It covers a vertical section, a lower portion of the first Bone Spring carbonate, the first Bone Spring sand, the second Bone Spring carbonate, the second Bond Spring sand, and the upper portion of the third Bone Spring carbonate.

Q. Mr. Hanson, which are the formations that produce in Section 34 from the Bone Spring as shown on that cross-section?

A. The first Bone Spring sand and the second Bone Spring sand.

Q. How about the middle sands shown on that cross-section?

A. There is no existing production that I'm aware of in the second Bone Spring carbonate of Section 34.

Q. Mr. Hanson, does that cross-section show a difference between the wells in Section 34 and the other wells shown on that cross-section as you go from southwest to northeast?

A. In my opinion, yes, sir.

Q. Can you tell us about that, please?

A. Well, it would probably be more pertinent to start with the wells in Section 34, which would be these.

Q. Which are those wells?

A. It would be the Osage Federal #8, currently completed in the Atoka formation, the Osage Federal #9 and the Osage Federal #13. There is one other well on the cross-section that is in the southwest of the southwest of Section 4 and that is the Tuesday Federal #1.

Q. With regard to the #8 well, do you have any plans to produce that from the Bone Spring formation?

A. Yes, sir.

Q. What are those plans?

A. We intend to recomplete into the first Bone Spring sand and the second Bone Spring sand.

Q. Is the Atoka depleted in that formation?

A. Yes, sir.

Q. Would you continue explaining the difference between the wells in Section 34 and the other wells in the cross-section, please.

A. Yes, sir. The existing production is from the sands in the first and second Bone Spring. The perforations, we attempt to perforate sections that have at least 10 percent porosity. The wells that are producing have porosities in excess of 10 percent through a significant portion of the sands.

As you move away from those producers into

the peripheral wells, there's a noted and significant decrease in porosity in the offsetting wells.

Q. Do the offsetting wells produce from the same formations that Siete is producing from?

A. No, sir.

Q. Tell me, sir, in terms of tightness of the reservoir, does that cross-section or the logs in the cross-section indicate any kind of tightness that is significant with regard to this application?

A. There is a significant correlation between the porosity and the permeability of these sands, and the porosities are low and the permeabilities are very low.

Q. Generally what does that have to do with GOR and your application in particular?

A. It is our experience, based on testing, production testing in these wells, that since gas is 25 times less viscous than the oil which is in the reservoir, which has been measured at approximately 39 GAP, or gravity, API gravity, that the gas moves much more preferentially to the oil and the oil is very difficult to move at all.

Q. Mr. Hanson, does that cross-section show anything with regard to whether or not this reservoir may be limited to Section 34?

A. Yes, sir. There are implications in the cross-sections which would be supported by the next two exhibits. The primary one has to do with the isopach thickness of the first Bone Spring sand and the second Bone Spring sand. Obviously the producing wells are significantly thicker in the first Bone Spring sand and noticeably thicker in the second Bone Spring sand in the area of the existing production.

Q. Mr. Hanson, of the two zones Siete is producing from, which is the zone that you are having more problems with in terms of GOR?

A. The first Bone Spring sand, sir.

Q. That's the highest?

A. Yes, sir.

Q. Can you tell us the difference in general geologic terminology what the difference is between both of the two zones?

A. Yes. The second Bone Spring sand tends to be tighter, it tends to have lower porosities. It is actually a significantly poorer reservoir, with poorer reservoir quality than the first sand, and a much more limited extent in relief.

Q. In terms of economics, Mr. Hanson, can both of these zones be produced separately?

A. No, sir.

Q. Why is that?

A. Well, for one thing, the second Bone Spring sand doesn't have much extent. We've only encountered it in approximately half of the wells that we've drilled through it. They're in the same pool, by definition.

Q. Mr. Hanson, do you have any evidence shown on this cross-section, Exhibit 2, which shows the type of drive mechanism in the reservoir?

A. This particular exhibit doesn't demonstrate that type of drive, but we know from testing and experience that the drive is solution gas.

Q. What particular testing have you done to indicate that you have a solution drive?

A. This is production test at various choke sizes and some other engineering tests which will be addressed by our engineer later.

Q. Mr. Hanson, have you completed with Exhibit 2?

A. Yes, sir.

Q. Let's move on to what we've marked as Exhibits 3 and 4, and have you identify what Exhibit No. 3 is and what Exhibit No. 4 is?

A. Exhibit No. 3 is a structure contour map contoured on top of the first Bone Spring sand.

Q. Mr. Hanson, you might stand on this side so the Examiner can see the exhibit as you testify from it. What is contained on your structure map, Mr. Hanson?

A. It just reflects the structure on top of the producing horizon. The most significant part of it is that we have the northwest/southeast trending nose through Section 34, and it should be noted that Wells #8 and #9 are the two highest wells in the field.

Q. In terms of structure and the application in this case, how do these wells and the height of the wells relate to the application?

A. Only in that they demonstrate the fact that this is definitely a stratigraphic trap since there's no critical closure to the northwest, and that the wells with the highest existing GORs as tested to date are not the highest wells in the field.

Q. If you had a gas cap out there, would the highest wells in the field actually show--would they be the highest wells out there?

A. Were there a separate gas phase gas cap, it would exist in the highest wells in the field, yes, sir.

Q. So, in terms of structure itself, this

exhibit shows or supports your theory that you have a solution drive in that field?

A. Yes, sir.

Q. Let's go on to Exhibit No. 4 and have you identify that, please.

A. Exhibit No. 4 is an isopach map of the first Bone Spring sand.

Q. Why did you prepare that exhibit, Mr. Hanson?

A. Since this is a stratigraphic trap and since the thickness of the formation is related to an increase in porosity due to the depositional model that we're using in the area, it reflects the fact that the trap exists between the northwest corner of Section 34 and approximately two-thirds on the diagonal down to the southeast through the section.

Q. In terms of GOR itself and in terms of the application, what does this exhibit show?

A. This shows that it is our opinion, which we feel we have significant evidence for, that the potentially producing area of that reservoir in this field is contained within Section 34.

Q. Mr. Hanson, in this area of South Eddy County, does Siete operate any other oil pools that you have compared with the pool under consideration

today?

A. Yes, sir. The company discovered and operates a number of wells in the Parkway Delaware field in Section 35, 19 South, 29 East.

Q. And where is that generally located in terms of Exhibits 3 and 4?

A. It is the section east of the section in question.

Q. Did you say, is that in the Delaware formation?

A. Yes, sir.

Q. Is that a gas cap reservoir?

A. It has exhibited a gas cap in certain of the high wells, yes, sir.

Q. What type of practices do you employ in this Delaware formation that are different from the ones you would like to employ insofar as recovery of oil in the Parkway pool? In other words, what is the difference that you would employ in producing both fields?

