STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	)	CASE NO. 12,848
APPLICATION OF SDX RESOURCES, INC., FOR THE CREATION OF THE RED LAKE-SAN ANDRES POOL AND THE CORRESPONDING CONTRACTION OF THE RED LAKE QUEEN-GRAYBURG-SAN ANDRES POOL, EDDY COUNTY, NEW MEXICO	)	

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

May 30th, 2002

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, May 30th, 2002, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

May 30th, 2002
Examiner Hearing
CASE NO. 12,848

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A P P E A R A N C E S

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ALSO PRESENT:

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* * *

WHEREUPON, the following proceedings were had at 8:20 a.m.:

EXAMINER STOGNER: This hearing will come to order to consider Docket No. 16-02. Please note today's date, May 30th, 2002.

At this time I'll call Case Number 12,848. This is the Application of SDX Resources, Inc., for the creation of the Red Lake-San Andres Pool and the corresponding contraction of the Red Lake-Queen-Grayburg-San Andres Pool in Eddy County, New Mexico.

At this time I'll call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of the Applicant, and I have two witnesses to be sworn.

EXAMINER STOGNER: Any other appearances in this matter?

Will the witnesses please stand to be sworn at this time?

(Thereupon, the witnesses were sworn.)

MR. KELLAHIN: Mr. Examiner, I want to apologize. The exhibit books were expressed, and we only ended up with three of them. If I can ask you to share one, we will get more copies subsequent to the hearing, and I'll make sure that Steve gets a copy for the court reporter.

Mr. Stogner, we have two witnesses for you this morning.

What we are seeking to do is to delete the San Andres formation from what is currently defined as the Red Lakes-Queen-Grayburg-San Andres Pool. The reason to do that is to free up the San Andres formation as a separate pool within an area that's defined by an existing waterflood. If we're allowed to do that, then SDX will have an opportunity to drill a well to the San Andres within the unit boundaries.

Right now they're precluded from doing that because the unit has accessed the Premier portion of this pool, which is slightly above the San Andres. And because they have existing wellbores on 40-acre oil spacing within the vertical limits of this pool, we can't have different operators for two different wells in the same spacing unit.

So the solution we're proposing to you is to delete the San Andres from the bottom of the pool, raise the vertical limits. The ownership is divided in such a way that the San Andres will be entirely controlled by SDX.

We have the consent of the unit owner and the unit operator to delete the San Andres, and we want to put on a review of the technical data for you this morning to show you the geology, the integrity of the top of the San Andres as a point to isolate the San Andres from the

Premier.

And we'll have an engineering witness to talk about what wellbores may have crossed over into both what we describe as the new pool and the old pool and what action has been taken to make sure those wellbores are not in what we are now subdividing into two pools.

Our first witness is Mr. Jordan.

RICHARD JORDAN,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Would you please state your name and occupation?

A. Richard Jordan, geologist.

Q. Mr. Jordan, where do you live?

A. Midland, Texas.

Q. On prior occasions have you testified before the Division?

A. Yes, I have.

Q. With regards to SDX's case, have you made an examination of the geology in the San Andres formation within the area that we're asking to be set aside in a different pool?

A. Yes, I have.

Q. Okay. In addition to the San Andres, are you

familiar with the formations above and below the San Andres?

A. Yes.

MR. KELLAHIN: We tender Mr. Jordan as an expert witness.

EXAMINER STOGNER: Mr. Jordan is so qualified.

Q. (By Mr. Kellahin) Let me ask you to turn in the exhibit book, Mr. Jordan, to the back, and if you'll look behind Exhibit Tab 7 we'll start the geologic exhibits that are contained in the back of the book.

There's a general locator map. Would you pull that out and unfold it? Identify the map for me.

A. This map displays the boundary of the present unit, Red Lake Premier Sand Unit, that is outlined in orange. The green outline is the 40-acre proration unit adjacent to any of that unit, and the yellow acreage is that acreage position held by SDX.

Q. Okay. In terms of your geologic investigation, have you examined the wells in the vertical interval that is currently defined as being in the Red Lakes-Queen-Grayburg-San Andres Pool?

