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:	
APPLICATION OF ENERGEN RESOURCES CORPORATION FOR POOL EXTENSION AND PROMULGATION OF SPECIAL POOL RULES FOR THE NORTH BURTNER-DEVONIAN POOL, LEA COUNTY, NEW MEXICO	CASE NO. 13,751

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: RICHARD EZEANYIM, Hearing Examiner

July 20th, 2006

Santa Fe, New Mexico

2006 JUL 25 AM 11 2

This matter came on for hearing before the New Mexico Oil Conservation Division, RICHARD EZEANYIM, Hearing Examiner, on Thursday, July 20th, 2006, 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.

* * *

I N D E X

July 20th, 2006
Examiner Hearing
CASE NO. 13,751

* * *

E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	7	11
Exhibit 2	7	11
Exhibit 3	9	11
Exhibit 4	13	29
Exhibit 5	16	29
Exhibit 6	20	29
Exhibit 7	23	29
Exhibit 8	26	29
Exhibit 9	32	44
Exhibit 10	32	44
Exhibit 11	33	44
Exhibit 12	34	44
Exhibit 13	44	44
Exhibit 14 (Confidential)	38, 40	44
Exhibit 15 (Confidential)	38	44

* * *

A P P E A R A N C E S

FOR THE DIVISION:

CHERYL O'CONNOR
Assistant Counsel, NMOCD
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

MILLER, STRATVERT P.A.
150 Washington
Suite 300
Santa Fe, New Mexico 87501
By: J. SCOTT HALL

* * *

WHEREUPON, the following proceedings were had at 8:55 a.m.:

EXAMINER EZEANYIM: We'll now go to page 4 of the docket and call Case Number 13,751. This is the Application of Energen Resources Corporation for pool extension and promulgation of special pool rules for the North Burtner-Devonian Pool, Lea County, New Mexico.

Call for appearances.

MR. HALL: Mr. Examiner, Scott Hall, Miller Stratvert, PA, Santa Fe, on behalf of the Applicant, Energen Resources Corporation, and I have three witnesses this morning.

EXAMINER EZEANYIM: Very good. Any other appearances?

May the witnesses stand up to be sworn, please?

(Thereupon, the witnesses were sworn.)

EXAMINER EZEANYIM: Mr. Hall, you may proceed.

KENNETH H. GRAY,

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

DIRECT EXAMINATION

BY MR. HALL:

Q. For the record, please state your name, sir.

A. Kenneth Gray.

Q. Mr. Gray, where do you live and by whom are you

employed?

A. I live in Midland, Texas. I'm employed by Energen Resources Corporation.

Q. And what do you do for Energen?

A. I'm their district landman for the Permian Basin.

Q. And have you previously testified before the Division and had your credentials as an expert petroleum landman established as a matter of record?

A. Yes, I have.

Q. Are you familiar with the Application that's been filed in this case?

A. Yes.

Q. And are you familiar with the lands that are the subject of the Application?

A. Yes.

MR. HALL: At this point, Mr. Examiner, we'd offer Mr. Gray as a qualified petroleum landman.

EXAMINER EZEANYIM: Mr. Gray is so qualified.

Q. (By Mr. Hall) If you would briefly, Mr. Gray, summarize for the Hearing Examiner what it is Energen is requesting by its Application.

A. For the North Burtner-Devonian Pool, we'd like to extend the pool to include from the northeast quarter, also include the northwest quarter, and we would like 80-acre standup or laydown proration units within the quarter

section and 330 offsets and 10-foot quarter quarter offsets.

Q. And you're requesting that those acreage and well location requirements be established through the establishment of special pool rules?

A. Yes.

Q. Let's look at Exhibit 1. Is that a copy of the proposed pool rules for the pool?

A. Yes.

Q. Now let's turn to Exhibit 2, if you would explain that to the Hearing Examiner.

A. You'll note that the north half of Section 3 is outlined, and that is what we propose as a pool extension and --

EXAMINER EZEANYIM: Is this your Exhibit 2?

THE WITNESS: Yes, I'm sorry.

EXAMINER EZEANYIM: Okay, go ahead, I'm sorry.

THE WITNESS: Are we ready?

EXAMINER EZEANYIM: Go ahead, yeah.

THE WITNESS: Okay, we are proposing that the pool be extended. Right now it includes the northeast quarter of the section, and we're proposing that it include also the northwest quarter. And you'll notice there's four wells on there that are in blue or purple. Four of those did penetrate the Siluro-Devonian, two of those are the

only producing wells which are within the north half.

Also there are three state leases involved, as outlined. The state lease number is there, and they're outlined in green. And the royalty on all those state leases is 12.5 percent.

Q. (By Mr. Hall) Mr. Gray, you've referenced in your Exhibit 2 two wells within the north half of Section 3. You have the Saunders Deep State Number 1, and then the Texas Deep State Number 1. Are both of those wells operated by Energen?

A. Yes, they are.

Q. And both of those wells are producing from the Siluro-Devonian formation?

A. Yes.

Q. And the other two wells identified in purple, are they producing?

A. The one to the south is not. The one to the north is producing, but it has been plugged back and is producing from the Atoka. It's the Brazos Deep State Number 2. It was drilled to the Siluro-Devonian, but it has been plugged back to the Atoka.

Q. So there are no other Siluro-Devonian producers within the immediate vicinity of this pool?

A. That's correct.

Q. And what does the yellow acreage on Exhibit 2

indicate?

A. Yellow acreage is acreage where Energen owns an interest, either full or undivided.

Q. All right, let's turn to Exhibit 3 now. Is Exhibit 3 an ownership breakout for the north half of Section 3?

A. Yes, it is.

Q. Would you briefly review that with the Hearing Examiner?

A. If you look at Exhibit 2 in connection with this, these three leases are the three leases outlined in green. And you'll note that the very first one is the one, the northeast of the northeast, where the State -- Saunders Deep State Number 1 is located. The next one is all of the acreage except for where the Texas State Deep is. And you'll note that those ownerships are identical as far as mineral ownership, operating rights and overriding royalty. The one where -- The Texas State Deep is the last one. It is the same as for a state royalty and working interest, but the overrides are not the same.

Q. If 80-acre spacing is approved, what unit configuration are you proposing for the Saunders Deep State Number 1?

A. It would be a standup basically 80, because lot 1 is more than 40 acres. It would around 88 acres, but it

would be basically the east half of the northeast quarter.

Q. And what unit configuration would you propose for the Texas Deep State Number 1?

A. It would be a laydown 80, and it would be the south half of the northwest quarter, because of the ownership and...

Q. All right. Now would any of the interest owners in the Saunders Deep State Well Number 1 or the Texas Deep State Well Number 1 be diminished by changing the spacing from 40 to 80 acres?

