NEW MEXICO OIL CONSERVATION COMMISSION
EXAMINER HEARING
SANTA FE, NEW MEXICO
OCTOBER 1, 1992 -- 8:15 A.M.

NAME	REPRESENTING	LOCATION
Ray Westall	Ray Westall Operating	Loco Hills, NM
William F. Carr	Campbell, Carr, Berge & Sheridan	Santa Fe
Darrell Gillen	Northwest Pipeline	SLC Utah
Mike Turnbaugh	Williams Prod. Co.	" "
Maurice Trimmier	RW Byram	SF
Paul Cooter	Roddy Law Firm	SF
Scott L. Padilla	Padilla & Snyder	SF
Robert Lee	State Oil	Roswell
Bob Fant	Yates Petr	Artesia
Scott Hall	Miller Law Firm	SF
JD Strunk	Fortson	Tot Worth Tx
Jerry Hoover	Conoco	Midland TX
Bill Hardie	Conoco	Midland, TX
[illegible]	[illegible]	Santa Fe
Mike Heathington	Bacart Western	Midland, TX

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NAME	REPRESENTING	LOCATION
Russell Richards	Great Western Drilling	Midland, TX
Dennis Hendrix	Great Western Drilling	"
James Bruce	Hinkle Law Firm	Santa Fe
Paul Eromano	Enertrade Inc	Fort Worth, TX
Wesley Ware	Collins & Ware, Inc	Midland, TX
Randall Harris	Ray Westall Operating	Loco Hills NM
Charles Knight	Collins & Ware, Inc	Midland, Texas

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASE 10,562

EXAMINER HEARING

IN THE MATTER OF:

Application of Siete Oil & 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

October 1, 1992

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 Division
State Land Office Building
Santa Fe, New Mexico 87504

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

FOR SANTA FE OPERATING PARTNERS, L.P.:

HINKLE, COX, EATON, COFFIELD & HENSLEY
Attorneys at Law
By: JAMES BRUCE
500 Marquette, N.W.
Albuquerque, New Mexico

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I N D E X

	Page Number
Appearances	2
Exhibits	4
ROBERT S. LEE	
Direct Examination by Mr. Padilla	6
Examination by Examiner Stogner	18
Examination by Mr. Stovall	26
DANIEL L. WILSON	
Direct Examination by Mr. Padilla	32
Examination by Examiner Stogner	38
Certificate of Reporter	42

* * *

E X H I B I T S

APPLICANT'S EXHIBITS:

Exhibit 1	7
Exhibit 1A	8
Exhibit 2	10
Exhibit 3	12
Exhibit 4	12
Exhibit 5	13
Exhibit 6	14
Exhibit 7	33
Exhibit 8	34
Exhibit 9	35
Exhibit 10	37

* * *

WHEREUPON, the following proceedings were had at 8:23 a.m.:

EXAMINER STOGNER: This hearing come to order for Docket Number 32-91. I'm Michael E. Stogner, appointed Hearing Examiner for today.

MR. STOVALL: 32-92?

EXAMINER STOGNER: I'm sorry, 32-92. I can't even read typing today.

Please note today's date, October 1st, 1992.

With this I will call first case, number 10,562.

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

EXAMINER STOGNER: Call for appearances.

MR. PADILLA: Mr. Examiner, Ernest L. Padilla, Santa Fe, New Mexico, for the Applicant.

I have two witnesses.

MR. BRUCE: Mr. Examiner, Jim Bruce for Santa Fe Energy Operating Partners, L.P., appearing in support of this application.

We have no witnesses.

EXAMINER STOGNER: Are there any other appearances in this matter?

Will the witnesses please stand to be sworn?

(Thereupon, the witnesses were sworn.)

ROBERT S. LEE,

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

DIRECT EXAMINATION

BY MR. PADILLA:

Q. Mr. Lee, for the record please state your full name.

A. My name is Robert Steven Lee.

Q. Mr. Lee, do you work for Siete Oil and Gas Corporation, the Applicant in this case?

A. Yes, I do.

Q. What is your capacity?

A. I'm the production manager there.

Q. Mr. Lee, have you previously testified before the New Mexico Oil Conservation Division or the Commission and had your credentials accepted as a matter of record before a Hearing Examiner?

A. Yes, I have.

Q. In what capacity?

A. As a engineer, production engineer, reservoir engineer.

Q. Mr. Lee, have you familiarized yourself with the Application and made a study of the GOR characteristics of the Parkway-Delaware Pool?

A. Yes, I have.

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

EXAMINER STOGNER: Mr. Lee is so qualified.

