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 READ AND STEVENS, INC., FOR POOL CREATION AND SPECIAL POOL RULES, LEA COUNTY, NEW MEXICO CASE NO. 12,815

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

February 21st, 2002

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, February 21st, 2002, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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INDEX February 21st, 2002 Examiner Hearing CASE NO. 12,815 PAGE EXHIBITS 3 APPEARANCES 3 **APPLICANT'S WITNESS:** JOHN MAXEY (Engineer) Direct Examination by Mr. Bruce 5 Examination by Mr. Carr 32 Further Examination by Mr. Bruce 38 Examination by Examiner Stogner 39 **REPORTER'S CERTIFICATE** 48 * * *

STEVEN T. BRENNER, CCR (505) 989-9317

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EXHIBITS

| Applicant's | Identified | Admitted |
|-------------|------------|----------|
| Exhibit 1 | 6 | 32 |
| Exhibit 2 | 7 | 32 |
| Exhibit 3 | 8 | 32 |
| Exhibit 4 | 13 | 32 |
| Exhibit 5 | 20 | 32 |

APPEARANCES

* * *

FOR THE DIVISION:

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FOR THE APPLICANT:

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FOR NORTHERN OIL COMPANY:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR 110 N. Guadalupe, Suite 1 P.O. Box 2208 Santa Fe, New Mexico 87504-2208 By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 1 2 9:28 a.m.: 3 4 5 EXAMINER STOGNER: Hearing will come to order. 6 7 At this time I'll call Case Number 12,815, which is the Application of Read and Stevens, Inc., for pool creation 8 and special pool rules, Lea County, New Mexico. 9 Call for appearances. 10 MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe, 11 representing the Applicant. I have one witness. 12 13 EXAMINER STOGNER: Other appearances? MR. CARR: May it please the Examiner, William F. 14 Carr with the Santa Fe office of Holland and Hart, L.L.P. 15 16 We represent Northern Oil Company. I do not have a 17 witness. EXAMINER STOGNER: You represent who? 18 19 MR. CARR: Northern Oil Company. 20 EXAMINER STOGNER: Any other appearances? How many witnesses do you have? 21 MR. BRUCE: 22 One. EXAMINER STOGNER: Will the witness please stand 23 to be sworn? 24 25 (Thereupon, the witness was sworn.)

4

| 1 | JOHN MAXEY, |
|----|---|
| 2 | the witness herein, after having been first duly sworn upon |
| 3 | his oath, was examined and testified as follows: |
| 4 | DIRECT EXAMINATION |
| 5 | BY MR. BRUCE: |
| 6 | Q. Would you please state your name for the record? |
| 7 | A. My name is John Maxey. |
| 8 | Q. Where do you reside? |
| 9 | A. In Roswell, New Mexico. |
| 10 | Q. Who do you work for and in what capacity? |
| 11 | A. I'm a petroleum engineer for Read and Stevens, |
| 12 | Incorporated. |
| 13 | Q. Have you previously testified before the Division |
| 14 | as an engineer? |
| 15 | A. Yes, I have. |
| 16 | Q. And were your credentials as an expert accepted |
| 17 | as a matter of record? |
| 18 | A. Yes, they were. |
| 19 | Q. And are you familiar with the matters involved in |
| 20 | this Application? |
| 21 | A. Yes, I am. |
| 22 | MR. BRUCE: Mr. Examiner, I tender Mr. Maxey as |
| 23 | an expert petroleum engineer. |
| 24 | EXAMINER STOGNER: Any objection? |
| 25 | MR. CARR: No objection. |
| | |