A. No.

Q. Were all of the mineral interest owners and working interest owners in the north half of Section 3 notified of Energen's Application?

A. Yes.

Q. Did you have any communications with Chevron or Pure?

A. Well, we have communicated with Chevron, who now owns the Pure interest. And they actually called me, they're aware of the hearing. They certainly had no problems with it, and I talked to their landman.

Q. Did Chevron or Pure have any objection that you're aware of to the proposed Application?

A. No.

Q. Who are the operators in the Siluro-Devonian

formation within one mile of the proposed boundaries of the extended pool?

A. The only operator is Energen.

Q. Okay. And were Exhibits 1 through 3 prepared by you or at your direction?

A. Yes.

MR. HALL: That concludes our direct examination of this witness. We'd move the admission of Exhibits 1 through 3.

EXAMINER EZEANYIM: Exhibits 1 through 3 will be admitted into evidence.

Do you have any questions?

MS. O'CONNOR: (Shakes head)

EXAMINER EZEANYIM: You may step down. I'll hold my questions till the last one.

MR. HALL: At this time, Mr. Examiner, we would call Dave Cromwell, geologist.

EXAMINER EZEANYIM: Mr. Cromwell, you've been sworn.

DAVID W. CROMWELL,

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

DIRECT EXAMINATION

BY MR. HALL:

Q. Mr. Cromwell, for the record please state your

name.

A. David Cromwell.

Q. And Mr. Cromwell, where do you live and by whom are you employed?

A. I live in Birmingham, Alabama, I am employed by Energen Resources.

Q. In what capacity?

A. I am the district geologist for the Permian Basin, which includes southeast New Mexico and of course west Texas.

Q. And you have previously testified before the Division and the Commission and had your credentials as an expert geologist established as a matter of record; is that correct?

A. Yes, sir.

Q. You're familiar with the Application that's been filed in this case?

A. Yes, sir.

Q. And you're familiar with the geology in the area of the Application?

A. Yes, sir.

MR. HALL: At this point, Mr. Examiner, we would offer Mr. Cromwell as an expert petroleum geologist.

EXAMINER EZEANYIM: Mr. Cromwell is so qualified.

Q. (By Mr. Hall) Mr. Cromwell, have you prepared

certain exhibits in connection with your testimony today?

A. Yes, I have.

Q. Let's look at Exhibit 4, if you would please. Would you identify Exhibit 4?

A. Exhibit 4 is a regional producing map of a portion of Lea County and also Chaves County. The scale on this -- The big squares are townships, and then the small squares are sections within the townships, as you can see.

The yellow coloration is the producing zone, fields that have produced from different horizons. The yellow, for example, is the Permo-Penn -- or the Pennsylvanian -- or the Permian section. The blue, dark blue, is the Pennsylvanian section. And then you see splotches of green; those are fields from the Siluro-Devonian.

I have prepared this exhibit for the basic reason that one of the things that we want to seek from the OCD is that we would like to get the field name changed from the Burtner field to the Saunders field. And as we go through the testimony, the reason I am proposing that will be evident, I think, if you'll look at these exhibits.

On this -- When we filed for the field discovery a little over a year ago, I talked to the Geologist in the OCD in Hobbs, and he felt that the name Burtner, which you will notice on this exhibit down at the bottom -- you'll

see that the Burtner field is a one-well Permian field down here about two miles south of us. And you can see the little -- the blue dot around it, and that's the Burtner.

And we feel that a more apropos name for this field would be the Saunders-Devonian, because as you see, all the blue area that you see with the red dot in it that says Number 1 Saunders Deep is located in that blue area, and that blue area is the Saunders Permo-Penn field.

So we feel that this exhibit illustrates that our field is actually in the Saunders Permo-Penn section. And the Permo-Penn is at 10,000 feet, and we're drilling down here at 13,600, so we're beneath a shallower producing horizon.

MR. HALL: Mr. Examiner, if I might provide some further explanation at this point, the request for the name change was not included in our Application or the advertisement. There was some uncertainty how to proceed, and I believe that perhaps the most expeditious way to have changed -- the name change, is through the Division's nomenclature process, rather than through a full-blown hearing.

So that's the reason I did not include it in the Application for this case. We didn't wish the name change to result in a delay in the issuance of special pool rules for the case. So we're requesting that that be handled

separately, unless it is permissible to handle it within the context of this Application.

But in any event, it's our first objective to obtain special pool rules first, and then if appropriate we'll come back in and apply for a name change through the nomenclature process through separate application, as you direct.

EXAMINER EZEANYIM: Do you have anything to say?

MS. O'CONNOR: (Shakes head)

EXAMINER EZEANYIM: Yeah, you just -- because this is news to me. I didn't know you are requesting for a name change from Burtner to Saunders.

However, as you know, these pools have been named by the Districts, and even the first time -- I believe the first time you came here, they had to come out with this Burtner-Devonian or whatever it is now that you wanted to change.

You might be right, Mr. Hall, about going through the nomenclature to do that, because that's what we have to do. We need to make sure that these people -- our District Geologists are the people who name these, because we have to be consistent, you know, in giving names to these things.

You might have a point in looking at this geology here, in changing it from Burtner to Saunders, but however,

we need to get input from our Geologists in the field that name these things for us, to make sure that it's correct before we change it.

So I don't think this will delay our hearing today, but however, if this change is necessary we might go through the nomenclature process when the Districts have agreed to what you are proposing.

THE WITNESS: Yes, sir.

Q. (By Mr. Hall) Mr. Cromwell, have you discussed the change of the name with Paul Kautz in the Division's District Office?

A. Yes, sir.

Q. And what did he indicate to you?

A. Well, he felt -- and he looked at a different map than this, but the name Burtner was closer to our well than the name Saunders on the land map, the lease map. I don't know if you're familiar with that or not. It's another map that's published. And that's why he felt that it should be in the Burtner field.

And I explained to him, as you'll notice on this next exhibit, Exhibit Number 5, which is also -- this was the discover map that we sent to the OCD in Hobbs for our discovery well, the Saunders Deep State well. And the scale on this map is one inch equals 1000 feet, and you can see the purple dot is the Saunders well here.

And then we've subsequently drilled this other purple dot, the Texas Deep well, and then within a two-mile radius we've drawn a circle around the proposed well. And all of the green circles are wells that are shallower, they're in the Saunders-Permo-Penn field, and we've drilled, of course, through that. And as you can see, Burtner does note even show up on this map within a two-mile radius.

And so I was kind of flabbergasted when the Geologist went ahead and put it in the field that he thought it should be in --

EXAMINER EZEANYIM: Yeah --

THE WITNESS: -- so to answer your question, I don't know why he did that, sir.