Q. (By Mr. Padilla) Mr. Lee, let's turn first to -- Let me hand you what we have marked as Exhibit Number 1 and have you identify that, please.

A. This is a notice of a hearing that was sent to the offset operators of the Parkway Pool.

Q. And who are those offset operators?

A. On the second page they're listed as Meridian Oil, Ray Westall, UMC Petroleum, Strata, Presidio Oil Company, Santa Fe Energy, Chevron, Conoco, Eastland Oil Company and Fortson Oil Company.

Q. And how did you determine that these were the offset operators you needed to send notices to?

A. This comprises the operators within one mile of the pool.

Q. The pool is one mile?

A. Yes.

Q. What's in the remaining portions of Exhibit Number 1?

A. We have the certified receipts from those people, showing that they did receive the letters. We have waivers from UMC Petroleum, Strata, Meridian,

Eastland Oil. And we should have one from Santa Fe.

Q. Let me hand you what we have marked as Exhibit 1A and have you identify that.

A. Yes, here is the waiver from Santa Fe Energy. And in this packet marked as Exhibit 1 we also have a letter from Meridian Oil in support of the higher GOR, which we're asking here in the Delaware Pool.

Q. And that's the last attachment of Exhibit Number 1?

A. Yes, it is.

Q. Okay. Mr. Lee, let's have you describe in general terms why it is that you're seeking this Application for Siete Oil and Gas Corporation.

A. The Parkway-Delaware Pool produces from the Brushy Canyon formation within the Delaware, and it currently has a gas/oil ratio limit of 2000 to 1.

We're going to demonstrate today that this is a solution gas drive reservoir, and one of the characteristics of a solution gas drive reservoir is that the GOR will increase over time. We're going to show that today.

And we're also going to show that the reservoir is not rate-sensitive and that by increasing the GOR to 5000 to 1, reserves will not be increased or decreased.

Q. Are you experiencing any type of production problems out in this reservoir at this time which would compel you to seek this Application?

A. Yes, we are. Some of our wells are -- have recently started producing gas in excess of 2000 to 1. We have a flowing well that currently, at that gas limit, will load up and die.

If we could get a higher GOR, it would be capable of making about 400 MCF a day and 80 barrels a day.

And just -- You know, our gas is going up. We want to stay in compliance. That's why we're here today trying to get an increased GOR.

Q. Have you been in touch with the Artesia district office of the Oil Conservation Division with regard to your problems out there in the field?

A. Yes, we have. The Artesia office has advised us that we need to stay within the 160-MCF-per-day-per-well rule. And like I said, when we do that one of our wells, flowing well, loads up with water and oil and kills itself.

Q. At what rate will it kill itself?

A. If you hold it to the 160 MCF per day.

But we've shown that if we can open it up a little bit and be making, say, you know, 400, 420 MCF a

day, it will continue to flow on a released choke -- a choke that size.

Q. Is this Application solely for this well?

A. No, it's for the entire pool.

Q. So the well is not the sole reason for you seeking a GOR exception?

A. No, no, it's for the entire pool.

Q. Okay. Are you ready to go on to Exhibit Number 2?

A. Yes.

Q. Let me -- Do you have that before you?

A. Yes, I do.

Q. What is Exhibit Number 2?

A. Exhibit Number 2 is a plat showing the wells in the immediate area around our leases. This shows the field cumulative production.

Near each well there's going to be a little cross. In the upper left-hand side we have cumulative oil. In the upper right-hand side we have cumulative barrels of water. In the lower left we have the cumulative MCF. And in the lower right the cumulative GOR, or the GOR of those cums.

I really don't want to go through each one of these wells here. I feel like the important thing here is down at the bottom of the page in the middle, we

have the field cums showing that as of December of 1991 we have produced about 1.2 million barrels of oil, a little over 2.5 BCF of gas, for a GOR of 2.2.

So on a cumulative basis the field already is exceeding -- has exceeded the 2000-to-1 GOR limit.

MR. STOVALL: If I might interrupt for a moment, Mr. Lee. Mr. Lee, are all of these numbers times 1000 --

THE WITNESS: Yes, yes.

MR. STOVALL: -- to get the actual numbers? Is that correct?

THE WITNESS: I'm sorry, the "M" in front of BO's and BW's and MCF indicates they're times 1000, that's correct.

Q. (By Mr. Padilla) And this would be the legend at the bottom right-hand corner; is that --

A. That's correct.

MR. STOVALL: And -- Excuse me. And that's specifically the GOR too, when you say 2.2, you're --

THE WITNESS: -- it's times 1000. It's really --

MR. STOVALL: It's 2200?