A. There are significant differences in the reservoirs between the sand in the Delaware and the sand in the Bone Spring. For one thing, the permeabilities in the Delaware are 10 to 15 times greater than we have measured in the Bone Spring of

Section 34.

We consider the drive in the Delaware to be a combination of gas drive, solution gas drive, and water drive. We consider it to be more than prudent to preserve as much of those drive energies as possible.

In one case, in the Renegade Federal #2, which is located here in the southwest of the northeast of Section 35, we drilled through the formation, we perforated the top of the lower most producing interval, and encountered dry gas at a very high rate of production. We subsequently squeezed those perforations in order to preserve the gas cap and the drive energies contained therein. We went down approximately 70 feet and reperforated the formation and continued it as an oil well with acceptable GORs under state-wide rules.

Q. Do you find that the Parkway Bone Spring pool under consideration here exhibits any similarity to the Delaware formation in the adjoining section?

A. Only in minerology. They're both sands and that's about it. The permeabilities as I mentioned are 10 to 15 times greater in the Delaware.

In the Osage Federal #9, we cut mechanical sidewall cores at points picked off of open-hole

logging. We selectively picked those points to test the permeabilities of the most porous sections, and the samples were lab tested at permeabilities ranging from .001 to.385 millidarcies.

Q. What is the difference in producing a type formation and one like the Delaware in terms of GOR?

A. Permeabilities in a very tight reservoir to fluids are very, very low and it's difficult to get that fluid to move. If that fluid has gas dissolved in it, it decreases the viscosity of the fluid. As the gas breaks out of solution at a phase change of pressure, if the gas is produced at a high enough rate, it will tend to bring a certain percentage of the fluids with the gas.

Q. If the GOR is not increased, what would happen in the Parkway Bone Spring?

A. If the gas is not produced at a sufficiently high rate, the liquid hydrocarbons would remain in place in the formation and be unrecoverable by any economic scenario I can put together at this time.

Q. Mr. Hanson, would this, in your opinion, cause reservoir waste?

A. No question about it, sir.

Q. Mr. Hanson, would approval of this

application be in the best interests of conservation and the protection of correlative rights?

A. Absolutely.

MR. PADILLA: Mr. Examiner, we offer Exhibits 1 through 4 and pass the witness for cross-examination.

EXAMINER CATANACH: Exhibits 1 through 4 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Hanson, you stated that the second Bone Spring sand was of lesser quality than the first Bone Spring sand, is that correct?

A. Yes, sir.

Q. Are they similar in that they've got the same producing properties and they're both very tight and you have to produce both of those at a high rate?

A. Yes, sir.

Q. Have you done any testing to show what volume is coming out of each zone?

A. Yes, sir.

Q. Do you know what that might be?

A. I don't have any specific numbers. The engineer will have those numbers in testimony, but they are significantly lower in the second Bone Spring

sands and there are certain wells that do not even meet what we consider to be producing criteria of the sands. For instance, on an open hole log analysis only, for instance, the #16 which we completed last week, we do not consider a potential target of the second Bone Spring sand.

Q. So the proposed GOR is not going to adversely affect the second Bone Spring sand at all?

A. No, sir. The GOR problem is primarily a first sand problem.

Q. But it won't have any detrimental effect on the second?

A. Absolutely not, sir.

Q. You said that once you leave Section 4 you lose a lot of porosity in these wells. Have you done any research to see if there's any kind of actual barrier which might separate--

A. What we have done, sir. First off I should point out this well here, which is in the southwest of the northwest of Section 26, approximately one mile northwest of the area in consideration, this well produces from the first and second Bone Spring sands.

Now, if I may refer back to Exhibit No. 4, you can see that there is a significant depositional thin between our existing production here in Section

34 and the production represented by the Turkey Tract Bone Spring well. You can see it's off our structure separated by a structural low and on what appears to be the beginning of another nosing. We consider it to be a separate producing reservoir entirely.

We have, in our #10 well, which is here in the southeast of the northwest of Section 34, we encountered a significant decrease in reservoir quality. It is a tight well. It is a low volume producing well. It appears to demonstrate that it is at the edge of the reservoir.

To the northwest in Section 28, originally drilled by the Petroleum Corporation of Deleware, there is a well that tested the first Bone Spring sand. I do not remember exactly what the pressures on the drill stem test were, but the shut ins were on the order of 1,100 to 1,200 pounds, and the flow rates were on the order of 160 to 173 pounds, indicating a poor quality reservoir and very tight.

We know that the Bone Spring is not produceable in the well drilled by Conoco in the southwest of the southwest. Therefore we have established what I feel to be exhibits of very tight, unproduceable reservoir in all critical directions from the existing production.

Q. So essentially the reservoir may be limited just to Section 34?

A. Yes, sir, and probably only part of Section 34.

Q. Was that well in Section 26 produced in the Turkey Tract Bone Spring?

A. This one was produced, yes, sir, from the first and second sands. It is the well that's on the northeast end of this cross-section.

Q. Do you know if that well exhibited similar producing characteristics as the ones--

A. I'm not familiar with its production history, but I would be absolutely certain because of so many of the wells along the Bone Spring trend in this immediate area, they all behave approximately the same.

Q. You stated that you found no evidence of a gas cap of any kind?

A. No, sir. As a matter of fact, on the log analysis the porosities are very uniform through the formation. There is no demonstrable evidence of what is referred to as crossover or gas effect on neutron density logs. Mud logs of the zone show no anomalously high ratios of methane. What we see on chromatograph analysis of the zone is what we normally

refer to as a field profile of C-1, C-2, C-3 and C-4 and on occasion a trace of C-5.

Q. Mr. Hanson, have you satisfied yourself that these wells probably won't drain anything more than 40 acres?

A. Yes, sir.

Q. That's based on the geology?

A. Yes, sir.

EXAMINER CATANACH: I believe that's all the questions I have at this time.

MR. PADILLA: Mr. Examiner, I have one other question.

FURTHER EXAMINATION

BY MR. PADILLA:

Q. Mr. Hanson, does Siete wish that this application be given the special consideration insofar as an expeditious decision?

A. Yes, sir. We currently have one well shut in and one well awaiting completion pending the decision.

MR. PADILLA: I believe that's all I have Mr. Examiner. I'll call, at this time, Eddie Rodriguez.