EXAMINER EZEANYIM: Okay, fine. What -- do you have -- I don't understand what you said that Mr. Kautz -- what did he say when you talked to him? I want to understand what he said. Did he say, Yeah, he agrees with you, Saunders or Burtner? What did he say physically to you? I mean the Geologist in Hobbs.

THE WITNESS: Yes, sir.

EXAMINER EZEANYIM: What did he tell you?

THE WITNESS: He said that he -- because the name on the map, the name Burtner, was closer than the name Saunders --

EXAMINER EZEANYIM: Uh-huh.

THE WITNESS: -- that he felt that it should be in the Burtner field. And the Burtner is a one-well field that made 800 barrels from the Permo-Penn section.

EXAMINER EZEANYIM: Oh, okay.

THE WITNESS: It did not even produce from the Siluro-Devonian.

EXAMINER EZEANYIM: Yeah, so I go back to my point, you know, the -- I don't think the name change, the order --

THE WITNESS: Right.

EXAMINER EZEANYIM: -- what you are seeking today --

THE WITNESS: Right, that's a separate issue, but I just wanted to --

EXAMINER EZEANYIM: Yeah.

THE WITNESS: -- illustrate the -- how -- in my testimony I'm going to be talking about this change, but we feel that it should be in the -- the name change should be included in what we're saying also.

EXAMINER EZEANYIM: Okay. What we might do, like in the nomenclature today --

THE WITNESS: Right.

EXAMINER EZEANYIM: -- we do this nomenclature quite often. After the hearing, maybe we talk to the

District Geologist and then see if he wants to do that, because we give -- this is their job, is to name all these things so that it's consistent.

I know you could come up with the name, I mean -- but it's up to the Geologists in the Districts to agree with you or not. If they do, we can change it. We can even issue this order using Burtner and then -- but whenever we change it, we can do, you know --

THE WITNESS: -- the nomenclature thing later on.

EXAMINER EZEANYIM: Yeah, after we do the nomenclature --

THE WITNESS: Yes, sir.

EXAMINER EZEANYIM: -- and we name it Saunders like you wanted, then we change it to the other appropriate name.

THE WITNESS: Right, right, yeah. I can understand if I wanted to call it the Cromwell field, the geologist in Hobbs would have some objection to that --

EXAMINER EZEANYIM: Of course.

THE WITNESS: -- but to me, this geographically makes a little more sense, and we'll be glad to re-open -- to talk to him further and see if we can't get him to change it, if that's what it takes.

EXAMINER EZEANYIM: Okay, that's external to this hearing, because I didn't even know. If I knew you were

going to do that, we could have made the -- gotten it arranged. But that's okay, there's nothing wrong, we can proceed here for today.

MR. HALL: Again, Mr. Examiner, we didn't wish the nomenclature issue to cause any sort of delay in your consideration of the --

EXAMINER EZEANYIM: Yeah, I'm aware of that.

Q. (By Mr. Hall) Mr. Cromwell, based on the data you've obtained from the Saunders Deep State Number 1 and the Texas Deep State Number 1, do you believe that the Siluro-Devonian reservoir extends into the northwest quarter of Section 3?

A. Yes, I do.

Q. Would you like to explain how you reached that conclusion to the Hearing Examiner?

A. Yes, sir. If you'll look at Exhibit Number 6 now --

EXAMINER EZEANYIM: All right, this one?

THE WITNESS: Yes, sir.

THE WITNESS: -- Exhibit Number 6 is a structure map on the top of the Siluro-Devonian. It is also at a scale of one inch equals 1000 feet. The acreage is colored yellow, as indicated by the key up in the upper left-hand corner. The proposed 80-acre units are highlighted in dark black around there. The Siluro-Devonian tests, as Mr. Gray

had pointed out earlier, are the purple dots in through here. All the other oil well symbols that you see are from the Saunders field, the Permo-Penn, which is at 10,000 feet. We're drilling down here at 13,600 feet, and that's where our pay is located, at about 13,600 feet.

So in other words, we have only got four wells in this area that have actually penetrated our pay horizon. So as you can see, the structure map indicates that we have got an anticlinal feature here that runs mostly northwest -- I mean, northeast to southwest slightly and then tapers off to the south.

To give you a little history in here, the first well that was drilled in the south end is an old Amerada well down here. This well was drilled in the 1950s. It went all the way to the Ellenburger at 14,000 feet and was plugged back into the Permo-Penn section at 9800 feet.

Q. (By Mr. Hall) Mr. Cromwell, for purposes of the record could you identify the location of that well?

A. Yes, that is located in the southwest quarter of Section 3 of 15 South, 33 East.

EXAMINER EZEANYIM: Section 3? Yeah, okay.

THE WITNESS: Sir?

EXAMINER EZEANYIM: Is that in Section 3?

THE WITNESS: Yes, sir.

EXAMINER EZEANYIM: Southwest quarter?

THE WITNESS: In the southwest quarter of Section 3.

And as I mentioned, it was drilled into the Siluro-Devonian. They ran a drill stem test and they recovered saltwater. And I'll show this a little later on in my cross-section, but this well indicated it was high on a feature.

We came in subsequently, in the last five or six years, and acquired some 3-D seismic. The seismic indicated that the high was over here in the northeast of the northeast of Section 3.

And last year, about in May of last year, we drilled our Number 1 Saunders Deep Well and encountered the Siluro-Devonian. And subsequently we did a procedure called topsetting. We just scratched about the first eight feet of the formation and set our casing above that and made an open hole completion. That well subsequently came on flowing, and has been flowing -- flowed for about a year and has made a little over 80,000 barrels of oil.

In the meantime, we came through and drilled a second well, the Brazos Deep Well, which is located in the southeast quarter of Section 34 of 14-33. That well was low on structure, and we tested a little bit of oil and a lot of water out of that well and subsequently plugged back into the Atoka-Morrow formation, and it is now a gas well.

Several months ago we came in and drilled our third well in here, the Texas Deep Well. It is located in the northwest quarter of Section 3. It came in high on structure. We also made an open hole completion out of this well and it is now on pump, we're testing it on pump right now.

And so we have two wells that we believe are in the same reservoir, the Siluro-Devonian reservoir, and our engineer will give you testimony to justify that a little later on. But basically, that gives you a little history of Energen's involvement in the wells that we have drilled in this field.

Q. (By Mr. Hall) Okay, let's turn to Exhibit Number 7 now. Can you explain that for the Hearing Examiner?

A. Exhibit Number 7 is a diagrammatic cross-section through our producing horizons and the wells in the field. As you can see from the index map, that the cross-section line goes from north on the left to south on the right, and the various wells are identified across the top, and their producing status right now.

The wells are scaled horizontally, as well as vertically. The formations are identified with a dark red line going across there. The vertical lines are the wellbores and the wellbore depths.