THE WITNESS: -- 2200 standard cubic feet per barrel.

MR. STOVALL: Okay.

Q. (By Mr. Padilla) Okay, let's go on to Exhibit Number 3.

A. Exhibit 3 shows basically the same thing with the water left off for only the 1991 production. Once again, the oil produced in 1991 is shown in the upper left, MCF is shown in the upper right, and the GOR is shown below. And all these numbers are multiplied by 1000.

And you can see that in 1991 -- in the center we have the field production -- the GOR was about 2.4 or 2.36 here, to be exact.

And then we compared that to what we have listed as Exhibit 4, which shows the 1992 production of -- I believe this was through May, most current OCD books that we have.

This shows the same thing as the Exhibit 3, but it's interesting to note here that on the field basis, the GOR has increased to 2.6, 2600 standard cubic feet per barrel, an increase of almost 200 standard cubic feet per barrel from just 1991 to so far in 1992, indicating that the GOR is gradually going up with time as we deplete the reservoir pressure.

Q. Mr. Lee, earlier you mentioned that this is a solution gas drive pool.

A. That's correct.

Q. Is this typical of a solution gas drive pool?

A. Very typical.

Q. Have you studied other similar pools in the area to determine whether you have similar characteristics to other pools?

A. Yes, we have. We looked at the Avalon-Delaware Pool, which is about eight miles to the west of our pool. Principal operators in their is Exxon and Yates.

About a year ago, a little over a year ago, they were also granted a GOR increase. So we compared our producing characteristics to what we saw at the Avalon field.

MR. PADILLA: Mr. Examiner, we'd ask the Division to take administrative notice of Case 10,145 and Order R-6368B, which is the Avalon Yates Case.

EXAMINER STOGNER: We'll take administrative notice of said case and order. Thank you, Mr. Padilla.

Q. (By Mr. Padilla) Ready to move on to Exhibit 5, Mr. Lee?

A. Yes, sir.

Q. What is Exhibit 5?

A. Exhibit 5 is a plot of our -- of the Parkway-Delaware field, plotting GOR in standard cubic feet per barrel versus cumulative oil production in thousands of

barrels.

And you can see that over time the GOR here has gradually gone up. When the field was, say, initially discovered, the GOR was below 1500 standard cubic feet per barrel for the most part. And recently it has climbed up above 2700 standard cubic feet per barrel, which is normal in a solution gas drive reservoir. You would expect to see this sort of behavior.

And then we compared that with Exhibit 6, which is the same plot done for the Avalon-Delaware field, and once again, you can see the low GOR's early on in the life of the field and the increase in the GOR with cumulative production. And, you know, the curve shapes are very similar. It's just a gradual increase. Like I said, just pretty much what you would expect from a solution gas drive reservoir.

Q. Is that all you have on Exhibits 5 and 6, Mr. Lee?

A. Yes, sir.

Q. Mr. Lee, your Application states that you're asking for relief, or a retroactive effect to the date of discovery of the pool. Is that really necessary?

A. Probably not.

Q. Why have you asked for some retroactive

effect?

A. Because there is some overproduction in the field in recent months due to the GOR increasing and us having to flow our wells at a higher gas rate in order to keep them flowing.

Q. Have you discussed this with the Oil Conservation Division in Artesia?

A. Yes, they are aware of our problem, and the Division office there -- Like I said, they want us to hold it back to the 160 MCF per day, say, rather than letting us produce a monthly allowable and then shutting the well in.

Q. When you do it on a daily basis, what kind of problems do you encounter, specifically with, say, the well that you mentioned before?

A. What will happen is that as you choke it back and get your gas down to 160, it starts gassing out real bad. It just starts flowing gas and will stop bringing fluid, and within a matter of about a day, the fluid will build up, kill the well, and then we have to get a pulling unit out there and swab the well in, incurring additional costs to do that.

We've had to do that twice so far.

Q. Have you also over- -- Well, you've said you tested the wells for GOR. Have you made GOR tests?

A. Yes, we have.

Q. Tell the Examiner what kind of testing was done in that regard.

A. What we had done -- and Mr. Wilson will be going over this in a minute -- is take a well that's -- We used Osage 1 as flowing 80 barrels a day, and we increased the choke size. I think we took it up a notch or two notches every day, kept track of the oil rate and the gas rate, and see whether or not the GOR increases with increased production, see whether or not the GOR is rate-sensitive.

And Mr. Wilson will show a plot that shows the reservoir is not rate-sensitive; the GOR does not increase as you increase the production.

