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:

ORIGINAL

CASE 15412

APPLICATION OF DEVON ENERGY PRODUCTION COMPANY, L.P., FOR POOL CONTRACTION, POOL CREATION, AND SPECIAL POOL RULES, EDDY COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

December 3, 2015

Santa Fe, New Mexico

BEFORE: MICHAEL McMILLAN, CHIEF EXAMINER
WILLIAM V. JONES, EXAMINER
GABRIEL WADE, LEGAL EXAMINER

RECEIVED
2015 DEC 16 P 3:03

This matter came on for hearing before the New Mexico Oil Conservation Division, Michael McMillan, Chief Examiner, William V. Jones, Examiner, and Gabriel Wade, Legal Examiner, on December 3, 2015, at the New Mexico Energy, Minerals, and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

REPORTED BY: ELLEN H. ALLANIC
NEW MEXICO CCR 100
CALIFORNIA CSR 8670
PAUL BACA COURT REPORTERS
500 Fourth Street, NW
Suite 105
Albuquerque, New Mexico 87102

A P P E A R A N C E S

For the Applicant:

JAMES G. BRUCE, ESQ.
P.O. Box 1056
Santa Fe, New Mexico 87504
(505)982-2043
jamesbruc@aol.com

I N D E X

E X H I B I T I N D E X

Exhibits Offered and Admitted

(Time noted 8:46 a.m.)

EXAMINER McMILLAN: Let's get back on the docket. Let's go ahead and let's get started.

I would like to call case No. 15412, Application of Devon Energy Production Company, L.P., for pool contraction, pool creation, and special pool rules in Eddy County, New Mexico.

Call for appearances.

MR. BRUCE: Mr. Examiner, Jim Bruce representing the applicant. I have three witnesses.

EXAMINER McMILLAN: Any other appearances?

(No response

EXAMINER McMILLAN: I would like to have the witnesses please be sworn in right now.

(WHEREUPON, the presenting witnesses were administered the oath.)

MR. BRUCE: Ready.

EXAMINER McMILLAN: Please proceed.

JOE HAMMOND

having been first duly sworn, was examined and testifed as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name and city of residence for the record.

A. Joe Hammond, Edmond, Oklahoma.
Q. Who do you work for and in what capacity?
A. Devon Energy Corporation in Oklahoma City.
Q. Have you previously testified before the Division?
A. Yes, I have.
Q. And were your credentials as an expert petroleum landman accepted as a matter of record?
A. Yes, they were.
Q. And are you familiar with the land matters involved in this case?
A. Yes, I am.
MR. BRUCE: Mr. Examiner, I tender Mr. Hammond as an expert petroleum landman.
EXAMINER McMILLAN: So qualified.
Q. Briefly, Mr. Hammond, what does Devon seek in this case?
A. Devon seeks the creation of a new pool for horizontal Bone Spring development in sections 20, 21, 22, and 27, 28, and 29, Township 19 South, Range 29 East in Eddy County.
We are asking for 320-acre spacing along with some other special pool rules that will be discussed later in this application.
And the pool name that we request is the West

Parkway Bone Spring Pool.

Q. Are the six sections of land in a unit?

A. Yes, they are. It is a state unit that was created back in the 1970s, called the Parkway West Unit.

Q. And it is all state land?

A. Yes, it is all state land.

Q. Why does Devon seek creation of this pool and for the special pool rules?

A. We -- Devon has drilled a number of Bone Spring wells in this six-section area. And we plan on drilling additional Bone Spring wells, including infill wells which would otherwise be unorthodox.

And by having 320-acre spacing, all interest owners in a 320-acre unit will share in production from three or more wells in a half section of land, thus correlative rights are protected because there will be no unorthodox locations encroaching on offsetting 160-acre units.

Q. Okay. Now, what is Exhibit 1?

A. Exhibit 1 is a plat that was prepared and sent to us by Paul Kautz of the OCD Hobbs Office. And the six sections that are -- that we are talking about today are highlighted in black.

And the pools that are represented in this six-section area are called the Scanlon Draw Bone Spring

Pool, which covers all of section 20. It also covers the north half and southeast quarter of section 21.

And then the southeast -- excuse me -- the southwest quarter of 21 is a different pool. It's called the Rattlesnake Well Bone Spring Gas Pool.

Section 22, north half in the southeast quarter is in a pool called the Turkey Tract Bone Spring Pool. And then in the southwest quarter of 22, which is the red, there is no pool associated with that acreage.

And then 27, 28, and 29 are all in the Parkway Bone Spring Pool.

MR. BRUCE: Mr. Examiner, just so you have it in front of you, this isn't an exhibit, but just a summary of what pools currently cover these six sections.

Q. Could you identify Exhibit 2 for the Examiner, Mr. Hammond.

A. Exhibit 2 is a land plat which highlights again the six sections. Devon's acreage is highlighted. And the horizontal Bone Springs wells that Devon has drilled in the area are all located on this plat.

So these are the wells we drilled. Some of them may be in the completion stage as we speak.

Q. And what is Exhibit 3?

A. This is a plat, represents future wells planned

by Devon, again to be drilled in the Bone Spring.

Q. And what is Exhibit 4?

A. I guess I kind of went map crazy on this one.

This is a combination of the two other plats that I just got through talking about. And I am not sure you need it. But I can't read it, either.

Sorry about that.