Now wellbore depths are important, if you'll look

in through here, in that, for example, Well Number 3, top of the -- that is the Saunders well. And as you can see, that wellbore depth stops just at the top of the Siluro-Devonian formation. The other wellbores go deeper into the Siluro-Devonian.

The key in here is that the light blue is a limestone lithology, and the dark blue is a dolomite lithology. In this --

EXAMINER EZEANYIM: Light blue is what?

THE WITNESS: Is limestone.

EXAMINER EZEANYIM: Okay. And then the dark blue?

THE WITNESS: Dark blue is dolomite.

In this area the dolomite generally has a more porous texture to it, and our reservoir is always in the dolomite facies. And then whenever we hit limestone, it has very little porosity and what we call tight.

So whenever -- As you can see, we have gone through and we've got pay in this dark blue above the light blue in this field right now, we feel like. And we have the two wells. The Texas Deep -- Well Number 4 is the Texas Deep, and it is producing open hole section through here.

We also feel that we have an oil-water contact. And like I mentioned earlier, the oil water-contact, we

feel, was identified when we drilled the Number 2 well, or the -- it's identified as Number 2, the Brazos Deep Well, in that it produced a lot of water and a little bit of oil, and is low on structure. So the dark green horizontal line through here is my approximate oil-water contact.

We do not know how the limestone facies or the tight rock goes underneath our reservoir. So as you can see, there is no well control for that, and that's one of the reasons that we want to justify 80-acre spacing, is that we've established that we've got some control right now and we've drilled the three wells.

But we're getting ready to drill another well, the Number 2 well, Number 2 Saunders well, which is identified on the previous exhibit that I -- I'm sorry, I didn't point to your attention, but it will be in between Wells Number 3 and Number 4 on this diagrammatic cross-section.

So as we -- So we're in the process of divining the field. And we feel right now, with the data that we've got from -- subsurfacewise from the lithology, that 80-acre development would best enhance the reservoir as we know it now.

Q. (By Mr. Hall) Mr. Cromwell, you've indicated that development on a 40-acre basis under current rules would be problematic from a geologic perspective, but given

the data that you have now, are you satisfied that this Siluro-Devonian formation reservoir extends into the northwest quarter and is also a common source of supply with the reservoir in the northeast quarter?

A. From the lithology data that I've gathered so far, yes, sir, I believe that's the case.

Q. Let's turn to Exhibit --

EXAMINER EZEANYIM: Well, I know -- Excuse me. I know you have another witness that can do a drainage calculation right here, because you can be looking at geology, but we need to have some calculation to indicate that the drainage area for these wells, five wells, is going to be more than 40 acres.

THE WITNESS: Right, yes, sir.

EXAMINER EZEANYIM: Okay, I hope I can get that information.

MR. HALL: We'll have an engineering witness shortly, Mr. Examiner.

EXAMINER EZEANYIM: Okay.

Q. (By Mr. Hall) Let's turn to Exhibit 8 now. Why don't you identify that for the record?

A. Exhibit 8 is a structural cross-section that I have prepared that illustrates in some detail what I've shown you on the diagrammatic cross-section. It shows the various well logs that we have drilled and that other

operators have drilled in this area, and the index map shows that once again north is on the left and south is on the right-hand side of this cross-section. And it goes through all four Siluro-Devonian penetrations within a two-mile radius of our location.

This cross-section illustrates the various lithologies that I mentioned earlier. The red line is the top of the Siluro-Devonian. As you can see on the -- as you go towards the left it dips down and goes beneath the oil-water contact. And then our reservoir is above the oil-water contact, and the engineer will testify.

And as you know, historically the Siluro-Devonian in this area of New Mexico is under a pretty strong water drive, and that we feel that from the evidence that we've seen with the low GOR and so forth, that the engineer will testify a little later on that we're looking at a pretty strong aquifer beneath this that has oil-water drive.

But the lithology that we've identified with these electric logs, with sample log information, with samples I've looked at, indicate that the upper 20 feet, for example, in the Texas Deep is dolomite that has sucrosic porosity and is contributing most of the fluid in this -- in the production of the well. The well was drilled on down to 13,700 feet, and then the lower portion where we went back into dolomite had no shows in it, and

the subsequent production log that we ran indicated that most -- that none of the oil was coming from this lower section.

And as I mentioned earlier, the well, the Saunders Deep well, which is the next well over, the second well from the left-hand side, that well only penetrated about eight feet of the Siluro-Devonian section, and so we don't know exactly what's underneath it. It could be limestone, it could be dolomite. We don't know at this point. So I've drawn the limestone contact through there. It indicates that that contact continues on to the north and into the Brazos Deep Well where we had tight limestone. And then like I mentioned earlier, by the time we had porous dolomite once again, we had all water. And that well was drilled down to 13,900 feet.

So based on the geology that I have done in here, I feel that we're looking at a reservoir pool that we're still trying to define right now, and I feel that 80-acre spacing would best develop that. There are other Devonian fields in this area that were developed initially on 80-acre spacing also.

And then the closest field that we've got down to the south of us, the Anderson Ranch, was never prorated on field rules, but if you look at the wells they were on 80-acre spacing.

So there's precedent for 80-acre spacing in the Siluro-Devonian, and we feel that that is the best way to logically develop this reservoir at this time.

Q. Mr. Cromwell, the other precedents for Devonian pools with 80-acre spacings, did they also have provisions for 330-foot setbacks on the well locations?

A. Yes, they did.

Q. Mr. Cromwell, were Exhibits 4 through 8 prepared by you or at your direction?

A. Yes, they were.

MR. HALL: At this time, Mr. Examiner, we'd move the admission of Exhibits 4 through 8, and that concludes our direct examination of Mr. Cromwell.

EXAMINER EZEANYIM: Exhibits 4 through 8 will be admitted into evidence.

Do you have any questions?

MS. O'CONNOR: (Shakes head)

EXAMINER EZEANYIM: You may step down. I'll ask questions later on. Thank you.

THE WITNESS: Okay.

MR. HALL: At this time, Mr. Examiner, we would call Mr. Jerry Saulsberry to the stand.

EXAMINER EZEANYIM: Jerry Saulsberry?

MR. HALL: Yes, sir.

EXAMINER EZEANYIM: Okay.

JERRALD SAULSBERRY,

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

DIRECT EXAMINATION

BY MR. HALL:

Q. Mr. Saulsberry, would you indicate for the record your name, where you live, and by whom you are employed?

A. Jerrald Saulsberry. I live in Birmingham, and I'm employed by Energen Resources.

Q. And in what capacity are you employed?

A. I'm the chief reservoir engineer.

Q. Have you not previously testified before the Division; is that correct?

A. That's correct.

Q. Would you give the Hearing Examiner a brief summary of your educational experience and work background?

A. Okay, as far as education, in 1981 I received a bachelor of science degree in chemical engineering from Oklahoma State, and then in 1983 I received a bachelor of science from Tulsa University in petroleum, in 1995, a master's degree in mineral engineering from Alabama, which was basically a petroleum engineering degree, even though it's listed as a mineral engineering degree.