Q. To conduct those tests did you have to overproduce the wells?

A. Yes, we did.

Q. And that --

A. That has led to some of the overproduction that we have incurred, that's correct.

Q. Okay. Are you interested in the Division granting an expeditious order in this case?

A. Yes, we are. The reason is, with the -- Like I said, with the constraints that has been imposed on us by the Artesia OCD office, we're having to keep our

well choked back. It's constantly loading up and dying.

And like I say, we have to get a pulling unit out there every time, get it swabbed off, a swabbing unit, get it kicked off again.

If we could get some relief from that fairly quick, we would be able to open our well up, produce it at a higher gas rate, and keep our well flowing, which we feel is the most efficient and effective means of producing that well.

Q. You keep saying "well", but that's not the only problem. You have a field-wide problem; is that right?

A. That's true. Yeah, the fact that there's -- We have probably about three, four wells that would, you know, benefit from this increased GOR, and I'm sure some of the other operators probably do too.

Q. Mr. Lee, would approval of this Application, in your opinion, be in the best interests of the conservation of oil and gas?

A. Yes, it would be.

Q. Would it impair any other operator's correlative rights?

A. No, it would not.

Q. Why not?

A. Because by increasing it to 5000 to 1 for the field it would be, you know, something that's available to everybody. It would be just and fair for all the operators within the field. They would all have the 5000-to-1 GOR increase.

Q. Mr. Lee, do you have anything further to add to your testimony?

A. No, I do not.

MR. PADILLA: Mr. Examiner, we tender Exhibits 1 through 6. Pass the witness.

EXAMINER STOGNER: Exhibits 1 through 6 will be admitted into evidence.

Mr. -- Oh, I'm sorry. Mr. Bruce?

MR. BRUCE: No questions, Mr. Examiner.

MR. STOGNER: Okay.

EXAMINATION

BY EXAMINER STOGNER:

Q. In referring to Exhibit Number 1 -- this is your list of notices --

A. Uh-huh.

Q. -- please help me get straight on this. This notice was just to the parties within a mile of the pool boundary, or what was it again?

A. That's correct, this is a list that our land department came up with as who needed to be served

notice.

Q. And what is the pool boundary?

A. I don't have that in front of me, exactly what the pool boundaries are. Whatever is listed in the definition of a pool, OCD.

Q. Okay. If you would, would you please supply me a map to be -- in conjunction with this particular order -- I mean, I'm sorry, with this particular exhibit --

A. Okay.

Q. -- substantiating who those interests are and such.

A. Okay.

Q. Also, are the other -- How many other operators are in this pool? Are they listed here too?

A. Well, the other operators are Meridian, Santa Fe, Eastland and Strata and Presidio, and they were all notified, and I believe they all supplied waivers.

Santa Fe and Meridian and Siete control the bulk of the field. And like we said, the -- Santa Fe and Meridian both have given support to this Application.

MR. STOVALL: I think, Mr. Lee and Mr. Padilla, what the Examiner is looking for and what would be most helpful would be a plat that shows the

pool and the offset operators -- and all the operators within the pool, and then the boundaries.

THE WITNESS: Okay.

MR. PADILLA: Okay.

THE WITNESS: Can we -- When we get back we'll send that --

MR. STOVALL: Yeah, I don't -- We don't need it right now.

THE WITNESS: Okay.

MR. STOVALL: Supplement the record.

EXAMINER STOGNER: And we'll just make that a part of Exhibit 1, Mr. Padilla --

MR. PADILLA: Okay.

EXAMINER STOGNER: -- and the attachment.

MR. PADILLA: We'll call --

EXAMINER STOGNER: Well, I'm not through. I'm not through with Mr. Lee here.

MR. PADILLA: I'm sorry.

Q. (By Examiner Stogner) In looking at Exhibits Number 3 and 4 -- This is the field production in 1991, Exhibit Number 3?

A. Uh-huh.

Q. Now, when you look at Exhibit Number 4, this is the field production for 1992, as of what date?

A. As of May, through May, it includes

production.

Q. You kept referring to one well --

A. Uh-huh.

Q. -- that was being limited to 160 MCF a day, if I heard that right.

A. There's several wells that are being limited at the 160 MCF a day. We have one well that loads up and dies.

Q. Okay, which one is that one well that loads up and dies?

A. That is the Renegade Number 2, and it is located in Section 35, in the southwest quarter of the northeast quarter.

Q. Okay, that's the one I'm looking at, Exhibit Number 4, that has the 12.2 --

A. -- 21.8, 1.8 underneath it, that's correct.

Q. Okay. That's the Renegade Number 2?

A. Yes, sir. The lease names are listed at the top of the leases, and then the wells are numbered within the lease.

Q. Okay. Do you know what other wells are being limited to the 160 MCF a day, as imposed by the Artesia office?

A. I have two, the Renegade Federal Number 1, which is directly west of the Number 2, the Osage

Federal Number 1, which is directly south of the Number 2, and I'm not sure what other wells of the offset operators are in a GOR bind or problem.