Q. But, Mr. Hammond, when all is said and done, if you are looking at a half section of land, roughly how many wells is Devon planning on having in total, Bone Spring wells in a half section of land?

A. Well, we could have up to as many -- in a 320-acre unit, we could have as many as nine wells.

Q. And these are in multiple Bone Springs --

A. We could -- I am not saying we are. I am saying we could have two wells in the First Bone Springs and we could have two wells in the Second Bone Springs and we could have five wells in the Third Bone Springs.

Q. And will the technical witnesses explain the development plans later?

A. Yes, they will.

Q. Now, just for the record, what is the spacing for the existing Bone Spring Pools in the West Parkway Unit?

A. Well, the 160-acre spacing is what --

Q. Vertical well spacing?

A. Forty.
Q. Forty acres?
A. Yes.
Q. And are the Scanlon Draw and Turkey Tract Bone Spring Pools on statewide rules?
A. Yes, they are.
Q. Does the Parkway Bone Spring Pool have a special GOR?
A. It does.
Q. And what is that?
A. 10,000 to one.
Q. And then you already mentioned the Rattlesnake Well Bone Spring Gas Pool is 160-acre spacing for a vertical well?
A. It is.
Q. Does Devon request that the Scanlon Draw Bone Spring Pool, the Turkey Tract, and the Parkway Bone Spring Pool be contracted so they do not include any acreage in the six section unit?
A. Yes. However, we request that the Rattlesnake Well Bone Spring Gas Pool remain in place since it is a gas pool dedicated to an oil well.
Q. One well?
A. Yes.
MR. BRUCE: There's only one well in that

pool. And it's the only Bone Spring gas well we know of in this area.

Q. And what rules does Devon request for the new pool?

A. Well, we request a standard oil spacing and proration unit of 320-acres for horizontal wells and standard oil spacing and proration unit of 40 acres for vertical wells.

We request wells to be located no closer than 330 feet to the exterior boundary of a standard horizontal well unit, with interior setbacks of 10 feet from a quarter, quarter section line.

We request wells to be located no closer than 330 feet to the exterior boundary of a standard vertical well unit.

We request a special depth bracket allowable of 4,500 barrels of oil per day for a standard horizontal 320-acre unit well.

And then a depth bracket allowable of 230 barrels of oil per day for a standard 40-acre vertical well.

Q. Stop there for a second. These vertical pools have different allowables, I believe, because of the initial wells being completed in these pools -- is that correct? -- they were at different depths?

A. Yes.

Q. So this would just harmonize the vertical well allowable?

A. Yes.

Q. And do you are request a special GOR?

A. Yes. A GOR of 10,000 cubic feet of gas per barrel of oil for vertical and horizontal wells.

Q. And, again, will the technical witnesses discuss the need for the pool rules?

A. Yes, they will.

Q. What is Exhibit 5?

A. Exhibit 5 is an entire listing of working interest, override owners, and state royalty owners -- state royalty of the owners and of the Parkway West Unit.

Q. And what is Exhibit 6?

A. Exhibit 6 is a listing of the offsetting owners all the way around the six sections that we've identified here today. These are the offsetting operators.

Q. And were the interest owners and the offset operators notified of this application?

A. Yes, they were.

MR. BRUCE: Mr. Examiner, submitted to you as Exhibit 7 is my affidavit of notice. At the end, I would like this case continued for two weeks because I

have not received all the green cards back yet, and so at the next -- if we could continue it at the end of the hearing to the December 17th hearing so that I can verify that all the green cards were --

MR. WADE: I had a question on Exhibit 8. I know we are jumping a head a little bit. But that affidavit of notice is not really an affidavit of notice.

MR. BRUCE: I haven't received it back. It was published November 9th, and I haven't received the affidavit of publication from the Carlsbad newspaper yet. It will probably be in the mail today.

MR. WADE: So you'll get it by that continuance time that you just requested?

MR. BRUCE: Yes.

MR. WADE: Okay. And while I'm thinking about it, the offset operators, is that within the one-mile boundary --

THE WITNESS: Yes.

MR. WADE: That is?

THE WITNESS: Yes. One mile all the way around the six sections, including diagonals, all the way around.

Q. Were Exhibits 1 through 8 either prepared by you or under your supervision or compiled from company

business records?

A. Yes, they were.

Q. And in your opinion, is the granting of this application in the interests of conservation and the prevention of waste?

A. Yes.

MR. BRUCE: Mr. Examiner, I tender the admission of Exhibits 1 through 8, recognizing that Exhibits 7 and 8 will be supplemented at the next hearing.

EXAMINER McMILLAN: Okay. Exhibits 1 through 8 may now be accepted as part of the record.

(Devon Energy Production Company, LP, Exhibits 1 through 8 were offered and admitted.)

MR. BRUCE: And I have no further questions of the witness.

EXAMINATION BY EXAMINER McMILLAN

EXAMINER McMILLAN: The first question I've got is, you're leaving -- I got two questions. So you're leaving the Rattlesnake alone; why aren't you abolishing it?

THE WITNESS: It's a vertical --

MR. BRUCE: Is the well still producing, Mr. Hammond?

THE WITNESS: It is, yes.

EXAMINER McMILLAN: So I am trying to understand. So if you have a horizontal well and that goes through the Rattlesnake, it won't be dedicated to that pool, it will be dedicated to the new pool, correct?

THE WITNESS: Yes.