EDDIE RODRIGUEZ

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. PADILLA:

Q. Mr. Rodriguez, for the record please state your name.

A. My name is Eddie Rodriguez.

Q. Where do you live Mr. Rodriguez?

A. I live in Roswell, New Mexico.

Q. Who do you work for?

A. I'm employed by Siete Oil & Gas Corporation.

Q. As what?

A. As a production reservoir engineer.

Q. Mr. Rodriguez, have you testified before the Oil Conservation Division as a petroleum engineer in the past?

A. Yes, sir, I have.

Q. Have your credentials been accepted in that testimony?

A. Yes, sir, they were.

Q. Mr. Rodriguez, have you prepared certain documents for introduction at this hearing today?

A. Yes, sir.

Q. You are familiar with the production characteristics of the wells operated by Siete in Section 34?

A. That is correct.

MR. PADILLA: Mr. Examiner, we tender Mr. Rodriguez as an expert petroleum engineer.

EXAMINER CATANACH: He is so qualified.

Q. Mr. Rodriguez, first let me call your attention to Exhibit No. 5 and have you identify that for the Examiner.

A. Exhibit No. 5 are written or signed waivers from the offsetting operators that needed to be notified. And to name these, in the northern half of the northern half of Section 35, Meridian gave us a written waiver; in Section 26 of 19-29, Strata Production gave us a waiver; in Section 27 and 28--

Q. Now, you're referring back to Exhibit 1 as you're going through all of these waivers?

A. Yes, I am.

Q. Those are the offset operators?

A. Yes, sir. Going back again, in Section 27-28, UMC Petroleum out of Houston gave us a waiver; in Section 4, 20-29, Petroleum Corporation of Delaware, also known as Presidio, also provided us with a waiver; and in Section 3 of 20-29, Ray Westall,

which currently operates a well in the Parkway Bone Spring, also gave us a waiver.

MR. PADILLA: Mr. Examiner, I would also like to supplement the record with the certified receipts that we received through our office, and I'll do that after the hearing.

EXAMINER CATANACH: Okay.

Q. Mr. Rodriguez, what specific information did you compile and prepare for this hearing in general terms?

A. As a production reservoir engineer, I'm currently responsible for overseeing the completion activities, the installation of production facilities, and I am responsible for monitoring daily production and optimizing oil and gas recoveries from wells in the Parkway Bone Spring.

Q. Do you make recommendations with regard to GOR limitations and recommendations to increase GOR limitations?

A. Yes, I do.

Q. Let's go to what we've marked as Exhibit No. 6 and have you tell the Examiner what that is and what it contains.

A. Exhibit No. 6 is a wellbore diagram with attachments of the Osage Federal #8 well. The Osage

Federal #8 well was the first well that penetrated the first and second Bone Spring sands and provided the necessary information for Siete to proceed drilling the northern offset of the Osage Federal #9.

Q. Mr. Rodriguez, is this the well that Mr. Hanson testified that you were going to recomplete in the Bone Spring formation?

A. Yes, sir. We're pending obtaining a pulling unit to begin work or operation on it.

Q. Go ahead and continue your testimony on this #8 well, or are you done?

A. Briefly, this wellbore schematic shows the zones that have produced from the Osage Federal #8 and also shows the present completion, which is the Atoka, and again, as I mentioned, it's currently in a depleted state and we are pending recompletion on it.

Q. What is the second page on that exhibit, Mr. Rodriguez?

A. The second page are the log analysis calculations of the first and second Bone Spring sands. Again, as I was saying, this is what provided the necessary information for us to proceed with development of the Parkway Bone Spring first and second sands.

Q. Let's go to what we've marked as Exhibit

No. 7 and identify that for the Examiner.

A. Exhibit No. 7, again, is a wellbore schematic with attachments of the Osage Federal #9 well, which is directly north of the Osage Federal #8. All the wells I'll be talking about are in Section 34 and they are numbered and can be referred to in Exhibit 1.

Q. Is this the first well that produced from the Bone Spring?

A. Yes, sir, that is correct.

Q. What type of frac did you form on this well?

A. Okay. The first Bone Spring interval that we tested was the second Bone Spring sand perforation 7790 through 8002. This zone we frac'd with 72,000 gallons of 30-pound crosslink gel.

Q. Is that a big frac or a little frac?

A. It's a very sizeable frac. Our current per frac cost are approximately $60-, $70,000 per frac.

Q. What is that frac necessary in this reservoir?

A. The only way to be able to obtain commercial production from these type reservoirs is to go in and put extensive fracs into these wells trying to obtain 800 or 900 feet of frac lane as far as wind

lengths.

Q. Let's go to the second page of Exhibit 7 and have you identify that. And you can proceed on as you need to with your testimony regarding the following pages of that exhibit.

A. The first attachment is production history of the second Bone Spring sand in the Osage Federal #9. What I did, I took data completion information as we were completing this well and made this curve to reflect how the well actually performed after opening the zone to production.

On September 9, 1989, we frac'd this well and started flowing it back, and the general nature of the curve reflects a very rapid downward decrease in production rates, and this continued on until approximately September 23rd, when we finally started pumping it.

I should mention that throughout this time this well was flowing intermediately. We would flow the well for seven, eight hours a day, and then it would cease flowing. Once we started pumping it, we also turned this well to the battery and started measuring our gas production from it. It seems to have stabilized there at approximately 70 barrels of oil per day and 250 Mcf of gas per day.

Q. What effect did the artificial lift have on the GOR for this well?

A. It didn't have any that was noticeable. The pumping unit was put on because the well did not have sufficient fluid entry from the formation itself to flow continuously.

Q. Would an increase in GOR allow greater oil production?

A. In this particular sand it would not do much for it basically because it did not have an excessive amount of gas entering the well. The only thing about this particular sand is that it rapidly died or rapidly lost--.

Q. You're talking now about the second Bone Spring sand, right?

A. Yes, sir, that's correct.

Q. At some point did you perforate the upper sand?

A. Yes, sir, on approximately October 13, 1989, we decided that the second sand, as rapidly as it was losing its ability to produce, was not going to sustain sufficient production for reasonable payout of our well. Therefore, we decided to go ahead and open up the first sand.

Basically what this graph shows is that on

October 13th we shut the well in and proceeded with our completion of the first Bone Spring sands.

Q. Mr. Rodriguez, would production of the lower sand only, be economic?

A. No, sir been, it would not.

Q. Let's go on to the following page now.

A. The following page shows that after we opened the first and second Bone Spring intervals--well actually, when we opened the first Bone Spring sand to production, we reflected a rapid drop in the rate of oil production. It was flowing anywhere from actually 200 to 400 barrels of oil per day. And on approximately October 24th, we proceeded to remove the bridge plug isolating the first and second Bone Spring sands and produced both these sands concurrently.