I'm a registered professional engineer in the State of Alabama.

I started my career in 1984 with Core Lab, working as a reservoir engineer in their engineering consulting department. I worked with them for approximately three years and then went to work for Energen in 1988 and have been there ever since. I've worked in Alabama, the San Juan Basin, southeast New Mexico and the Permian Basin, mainly doing reservoir engineering.

Q. And you're familiar with the Application that's been filed in this case and the lands that are the subject of the Application?

A. Yes.

MR. HALL: At this time, Mr. Examiner, we would offer Mr. Saulsberry as an expert petroleum engineering witness.

EXAMINER EZEANYIM: Mr. Saulsberry is so qualified.

Q. (By Mr. Hall) Mr. Saulsberry, have you conducted and evaluation to determine whether Devonian wells in this area are capable of draining more than 40 acres?

A. Yes.

Q. All right, let's explain to the Hearing Examiner what your conclusion was and how you reached that conclusion.

A. My conclusion is that they can drain larger than 40 acres, and the exhibits will illustrate that.

Exhibit Number 9, to start with, is a log-log plot of a buildup test performed on the Saunders well. It's a high-quality test, and even though we don't know exactly what the thickness is, because that was a well that was only completed in the top of the reservoir, using a 20-foot thickness the permeability comes out to be 240 millidarcies. And the other well, the Texas Deep, also had a high permeability.

So with that kind of permeability and with the relatively low viscosity of around approximately .46 on the oil, you should be able to drain a pretty good size area.

Q. All right, let's refer to Exhibit 10. What does that show?

A. Exhibit 10 shows a plot of the pressure data from the Saunders well, the first one, which is in blue, and it's plotted versus the amount of reservoir liquids that have been produced in the reservoir, which were produced by the Saunders well.

And then the red point is the pressure of the Texas Deep when it was drilled, and the amount of fluid that had been produced from the Saunders, and you can see that the declining reservoir pressure -- that apparently it drew down the reservoir pressure in the Texas Deep from the Saunders well. So it shows good communication.

Q. All right. What is the drive mechanism for this

reservoir?

A. Water drive. There is very little solution drive, doesn't really come into factor, because even though the oil is a fairly light oil, the bubble point is only 310 p.s.i.g.

Q. All right, from a petroleum engineering perspective, does it appear to you that the two wells are producing from a single common source of supply?

A. Yes.

Q. Let's look at Exhibit 11. What does that indicate to you?

A. Exhibit 11 is a graph where we did oil fingerprint analysis on the oils from the Saunders well and the Texas Deep to look at the composition, to see whether they look like the same oil.

And what they do is, they do gas chrotog- -- chromag- -- can't say that word. They analyze the composition in lots of detail and they do ratios of the various components, and they compare the ratios in these different components from one well to the next, and they literally compare hundreds of different ratios, and they find the ones with the largest differences, and that's what's plotted on this graph.

And you can see that they're very close. There are just slight variations, and that's well within the

accuracy of the test, I believe. And the conclusions of the people that did the test, you can see that the very last sentence is that the fluids are from the same continuous reservoir.

Q. Are those data derived from chromatography?

A. Yes, that word --

Q. All right.

A. -- I had a hard time saying.

Q. Let me ask you, what is the source of Exhibit 11? Is this an excerpt from a larger report?

A. Yes, there's a more extensive report done by Oil Tracers.

Q. Now was a water analysis performed on the wells?

A. Yes, the next exhibit, Number 12, shows a water analysis, and the water analyses show a slight variability between the wells, but they are actually quite close, and the people that do the water analysis believe that that would be coming from the same reservoir.

The slight differences that you may see, which aren't very much, can be explained from several reasons. For example, in one of them the sample was taken from the wellhead, in the other one the sample was taken from the heater treater. There's a large open hole section on one of the wells that could have contributed to it, and also workover fluids and all influence it. But with all that,

they're very close.

Q. In view of the quality of data you have from the wells so far, were you able to utilize decline curve analysis to determine ultimate recovery you might expect?

A. No, I didn't use decline curve analysis. I didn't think that would be valid because of it being a water drive, having a short production history, and changing bottomhole pressures during production makes decline curve analysis not useful.

Q. Based on the data you have in your evaluation, have you determined what would be the most effective drainage area spacing for these wells?

A. Yes.

Q. And what is that?

A. 80 acres.

Q. Okay. And why don't you elaborate for the Hearing Examiner, explain the methodology utilized to conduct your evaluation?

A. What I did to evaluate the best drainage area was, based on the knowledge that we have to date -- I used the data from the well tests and log analysis data, and we also did a PVT analysis on the fluids for fluid properties -- I built a reservoir simulation model and I ran it based on those properties, and I ran it for 40-acre spacing and 80-acre spacing and 160-acre spacing. And I compared the

recovery of the oil on those different spacings.

And what I found was, on that model that we essentially recovered -- got as good a recovery on 80-acre spacing as we did on 40-acre spacing. So --

EXAMINER EZEANYIM: Can you repeat that, what you said?

THE WITNESS: We essentially -- We got very close to the same recovery on 80-acre spacing as we did on 40. There was not much incremental oil from going to the larger spacing. And considering the cost of the wells, it wouldn't be justifiable that you had to drill twice as many wells and get the same amount of oil, basically.

EXAMINER EZEANYIM: So you say you recover as much from the 40 acre and also from the 80 acres? Is that what you're saying?

THE WITNESS: Well, the amount of -- the percent of oil recovered. So you recovered almost twice as much oil on the 80 acres as on one 40 acres. If you use 40-acre spacing you'd have to drill twice as many wells, but you'd end up with about the same amount of oil.

EXAMINER EZEANYIM: Do you have those simulations, calculations, that I can look at?

THE WITNESS: Yes, I do, I've got the printout of the results.

EXAMINER EZEANYIM: Is it in here?

THE WITNESS: It's not an exhibit, but I did bring it with me.

EXAMINER EZEANYIM: Oh, okay. I would like to look at those, because really that's, you know, what I'd be asking for. So I can look at your -- why you are asking for 80-acre instead of 40-acre. You know our rule is 40-acre. Before I can go against the rule I have to have some evidence that shows -- from what you just said, your testimony today is that if you have 40-acre you have to drill two wells, but if you have 80-acre you have to drill one well. That's good. But I need to see the information, the data, to demonstrate that.

THE WITNESS: Okay, I can provide that.