EXAMINER McMILLAN: And then a question I got is -- I'm not clear on your setback. Are you asking setbacks from that spacing unit or the boundaries of the unit, because the giant notification (inaudible), doesn't it?

MR. BRUCE: That's correct.

EXAMINER McMILLAN: So if you got a well 2,310 or 2,500 from the north, 330 from the east, and, likewise, 2,310, 330 and then, let's say -- and that's -- going back to that scenario, wouldn't you have to do the diagonal offset? Doesn't it make more sense to say you want the 330s from the unit boundary?

MR. BRUCE: I thought that's what was asked for.

THE WITNESS: The 320-unit boundary.

EXAMINER McMILLAN: Okay. So it's from the unit boundary.

MR. BRUCE: Correct.

EXAMINER McMILLAN: And also this is going

to be a frozen pool, right?

MR. BRUCE: Correct.

EXAMINER McMILLAN: Okay. Go ahead.

EXAMINATION BY EXAMINER JONES

EXAMINER JONES: Does each one of these 320s, would it have a unit agreement? You would have some kind of an operating agreement or a working interest owners agreement --

THE WITNESS: Well, there is currently in place a unit JOA that covers the entire six sections. So as we propose wells, whatever wells we propose, whatever zone it is, we propose it under that 1972 JOA.

EXAMINER JONES: And you are the operator of the Parkway?

THE WITNESS: We are, the Parkway West Unit.

EXAMINER JONES: Okay. So the notice -- the people that were noticed -- because you are proposing these vertical wells be reallocated to the 320; is that correct?

THE WITNESS: I don't think that is right. All vertical wells stay on 40 --

MR. BRUCE: I think all vertical wells would retain 40-acre spacing other than that one vertical gas well.

EXAMINER JONES: What pool will they be, the

vertical wells?

MR. BRUCE: They would be called the West Parkway Bone Spring Pool.

EXAMINER JONES: Okay. So you would have basically statewide rules for the vertical portion -- for the vertical wells within that pool. So a new pool for horizontal and vertical wells within the six sections?

MR. BRUCE: Correct. Just getting rid of the excess. Rather than dealing with five pools, we're dealing with one plus that one Bone Spring Gas Pool for that one well which -- the completion report on that well back in 2003 shows it produced no oil whatsoever.

EXAMINER JONES: Okay. Are you planning on drilling some vertical wells to delineate further?

THE WITNESS: No.

EXAMINER JONES: So how many exist out there so far?

THE WITNESS: I don't have a number with me that I can say.

EXAMINER JONES: Is it a small number?

THE WITNESS: I would say it is probably a small number, yes.

EXAMINER JONES: But you've already drilled quite a few horizontals --

THE WITNESS: Yes, we have.

EXAMINER JONES: And I guess we can -- you said that one of these pools has a 10,000 to one GOR. Is that -- which one is that? Is it the Scanlon Draw Bone Spring?

THE WITNESS: I believe it's the Parkway Bone Spring.

EXAMINER JONES: The Parkway. Okay.

And the 4,500 barrels of oil per day; you meant that for the 320, didn't you?

THE WITNESS: Yes. Did I say --

EXAMINER JONES: You said per well.

THE WITNESS: I'm sorry. It is per 320-acre unit.

EXAMINER JONES: And you are proposing the vertical limits as to top and bottom of the Bone Spring -- I mean of your pool, you will have a type log and all that stuff?

THE WITNESS: Yes.

EXAMINER JONES: It is not changing; it's standard?

THE WITNESS: Yeah, it is the way it is now.

EXAMINER JONES: Do you have any protests to this application at all?

MR. BRUCE: I haven't made contact with

anybody, Mr. Examiner.

EXAMINER JONES: We may have questions later.

MR. BRUCE: Mr. Examiner, the Parkway Bone Spring Pool, the special pool rules are Order No. R-91.60. And just so you have it, attached is the dedication plat and the completion report for the Parkway Well No. 19, which is the Bone Spring gas well.

EXAMINER JONES: Okay. We won't be asking ant questions until the next hearing -- I clarify that -- because you are continuing this?

MR. BRUCE: Yes.

EXAMINER JONES: Somebody else might show up. It's possible.

EXAMINER JONES: I don't have any more questions.

EXAMINATION BY MR. WADE

MR. WADE: Going back to notice, I don't know if you have the rule in front of you, but the special pool orders rule regarding notice, it looks like you would have to comply with A and B, which is four different separate requirements.

MR. BRUCE: Yes.

MR. WADE: And the only one I still have a question on is B-2 that says you have to notify Division

designated operators of wells within the same formation as the pool and the one-mile outer boundary.

The question there is within the same formation, because it is clear you got the same pool. But did you notice everybody within the same formation?

MR. BRUCE: Mr. Hammond can confirm this, but it is all operators of all Bone Spring wells within a mile; is that correct?

THE WITNESS: It is.

MR. WADE: I think that satisfies it.

EXAMINER McMILLAN: I have no further questions.

FURTHER EXAMINATION BY EXAMINER JONES

EXAMINER JONES: Did you -- this is all state, but it is all covered by the Parkway unit, the West Parkway Unit. So the tracts within that are all state?

THE WITNESS: Yes, they are.

EXAMINER JONES: So within these six square miles, they are all state leases. So did you already do Com agreements?

THE WITNESS: We do not.

EXAMINER JONES: So it was kind of waiting for this?

THE WITNESS: Yes.