At this time we noticed that the first Bone Spring sand was producing, like I said, about 2- to 400 barrels of oil per day and in addition it's also producing approximately 1.3 million cubic feet of gas per day.

Q. So what does this show in terms of GOR?

A. What this thing shows is that the first Bone Spring sand in the Osage #9 was indeed a high GOR interval. What we were trying to do by removal of the

bridge plug was trying to control our GOR and use the energy from the first Bone Spring sand to flow both these intervals concurrently.

Q. Was there any incompatibility between the two zones when you did that?

A. No, sir, there was not. There was no scaling of any sort, no problem of any sort there.

Q. When you opened up the upper zone, is this when you started having GOR problems in this well?

A. Yes, sir, that is correct.

Q. How is that demonstrated from this exhibit?

A. Basically what it shows is how the well stabilized as we continued to test it throughout the first part of the month of November, and it shows that we were producing approximately 1250 Mcf of gas per day and approximately 250 barrels of oil per day from both intervals.

Q. What else do you have concerning this particular exhibit?

A. The next exhibit is pressure history.

Q. You mean the next page?

A. Yes. The next page is pressure history of this Osage Federal #9 and the general tendencies of decline in the flowing tubing casing pressure of the Osage Federal #9 reflects typical tight oil sand

depletion.

Q. What's on the next page?

A. Again, as I had on the Osage Federal #8, I also included detailed log analysis on this well. This is one thing that may be of benefit to the Examiner in comparing these wells.

Q. As far as what?

A. Pay thickness, pay quality, just overall water saturations. I also included my estimated oil in place for this particular sand interval.

Q. Are you done with Exhibit 7?

A. Yes, sir, I am.

Q. Let's go to Exhibit 8 and have you identify that.

A. Exhibit 8 is again a wellbore diagram of our Osage Federal #10 which also indicates that both the first and second Bone Spring sands were open to production. Again, it shows the size of the fracs that we were putting in the sands. We actually increased our volumes from the first fracs in the Osage Federal #9 to potentially improve the production rates from both of these sands.

Q. Have you produced this well?

A. Yes, sir, it is currently producing.

Q. In terms of GOR, what experience have you

had with this well?

A. This well was initially potentialed at 89 barrels of oil per day, and 360 barrels of water per day and 361 Mcf of gas per day from both intervals, the first and second Bone Spring sands. There is a production history page attached to this wellbore diagram which shows the testing that was done on this well.

Upon the initial completion, it demonstrated to have excessive gas production but during the month of December this production did increase due to 536 Mcf of gas per day.

Q. Did that go over the 2000 to 1 gas oil ratio?

A. The casing gas limit, yes, sir, they did.

Q. Are you done with this exhibit?

A. Yes, I am.

Q. Let's go to Exhibit 9 and have you identify that, please.

A. Exhibit 9 is a wellbore diagram of the Osage Federal #13 well. This is the well that we completed during the last part of December, first part of 1990, which led us to approach the NMOCD for getting an increase in our GOR limit.

Q. What particular characteristics of this

well indicated that you needed to make application for an increased GOR?

A. The first thing we noticed when we drilled the Osage Federal #13 is that the second sand was no longer in existence. It was there, but it was noncommercial as far as our evaluations. Therefore, we decided not to open this particular second sand. Therefore, this was a first sand completion only. And attached to this wellbore diagram again is production history on the subject well.

Q. What does that show? You're referring to the second page at this time, right?

A. Yes, sir.

Q. What does this show?

A. What this particular graph shows is that we kicked this well off producing from the first sand only approximately December 20, 1989. During this time it was recovering load from the frac job. When we finally turned it into the battery, after we had recovered a substantial portion of this frac load, we noticed immediately that the gas production from this well was approximately 1.5 million cubic feet of gas per day and was also making approximately 70 to 75 barrels of oil per day.

At this point we approached the NMOCD and

requested a temporary test period, which was granted to us, of 30 days to test this well to see whether or not this gas production was going to stabilize at a lower figure. In the meantime that we approached the NMOCD, Mr. Mike Williams from Artesia requested that we pinch this well down to approximately 800 Mcf of gas per day, which was one-half of what it was producing.

We proceeded to do that, and we started having immediate freezing problems. The times it was not frozen, the well which was flowing approximately 800 Mcf of gas per day was not bringing up any liquids.

Q. If the well froze up, you couldn't really produce anything, isn't that true?

A. The well would freeze up especially during nighttime when the ambient temperatures were colder. That's when we had the most severe freezing problems.

Q. Were you able to solve the freezing problems mechanically?

A. We did solve that freezing problem for additional testing that we did at the conclusion of our test period, on February 21st, when we were instructed by the NMOCD to conclude our testing period and pinch this well down to its allowable casing gas

limit of 374 Mcf gas per day.

Q. Were you able to recover any liquids when you did have an unfrozen well and lower rate of production?

A. No, sir, we did not. We installed a methanol injection system on the well head and we proceeded to test the well, as is shown there, after February 21st. And in the meantime we stabilized the well. We got up as high as 800 Mcf of gas per day and this well was not bringing up any liquids.

Q. What was the GOR rate when you were producing 800 Mcf of gas per day?

A. Infinite.

Q. You didn't have any oil production to measure?

A. There was no oil production associated with the gas production that we were recovering from.

Q. Does this exhibit or do your production history curves, do they show at what point you can maximize oil recovery?

A. Yes, sir. It shows that at approximately 1.7 million, that's where we recovered the largest percentage of our liquids.

Q. Is that more or less a maximum efficient recovery rate?

A. That, by this production testing, reflects that this is the rate at which most of the liquids that could be produced were being brought up.

Q. In terms of the requested GOR limitation of 10,000 to 1, how does that measure in terms of this particular maximum efficient rate?

A. Being granted the 10,000 to 1 GOR application would provide us with enough allowable casing gas volume to be able to recover our liquids.

Q. In your opinion, Mr. Rodriguez, does this curve illustrate a potential waste problem if you were not allowed to produce at a higher GOR or a GOR higher than 2,000 to 1?

A. Yes, sir, we would definitely have quite a bit of waste.

Q. Okay. Let's go now to the next page and tell us about that.

A. The next page is pressure history on the subject well as we produced it. Again, as we continued to produce this well, this well started decreasing, both casing and tubing pressures, and then we proceeded to shut this well down.

Q. Anything significant about the pressures in terms of GOR?

A. The most significant thing about this

particular graph is that it reflects very closely what the Osage Federal #9 production history did, too.