MR. HALL: Mr. Examiner, he's provided his summary of his calculations. We can provide you with the backup data for his calculations.

EXAMINER EZEANYIM: Yeah, and I want also to know the source of the -- There are many ways of calculating these, you know. Tell me how you calculate so I can run my own simulation to verify your numbers. So that will be very good, you know. It will be very pertinent to this case.

MR. HALL: Mr. Examiner, we could have the witness explain those to you on the record, or we could provide them to you after the hearing, whichever you'd

like.

EXAMINER EZEANYIM: He could explain it on the record now, because it's better put on the record, you know, how you did it.

MR. HALL: Why don't we take a minute, then, to retrieve that --

EXAMINER EZEANYIM: Okay.

MR. HALL: -- and we can discuss it with you?

EXAMINER EZEANYIM: That would be a good point now to take a break, and then we come back and start where we just stopped. Is that okay with you?

THE WITNESS: Sure.

EXAMINER EZEANYIM: Okay, at this time we'll take some 10 minutes' break and come back, say, around five minutes to 10:00.

(Thereupon, a recess was taken at 9:43 a.m.)

(The following proceedings had at 9:58 a.m.)

EXAMINER EZEANYIM: Okay, at this point we continue with Case 13,751 and continue the testimony of Mr. Saulsberry.

Q. (By Mr. Hall) Mr. Saulsberry, let's have you look at what we've marked as Exhibits 14 and 15. Would you identify those, please, what they consist of?

A. They are outputs from the reservoir simulation model. One is for the 40-acre case and the other is for

the 80-acre case, and they show how much oil is produced, versus time.

Q. Can you explain on each of the exhibits what the data inputs were and what the parameters were?

A. Okay, the way the model was built was, this was a single-well radial model with 20 layers, and the top part of the model was oil, and then I had 20 feet of oil on top of 300 feet of water for the water drive. It would be a bottom water drive.

And then I used the permeability, I averaged the permeability between the Saunders well and the Texas Deep. And then I had a vertical and horizontal permeability ratio, which I had the vertical permeability to be 1/100 of what the horizontal permeability was. And we don't know really exactly what that is, but I do know that it was a high ratio because of that well test on the Saunders well where it was a partial penetration completion. Part of the well test analysis gives somewhat of a signature of what the permeability ratio is. It's not very exact but it does give you an idea, and it did indicate a high horizontal permeability compared to the vertical permeability.

For the other data I used 35-percent water saturation. For the oil properties I used the properties right out of the oil PVT analysis report.

On relative permeability I used a -- it's called

a -- it was a correlation for limestone and dolomite, for the relative permeability. And 12 percent porosity. I think that covers most of it.

Q. All right. And the exhibits, each of the exhibits we'll show to the Hearing Examiner, have a number of columns on there, and they reflect cumulative oil production, both historically and projected into the future; is that right?

A. Yes.

Q. And then there's a column that shows the water cut, another column that shows the oil rate, and another column that shows the water rate, and then finally a presumed oil recovery factor?

A. Right.

Q. Okay. Let's turn first to Exhibit 14. What are the results of that simulator study for the 40-acre case?

A. Well, if I go down to the -- to one barrel of oil per day, use that for a cutoff -- I don't know what the economic cutoff will be, but if I use one barrel a day, which is probably reasonable depending on the price of oil, then on the 40-acre case it would recover 181,000 barrels of oil.

EXAMINER EZEANYIM: How much?

THE WITNESS: 181,000.

EXAMINER EZEANYIM: That is the estimated

recovery?

THE WITNESS: And that's at a 41.2-percent recovery factor of the oil in place.

EXAMINER EZEANYIM: 41.2?

THE WITNESS: 41.2.

EXAMINER EZEANYIM: And this is oil?

THE WITNESS: Yes. It's got a strong bottom water drive, is the reason the oil recovery factor is high.

EXAMINER EZEANYIM: 41.2-percent, okay. And the estimated recovery is 181,000 barrels of oil?

THE WITNESS: Right.

EXAMINER EZEANYIM: Okay.

Q. (By Mr. Hall) And what results do you show for the 80-acre model?

A. Okay -- Oh, I should also add that that's a little over six years to get that oil on that 40 acres.

And then I go to the 80 acres, and if I go to the point where I'm down to one barrel of oil a day, the oil recovery is 362,000 barrels. But that takes a longer time to recover. That takes about 37 years.

So that's very close to the same amount of oil as two 40-acre wells. As a matter of fact, that is the same.

EXAMINER EZEANYIM: And this one would take seven years, this one would take six years? The 40-acre will be six years?

THE WITNESS: Six years, versus 37 years. And you would only -- I mean that would save, you know, drilling the wells and getting the same amount of oil.

Q. (By Mr. Hall) Mr. Saulsberry, from the results of your 40-acre simulation model and the 80-acre model, do you conclude that by developing the field on 40-acre spacing that you would only realize a slight increase in incremental production?

A. Yes, this particular case doesn't even show an increase. But because there are a fair amount of unknowns in the model I did quite a bit of sensitivity analysis, and what I saw was, you usually didn't recover -- it was a very small amount extra by going to 40, at least on the runs that I made. And it wouldn't be economic to spend that extra money to get that few extra barrels of oil.

Q. And by drilling a well on every 40 acres, as opposed -- as on 80-acre units, aren't you essentially doubling your development cost for the field?

A. Yes, and your operating cost too.

Q. And so do you conclude that 40-acre development is not economically justifiable?

A. No, not based on the data that we have today.

Q. And would development on a 40-acre basis result in the drilling of unnecessary wells?

A. Yes.

Q. In your opinion, Mr. Saulsberry, will adoption of the proposed special pool rules promote the efficient development of reserves in this pool?

A. Yes.

Q. And again, we discussed this earlier. You're advocating that well-location requirements specify 330-acre setbacks?

A. Yes.

Q. Are the two wells that have already been drilled in the north half of Section 3 to the Devonian -- would they be unorthodox as a result of the pool rule change?

A. No.

Q. So they are at standard locations on 40-acre spacing, as well as under 80-acre spacing?

A. That's what I understand from our land person.

Q. Okay.

A. I think I'd also like to add, based on this model, I was using 20 foot of reservoir thickness, and -- because of that limestone that's unproductive, comes and goes. You know, we could end up with some -- a lot thinner pay than that in places, and that would make the situation a lot worse, if we drill on 40s and we encountered the lack of lime- -- or the lack of a dolomite, the productive zone.

Q. All right. Mr. Saulsberry, were Exhibits 9 through 12 and Exhibits 14 and 15 prepared by you or at

your direction?

A. Yes.

MR. HALL: At this point, Mr. Examiner, we'd move the admission of Exhibits 9 through 12 and 14 and 15. Exhibit 13 is my notice affidavit, and we'd move its admission as well.