A. Yes, I have.

Q. When we look at those maps, are we going to be able to reach conclusions about subdividing the pool where you can isolate the San Andres from the rest of the

producing formations?

A. Yes, sir.

Q. And what conclusion have you reached about that?

A. The San Andres reservoirs here are distinctly separated from the existing Premier Sand Unit.

Q. When we look at your displays, can we reach that same conclusion with regards to the horizontal extension of the integrity of the San Andres within the area described as being contained within the existing unit?

A. Yes.

Q. Okay, let's begin to do that now, Mr. Jordan. If you'll turn to Exhibit 7B, have you and the technical people with SDX made a review of the data concerning the status of wellbores within the unit?

A. Yes.

Q. As well as those immediately adjacent to that unit boundary?

A. Yes, we have.

Q. Describe for me how we read the color code here for the various wells shown on this display.

A. Okay, the index for these is located on the right-hand side, starting with shallows. The tangerine color would be Seven Rivers completions, mostly found adjacent to the unit. The hot pink, we have one partial completion that is over there in Section 20, that is Queen.

Purple are the Grayburg completions. Green is into the Premier. Red code is for San Andres, and deeper tests are indicated by orange.

Q. If there is a well symbol within the unit area that's not color-coded, what does that mean?

A. That has been plugged.

Q. Okay. When we look at the unit area, what portion of the current pool is that unit producing from? What member of the various formations in the Red Lake Unit are being produced by their wells?

A. It would be primarily the Premier, with some Grayburg.

Q. Okay. Are there any of those wellbores that are producing from the San Andres?

A. There are a couple.

Q. That penetrate the San Andres?

A. That penetrate the San Andres, yes, sir.

Q. We'll leave those for Mr. Morgan to address when he presents his engineering research.

So that we can keep track of those, let's look at how you have indexed these wells to show us San Andres wells. What's the color code for the San Andres?

A. That would be red, the red wells are indicated.

Q. Okay. So that we can get an understanding of the vertical continuity of the reservoir, do you have a type

log that we could utilize?

A. Yes, we've included that, it will be in Section 3 -- Section 2, I apologize. That would be the SDX well.

Q. When we go back to the exhibit book, it's back under Tab --

A. -- 2.

Q. -- 2? All right, sir. Before you talk about the type well, show us where we find that well on Exhibit B.

A. That well is in Section 28, it is a solid red well, down here, would be the bottom of spot B.

Q. Okay, that's your type well?

A. Yes, sir.

Q. Can you use this type log to identify for us where we find the Premier sand in relation to the San Andres?

A. Yes, the Premier sand, approximately 20-foot unit that immediately overlies the San Andres.

Q. On this type log, pick for us the top of the San Andres and the base of the San Andres.

A. Top of the San Andres is indicated by the solid bar at the bottom, two solid bars extending down, lowermost bar is the top of the Glorieta.

Q. Is there a footage depth associated with the top of the San Andres? Can you tell on this type log what the footage is that we could utilize for -- I'm looking at a

number here, I was trying to see if that --

A. 1925.

Q. All right, and that would correlate to the top of the San Andres?

A. Yes.

Q. Let's focus on that for a moment.

A. Uh-huh.

Q. Describe for me geologically whether the top of the San Andres is distinguishable from the base of the Premier in some geologic way.

A. The premier is a sand.

Q. All right.

A. The upper part of the San Andres is a tight dolomite characterized by anhydrite-plugged -- whatever porosity that tried to be is plugged with anhydrite for the most part, the upper 300 feet.

Q. The productive portion of the San Andres that is the primary objective of SDX --

A. Yes, sir.

Q. -- is found where on this type log?

A. It's indicated by the two bars, the vertical bars extending from 2332 to 2602 -- that would be the middle San Andres productive interval we've been playing in this area -- and at 2800, well into that would be the lower San Andres producing interval.