Q. In terms of tightness of reservoir, does this indicate anything?

A. Yes, sir, it has the same general tight sand decline.

Q. What's on the following page, Mr. Rodriguez?

A. The following page again is a detailed log analysis of the first Bone Spring sands from the Osage Federal #13.

Q. You have attached some parts of logs to this exhibit. What do these show?

A. These are the open-hole log intervals of the Osage Federal #13. We have a Litho-Density Comp. Neutron log and a Dual Lateralog on the subject well, and the primary purpose for including these things is that these, especially the neutron logs, do not show any type of gas effect or the existence of a gas cap in this particular interval.

Q. How is that significant to this hearing?

A. First of all, we're not depleting reservoir energy by overproducing our gas cap, since there is no gas cap in existence.

Q. Does this log show there is no gas cap?

A. Yes, sir. It shows that--basically Mr. Hanson explained that a little while ago as far as the amount of crossover that's associated with these logs. Again, the slight one to two porosity units that the neutron curve does go on the opposite side of the density curve is more a reflection of lithology than it is of gas.

Q. Okay. Do you agree with Mr. Hanson that oil production of a tight reservoir requires increases gas rates?

A. Yes, sir, and that's very substantiated by the extensive production testing that we've actually done on this particular well.

Q. Let's move on to the next exhibit which is Exhibit No. 10, Mr. Rodriguez. Please identify that.

A. This is the well that was completed approximately last week, March 2, 1990. This is the Osage Federal #15, and this particular exhibit is a wellbore diagram of the subject well.

Q. Is this well shut in now?

A. Yes, sir, it is. With this well, we proceeded to complete as we had the Osage Federal 13. The second sand we considered to be noncommercial so therefore we didn't open it up. We only opened up the first sand production.

And attached to this wellbore diagram is production history on the Osage Federal #15, which after it was frac'd on February 16 we proceeded to recover our frac load from it. On March 1 and 2 we obtained the services of Pro Well Testing in Hobbs, New Mexico, and put a production testing unit on it to test the well to see what kind of production it was doing.

The first test on March 1, 1990, was 70 barrels of oil, 24 barrels of water, and 1.8 million cubic feet of gas. On March 2 this well was tested at 74 barrels of oil, 20 barrels of water and 1.788 million cubic feet of gas. After this testing we proceeded to shut the well in pending this hearing we're in today.

Q. Mr. Rodriguez, you agree with Mr. Hanson that in order to produce these wells you need to get some kind of a quick decision from the Division?

A. Yes, sir.

Q. You request that?

A. Yes, sir, I very much request that.

Q. Let's go to Exhibit 11 and have you identify that, please.

A. Exhibit 11 are the sidewall core samples that we mechanically cut on our Osage Federal #9.

These analyses were done approximately October 30, 1989. They were done by Dowell Schlumberger in their Tulsa laboratory.

Q. Can you explain, Mr. Rodriguez, how these logs were taken and how the integrity of the sample or of the log was maintained all the way from the time that you took the log sample in the well until the time the laboratory analysis was done?

A. Mr. Hanson said we picked the most porous intervals to core. After we got this porous surface, we immediately put them in glass containers, sealed them tightly and then gave them to Dowell Schlumberger to do their analysis.

Q. What do these analyses show?

A. These analyses show that the permeability of the Bone Spring and the Parkway area is as low as a .001 millidarcy and the highest recorded permeability that we obtained off of the most porous intervals was .385 millidarcies.

Q. Is that good or bad in terms of oil recovery?

A. It is a very poor permeability.

Q. Is that all you have concerning Exhibit 11, Mr. Rodriguez?

A. Yes, sir.

Q. Let's go on to Exhibit No. 12 and have you identify that for the Examiner.

A. Exhibit No. 12 are gas analyses that we performed on our Osage Federal #9, Osage Federal #13 and Osage Federal #15 casing gas that this well was producing. The Osage Federal #13, for example, shows a gas gravity of .723 and a BTU on a dry basis of 1.1985.

The Osage Federal #9 shows a gas gravity of .752 and a BTU on a dry basis of 1.2442. And the Osage Federal #15 shows the gas gravity of .711 and a BTU on a dry basis of 1.179.

Q. Mr. Rodriguez, does this data indicate that you have a solution drive reservoir?

A. This demonstrates that the gas being produced or the casing gas being produced from these three wells where we took the samples is very similar, and it is associated with casing gas, the kind of gas that can be stripped of its liquids, like traditional casing gas is.

Q. If you were taking this gas from a gas cap, do you think there would be a likely difference in the gas analysis?

A. Yes, sir, the gravity would be lighter. We might be looking at a .6 to .65 and a BTU on a dry

basis would be lower. We might be looking around a 1 to a 1.05.

Q. Do these wells produce any kind of condensate?

A. No, sir. It is oil.

Q. What is the gravity of the oil?

A. This past week I instructed Conoco Transportation to resample the oils on the Osage Federal #9 and the Osage Federal #13 for comparison. They, themselves, took their samples independent from us. The Osage Federal #9 has an oil gravity of 41.3 API units and a sulphur content of .096 Mol percent. The Osage Federal #13 has an oil gravity of 38.9 and a sulphur content of .129 Mol percent.

Q. You're testifying now from a telephone message. Will that information be verified to you in writing?

A. Yes, sir. We're pending a FAX on this information. The first sample they collected they put it in a rather hot environment and the glass bottle shattered on them, so they had to retake the samples and rerun this information.

MR. PADILLA: Mr. Examiner, we'll be willing to provide you with a copy of that analysis once it's written to Siete.

EXAMINER CATANACH: That will be fine.

Q. Mr. Rodriguez, is there anything further that you wish to testify concerning these exhibits?

A. The only thing that is very pressing in my mind is the fact that we need that GOR relief to be able to produce our wells. Again, as I mentioned, right now we have only two wells producing, the Osage Federal #9 and #10. The Osage Federal #13 and #15, which we have tested already, are shut in. We're currently pending completion of the Osage Federal #16, which we have not done pending the outcome of this hearing, and in addition we're also pending recompleting the Osage Federal #8 into the Bone Spring.

Q. Do you know whether Siete has a substantial investment in these wells in Section 34?

A. Yes, sir, we are area estimating approximately $4.5 million in drilling.

Q. The shut-in wells don't help that, I take it?

A. No, sir, they do not.

Q. Mr. Rodriguez, would approval of this application be in the best interests of conservation of oil and gas and the protection of correlative rights?

A. Yes, sir, it would.

Q. Do you have anything further concerning your testimony?

A. No, sir, I don't.

MR. PADILLA: Mr. Examiner we pass the witness at this time and offer Exhibits 5 through 12.