And that concludes our direct of Mr. Saulsberry.

EXAMINER EZEANYIM: At this point Exhibits 9 through 12 and 13 through 15 will be admitted into evidence.

EXAMINATION

BY EXAMINER EZEANYIM:

Q. As we are still on this, on that -- and I don't have that; I hope I will get a copy of that -- why did you use one barrel as the economic limit? Is that an assumption?

A. That was just an assumption.

Q. Okay.

A. I don't think it changes the answer much if I said, you know, something different. It would essentially give you the same answer.

Q. Okay. Is there any way we could do -- on the 40 acres, in six -- I mean on the 80 acres, how many it would recover in six years on the 80 acres? Is there any way we can use your model to get that number, so I can compare

with the 40 acres? Is there any way we can get, using your model, you know, using your model now, it's one barrel as a cutoff, and then do it on the 80 acres and get how much you can produce in six years?

A. Oh, yes, it's on the exhibit, actually. You can look it up directly.

Q. Okay. What is that right now? Because under your 40-acre, you are -- six years is 181,000. But on your 80-acre is that seven thousand -- I didn't want to compare apples and oranges, I wanted to compare six years with six years and see what you come up with. Can you tell me what it is there for six years?

A. Yes, I'm going to look it up here. I want to make sure I'm at the exact same date.

Q. Yeah.

A. The one thing that doesn't make it quite a fair comparison is, when I ran this model I constrained the maximum production to 200 barrels of oil a day.

Q. You did what?

A. I set the model up so that it would never produce more than 200 barrels of oil a day, so that early on it would only produce 200 barrels of oil a day, because that's kind of the rate we're producing at. And then after it couldn't make that, it would drop down.

Q. What do you use, 200 barrels? Is that your

limit? Is that your allowable or what? Why do you use 200 barrels?

A. Because that's kind of what we are producing them at, because we were concerned about if we produced it too fast, maybe we might pull in more water.

Q. Oh, okay.

A. But if I didn't constrain it, it would help out the 80-acre case more. I'm still looking for the number here.

Q. Okay, sure.

A. Okay, in the 40-acre case it's 181,000 barrels --

Q. Yeah.

A. -- in the 80-acre case it's 328,000.

Q. 328,000 barrels?

A. Yes. Yes, 328,000.

Q. In six years?

A. Yes.

Q. Okay.

A. If I did not constrain the 80-acre one to 200 barrels a day, it would have been a higher amount relative to the 40-acre.

Q. Well, that's the reason why you constrained it to 200 barrels a day? I mean, if you look at this, if you tell me that recovery factor is 41.2, that is very active water drive, very good?

A. Yes, it is.

Q. So essentially -- Okay, in six years you are going to produce 328,000, almost what you estimated was 362,000. How many was remaining? About 20,000 left for the rest of the 31 years, if you left it, you know, producing.

If you take off 328,000 from 362,000 in that seven years, you are looking at 24,000 [*sic*] in 31 years. Is that what you can conclude from the data you gave me?

A. If I understood you, I believe so. I mean, because --

Q. Yeah.

A. -- after six years it's down to only 29 barrels a day on the 80-acre case. Now on the 40-acre case it's down to one barrel a day.

Q. Oh, okay. Okay.

What is your Exhibit Number 13? Is that your --

MR. HALL: That's our notice affidavit. We provided notice to the mineral interest owner, the State of New Mexico, as well as to all the working interest owners, within the current pool and the proposed extension of the pool.

EXAMINER EZEANYIM: Okay, so --

MR. HALL: I believe that comports with the Rule.

EXAMINER EZEANYIM: And there will be no

advertisement in a newspaper of general circulation because you've done this? Is that -- You don't have to do that?

MR. HALL: No.

EXAMINER EZEANYIM: I still have to have those information that you have there, that -- the 80-acre unit, because I think the point here is why you want to go against the 40 acres. So that's why I'm trying to hammer at this point. So maybe that will help me, you know, try to arrive at the conclusion on whether to, you know, give you the 80-acre instead of the 40-acre that the Rule says, you know.

All you're asking now is for me to go against the statewide rules and give you 40 acres on this, so -- But I need to have those information to help me make that decision. That's why, you know, I'm trying to get the information I need.

THE WITNESS: These Exhibits 14 and 15, these are just things I happened to have with me, and they don't make the case as good as really -- I would have set the maximum oil rate to be the allowable --

EXAMINER EZEANYIM: Uh-huh.

THE WITNESS: -- and they would be closer at the six-year point.

Also, the 20-acre thickness may be overly generous too, which would -- which hurts the -- If it's

thinner, it's going to make it that much worse to be drilling on 40 acres, because if there's not as much oil there and we're spending all these extra expensive wells --

EXAMINER EZEANYIM: Yeah. Yeah, I understand that. Okay.

Q. (By Examiner Ezeanyim) Could you explain to me why reservoir energy would be conserved if you are using 80 acres than 40 acres? How would reservoir energy be more conserved under 80 acres than 40 acres?

A. How resources will be --

Q. No, the reservoir energy. In the Application, it was -- the claim was made that if you go to 80 acres, the reservoir energy would be more conserved, which is a desirable outcome, than if you go to 40 acres. So why is that?

A. I think it's just supposed to be just conserving resources as far as all the extra drilling, that you're spending a lot of time and money drilling extra wells that aren't needed, when you can get the same amount -- or close to the same amount of oil with half the number of wells.

MR. HALL: Mr. Saulsberry, let me ask it this way. Would developing the field on an 80-acre basis result in the dissipation of reservoir energy at all?

THE WITNESS: Well, yes.

MR. HALL: Would it result in premature

dissipation, as opposed to drilling on 40-acre development?

THE WITNESS: Not based on the information we have today.

Q. (By Examiner Ezeanyim) Okay. And then there are some allusions to correlative rights in the Application. So for the moment let's say that we leave it at the statewide rule of 40 acres. Do you think your correlative rights will be impaired if we don't approve your 80-acre that you are seeking? You know whether your correlative rights will be impaired?

A. Can I get our land person to answer that?

EXAMINER EZEANYIM: Yeah, anybody who can answer that question. And that's why I said I want to ask these questions generally at the, you know, conclusion. So anybody can answer the question.

My question is, you are asking for 80-acre dedication. If I say, Well, I want it to be on 40-acre, do you think your correlative rights will be impaired by not approving the 80 acres?

MR. HALL: Mr. Examiner, Mr. Gray will address that briefly.

EXAMINER EZEANYIM: Okay.

MR. GRAY: If I understand the question correctly, you're talking about --

EXAMINER EZEANYIM: -- the 80-acre -- whether if

we leave it at 40 acres, do you think your correlative rights will be impaired, you know, like where you're not getting everything you're supposed to be getting from the well?