EXAMINER JONES: Okay. Thank you.

THE WITNESS: Yeah, this is a unit agreement so -- and it's been that way for years.

MR. BRUCE: And you asked about Bone Spring, and I'm not sure how many Bone Spring wells, but there's been a number of other wells, Mora wells and a number of others.

EXAMINER JONES: Okay. You are in your unit so you don't need --

THE WITNESS: There is a unit agreement that was done in 1972 which created the unit, and then a separate unit JOA that we operate under.

EXAMINER JONES: Okay. Thank you.

EXAMINER McMILLAN: No more questions. Thank you.

ZACH POLAND

having been first duly sworn, was examined and testifed as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Please state your name and city of residence for the record.

A. Zach Poland, Guthrie, Oklahoma.

Q. And who do you work for?

A. I'm a geologist for Devon Energy Corporation.

Q. Have you previously testified before the Division?

A. I have not.

Q. Would you please summarize your educational and employment background for the Examiner.

A. I will.

I earned my B.S. in geology, with honors, from Wichita State University in 2008. I got my master's in geology from Oklahoma State University in 2011.

Since that time, I have been employed at Devon Energy Corporation. I have approximately three years of experience working Lea and Eddy Counties, New Mexico.

Q. Are you familiar with the geologic matters involved in this application?

A. I am.

Q. And does your area of responsibility at Devon include this portion of southeast New Mexico?

A. It does.

MR. BRUCE: Mr. Examiner, I tender Mr. Poland as an expert petroleum geologist.

EXAMINER McMILLAN: So qualified.

Q. Mr. Poland, first of all, the wells being -- what Bone Spring zones are being tested at this point or are being planned at this point for wells in the unit?

A. In the near future?

Q. What wells have be drilled -- what zones have been tested to date and what zones do you in addition plan on testing?

A. To date, we've drilled the First Bone Spring Sandstone, the Second Bone Spring Sandstone, based on 160-acre spacings, almost over the entire six sections that we are talking about here.

In the last year, year 2015, we have started to drill Third Bone Spring Sandstone wells.

Q. Would you turn to your exhibits, and without too much interruption from me, would you just run down the first several exhibits which pertain to the various Bone Spring zones and explain to the Examiner what they show.

A. Okay. Starting with Exhibit 9 -- I'll just kind of explain what is going on with the maps right now.

So Exhibit 9 is the six sections that were -- that we are talking about located in 19 South, 29 East in the Parkway West Unit. This is a structure map on the top of the First Bone Spring that's in subC depth.

The blue wells, highlighted, are existing First Bone Spring Sandstone horizontal wells. And then the red numbers is just a posted total depth of each well. And then the yellow and greens are Devon leasehold, basically.

So you can see this is a 100 feet subC contour interval. The dip is more or less northwest to southeast across the area, relatively uniform dips.

Moving on to Exhibit 10, Exhibit 10 is a gross isopach thickness of the First Bone Spring Sandstone over those areas. Again the blue wells are the existing First Bone Spring horizontal wells.

The takeaway here is that the First Bone Spring Sandstone is considered to be continuous and generally uniform across the unit.

So moving to Exhibit 11, again, that is a structure map on the top of the Second Bone Spring Sandstone, contoured on 100 feet subC contour interval. The blue wells on this map are existing Second Bone Spring Sandstone wells.

Again, you can see most of the area is developed on 160-acre spacing in the Second Bone Spring as well. Dips match the First Bone Spring Sandstone, more or less, northwest to southeast.

Exhibit 12 is a gross Second Bone Spring Sandstone isopach over the area. Again, you can see that it's pretty continuous or it is continuous and fairly uniform across the unit.

Exhibit 13, we are moving to the Third Bone Spring Sandstone now. This is a structure map on the

top of the Third Bone Spring Sandstone. The blue wells as shown on the map are existing Third Bone Spring Sandstone horizontals. So this is where a lot of our activity will be focused on in the future.

You can see that we have just started to develop the Third Bone Spring Sandstone in this area. Dips, northwest to southeast, pretty uniform. There's not a lot of Third Bone Spring penetrations in here because it is deeper. So that's kind of what is driving kind of the sparsity of data on the map.

Exhibit 14 is a gross isopach thickness on the Third Bone Spring Sandstone. The gross interval of the Third Bone Spring is quite a bit thicker than the First and Second in the area. And that is why -- that is one of the reasons why Devon Energy considers it to be a zone that we can stagger laterals in and drill more wells.

Q. Internally, does Devon split up the Third Bone Spring into several zones?

A. We do. We generally consider it to be about three different units.

Q. And is Devon considering drilling -- not just only looking at infill wells, but wells to different -- within a 320-acre unit, drilling additional wells to different Third Bone Spring intervals?

A. Yes. So if you move to Exhibit 15, so this is a cross section across the area. The location of the cross section is shown in the lower right corner, A to A Prime. The logs, the log data is shaded based on gamma ray. In general, the carbonates, the limestones, and dolomites show up as blues and purples, and the sandstones are generally yellows or browns.

So you can see the First Bone Spring interval -- if you look, there's a blue kind of horizontal there. That is the general, you know, landing point of our First Bone Spring Sandstone horizontal wells.

Then you move down a little deeper, marked with the 2BSS S top, that is the top of the Second Bone Spring Sandstone. And, again, this is a kind of a schematic. And we are showing, you know, the Second Bone Spring horizontal landing points.