Q. If Mr. Stogner describes the new San Andres Pool in terms of what you have picked as the top and the bottom of the San Andres on this type log --

A. Yes, sir.

Q. -- will we have a container described for the San Andres that has good integrity at the top and at the base?

A. Yes.

Q. And would that separate any production in the San Andres from Premier production in the sand above?

A. Yes.

Q. Is there production below the San Andres?

A. There is to the south of us, Yeso production.

Q. Are you satisfied that the base of the San Andres is an adequate point to separate the San Andres from anything deeper?

A. Yes, sir.

Q. Okay. Let's turn to the cross-section and see how your type log compares to the line of cross-section you have constructed across the unit area. I have that as Exhibit C.

A. D.

Q. I'm sorry, D.

EXAMINER STOGNER: For the record, that would be 7D?

MR. KELLAHIN: 7D, sir.

EXAMINER STOGNER: Is this to scale?

THE WITNESS: The type log messed us up.

Q. (By Mr. Kellahin) Mr. Jordan, let's have you take the cross-section, explain to us why you have chosen to describe these wells on this cross-section. Why did you make this selection?

A. Well, we had a good -- one was log availability, but we were able to come across the entire unit, going from the southeastern margin, and extend up -- try to go through the well that was the type log for the Premier Sand Unit and then come to the western -- the eastern margin, I'm sorry.

Q. Where would you like to start in your description?

A. In looking at the unit, as described -- and that is described in Section 3 -- you can see that the Premier is a very distinct sand, correlative across the entire area. The top of the San Andres is also very characteristic, it's fairly easily picked out.

Q. Did you have any difficulty making the correlation so that you could identify with reasonable certainty the location of the Premier sand?

A. No, very straightforward correlation.

Q. All right. The Premier sand is the producing sand in the unit?

A. Yes.

Q. Where do we find the San Andres opportunity on the cross-section that SDX wants to access?

A. The second well from the right is the Welch, which was the type log that we just went through. You'll note that we are some 400 foot into the San Andres before we hit the middle San Andres pay interval. The lower, of course, is some 300 foot below that.

Q. In addition to this log set, have you examined the logs of the other wells within the proposed unit boundary?

A. Yes.

Q. Have you satisfied yourself that the conclusions you can reach based upon this cross-section are the same conclusions you would reach if you had identified all the wells?

A. Yes.

Q. Are you satisfied geologically that we can separate out the San Andres as a separate reservoir from the rest of the formations that are currently in the Red Lake Pool?

A. Absolutely. SDX has run petrographic analysis on, I think, 19 wells in the last three years in this play, and we've consistently found this upper section in the San Andres to be anhydrite-plugged, very low permeability, and

definitely distinct from anything above and below.

Q. Can you draw a geologic conclusion about whether the continuity of that reservoir is consistent, at least, to the boundaries of the current unit?

A. Yes.

Q. We don't see any substantial difference in geology as we move the San Andres to the other portions --

A. I don't believe so.

Q. -- of the unit?

A. I don't believe so.

Q. Okay. Have you prepared a cross-section, Mr. Jordan? I'm sorry, a structure map?

A. Yes, yeah.

Q. All right, let's look at the structure map. Identify for us the structure map.

A. It's a map on the top of the San Andres.

Q. How are we able to find the well symbols that are associated with data on the San Andres?

A. Those are the circles, and the below-sea-level value is posted beside in parentheses and underlined.

Q. Give us a general description of the San Andres reservoir in relation to structure.

A. You have a ridge, effectively, starting from Artesia -- in fact, it runs all the way -- you can see that you basically are across the nose here on this -- through

this unit area. So you're updip toward the center, down to the south and down to the north.

Q. Do you find reasonable opportunities within the unit boundary to attempt to access and produce the San Andres within the unit area?

A. Yes.

Q. Do you have existing examples of those for wells that are operated by SDX?

A. The Welch, which is on the cross-section, would be a fine example of that.

MR. KELLAHIN: All right, sir. That concludes my examination of Mr. Jordan.

We move the introduction of Exhibits 2 and 7.

EXAMINER STOGNER: Exhibits 2 and 7 will be admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. Let's first talk about the map that you just described, the structure map. That's Exhibit 7D; is that correct?

A. Yes, sir -- 7C.

MR. KELLAHIN: -C.