MR. GRAY: I don't think so.

EXAMINER EZEANYIM: Your correlative rights will not be impaired? Is that --

MR. GRAY: Yeah, I don't see how -- I don't see what difference -- I don't think it would, no.

EXAMINER EZEANYIM: Okay, you wouldn't. So really what we're talking about here is economics --

MR. GRAY: Yes.

EXAMINER EZEANYIM: -- drilling two wells instead of one well, right?

MR. GRAY: Yeah, I just -- Why do we need to drill two when we can get it with one? You know, it costs a lot less money and certainly more economic.

THE WITNESS: I'm not sure whether Dave can answer this or not, but I think -- If it was on 40 acres, is it possible that we would not drill -- I mean that that would make it riskier for us and we might even decide that we don't want to develop part or try for it?

MR. CROMWELL: That's right, based on the geology that we've seen right now, as I illustrated, we don't know exactly where the porous facies is and the tight facies are

in the rock. And so what we've found so far, that -- on 80-acre spacing, that we've correlated the two wells and they seem to be in correlation in the same pool. And so we're continually trying to develop it on 80-acre spacing.

And so once we see that the rocks are there and we feel comfortable with Jerry's data, then we'll let it go economically.

EXAMINER EZEANYIM: Okay.

MR. HALL: Mr. Examiner, have we satisfied your concern with respect to the correlative rights? I think the evidence in the record is that the ownership is the same --

EXAMINER EZEANYIM: Yeah.

MR. HALL: -- and no one is diminished by --

EXAMINER EZEANYIM: Yeah.

MR. HALL: -- upspacing to 80 acres.

EXAMINER EZEANYIM: Yeah, I think I'm okay with that.

And then let me go back to what we've been saying. You know, we have 40-acre here, we have 80-acre here. If you drill one well you could produce, say -- from what I -- What did I write down here? Yeah, you could produce say 328,000 in six years, from what you told me. I need to see that number.

Then you drill one well on 40-acre, you drill --

Well, you drill two wells, you multiply that by two and get the number. So I understand that.

Now my question is that I did a calculation showing the drainage for those wells that we looked at there, and the geologist was able to show those wells. I wanted to see a drainage calculation on how many acres is that well draining? That well has been producing for how long now? I don't know. How long has the well been producing, that well? Either the Texas Deep or Saunders? How long have those two wells been --

MR. GRAY: How long has that --

EXAMINER EZEANYIM: -- how long --

MR. CROMWELL: Thirteen months.

MR. GRAY: Thirteen months.

EXAMINER EZEANYIM: Thirteen months will be enough to do a little calculation, although you're going to have to project into the future, because it's too short a time. But I wanted you to try to do a drainage calculation on those two wells, to see how many -- Or you can even extrapolate, using the data you have, extrapolate how much drainage area.

THE WITNESS: Well --

Q. (By Examiner Ezeanyim) Do you have any information on that?

A. Yes. I mean, Exhibit 10, which shows the

pressures from the Saunders and the Texas State, you can see that the Saunders has already been draining some over there at the Texas State.

Q. Where is Texas State? Which --

A. That's the red -- that's the second -- well, the most recent well.

Q. And the Texas State is drilling what unit in that section? Do you know? Do you know what unit it is?

MR. CROMWELL: Unit F.

MR. GRAY: Unit F.

EXAMINER EZEANYIM: Unit F. And then your Saunders is -- your Saunders in unit -- what?

MR. CROMWELL: The Saunders is in Unit A.

EXAMINER EZEANYIM: A, okay.

THE WITNESS: I have a little bit of a problem sometimes with the term of how many acres a well drains, because the draining is kind of a gradational thing. It will -- You don't completely remove the oil anywhere, but -- and the further out you go, the less you get. But you can go a long ways out, and it's not a black-and-white thing.

But Exhibit 10 clearly shows that you're draining -- you're getting oil -- in the Saunders, you're probably pulling it from the Texas State, you're actually lowering the pressure there.

Q. (By Examiner Ezeanyim) Well, yeah, I understand that. But if we could do a material balance, use a material balance, which is a very good tool, we can come up how many acres it's draining --

A. I -- I --

Q. -- how many you've produced and how many you're going to produce. You -- Like I say, you could extrapolate that to get how many acres you're going to, you know, drain.

A. Well --

Q. I mean, that material balance, I think, is very -- it's a good -- It's not hypothetical, it's good.

A. Yes, but the -- I did try to do a material balance the best I could. But the problem is, you have all this water zone down deep and we don't know how much it is. And if you do a material balance on how much is produced and how little the reservoir pressure has dropped, the pressure hasn't dropped very much --

Q. Yeah.

A. -- because you have so much of this aquifer that's connected to it, and the material balance would include all this pore space from the aquifer.

Q. Yeah.

A. And so it depends on how deep does the aquifer go down?

EXAMINER EZEANYIM: And I think the landman is here? Okay, yeah --

MR. GRAY: Right here.

EXAMINER EZEANYIM: Oh, okay, yeah. All right, I'm sorry.

MR. GRAY: Not a problem.

EXAMINER EZEANYIM: You are seeking to extend this pool into the northwest because of the -- what you showed me here, right?

MR. CROMWELL: (Nods)

EXAMINER EZEANYIM: You think that that Siluro-Devonian is extended into the northwest quarter as well?

MR. CROMWELL: Yes, sir.

EXAMINER EZEANYIM: From your geology studies? Is that geology -- I'm sorry.

So we could easily say that that formation extended to the northwest quarter?

MR. CROMWELL: Yes, sir.

EXAMINER EZEANYIM: Okay, that's all I have.

Anything further?

MR. HALL: That concludes our case, Mr. Examiner.

EXAMINER EZEANYIM: Thank you. Very good, you are excused.

At this point Case Number 13,751 will be taken under advisement.

(Off the record)

MR. HALL: Mr. Examiner, for the record, we would request that the data contained in Exhibits 14 and 15 be maintained confidential by the Division.

What I will do is, I will take these back to my office, have them copied and marked confidential, and I'll have a set hand-delivered to you this afternoon.

EXAMINER EZEANYIM: Okay, that will be fine. Okay, that's good, thanks.

(Thereupon, these proceedings were concluded at 10:28 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 13751 heard by me on 7/28/06.

Examiner

Oil Conservation Division

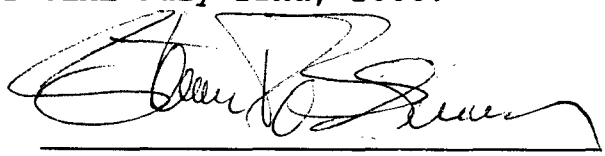
CERTIFICATE OF REPORTER

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 July 22nd, 2006.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2006