Q. But do you know generally if there are some other wells being operated by other parties that are also being imposed 160-MCF-a-day limit, either by talking with the operators or the Artesia office?

A. Right, okay. Yeah, Meridian has at least two and maybe three wells that are being limited to the -- by the 160-a-day. And I'm not sure that Santa Fe -- No, I'm sure Santa Fe does not have any that are limited by the 160-a-day.

MR. STOVALL: Which leases are Meridian's? Where are they located?

THE WITNESS: The Apache A lease which is north of the Renegade Federal, and the Apache Lease which is east of the Renegade Federal.

If you were to look at the gas production numbers for those wells, you can see they're all in the mid to low 20's, which for this time frame would give you about the 160-MCF-a-day limit.

So it looks like that at least two of them are limited, and possibly some more to the north. Maybe all four of them.

Q. (By Examiner Stogner) The wells that you

show on Exhibits 2, 3 and 4, is that the present producing wells within this pool at this time, or are there some other wells outside the scope of these plats?

A. There are some other wells outside the scope of these plats. Eastland operates some wells over to the east. They were not included on this because they don't appear to have the GOR problems like we have. And this is the bulk, the main portion of the reservoir.

And also, it looks like the Eastland wells produce out of a different section in the Delaware than our wells do.

Q. Do you know what section they produce out of?

A. They produce out of a higher zone.

Q. Is it still within the Brushy Canyon?

A. I'm not sure if it's still within the Brushy Canyon. It's still within the Delaware section.

Q. Now, when you're referring to those Eastland wells, I take it that they're further east than --

A. -- than the map has.

Q. -- what's in Section 36?

A. That's right, that's right. In fact, I believe they're in the -- I think they're in the section just right east of Section 36, one section

over.

Q. But they're within the pool of the Parkway-Delaware?

A. They are within the Parkway-Delaware Pool, that's correct.

Q. And they would also be subject to a higher GOR?

A. If it's so granted, that's correct, they would be subject to the higher GOR.

Q. Do you know if they're top allowable wells or --

A. I don't believe they are. I think they're pretty poor wells.

Q. Okay. Referring to Exhibit Number 6, this is the Avalon-Delaware GOR versus the cum plat.

A. That's correct.

Q. We also took administrative notice of Order R-6368B. Do you know when that particular Order took effect and also what the GOR increase was?

A. The GOR was increased to 4000 to 1.

I'm not smart enough to read this. I'm going to let Ernie take a look at it. I think that was 1990 sometime.

MR. PADILLA: It seems like January of 1991, Mr. Examiner. We have a copy of this Order out of

Byram's. I'll let you have this if you'd like.

MR. STOVALL: That increase became effective as of the date of the Order, Mr. Padilla, to the best of your knowledge, or the month following or --

MR. PADILLA: Well, it was issued on December 11th, 1990, so I'm not sure when it became effective. Yeah, December 11th, 1990.

EXAMINER STOGNER: What I was trying to formulate here is, if I can look at this plat and knowing my cumulative oil, what it corresponded to with the effective date on that, what -- can I see -- can I expect to see some sort of an increase, or how would that Order affect this plat?

MR. STOVALL: Mr. Examiner, the Order provides that it becomes effective on January 1st, 1991.

THE WITNESS: There's nothing on this.

What I'd have to do is go look at the production book for 1991, see what the cumulative production was at January, and then look at this plot and see where that point fell. I'm not sure when that occurred.

EXAMINER STOGNER: That's all the questions I have for Mr. Lee at this time.

MR. STOVALL: I've got just a couple.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Lee, I hesitate to venture into engineering, but I do need a couple things explained here.

Am I correct that in my understanding, that as, in a reservoir such as this, the GOR is going to go up and production, as shown on your exhibits here, is going to be limited but the GOR is going to remain -- I mean, it's going to be the same for the well regardless of production limits, or it's --

A. That's correct, and we're going to show a graph here in a minute that demonstrates that.

Q. So if we looked at the -- What is it? I guess it's 6 -- 5 and 6 for the Parkway and the Avalon -- Those GOR limits are going to be -- I mean, those GOR's are going to go up, and the cumulative production is really going to be a function of allowable and not GOR in that case, isn't it?