Q. (By Examiner Stogner) 7C, that's right, 7C. Okay.

Now, on this 7C, which well in Section 28 is the

type log?

A. It would be the northern open circle.

Q. The one marked plus 1716 subsea?

A. Yes, sir.

Q. I'm going to refer to the type log. This was Exhibit Number 2, I believe. Current perforations are the 2332 to 2602; is that correct?

A. Yes, sir.

Q. Okay, now what happened to the lower perfs? Are they still open, or did you squeeze them?

A. Can I defer that to Mr. Morgan?

Q. Yeah, okay, we can defer that, then.

Now, this 400-foot interval from the bottom of the Premier to your perforations --

A. Yes, sir.

Q. -- that is characteristic of what? A tight dolomite?

A. Yes. You see a general shallowing upward sequence through the entire San Andres where the lower San Andres is dominated by subtidal, middle San Andres goes to sub- to intertidal, and if you move up into this upper you get into supratidal and tight rock with a lot of anhydrite plugging.

Q. What was the Premier sand? What kind of deposition was it?

A. Well, I think what we're going to be looking at there primarily is near-shore reworked dune sands.

Q. Very drastic environment.

A. Really.

Q. What kind of stimulation are you looking at, or do we need to talk to the engineer about that?

A. He'd probably be happier if you talk to him.

EXAMINER STOGNER: Okay. I have no other questions of this witness. You may be excused. Thank you, Mr. Jordan.

THE WITNESS: Thank you.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

MR. KELLAHIN: Mr. Stogner, we're going to call Mr. Chuck Morgan. Mr. Morgan is a petroleum engineer.

CHUCK MORGAN,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. For the record, sir, would you please state your name and occupation?

A. My name is Chuck Morgan, and I'm a production engineer.

Q. And where do you reside, sir?

A. Midland, Texas.

Q. On prior occasions have you testified before the Division?

A. Yes, I have.

Q. Was it your responsibility to do the engineering work concerning this Application by SDX?

A. Yes, it was.

Q. Have you worked in association with Mr. Jordan about the geology and the engineering aspects?

A. Yes, I have.

Q. Have you also caused a search to be made so that we could identify for the Examiner the operators in the pool?

A. Yes, I have.

Q. And were you responsible for making sure that notification was sent to all the operators in the pool?

A. Yes.

Q. In addition, have you had conversations with the unit operator about his use of the various reservoirs in this area?

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Morgan as an expert witness.

EXAMINER STOGNER: Mr. Morgan is so qualified.

Q. (By Mr. Kellahin) Let's turn to the index page of the exhibit book, and let's keep the locator map. It's

7B. If you'll keep that out, we can talk about the various parts of this project that you've worked on.

When we turn to Exhibit 1, identify that for us. What is that?

A. Exhibit 1 is basically a unit boundary map.

Q. And you've satisfied yourself that it's accurate?

A. Yes.

Q. What is the formation that is the subject of the unit?

A. It is the Premier sand, a member of the Grayburg formation.

Q. Have you had discussions with the unit operator and the unit owner over your plan to have the pool contracted so that the San Andres Pool is set aside as its own separate pool?

A. Yes, I have.

Q. With what results?

A. They were in agreement with our desire to do so, and there are letters in the book from both of them, stating that they have no objection to our lands.

Q. Let's turn to -- Exhibit 2 is the type log. Let's turn to Exhibit 3. What have you included in the exhibit book behind Exhibit Tab 3?

A. Behind Exhibit Tab 3 is a description of the unitized interval, as was stated when the unit was formed.

And behind that is a sample log of the type log that was used to define the Premier sand interval of the Red Lake Premier Sand Unit.

Q. Have you and Mr. Jordan utilized this information in your analysis of the unit in relation to the San Andres?

A. Yes, we have.

Q. Have you also, Mr. Morgan, prepared a tabulation of all the wellbore data for the wells in the unit area?

A. Yes, I have. That would be in Exhibit Number 4, Tab Number 4.

Q. Let's turn to Tab 4. What are you presenting on the spreadsheet shown behind Exhibit Tab Number 4?

A. This is a tabulation of all the existing wells within the current unit boundaries. They're organized by operator and then by section.