| 1 | EXAMINER STOGNER: Mr. Maxey is so qualified. |
|----|---|
| 2 | Q. (By Mr. Bruce) Mr. Maxey, briefly, what does |
| 3 | Read and Stevens seek in this case? |
| 4 | A. We seek an order creating the North Osudo- |
| 5 | Devonian Pool and establishing temporary special rules for |
| 6 | the pool, a minimum of one year to optimal of a year and a |
| 7 | half. |
| 8 | Q. Okay, and regarding the pool creation, did the |
| 9 | Hobbs office request that you do the pool creation so that |
| 10 | they didn't have to do the nomenclature? |
| 11 | A. Yes, I discussed that with them, and it would |
| 12 | handle two birds with one stone. |
| 13 | Q. Okay. What is the reason for seeking pool |
| 14 | creation? And I refer you to your Exhibit 1. |
| 15 | A. Exhibit 1 is a land plat of a portion of |
| 16 | Townships 19 and 20 South and Range 36 East. Read and |
| 17 | Stevens drilled and completed the Liberty Number 4 or |
| 18 | excuse me, the Liberty 4 Well Number 1, located 1800 feet |
| 19 | from the south line and 330 feet from the west line of |
| 20 | Section 4, 20 South, 36 East, as a new oil discovery in the |
| 21 | Devonian formation. |
| 22 | Q. What is the spacing for the well at this time? |
| 23 | A. The well is a wildcat and currently on statewide |
| 24 | 40-acre spacing? |
| 25 | Q. What acreage would initially be in the new pool? |
| - | |

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| 1 | A. The southwest quarter of Section 4. |
|----|--|
| 2 | Q. What pool rules does Read and Stevens seek? |
| 3 | A. We're requesting a 160-acre spacing, with wells |
| 4 | to be no closer than 330 feet to a quarter-quarter section |
| 5 | line? |
| 6 | Q. Are there any other Devonian wells, existing |
| 7 | Devonian wells, or Devonian pools, within a mile of this |
| 8 | well? |
| 9 | A. No, there are not, and there are no other |
| 10 | operators of existing Devonian wells to notify. On Exhibit |
| 11 | 1 Read and Stevens, et al., owns 100-percent working |
| 12 | interest in the blue and the yellow acreage, which is not |
| 13 | cross-hached. |
| 14 | Q. So essentially all of the offsetting acreage is |
| 15 | operated by Read and Stevens? |
| 16 | A. That's correct. |
| 17 | Q. Were all interest owners in the southwest quarter |
| 18 | of Section 4 notified of this hearing? |
| 19 | A. Yes, that's correct. |
| 20 | Q. And is Exhibit 2 the affidavit of notice of Read |
| 21 | and Stevens' landman? |
| 22 | A. Yes, that's Exhibit 2 is an affidavit of |
| 23 | notice by our landman. |
| 24 | Q. And this includes notice to all working and |
| 25 | nonworking interest owners, does it not? |

. . . .

| 1 | A. That's correct, in the southwest quarter of |
|----|--|
| 2 | Section 4. |
| 3 | Q. And this was taken from recent Division Order |
| 4 | materials that came by Read and Stevens for this well? |
| 5 | A. Yes. |
| 6 | Q. Have you heard from any interest owners who were |
| 7 | notified of this hearing? |
| 8 | A. We've heard from Northern Oil Company and also |
| 9 | our working interest owners, all of whom unanimously |
| 10 | support the Application. |
| 11 | Q. Okay. From an engineering standpoint, is it your |
| 12 | opinion that special rules should be instituted for this |
| 13 | Devonian pool? |
| 14 | A. Yes. |
| 15 | Q. And why is that? |
| 16 | A. The wells in this reservoir should drain more |
| 17 | than 40 acres. |
| 18 | Q. What type of data did you review for this |
| 19 | hearing? |
| 20 | A. I reviewed data from the new well and two other |
| 21 | analogous Devonian fields. |
| 22 | Q. Would you please identify Exhibit 3 for the |
| 23 | Examiner and discuss its contents? |
| 24 | A. Okay, Exhibit 3 is a package of material that's |
| 25 | based on our new Devonian discovery in the southwest |

quarter of 4. It's a packet of information concerning the 1 new field. 2 Why don't you go through page by page and 3 Q. 4 describe what it shows? The first page of Exhibit 3 is a structure map on 5 Α. top of the Devonian. It's based on our 3-D seismic. 6 It 7 illustrates a bounding fault on the east side, which we interpret to have minus 7150 feet of closure, and -- excuse 8 9 me, closure at minus 7150 feet, that's subsea. 10 And if you'll notice the dashed line on the 11 structure map, we have an estimated oil-water contact at 12 minus 7150, based on the closure on the fault. 13 Page Number 2 is a portion of the log in the new 14 well in the southwest quarter of 4. On the porosity log 15 I've drawn a line that's a baseline of porosity equalling 2 percent cross-plotted porosity. And the darker line that's 16 been actually traced over a traced cross-plot line is the 17 cross-plotted porosity through our pay section. And the 18 19 perfs are also marked on this density log, approximately 15 20 feet of perforated interval in the upper portion of the Devonian. 21 Page 3 is a lot of information concerning the 22 23 well and the field. 24 The first block of information concerns the 25 production. The date of discovery of this well was October