EXAMINER CATANACH: Exhibits 5 through 12 will be admitted as evidence.

EXAMINATION

BY MR. CATANACH:

Q. Mr. Rodriguez, how is the proposed 10,000 to 1 GOR determined, or how was that determined to be the most efficient GOR for this reservoir?

A. That was determined when we started producing the Osage Federal #13. We felt that that particular GOR would give us, again, the sufficient allowable casing gas production to be able to recover the most liquids from these particular wells.

Q. That's just based on one well?

A. Actually it's based on two wells, the Osage Federal #15 needing the same kind of relief.

EXAMINER CATANACH: Mr. Padilla, is your next witness going to testify to Exhibit No. 13?

MR. PADILLA: Yes, sir.

Q. Mr. Rodriguez, there aren't any other

operators besides Siete in Section 34, right?

A. That is correct.

Q. Mr. Rodriguez, has Siete conducted any tests to determine what the gas/oil ratio within the reservoir might be?

A. No, sir, we have not. Could I backtrack just a minute?

Q. Yes, sir.

A. What I did was a general engineering calculation for determining at this API gravity group and the gas, how much of this gas was being held in solution, and I don't find any free gas.

Q. So all the gas is in solution in the reservoir?

A. Yes, sir, it is.

Q. But you don't know at what proportion?

A. One barrel of oil will hold approximately 946 cubic feet of gas.

Q. How was that determined?

A. I did it off general standing correlations available in a Craft & Hawkins, corrected to bottom hole temperatures and pressures.

Q. At your proposed 10,000 to 1 GOR, a considerable amount of oil is still going to be left in the reservoir?

A. That is correct.
Q. It's your opinion that without the GOR, you won't be able to produce any of the oil in the reservoir?
A. We haven't been able to obtain any oil at surface at reduced rates of gas.
Q. On Well #13, you maximized your oil production at the rate of, did you say, 1.75?
A. 1.75.
Q. Have you conducted any kind of calculations or done any kind of testing which would show that at a reduced gas rate that you might recover more oil?
A. The production tests that we have done do not indicate that at any kind of reduced rate are we going to bring any more oil to surface.
Q. You need that gas production of 1.7 a day to get any production?
A. To maximize our production. At rates of approximately 1.25 million we are bringing liquids to surface. At the same time, these are not the maximum oil production rates we can actually recover from these wells.
Q. Have you done any calculations to show that the 1.7 million a day is the most efficient or you'll bring the most oil out of the reservoir at this rate,

as opposed--

A. As far as doing the actual engineering calculation, no, I have not. I think the production testing will do that effect.

Q. What was the oil production at 1.25 million a day?

A. We were approximately 45 barrels of oil per day.

Q. At 1.7 it was what?

A. 75 barrels of oil per day.

Q. It's not your opinion, then, that at that lower rate you might be able to recover more oil during a longer period of time?

A. No, sir.

Q. You did original oil in place calculations for this #13 well?

A. Yes, sir, I did.

Q. Is that just under its 40-acre tract?

A. Under a 40-acre proration unit with a volume factor of 1.48, net effective pay that we opened up in the Osage Federal 13, approximately 131 feet, porosity of weighted average of 13 percent, and a water saturation of approximately 50 percent.

Q. Did you calculate approximately how much of the oil will be produced, or what percentage of the

oil?

A. Yes, sir, through analogous fields I looked at the North Shugart to Bone Spring, the plains and upper Bone Spring and the E. K. Bone Spring, and I got typical declines off of those fields. And then I applied an initial production of approximately 70 barrels of oil per day and estimated an ultimate oil recovery of approximately 90,000 barrels of oil.

Q. Underlying this #13? Is that underlying this one particular well?

A. Is it on line?

Q. Is it underlying--is it from this #13 well?

A. Yes, sir, that's correct.

Q. 90,000 barrels?

A. Yes, sir.

Q. What percentage of original oil in place is that?

A. That would be approximately five percent.

Q. Five percent?

A. That's correct.

Q. What recovery factors do other typical Bone Spring pools have?

A. For the most part, the ones I looked at, most of them are under 10 percent. The exact numbers, I did not do actual calculations on that because most

of the Bone Spring fields are very young. They're not much older than five years or have much more than five years of production.

Q. Is there any way to estimate gas recovery in this type of situation?

A. Yes, sir, off of the particular oil production, anticipated oil production, I anticipate we'll produce approximately three-quarters to 1 Bcf of gas recovered.

Q. What percentage is that?

A. It's about 40 to 50 percent of gas in place.

Q. It's your opinion that this producing GOR will maximize both oil and gas recovery in this reservoir?

A. That is right.

EXAMINER CATANACH: No further questions of this witness.

MR. PADILLA: Call Joe Ramey at this time, Mr. Examiner.

JOE D. RAMEY

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. PADILLA:

Q. Mr. Ramey, would you please state your name.

A. Joe D. Ramey.

Q. Where do you live?

A. Hobbs, New Mexico.

Q. Are you a consultant for Siete in this case?

A. Yes, I am.

Q. Mr. Ramey, you've testified before the Division prior to this time, have you not?

A. Yes, I have.

Q. And your credentials have been accepted?

A. Yes.

Q. Have you done an independent analysis and study of the GOR application and studies that Siete has done in connection with this hearing?

A. Yes, I have. I've looked at all the information that is in these exhibits and all available log and production information.

MR. PADILLA: Mr. Examiner, we tender Mr. Ramey as an expert engineer.

EXAMINER CATANACH: He is so qualified.

Q. Mr. Ramey, tell us exactly what you did in

terms of evaluating the data that Siete had compiled for your review.

A. I meet with C. A. Day for a couple hours one day, and took home all the available information they had at the time and requested the copies of logs, and I verified the tops on the contour maps and looked at all the completion information which was on Exhibits 4 through--or 5 through 12. I looked at the gas analysis, the oil analysis.

Q. What conclusions did you draw as to the type of reservoir Siete has encountered in Section 34?

A. I believe it's a very tight solution gas drive reservoir. The lower zone has less gas in solution and produces a lower GOR and the upper zone is a high GOR.

Q. Mr. Ramey, what conclusions have you reached with regard to whether or not a higher GOR will allow production of oil that might not otherwise be produced?

A. I think that the production testing that was done on Well #13 exhibits the fact that if you try to produce these wells at a low GOR rate you're going to leave the majority of the recoverable oil in the reservoir, if not all of it. Now, as to the producing rate or the GOR request of 10,000, I think that is the

proper rate. This will enable the wells to produce in the neighborhood of--well, up to a maximum of 1.8 million a day.