Q. When we come back to the locator map, 7B, are all the wells you show on Exhibit 4 also displayed on Exhibit 7B?

A. Yes, they are.

Q. Let's take 7B for a moment, and identify for Mr. Stogner the various wells that at some time were drilled through and produced out of the San Andres. How are they coded on here?

A. Let's refer to the spreadsheet. It will be -- I think it will be a little easier.

Q. Okay, when we use the spreadsheet, on the far left all these wells are identified by a number?

A. Yes.

Q. Let's do that, then, so he has a list of the wells that you've analyzed.

A. Okay. We identified basically three wells in the unit that possibly had perfs down into the San Andres.

Q. Show me which ones those are.

A. That would be Number 6, Number 44 and Number 46.

Q. Okay. Let's find those three wells on Exhibit 7B.

A. Okay.

Q. It may be easier if you simply circle them on my map here. I think you have those --

A. I have them circled --

Q. -- and then we'll show this map to Mr. Stogner.

A. All right, we can do that. This would be Well Number 6 right here, and 46 and 44.

Q. Where would you like to start, Mr. Morgan?

A. I'd like to start with Well Number 6 --

Q. Let's do that.

A. -- which is the Red Lake Premier Sand Unit Well Number 7. That particular well was completed originally down to 2400, which was significantly down into the San Andres. We found no records anywhere in the OCD or well

files or anywhere that we could find to indicate that those perfs were plugged back. However, in conversations with the unit operator, he has recently worked on this well and discovered that that well is, in fact, plugged back to 1850, which would be to the Premier sand, below the Premier sand.

Q. So that was a wellbore that could have crossed over between what the unit is using in the Premier, down into the San Andres?

A. Yes.

Q. And are you satisfied, based upon your research of this issue, that that wellbore is not crossing over in the two pools?

A. Yes, I am.

Q. There will be no need to make arrangements for downhole commingling or dual completion or other solutions for that wellbore?

A. No, sir.

Q. Let's turn to the next one.

A. The next one, Number 44 and Number 46 are basically identical. They were completed in what I've identified as a small member in the San Andres, probably 40 to 50 feet below the top of the San Andres.

There are again no notations in the OCD records or in the operators well files to indicate these were

plugged back, but in conversations with the operator we believe there is a distinct possibility that they were handled in a similar fashion to the previous well I discussed.

Q. What are SDX's plans for the development of the San Andres?

A. We have plans to drill an additional 24 to 25 wells within the unit boundaries here, into the San Andres, and complete in the middle San Andres section that was identified by Dr. Jordan.

Q. Pursuant to the current rules of the Division, are you currently precluded from locating a wellbore within the unit area that would give you the opportunity to produce the San Andres?

A. Yes, we are.

Q. And why is that?

A. Rule 104 allows for one operator per proration unit per pool, and the current pool that this unit lies within contains both the Grayburg and the San Andres formations.

Q. If we contract the current pool and exclude the San Andres, would that afford you the opportunity to locate your wellbores?

A. Yes, it would.

Q. Do you have a plan or proposed action with

regards to 44 and 46? Those are targeted 40-acre tracts, I assume, that SDX would want to develop at some point?

A. Yes, they are. We have had discussions with the unit operator and the owner, and they've indicated that if they have opportunity to clean these wells out and discover that the plugback is not there, that they will plug them back.

Q. Have you satisfied yourself, Mr. Morgan, that those wellbores would not be in competition with you for production out of the San Andres?

A. Yes, I have.

Q. Let's talk about the other information you have put in the exhibit book. I guess it's easy enough to go to Exhibit 5. Identify and describe what is behind Exhibit Tab 5.

A. Behind Exhibit 5 we have two letters, one from the unit owner, the other from the unit operator, stating that they have no objections to us creating a San Andres pool underneath the Red Lake Premier Sand Unit.

And behind that we have proof of notification to all operators in the Red Lake Pool.

Q. This is the mailing list that went out of your office in Midland to all the operators?

A. Yes.

Q. And it included a copy of the Application and the

notice of hearing today?