And if you move to the Third Bone Spring, down at the bottom of the cross section -- I apologize. It's probably pretty small -- but you can see the gross thickness of the Third Bone Spring is almost double the First and Second. And that is illustrated on this cross section with the green and purple, is kind of our development plan, where we're staggering laterals within the Third Bone Spring Sand, and an upper and a lower landing point in the Third Bone Spring Sandstone.

Q. Which is why there might be five or so wells in the Third Bone Spring --

A. Right.

Q. -- in a 320-acre unit?

A. Right.

So right now our plan moving forward is to stagger these wells, you know, for example, to drill a lower well and then move over one spacing unit and drill an upper and vice versa, and kind of move across this section in that form.

Q. Were Exhibits 9 through 15 prepared by you or under your supervision?

A. They were.

Q. And in your opinion, is the granting of this application in the interests of conservation and the prevention of waste?

A. It is.

MR. BRUCE: Mr. Examiner, I move the admission of Exhibits 9 through 15.

EXAMINER McMILLAN: Exhibits 9 through 15 may now be accepted as part of the record.

(Devon Energy Production Company, LP, Exhibits 9 through 15 were offered and admitted.)

EXAMINATION BY EXAMINER McMILLAN

EXAMINER McMILLAN: The question I got is

for your defining interval, is that going to be the same as your unit agreement?

MR. BRUCE: Mr. Examiner, the West Parkway -- the Parkway West Unit covers all depths. But this pool would cover the entire Bone Spring interval.

EXAMINER McMILLAN: Okay. But will that interval be the same as what's in the unit agreement?

MR. BRUCE: Yes. It is fully covered by the unit agreement; that interval, yes.

EXAMINER McMILLAN: I just wanted for clarity to ask that.

And I don't know if you are the correct person, but are any of the existing wells producing above the allowable?

THE WITNESS: Today, I would say -- are we talking about a single well?

EXAMINER McMILLAN: I am saying per spacing unit, are they above the allowables --

MR. BRUCE: We will have an engineer who can answer --

EXAMINER McMILLAN: Okay. I am curious, which would have the greatest reserves, the First, Second or --

THE WITNESS: I would say the Third. I would consider the Third to have the most reserves,

because of the greater gross thickness and -- you know, that's what is driving a lot of the reserves.

EXAMINER McMILLAN: I don't have any further questions. Please proceed.

EXAMINATION BY EXAMINER JONES

EXAMINER JONES: The Third is thicker than I guess -- in places thicker than the Second.

THE WITNESS: I would say over this unit it is thicker than the Second by a large margin.

EXAMINER JONES: Is that why you would drill maybe three wells per -- the 320 in the Third Bone Spring, because it's thicker? In other words, would you stagger the center well? Would you go up with it or --

THE WITNESS: In the 320, the ideal development plan would be three wells in the lower Third Bone Spring target, and then two wells in the upper Third Bone Spring target, for a potential of five wells per 320.

EXAMINER JONES: But your Third is maybe 250 feet thick, so would you target the exact same interval in the Third Bone Spring with those three wells vertically?

THE WITNESS: With the five wells, we would target two different landing targets. Does that answer your question for you?

EXAMINER JONES: Actually, I was kind of interested in the Third Bone Spring Sand, the vertical intervals you would target with those three wells you would drill in those.

THE WITNESS: Are you asking what is the thickness of the lower target specifically?

EXAMINER JONES: Would you land those wells at the same depth?

THE WITNESS: Yes. Roughly, the same stratigraphic interval within that lower sand.

EXAMINER JONES: Okay.

What is different about this than other areas? Why are you concentrating here? Why is Devon concentrating in these? I know the ownership is there with the unit already established, but is there any geologic reason why you need to concentrate right here?

THE WITNESS: In the Third Bone Spring Sand?

EXAMINER JONES: In this geographic area of Eddy County.

THE WITNESS: Well, we have drilled a couple -- the initial results on the first Third Bone Spring Wells that we have drilled in section 20, and, you know, and 22 have been pretty strong.

EXAMINER JONES: Okay.

THE WITNESS: So right now, obviously, we

are focused on best rate of return. And this kind of fits the bill in the area.

EXAMINER JONES: So you are kind of higher on structure on 20 than you are in 27 in a sense.

But is that affecting anything, the structure? Have you seen any change in --

THE WITNESS: I would not consider this to be a conventional-type play and, therefore, I personally don't believe that structure plays much of a role in productivity.

EXAMINER JONES: But you are drilling them east, west; is that correct?

THE WITNESS: Right. I mean, we have generally focused our drilling east, west, unless we can't get a surface location or something like that, just because, in general, it is perpendicular to sand trend, depositional trend and, also, we have indications that, you know, maximum -- it's closer to be perpendicular to maximum horizontal stress as well.

EXAMINER JONES: Is there any stratigraphy issues here? It looks like on your Second Bone Spring on the -- on the second well from the right on your cross section that it's portioning upward; is that right?

THE WITNESS: Right.

EXAMINER JONES: Is that in the nature of the deposition of these sands?

THE WITNESS: That's pretty normal. If you think of these things as being turbinate-type sand deposits, you've got progradation or switching of fan lobes. So you start out shaley and then you move the fan over and then you start dumping sand into the area.

EXAMINER JONES: Okay. That's interesting. I should have known that, but it is nice to hear you say it. Mike, he already knows all this stuff.