The testing that was done on Well #13, when the well produced at 1,300,000 rate and produced 45 barrels of oil, it produced at a producing ratio of 30,000 to 1. When we increased that up to the 1.75 million rate, we recovered 75 barrels which reduced the producing GOR to 23,000. I think this indicates, the more gas that is moved out of the reservoir, the more oil it's going to bring with it.

Q. Is this typical for tight reservoirs, Mr. Ramey? In other words, if you have an oil reservoir with higher permeabilities, what effect would you have with a higher GOR? Would you have a channeling effect of the gas?

A. Repeat that, Mr. Padilla.

Q. If you had a greater permeability and you increased the GOR in an oil reservoir, would you have a tendency to channel the gas if you increase the GOR and leave oil behind?

A. Yeah, I think so. If you have a higher permeability and you produced the wells at a higher rate, you would have a tendency to produce more gas than is necessary for it to maximize recoveries.

Q. In this type of reservoir, the one in consideration today, you have the opposite kind of effect, that if you don't produce gas you will then leave the oil behind?

A. Yeah, I think the permeability is so low in this type of reservoir that if you produce at a low rate, the permeability is going to be effective to gas only.

Q. Okay. Mr. Ramey, what is Exhibit No. 13?

A. Exhibit 13 is just the actual production that was reported on the operator's monthly report, Form C-115, and then I tacked on a monthly producing GOR for each well.

Q. And what does this indicate?

A. Well, it indicates they've got a GOR problem, certainly. The Well #9 looks like it's going to stabilize at a producing GOR of something over 6,000. The gas volumes may be falling off, or they certainly did through January, but as I understand they now put the pumping unit back in operation and after pumping off the fluid load, why, the gas is starting to come back on the well.

So I think to keep the fluid pumped off the well, why, the GOR is probably going to increase somewhere in the neighborhood of 10,000, and you're

going to exceed the 2,000 to 1 casing head gas allowable.

Well #10 is primarily a well from the upper Bone Spring, which is the higher GOR of the two sands. It does have some production from the lower Bone Spring, but I think probably the maximum recovery from this well is going to come out of the upper, and its producing GOR is probably going to be above 10,000, somewhere in the 16,000 range.

Well #13, it's producing GOR is going to be maintained at, if we increase the gas flow on that to maximize recovery, I think it's going to be in the something over 20,000 GOR. And then we have a test which I tacked on the end of from Well #15, which indicates an initial ratio of about 25,000.

Q. Is the 10,000 to 1 GOR limitation reasonable in this case for this pool?

A. Yes, I think it's necessary. I think the production from Well #13 and the test we have on Well #15 indicates that we do need this much gas. The 10,000 ratio would let each well produce up to 1.87 million cubic feet per day, and I think it's indicated on those two wells that we need that type of volume to maximize the production from the reservoir.

Q. Mr. Ramey, do you know of any other Bone

Spring reservoir that have increased GORs in Eddy County?

A. Yes. I looked through the oil proration schedule for District 2, and I found the Fenton Bone Spring has a GOR limit of 10,000, the Palmillo Bone Spring has a GOR of 8,000.

Q. Mr. Ramey, do you have anything else concerning your testimony here?

A. I think if the Division refuses to grant this 10,000 to 1, I think that waste is going to be created in this pool. The only way the operator could produce these wells at a 2,000 ratio would be to produce them for eight or nine days a month until they recovered or produced their gas limit, and then they would have to shut them in for the remainder of the month.

Of course, this method of production is in violation of the Commission's rules and regulations, but I think that would be the only way they could recover any liquids at all. If they tried to produce it at the 300 Mcf a day, 374 Mcf a day that would be allowed at the 2,000 to 1 ratio, they'll recover nothing but gas out of the reservoir.

Q. Mr. Ramey, have you reviewed, or from your review of these materials, is there any reason to

indicate that correlative rights might be impaired in Section 34?

A. I think that if the Division does not grant the 10,000 ratio in this pool, I think Siete's correlative rights will be violated. I think we'll be prevented from maximizing the recovery from this pool.

Q. And that will also cause waste?

A. Yes, sir, that will definitely cause waste.

MR. PADILLA: Mr. Examiner, we tender Exhibit No. 13, and we pass the witness.

EXAMINER CATANACH: Exhibit No. 13 will be admitted as evidence.

EXAMINATION

BY MR. CATANACH:

Q. Mr. Ramey, the oil allowable in this pool is 187 barrels a day?

A. Yes, sir.

Q. The gas/oil ratio of 10,000 to 1 will give you a casing head gas allowable of 1.87 million a day. Are there any wells currently in the pool that would produce more than 1.87 a day?

A. I think there's a possibility that 13 and 15 could produce more than that, yes. I don't anticipate that we would produce any more than that.

I think that would probably be the maximum that we could produce into the gas gathering facilities.

Q. Was that a factor in determining the GOR, how much gas you could sell?

A. Well, we certainly looked into that possibility. But I think the 10,000 was a logical request based upon our testing. Of course, I think we did make the application prior to obtaining all of this information, and we certainly did contact the gas purchaser in there to make sure that the market for the gas was there.

EXAMINER CATANACH: I believe that's all I have of the witness. He may be excused.

MR. PADILLA: That's all I have, Mr. Examiner. We do have our application which does call for retroactive application to the date of initial production from the #13 well, so I just simply want to remind the Examiner of our application.

EXAMINER CATANACH: It's not in the advertisement.

MR. STOVALL: What was that date of first production, Mr. Padilla?

MR. RODRIGUEZ: January the 9th.

MR. STOVALL: Of 1990?

MR. RODRIGUEZ: Yes, sir.

MR. STOVALL: Apparently in the advertisement it was not noticed as being for retroactive approval. Do you have any comments as to whether we should take it under advisement and readvertise it?

MR. PADILLA: No, sir, I think that we need as expeditious an order as we can. Obviously we don't want to wait an additional advertisement period. I don't know how to do that in terms of, Siete did have temporary permission to test the well at a higher GOR.

MR. STOVALL: When did that permission begin?

MR. RODRIGUEZ: January the 9th.

MR. PADILLA: That was January 9th, also.

MR. STOVALL: How long did that continue?

MR. PADILLA: It continued for 30 days and I think it continued through February 21st.

MR. STOVALL: What was the GOR level, do you remember--

MR. PADILLA: The GOR level was--

MR. STOVALL: --under that temporary permission?

MR. RODRIGUEZ: It was not to exceed 1.6 million cubic feet of gas per day for the well.

MR. STOVALL: You provided a copy of this application to all the offsets entitled to notice?