A. Yes.

Q. Did you receive any objection from any of the parties notified?

A. No objection, sir.

Q. Describe for me how you went about satisfying yourself that you had identified all the operators within the pool.

A. We had a tech in the office use the Internet and pull a list of all operators in the Red Lake Pool from the ONGARD system.

Q. When we go back to Exhibit 7B, there's a green outline. What does that represent on the map?

A. Okay, the green outline is the existing unit boundary line.

Q. Okay. When we turn to Tab 6, you have a bunch of reports and data. They appear all to be scout tickets?

A. Yes.

Q. What does this correspond to?

A. Those scout tickets correspond to every producing well within the unit boundary and within any contiguous 40-acre tract.

Q. Within that area of research, other than the three wells that you've identified, everything else has satisfied you as an engineer that they're isolated between

the Premier and the San Andres?

A. Within the unit boundaries, yes, sir.

Q. Yes, sir. And as to any other formation, we don't have wellbores that are problem wellbores, if we want to put the San Andres as a separate pool?

A. No, sir, not within the boundaries of the existing unit.

Q. Have you tabbed the exhibit book so that Mr. Stogner can find the scout tickets that are associated with the three wells that you've described?

A. We have -- Yes, we have.

Q. I believe his copy has got those tabs.

A. Yes, his copy is tabbed.

Q. Mr. Jordan has reached a geologic conclusion about the separation of the San Andres. Has there been any occurrence in the pools for having wellbore action, stimulation or otherwise, that would communicate the San Andres with other reservoirs?

A. No, sir.

Q. This is not a situation where you could frac into the producing interval of the San Andres and communicate that wellbore by a fracture system into the Premier?

A. No, not in the producing interval that we're currently actively pursuing.

Q. In the Premier sand, does the unit operator --

what action does he take for stimulating his wells?

A. Those wells are fracture-stimulated.

Q. Do you see any reason to suspect that the fracture stimulation would have broken the bottom of the container for the Premier sand and allowed hydrocarbons to communicate with the San Andres?

A. No, not of any significance.

Q. Okay. Your major targets are down farther in the San Andres?

A. Yes, sir.

Q. What are your timing plans for commencing the drilling of wells in the San Andres so that you'll have an opportunity to access SDX's share of the hydrocarbons in that formation?

A. We have had drilling plans that we've put on hold pending the results of this hearing, and would hope to get started in the very near future.

Q. Within the unit area, is all of the San Andres formation controlled by SDX?

A. Yes, it is.

Q. There won't be other operators in the San Andres within the unit area?

A. There are -- No, there will not be.

MR. KELLAHIN: That concludes my examination of Mr. Morgan.

We move the examination of Exhibits 1 through 6, excluding Number 2.

EXAMINER STOGNER: Exhibits 1, 3, 4, 5 and 6 will be admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Morgan, I believe on one of the exhibits, I think 7D, does that show the current injection wells in that Premier sand?

A. Yes, it does.

Q. And how -- I only count about three or four; is that correct?

A. That's correct. They're indicated with a triangle.

Q. Okay. Do you know what pressures the injections are, or what the pressure in the Premier sand is?

A. I believe those injection pressures to be around 900 to 1100 pounds. I'm not certain on that.

Q. And that's on the surface, right?

A. Yes.

Q. Do you know if that Premier sand is pressured up?

A. I don't believe that it is. We haven't -- In the wells that we drilled through it, around the unit boundaries and the one within the unit, we have had no indication of any pressures or water flows in the Premier.

Q. So no problem in drilling through it?

A. No, sir.

Q. Do you know if they're using fresh water or produced water?

A. Produced water.

Q. Produced. When did the Premier sand -- when was it unitized, when did it start waterflood?

A. It was unitized in 1957, and I am not certain on the dates as to when the waterflood commenced.

Q. Okay, do you know when the Red Lake-Queen-Grayburg-San Andres Pool came into existence?

A. No, I do not.

Q. But quite a bit of time before the unitization and the waterflood started, wasn't it?

A. Yes, sir, I believe so.

Q. That's not unusual in southeast New Mexico to find a pool that includes several formations, is it?

A. No, it is not.

Q. Okay. Especially the older ones?

A. Yes, sir.

Q. Do you know why that might have been or --

A. It's my belief that it was done that way because several of the pools or formations within a pool were not economically viable when completed by themselves, so an operator would need to produce two or three zones at the

same time to make a commercial well. And the pressures were basically similar, so there was no problem in doing this.