Do you know anything about drainage on these wells? Do you have anything geologically that you would say that they would drain a big area? Is there fractures? Is it matrix-controlled or fracture-controlled?

THE WITNESS: If you are asking me personally, I would say that natural open fractures, probably a very minimal-type control. I would say most of it is probably matrix-driven porosity.

EXAMINER JONES: But you create the artificial fractures with the fracture --

THE WITNESS: Right, right.

EXAMINER JONES: But you said the stress, the way the deposition is that you may have some sort of direction of fractures. So that would be north, south;

is that correct?

THE WITNESS: It is generally oblique, so it's 45 degrees. You know, it's oblique to straight north, south, straight east, west.

EXAMINER JONES: That is exactly the worst thing to hear. That is the hardest one to get pumped. So you are saying northeast to southwest?

THE WITNESS: Yes.

EXAMINER JONES: Okay.

THE WITNESS: Well, northwest to southeast, I believe.

EXAMINER JONES: Northwest to southeast?

THE WITNESS: Yes. It's kind of going -- maximum horizontal stress kind of rotates around the basin, so it's generally, if I recall right, northwest to southeast.

EXAMINER JONES: Okay. Do you have any FMI logs, any dipole sonics or anything that shows you what the stress direction is?

THE WITNESS: I don't know if we have any in this six-section area. I can't speak to that off the top of my head.

But we've definitely done basin-wide FMI and dipole sonic type, sonic scanner-type logging to get a handle on, you know, maximum horizontal stress.

EXAMINER JONES: So you do have some somewhere --

THE WITNESS: Right.

EXAMINER JONES: It's a big focus area for Devon -- is that correct? -- the Permian Basin?

THE WITNESS: Yes.

EXAMINER JONES: That vertical well, with the gas in the Bone Spring, it doesn't seem like that one is relatively high on structure. Can you talk about it a little bit? Where is it completed? Is it in the Second Bone Spring?

THE WITNESS: I can't -- off the top of my head -- which well are we talking about?

EXAMINER JONES: It's No. 19, Parkway Bone Spring No. 19. It is K of 21. And it looks like, from what you guys gave me here, that the perfs are 68- to 6,900 feet. So that would put it -- that would put it way up in the --

THE WITNESS: If you are just telling me what the depths of the perforations are, I would be convinced that that's in the First Bone Spring carbonate. So it would be different than what we are targeting our horizontal wells in with the sandstones.

EXAMINER JONES: Okay.

Are you targeting the sands because it is

easier to drill in the sands and get your frac off or -- you're recovering something with carbonates, aren't you?

THE WITNESS: There's a lot of vertical production in the carbonates historically. To my knowledge, not a lot has been tried horizontally in the carbonates. That seems to be less continuous, less unconventional, if you will, and more complicated.

So we've kind of chose to focus at this point in time on the sandstones, I guess.

EXAMINER JONES: So is this a stratigraphic --

THE WITNESS: Right. A lot of those are dolomite-debris flows within the limestone intervals.

EXAMINER JONES: Thanks a lot.

MR. WADE: I definitely have no questions.

EXAMINER McMILLAN: Thank you very much.

HENRY KONAN

having been first duly sworn, was examined and testifed as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name and city of residence for the record.

A. My name is Henry Konan and I live in Edmond/Oklahoma City.

Q. And would you spell your last name for the Examiners.

A. Konan is K-o-n-a-n.

Q. Have you previously testified before the Division?

A. No, I have not.

Q. Would you please summarize your educational and employment background for the Examiners.

A. I have a bachelor degree in petroleum engineering from the University of Tulsa. I graduated in 2003. And since then I have been working as a reservoir engineer for various companies. So I have over ten years of experience in reservoir engineering.

Q. Does your area of responsibility at Devon include this portion of southeast New Mexico?

A. Yes, it does.

Q. And are you familiar with the reservoir engineering matters pertaining to this application?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I tender Mr. Konan as an expert reservoir engineer.

EXAMINER McMILLAN: So qualified.

Q. Mr. Konan, could you identify Exhibit 16 for the Examiner. And why don't you just run through it and discuss what Devon is seeking with respect to allowables

and such, and why?

A. Okay.

Exhibit 16 is a justification for why we want to drill ten well in the Third Bone Spring; some of the justification regarding stagger lateral and also increased spacing.

So if you want to go over it. Here on page 2 is a map locator of the area concerned here, from section 20 to section 27, including in this section was the existing First and Second Bone Spring producers.

Page 3 is an overview of what the existing rules were and what we are requesting right now. We are requesting a 4,500 barrel per day on a 320-acre unit and a 10,000 cubic feet per barrel in a 320-acre unit, so...

Q. And in the third line item, when you say 10 Third Bone Spring wells, you are looking at 10 per section or five per half section; is that correct?

A. Yes.

Q. And let's discuss, let's move on and discuss pages 4 and 5, not only the zones you are looking at but the wells that have been drilled that give you some data for your allowable increase.

A. Okay.

So on page 4 you have a log here that kind of identified the different sands that Zach just previously

talked about.

And we are landing on the F sand and also on the G sand. So your lowest sand that we were targeting, the G sand, we are looking at putting six well per section, so three well per half section.

And the F sand is a little thinner. We are looking at putting four wells per section or two wells per half section.

Your map to your right here kind of describes a little bit the first initial Third Bone Spring well that already been drilled; in production, three well that Devon drilled that you see, and one well that was drilled by Mewbourne.