A. Cumulative production.

Q. If you're saying -- If you're plotting cumulative against GOR --

A. Uh-huh.

Q. -- the amount of oil you actually produce is a function of how much you're allowed to produce,

rather than -- in addition -- which may be affected by the GOR but is not a product of the GOR specifically; is that correct? Do you follow what I'm saying?

A. Yeah, the cumulative oil, it is a function of the allowable, and the GOR will naturally increase as you increase the withdrawal from the reservoir, you allow the gas to come out of solution and fill the voidage that's filled by the oil initially. And as you increase that amount of free gas in the reservoir, you start bringing more of it with you, and that's what results in your GOR going up.

And, you know, as you drop the pressure and drop -- and free more gas, you continue to push out more oil.

And what we're going to show is that that is not dependent upon the rate at which you drop the pressure. You recover the same amount of oil, whether you reduce the pressure slowly or more rapidly, as long as you don't, say, overproduce the wells to the point that the GOR, you know, streams outside -- goes way up.

Q. But you just forget about the oil and just take the gases? Would you --

A. Well, we wouldn't want to do that.

Q. Right.

A. That would be detrimental.

If we increased -- If we produced it to the point that the GOR was to, you know, stream outside, and at the rates that we're to talking about, you know, 80 barrels a day, that doesn't happen.

If you were to produce those wells at -- You know, they probably wouldn't produce that much oil. But if you were to produce, say, a tremendous rate and really start drawing that gas, well, that would probably, you know, be detrimental.

But we're not going to be in that situation at all, as we'll show here in a minute.

Q. I guess what I'm saying is, if I were to put a plotted -- Let's, say, look at the Avalon.

If I were to plot a GOR curve, that curve would be going up regardless of what the allowable was, correct? Just the GOR, not the GOR versus cum. If that GOR is increasing, if you're drawing more -- creating more void and more room for the gas to come out.

A. That's true, that's true. The GOR will increase as you reduce -- as you increase the amount of production and withdraw it, no matter what the rate.

Q. And so the effect is of -- One explanation for the cum increasing with increased GOR is really an effect of the allowable GOR being increased rather than

the reservoir GOR; is that -- ? Which allows more total production, which means you're going to recover more oil, correct?

A. That's correct.

Q. Okay, just wanted to make sure I understood.

The only other question I've got is, you were talking about the -- I think it was the Renegade you said was your problem well, the one that's loading up?

A. That's -- Yes.

Q. And if I look at your chart, it looks like you're looking at an 1800 to 1900 GOR, according to Exhibits 3 and 4?

A. That's correct, on those exhibits. If I look at the cumulative for the year, that's right.

What we have seen here is that this is a problem that has really cropped up in, say, the last three to four months, you know, and like -- you know, we only have this production through May, so my problem starts seeing -- you know, after July, and that production is not shown -- not represented on this table.

Q. So if you had current production on here, you'd -- are you telling me your GOR would be much higher than the 1.9?

A. It would be higher than the 1.8 that's shown

on the 1992, that's correct.

MR. STOVALL: Okay, that's all I have.

EXAMINER STOGNER: Mr. Padilla?

MR. PADILLA: Nothing else.

MR. STOVALL: Oh, one other question, Mr. Lee.

THE WITNESS: Sure.

Q. (By Mr. Stovall) Now, you discussed -- You say, as you indicated, your Application was asking for a retroactive GOR?

A. Yes, we did.

Q. And you indicated in your initial question that you are not really looking for retroactive back to the date of discovery?

A. That's not necessary, that's correct.

Q. We are faced with a -- perhaps a little technical problem. The advertisement does not refer to any sort of retroactive GOR.

If we, say, did this as effective as of today, for example, the date of the hearing, the 1st of October --

A. Uh-huh.

Q. -- would that give you some relief and help on --

A. It would give us some relief on the -- as far

as the rates that we're able to produce our wells at.

It wouldn't help me much on the overproduction that I've incurred in the last couple of months.

Q. How much -- Is that pretty extensive, or is that -- How quickly could you make that up if you had a little more room to produce?

A. Well, the total gas overproduction is a little over 17,000 MCF for probably about three wells.

Q. But I guess my question would be, is, if we wanted to go back and do some sort of retroactive, I would want to know what date we were retroactive to, and then I would want to know if you...