MR. PADILLA: Yes, sir. As a matter of fact, I didn't elicit the testimony from Mr. Rodriguez, but it's my understanding that Mr. Rodriguez had to submit all his exhibits to most of these offset operators before they would grant the waiver. He did that anyway, and the waivers were given to him as a result.

MR. STOVALL: I think we can take it under advisement, I think, under these unique circumstances.

EXAMINER CATANACH: Mr. Padilla, can I get Mr. Rodriguez back on the stand to explain the effect of this retroactive, how it's going to effect the situation out there?

EDDIE RODRIGUEZ

the witness herein, having been previously duly sworn, testified further as follows:

EXAMINATION

BY EXAMINER CATANACH:

Q. What is the need for the retroactive assignment of this gas allowable?

A. We don't want to be subject to being shut in by the state for overproduction to 2,000 to 1,

which was in effect for the period in which we tested that Osage Federal #13.

Q. Is that the only well that it's going to effect, Mr. Rodriguez?

A. Well, that's the one that's going to be most overproduced.

Q. Are there any other wells that are overproduced?

A. Yes, sir, there are. The Osage Federal #9 and #10 are.

EXAMINER CATANACH: If you'll excuse us.

MR. PADILLA: I don't think the #9 and #10 well would be much of a problem if they would choke back, assuming the Division did grant a 10,000 to 1 gas/oil ratio. Those wells could catch up very easily. I think the only problem would be with the #13 well, that we may have a problem where we've gone as far as 16,000 to 1 during that test period.

MR. STOVALL: You received that permission from the district office, is that correct, or from Santa Fe?

MR. RODRIGUEZ: From Mr. LeMay.

MR. STOVALL: If the retroactive were made applicable only to that well, you're saying, Mr. Padilla--

MR. PADILLA: Essentially, that would solve the problem, only to the #13 well.

MR. STOVALL: What I'll recommend, we will not yet determine whether to take it under advisement or continue and readvertise the case. We'll take a break at this time and come back, and do one or the other. We just want to check on a couple of things before we make that decision. When we come back from the break, we'll tell you which way we're going on that.

(Thereupon, a recess was taken.)

EXAMINER CATANACH: We'll call the hearing back to order and let you proceed, Mr. Padilla, with your witness.

JOE RAMEY

the witness herein, having been previously duly sworn upon his oath, testified further as follows:

EXAMINATION

BY MR. PADILLA:

Q. Mr. Ramey, during the break have you had a chance to compile the amount of overproduction that this #13 well has accumulated?

A. Yes. From the reported production in January, during the month of January at a 2,000 ratio, the well would have been 27,707 Mcf overproduced.

Estimating the February production at the same rate that is produced in January for 20 days, I estimate that the February overproduction would amount to 22,528 Mcf, for a total of some 50,200 Mcf that it's overproduced at this time at the 2,000 ratio.

Q. Mr. Ramey, at a 10,000 to 1 gas/oil ratio, would that well be overproduced?

A. No, it would be underproduced on the casing head gas.

Q. That's assuming that you would have had retroactive application to January 9th?

A. Yes, sir.

MR. PADILLA: That's all we have. Is that sufficient, Mr. Examiner?

EXAMINER CATANACH: Yes, sir, it is.

THE WITNESS: I'll let you have this sheet of paper I did the calculations on.

MR. PADILLA: We'll mark this as Exhibit 13(A).

EXAMINER CATANACH: Exhibit 13(A) will be admitted as evidence. Is there anything further, Mr. Padilla?

MR. PADILLA: Nothing further.

EXAMINER CATANACH: There being nothing further, Case 9870 will be taken under advisement.

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL March 15, 1990.

Carla Diane Rodriguez
CARLA DIANE RODRIGUEZ
CSR No. 91

My commission expires: May 25, 1991

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9870, heard by me on March 7 1990.

David R. Catanach, Examiner
Oil Conservation Division

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 9870

EXAMINER HEARING

IN THE MATTER OF:

Application of Siete Oil and Gas Corporation for Special Pool Rules, Eddy County, New Mexico

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

April 18, 1990

ORIGINAL

A P P E A R A N C E S

FOR THE APPLICANT:

PADILLA & SNYDER
Attorneys at Law
By: ERNEST L. PADILLA
200 West Marcy, Suite 216
P.O. Box 2523
Santa Fe, New Mexico
87504-2523

* * *

I N D E X

* * *

WHEREUPON, the following proceedings were had at 10:22 a.m.:

EXAMINER STOGNER: Call this hearing to order, and I'm going to move to the second page down at the bottom and call Case Number 9870, which is the Application of Siete Oil and Gas Corporation for special pool rules, Eddy County, New Mexico.

I'm going to call for appearances at this time.

MR. PADILLA: Mr. Examiner, Ernest L. Padilla, Padilla and Snyder, Santa Fe, New Mexico, for Siete Oil and Gas Corporation, the Applicant.

Mr. Examiner, we have a very short presentation today and just would like to submit a list of -- supplemental list of offset operators, together with the notices and return receipts and mailing information concerning notice to those Applicants.

For the record, the additional offset operators that we had to notify in this case are J.C. Williamson, TXO Production Corporation, Yates Petroleum Corporation, Santa Fe Energy Operating Partners and the Bureau of Land Management.

J.C. Williamson and TXO have signed waivers. Yates Petroleum Corporation has informed us that they have no objection to the Application and would not

enter an appearance. We have not heard from the Bureau of Land Management or Santa Fe Energy Operating Partners in any fashion.

And with that, Mr. Examiner, I would like to submit the packets, together with a letter addressed to Mr. Catanach, who originally handled this hearing.

EXAMINER STOGNER: When was this case heard before Mr. Catanach, Mr. Padilla?

MR. PADILLA: I can't remember that far back, Mr. Examiner. I think it was sometime around the early part of March. If my memory serves me correct, it was March 7th.

EXAMINER STOGNER: Let me pull that case file here. March 7th?

MR. PADILLA: Yes, sir.

EXAMINER STOGNER: Okay.

MR. PADILLA: I'm not accurate about that, but I believe it was about that time.

EXAMINER STOGNER: Mr. Padilla, do you have anything further in this case at this time?

MR. PADILLA: Nothing further.

EXAMINER STOGNER: Does anybody else have anything in Case Number 9870?

If not, this case will be taken under advisement at this time.

(Thereupon, these proceedings were concluded at 10:24 a.m.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9870 heard by me on 18 Apr. 1990.

Michael E. Stogner, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL April 23, 1990.

STEVEN T. BRENNER
CSR No. 106

My commission expires: October 14, 1990