Page 5 kind of gives you a description of the performance of those wells that have been drilled. So if you look at your initial production, on average in 30 days, we're looking at about 850 barrels a day for those three Third Bone Spring wells.

Your GOR, as we see, initially increases from 1.2 million per barrel to 4 million cubic feet per barrel in six months. So that's just for the Third Bone Spring.

That's why we are looking to increase, because of the issue of average production for those wells.

Q. Looking at the GOR rate on this particular

page.

A. Yes.

Q. Do you foresee any harm to the reservoir in producing at an increased GOR?

A. No, I do not, because that's the normal for the reservoir.

Q. What about on page 6, please?

A. Page 6, as you can see here, our GOR increase rapidly for the First and the Second Bone Spring. So your GOR you can see as you pass your bubble point, you are going -- you see an increase of over 10 million for the First Bone Spring and close to 10 million for the Second Bone Spring. So we anticipate the Third Bone Spring would be probably the same over the long period of time.

Q. And what does page 7 reflect?

A. It talks a little bit about why we want to do stagger lateral. We drilled -- the three wells that are producing, the first well, the Longboard here was drilled in the upper sand, the F sand. And the well on the bottom was producing in the lower sand.

While we were fracking the well at the bottom side here, the Emerald 9, the one that was producing in the lower sand, we shot in the well that was producing in the upper and tried to observe the pressure build up

to see if there's any interference between, you know, the two wells.

We also did a traced frac, tried to understand if the sand was going in the upper sand. And the pressure buildup didn't show any indication of disturbance while we were fracking the lower well on the upper. And, also, the traced frac showed -- the frac fluid went to the upper sand but we didn't see any sand going to the upper sand, so we anticipate there's no communication while we frac those two.

Page 8 is we used a simulation to kind of understand the production of the wells that are producing in the sand. So this is the history match that we've done on the well that is producing -- one of the well that is producing in the lower sand to anticipate how many well we can put within the section.

So what it is is you take all your information from the wells and integrate study from the raw properties, the completion data, and you try to history match the existing production. And once you have that history match, you try to forecast the well to understand the recovery and do some sensitivity regarding the spacing of the well.

So that's kind of the model that we -- that we apply to identify -- I mean, how many well we can put

within a section.

And page 9, that's the history match that we did on one Third Bone Spring well that producing. So we can see we have a pretty good match here with your rates and also your pressure. So that kind of give us some confidence to kind of forecast this well and understand the recovery of that well.

One thing, at one point here, the SRV, after we fracked this well, was less than 80 acre. So your property that you -- once you get that history match here show your SRV, your (incomprehensible) of being less than 80 acre on this well here. So that can also give us some confidence of putting more wells in this section.

Once we get the history match, we want to also kind of combine into an economic package to see what going to give us the most -- the better MPV and the rate of return while we recover more reserve.

And if you look at the two graph here, it showed six well per section, and this is where you see the hump. And that is why we kind of determined for the lowest landing zone, six well per section was the optimum based on NPV.

Q. If you could turn to page 11 and summarize the engineering study.

A. So page 11, pretty much, based on the history match, the SRV was less than 80 acre. So if we do not put more wells, we are going to leave a lot of residual oil underground. So we determined that the optimal well spacing in the thickest sand was six well per section.

We did the top frac, and the additional pressure build up also indicated there is no communication between the two different sands. So that push us also to continue to do the stagger lateral within the section.

The peak rate for those wells that are producing was about 850 in depth. And that is the rate that we utilized to kind of base on the new (incomprehensible) that we are requesting. And you also see the GOR for the existing producing well. And we anticipate that we are going to see the same thing for the Third Bone Spring, so we are requesting an increase on the GOR also.

Q. Was Exhibit 16 prepared by you?

A. Yes.

Q. And in your opinion, is the granting of this application in the interests of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: Mr. Examiner, I move the

admission of Exhibit 16.

EXAMINER McMILLAN: Exhibit 16 is now part of the record.

(Devon Energy Production Company, LP, Exhibit 16 was offered and admitted.)

EXAMINATION BY EXAMINER JONES

EXAMINER JONES: Thank you very much for this. This is a great job here. I know it is all in a unit, but it is still -- the science you guys did and the history match is really nice. I like that.

So adding the third well to the Third Bone Spring Sand is needed for the optimal well density and the third well would be located pretty much on the line if you didn't have the 320; is that correct?

THE WITNESS: Yes.

EXAMINER JONES: On the line between the 216 and --

THE WITNESS: Yes.

EXAMINER JONES: So it would be draining both sides.

Now, and you said that your vertical -- I heard you say that your vertical influence is contained by the carbonates. Did you build that into your layers, the different strengths, stresses, and everything?

THE WITNESS: Yes, we add that to our

layers.

EXAMINER JONES: You said you have stress tests. Is that an open hole stress or did you --

THE WITNESS: No, it's case. It's not open hole.

EXAMINER JONES: So you did some pre-frac stress closure testing?

THE WITNESS: Yes, we did some frac modeling. That was built in in our model.

EXAMINER JONES: Your model, did it include all the way from the reservoir into the tanks; in other words, you have a nodal analysis built into it?

THE WITNESS: Yes.

EXAMINER JONES: So what would be your abandonment pressure in this reservoir?

THE WITNESS: Based on the existing well, because we don't have any well producing at Devon for a long time, so we were kind of assuming a minimum pressure of about 250.