Given the fact that that might result in a re-advertisement, which would postpone getting this Order out for another 30 days or more, would you prefer to go with the current adjustment and work off the overproduction off a current adjustment, or have your allowable delayed, or your increase delayed for a couple months, but get a retro- -- potentially get a retroactive --

A. I would prefer to try to work off the overproduction and go ahead and get the Order approved as soon as possible, go something like that.

MR. STOVALL: Okay.

EXAMINER STOGNER: Thank you, Mr. Lee.

Mr. Padilla?

MR. PADILLA: Nothing further.

DANIEL L. WILSON,

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

DIRECT EXAMINATION

BY MR. PADILLA:

Q. Mr. Wilson, would you please state your full name?

A. My name is Daniel L. Wilson.

Q. Mr. Wilson, where do you live?

A. I live in Austin, Texas.

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

A. Yes, sir, I am.

Q. And have you previously testified before the Oil Conservation Division and had your credentials accepted as a reservoir engineer?

A. Yes, sir.

Q. And have you made a study of the reservoir characteristics of the subject pool --

A. Yes, I have.

Q. -- for this hearing?

Have you prepared certain exhibits for introduction at this hearing?

A. Yes, sir.

MR. PADILLA: Mr. Examiner, we would tender Mr. Wilson as an expert reservoir engineer.

EXAMINER STOGNER: Mr. Wilson is so qualified.

Q. (By Mr. Padilla) Mr. Wilson, let me hand you what we have marked as Exhibit Number 7 and have you identify that, please.

A. Exhibit Number 7 is a reservoir data sheet prepared on the Parkway-Delaware Pool.

It shows the drive mechanism to be a solution gas drive reservoir, with initial pressure of about 1838 pounds per square inch absolute.

The current reservoir pressure, as of September, 1991, when we were studying the reservoir, was about 1241 pounds. So it's lower than that now.

Q. So you're seeing a gradual reduction in pressure in the pool; is that --

A. Yes, that's correct.

Q. What would the pressure be today? What kind of -- If you have a reduction in pressure, what would it be today?

A. I haven't extrapolated it out, but it would be probably somewhere around 1100 pounds, 1100 to 1200 pounds.

Q. And is that in conjunction with what Mr. Lee said before, that if you have a pressure reduction, you're going to have more gas in solution, filling the core space?

A. Well, there will be more gas coming out of solution and developing more free gas in the reservoir.

Q. Then that increases the GOR, in and of itself?

A. That's correct.

Q. What other information do you want to address on this Exhibit Number 7?

A. One thing I might note on here is the initial solution GOR of the reservoir is about 483 standard cubic feet per barrel, and the current solution GOR is around 370. And as we know, the wells produce somewhat over 2000, so we know that free gas is being produced from the reservoir.

Q. Okay. Anything further on Exhibit Number 7?

A. No, sir.

Q. Let me hand you Exhibit Number 8, and identify that for the Examiner, please.

A. Exhibit Number 8 is a two-page exhibit. The first page is a plot of the reservoir pressure performance of the reservoir versus cumulative oil production, and you can see that the pressure is

declining from the initial pressure of 1838 pounds to a little over 1200 pounds.

Q. What's on the second page?

A. The second page is the tabular data that was utilized in preparation of the plot on the first page.

Q. And that's information that's taken from one well; is that --

A. The information was taken from several wells. There's one on January 18th, 1991, which was taken from Apache 2A and the Osage Federal. And then the last one there, September 6th, 1991, was taken from Apache 2A and the Osage Federal Number 2.

Q. Anything further in Exhibit 8?

A. What this plot indicates is a declining reservoir pressure characteristic of a solution gas drive reservoir.

Q. Okay. Let me hand you what -- Exhibit Number 9. Exhibit Number 9 is -- Identify that, please, and tell the Examiner what it contains.

A. Exhibit Number 9 is also a two-page exhibit. The first page is a plot of a gas/oil ratio versus oil production rate. The second page is the tabular data or actual test data that we used in preparation of the plot.

What this graph is and what the tabular data

is, is the results of testing that was done by Siete over a period of five days whereby the oil production rate was increased and the gas was measured and GOR was calculated to determine whether the GOR was increasing with an increase in oil production rate.

Q. Was the GOR increasing with the increase in oil production?

A. No, sir. As indicated on the plot, the GOR was not increasing with increased oil production rate, which indicates that the reservoir is not rate-sensitive, and with an increase in the GOR allowable, waste will not occur in the reservoir.

Q. What significance does -- When you say the reservoir is not rate-sensitive, how is that significant to the GOR Application here today?

A. Some reservoirs are rate-sensitive, whereby if you increase the oil production rate, you have an increase in gas/oil ratio, which means that you're pulling out gas that is in the reservoir and is not being used effectively and efficiently to drain the reservoir.