Q. Now, the middle San Andres or the lower San Andres, does it produce much water?

A. It has I'm going to say on the average of 30- to 60-percent water cut, depending on where you're at in the structure.

Q. So it's not water-sensitive?

A. No, it's not water-sensitive.

Q. On the completion techniques for the Premier sands, do they also fracture the injection wells, or were those mostly old producing wells that were turned into injectors?

A. I believe those were old producing wells that were turned into injectors, but I do believe they were originally frac'd or shot. Some of these wells were old cable-tool wells that were shot.

Q. Okay. Now, you testified that you believe the fracture stimulations in the Premier sand were confined to the Premier sand?

A. Yes.

Q. Okay, and do you want to elaborate on that for me a little bit more? Why do you believe that, and why...

A. The Premier sand is basically a sandstone. The

rock mechanics are such that it has a lower frac gradient than the underlying San Andres, and I believe without intentionally trying to breach that boundary between the two, that you should be able to stay in zone in the Premier sand, due to rock mechanics.

Q. Now, how about the fracture stimulation in the San Andres, your middle San Andres? Is it going to be confined there? I'm assuming that you're fracturing those zones too.

A. Yes, we are fracturing those zones. You do have some frac height associated with those frac jobs. We are, I believe, of sufficient distance away from the top of the San Andres to preclude any communication up into the Premier sand.

Q. Okay. Now, I'm going to refer to that Well Number 44.

A. Yes, sir.

Q. Now, in that particular well -- and you said the 46 was a lot like it -- there was some San Andres perforations. Of course, that was in the upper San Andres --

A. Yes, sir.

Q. -- portion.

A. I believe that to be the Lovington sand, if you'll allow that term.

Q. Was it producible?

A. Yes, it is, in some places.

Q. Are you going to be testing that with your wells?

A. We have no plans at this time to test it.

Q. Now, how about the fracturing of the Premier sand with respect to this top of the Lovington portion of the upper San Andres?

A. Are you referring to that specific well?

Q. Not the specific well as much as the general, overall Premier sand and the way it was fractured and the way it was stimulated. Because you had testified you believe the 400-foot depth to your proposed zone was sufficient to isolate any fractures.

A. Yes.

Q. But how about -- And that looks to be about what, 40 to 50 feet below the --

A. It ranges from 40 to 70 feet. I believe if you have the Premier sand open during a frac job, that you're not going to grow out of the Premier sand unless you intentionally do so. Again, here we're getting into frac theory, and that's kind of a whole 'nother ball of wax.

These stimulation jobs that were done in the existing Premier sand wells were not big jobs and were not at very high rates, and that's why I believe that they were confined to the Premier sand.

Q. Now, you're proposing to drill 24 to 25 new wells?

A. Yes, sir.

Q. How about -- are you going to be re-entering any old wells?

A. We don't have any candidates identified right now to re-enter. The age of some of these wellbores prohibits that.

Q. Now, these 24 to 25 wells, are these going to be on 40-acre spacing, or do you propose to drill down to a lesser spacing?

A. Our initial drilling program will be on 40-acre spacing. We probably will drill some infill wells as we go along.

Q. Any plan, or do you see this as a good candidate later on? Are any of the San Andres formations very good candidates for waterflood or tertiary recovery?

A. Well, that's a very good question. I believe it to be a waterflood candidate, but we have no plans at this time to do that.

EXAMINER STOGNER: Any other questions of this witness?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: Thank you, Mr. Morgan.

MR. KELLAHIN: That concludes our presentation in

this case.

EXAMINER STOGNER: Does anybody else have anything further in this matter?

Then this case will be taken under advisement.

(Thereupon, these proceedings were concluded at 9:05 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 12848 heard by me on 30 May 2002.

, Examiner
Oil Conservation Division

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 May 30th, 2002.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002