EXAMINER JONES: Okay.

Your IPR plot that you would look at -- I know this is kind of a production engineering-type thing -- it slopes over like a normal oil well; is that correct? In other words, have you looked at the wells under different --

THE WITNESS: Those wells are producing ESPs, so we do not build the IPR --

EXAMINER JONES: Okay. And your bubble point in the reservoir, did you have that in there somewhere?

THE WITNESS: We did. The PVT test and the bubble point for this particular year, but it was 2,600 psi. That was the bubble point versus the initial reservoir that was around 4,000.

EXAMINER JONES: So you did an initial PVT?

THE WITNESS: Yes.

EXAMINER JONES: Was it a reconstituted PVT?

THE WITNESS: Yes.

EXAMINER JONES: So I guess one of the big questions is, talking about your matrix versus your fractures.

THE WITNESS: Yes.

EXAMINER JONES: I know your previous colleague said matrix control, but, you know, you got horizontal; you got your big frac jobs that you're pumping with your 100 mesh or smaller sand maybe.

THE WITNESS: We use 100 mesh.

EXAMINER JONES: So where are those fracs going? I mean, are they going -- in the vertical sense, they are being contained, correct?

THE WITNESS: Yes, yes.

EXAMINER JONES: So in a horizontal sense, which direction are they going -- or azimuth? Does it have a stress direction?

THE WITNESS: See, we got to decrease a little bit of water in our frac. So we see that we have more kind of -- the frac is a little more contained around the wellbores now, not having those long frac. And we also utilized the ibery type of frac, to kind of have a longer frac. We're trying to kind of stay within the wellbore.

EXAMINER JONES: Okay. Because once you start producing these wells -- they are producing through the fractures, right?

THE WITNESS: Yes.

EXAMINER JONES: Maybe horizontally -- or artificially created, but, still, there's got to be some natural fracturing going on and the artificial fractures. So how far laterally would one well drain -- influence -- in other words, if you drill one well in a 160 in the center, would it eventually influence the areas outside the 160?

THE WITNESS: I think that is going to be maybe over a long period of time.

EXAMINER JONES: But it would?

THE WITNESS: It could, yes. When we look at our pressure depletion profile, this was maybe over 30 years that you start to see maybe some type of interference. And we think that if they don't see each other at all, we think we're leaving a lot of oil underground. So you have to at least see some, but it was minimum.

EXAMINER JONES: I see, and you're in a unit and everything. But let's say that you owned a well that is in the 160 over from where Devon is doing this development and that Devon drilled a well in the middle and they fractured it, would you want to be in on that well? Would you want it to be 320 spacing?

In other words, you are the one that knows about how far that well would eventually influence, even though the actual drainage area that you calculate might be real small, but, still, as far as the influencing, so it would influence outside the 160?

THE WITNESS: It could, but I would say it's really minimum. It was minimum from what we were seeing from our pressure profile.

EXAMINER JONES: You guys just need it because of optimal drainage?

THE WITNESS: Yes.

EXAMINER JONES: Okay. Now, that vertical

well, did you look at that any or --

THE WITNESS: No. That just kind of surprised all of us.

EXAMINER JONES: Okay. And you actually think you are going to need the limiting GOR of 10,000 to one?

THE WITNESS: (Witness nodding head up and down.)

EXAMINER JONES: Your producing GOR is one thing, but your limiting GOR is just the limit times the maximum of the oil flow.

THE WITNESS: Yes.

EXAMINER JONES: But do you still need that?

THE WITNESS: Yes, I think we need it. Because we may drill some more even First and Second Bone Spring, surrounding that area, so we want to kind of be safe and request it now.

EXAMINER JONES: Okay. Thank you.

EXAMINER McMILLAN: Are you currently producing over the allowables now?

THE WITNESS: For the well that we have -- when we are going to put more well, we will do that.

MR. BRUCE: Mr. Konan, if you put more wells online, you would be producing above the current allowable, not the 4,500 per day that you're requesting?

THE WITNESS: Yes, we will.

EXAMINER McMILLAN: Go ahead.

MR. WADE: I have no questions.

EXAMINER McMILLAN: Very nice presentation.

EXAMINER JONES: Yes, very nice.

EXAMINER McMILLAN: Thank you.

So case No. 15412 will be continued until December the 17th.

Let's take an eight-minute break and come back at five till. Thank you very much.

Excuse me for a second. I need to make an announcement.

MR. WADE: I believe there are some people who wish to make comments on certain cases that are coming up within the docket. And if that's the case, we do have a sign-up sheet over on the desk for making comments. So if you do, put your name and the case number you would like to make comments on. It would be appreciated.

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

_____, Examiner
Oil Conservation Division

(Time noted 9:48 a.m.)

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

REPORTER'S CERTIFICATE

I, ELLEN H. ALLANIC, New Mexico Reporter CCR No. 100, DO HEREBY CERTIFY that on Thursday, December 3, 2015, the proceedings in the above-captioned matter were taken before me, that I did report in stenographic shorthand the proceedings set forth herein, and the foregoing pages are a true and correct transcription to the best of my ability and control.

I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with (unless excepted by the rules) any of the parties or attorneys in this case, and that I have no interest whatsoever in the final disposition of this case in any court.

ELLEN H. ALLANIC, CSR
NM Certified Court Reporter No. 100
License Expires: 12/31/15