Q. In connection with these type of hearings, I've heard the term "channeling", "gas channeling". How does -- Would gas channeling occur in this situation if -- with an increase in GOR to 5000 to 1?

A. I don't believe that so-called gas channeling is going to occur too much in this reservoir.

I think the free gas that's developed in the reservoir has developed at a saturation that is above the critical saturation for the gas, and above that free gas will start to flow. The critical gas saturation in this reservoir is about five percent.

Q. Okay. Do you have anything further on Exhibit 9?

A. No, sir.

Q. Let me hand you Exhibit Number 10, and identify that and tell the Commissioner what -- or the Examiner what that contains.

A. This exhibit is a table that shows the results of a reservoir simulation analysis that we have performed.

We looked at production from the reservoir under two scenarios. One was with a gas limit of 160 MCF per day on the wells, and one was without a gas limit on the wells. And what it shows is that the recoverable oil is almost identical, which indicates, again, that the reservoir is not rate-sensitive.

Q. Mr. Wilson, do you have anything further to add to your testimony?

A. No, sir.

Q. Mr. Wilson, in your opinion would approval of this Application be in the best interests of conservation of oil and gas?

A. Yes, sir.

Q. Would approval of the Application protect correlative rights?

A. Yes, sir.

MR. PADILLA: Mr. Examiner, we have nothing further of Mr. Wilson, and we tender Exhibits 7 through 10.

EXAMINER STOGNER: Exhibits 7 through 10 will be admitted into evidence at this time.

Mr. Bruce, do you have any questions?

MR. BRUCE: No, sir.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Wilson, referring to Exhibit Number 8, I'm curious about -- There's not that much reservoir pressure data.

Was this all you had to work with, or --

A. Yes, sir.

Q. Is this indicative of the reservoir?

A. I think it's indicative of the reservoir. But in answer to your other question, it is all the data that we've had to work with, yes, sir.

Q. Were the other companies in the pool approached to supply reservoir data, reservoir pressure data?

A. Yes, sir, the Apache wells, we have pressure from those wells.

Q. Okay. Any from Eastland or --

A. No, sir.

Q. So I'm clear on the record, this 160 MCF, there again, referring to Exhibit Number 10, with a gas limit of 160 MCF a day on all the wells, you've come up with this form- -- Where does the 160 come from on those? The limitation's set by Artesia, but as you understand, where did that number come from?

A. The 160 MCF per day on each well comes from a gas limit based on the 2000-to-1 GOR and 80 barrels per day allowable.

Q. Which has a casinghead gas allowable per month of -- ? Off the top of my head? Or off the top of your head, what is it?

A. 6000, I guess.

Q. But that's how that is calculated?

A. 160 -- Well, it would be 160 times 30 or 31, whatever that number is. 4800, I believe.

Q. What would that number be for MCF a day for the casinghead gas allowable if 5000 to 1 was approved?

A. 400. It would be 400 per day per well.

Q. Now, are there any wells -- or which wells are capable of doing 400 MCF per day per well, or -- per day?

A. I know the -- I believe the Renegade 2 is capable of doing that, and I believe the Renegade 1 is also capable of doing that, and I think some of the Meridian Wells are capable of doing that.

Q. Now, the wells that are capable of doing -- obtaining the 400 MCF per day, what can be forecasted for those particular wells? Will the GOR drop off? Will we see less gas being produced?

A. I think the GOR will be essentially the same, and continue to go up as the pressure is declining.

What will happen is, as you allow 400 MCF per day to be produced, more oil will come with that gas.

But the GOR will not go down, until later in the life of the reservoir when -- typical of a solution gas drive reservoir, later in life the reservoir, as you deplete the free gas, the GOR will go down.

Q. Will this affect any offsetting wells?

A. I think as far as protection of correlative rights, I think allowing the 5000-to-1 GOR limited reservoir will afford each of the operators a fair opportunity to produce their hydrocarbons under their

tracts.

EXAMINER STOGNER: Any other questions of Mr. Wilson?

MR. BRUCE: No.

MR. STOVALL: Not that I can think of.

EXAMINER STOGNER: Mr. Padilla?

MR. PADILLA: I have nothing further, and we'll get you that land map.

EXAMINER STOGNER: Okay, does anybody else have anything further in Case Number 10,562?

If not, this case will be taken under advisement.

Thereupon, these proceedings were concluded at 9:10 a.m.)

* * *

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court 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 October 6th, 1992.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10362, heard by me on October 1992.

Examiner
Oil Conservation Division