28th of 2001. There's currently one producing well in the 1 2 field. The cum oil production through January of 2002 is just over 33,000 barrels of oil, 5220 MCF of gas, and 3 there's been no water produced through January of 2002. 4 5 The initial GOR is 158 cubic feet per barrel, which is 6 rather low, but it is comparative to some analogy -- the next two analogy fields that we'll show you. Current 7 producing rate on the well is 330 barrels of oil per day 8 and 50 MCF of gas, with no water production. 9 And we 10 estimate that the drive mechanism is a water drive. The second block of data is engineering data that 11 we've obtained from the well, and information concerning 12 the structure map that we saw on page 1 of this exhibit. 13 14 In block 2 the things I'd like to draw your attention to is the area of oil column above the estimated oil-water 15 contact at minus 7150. It's 276 acres. The amount of 16 17 closure above the oil-water contact is 254 feet, and the average thickness of the net pay in the well is 85 feet, 18 and across the field is 64 feet. 19 The average porosity and water saturation were 20 21 taken from the log calculations. We have some other 22 information there, engineering data that was used in calculating reserves. One of the more important items for 23 24 comparative purposes is permeability. In the lower portion 25 of that block the permeability from DST Number 7 in the

| 1 | Devonian was 16.3 millidarcies, and that's the permeability |
|----|---|
| 2 | effective to oil. Bottomhole pressure, the initial |
| 3 | pressure at midpoint of pay was 4244 p.s.i. |
| 4 | Using the above information, we have a calculated |
| 5 | original oil in place of just over 5 million barrels of oil |
| 6 | and a recoverable reserve estimate of just over 2.5 million |
| 7 | barrels, based on a 50-percent recovery factor in the |
| 8 | Devonian, and that's derived from experience which also, |
| 9 | we'll see on the analogy fields, is pretty close. |
| 10 | I'd also like to comment on the DST. The DST in |
| 11 | our Devonian interval that we took actually had better |
| 12 | recoveries than the discovery well in the two analogy |
| 13 | fields that we'll see. |
| 14 | Q. What is the next page of the exhibit? |
| 15 | A. Okay, the next page of the exhibit is an AFE for |
| 16 | a development well in the field. This is actually the AFE |
| 17 | for the next well. We have currently spent just over \$4 |
| 18 | million in seismic, land and the drilling of the first |
| 19 | well. |
| 20 | This particular well, we have an AFE of just |
| 21 | under \$1.2 million. This does include in the budget money |
| 22 | for coring 250 foot in the Devonian section and doing core |
| 23 | analysis in an attempt to characterize our reservoir a |
| 24 | little better, and also for another drill stem test in the |
| 25 | Devonian so we can see pressure response after producing |
| L | |

out of the initial well. We feel like this information is 1 critical in helping us determine what's going on in the 2 reservoir. 3 And the last page of Exhibit 3, and this will be 4 5 -- this is also for comparative purposes in looking at what's happened in hindsight on a couple fields that are --6 the two closest, actually, analogous fields to us. This is 7 an economic run based on the costs you saw on the AFE, 8 using current oil prices escalated at 3 percent. 9 10 I wanted to illustrate what an uneconomic well was in the Devonian in our situation, and from this exhibit 11 I can draw your attention to the first -- actually the 12 second column in the upper portion of the page, the gross 13 oil production. And you can see that on this scenario we 14 15 have produced 175,000 barrels of oil. And I probably should have highlighted for you, 16 but in the lower portion there's a block of economic data. 17 The rate of return on this scenario is 20 percent. And I'm 18 using 20 percent as a hurdle rate of return, which is not 19 uncommon for the industry. 20 21 So this particular page is simply to illustrate that 175,000 barrels of oil gets to be pretty marginal. 22 23 It's uneconomic in the environment we're in. Let's move on to your analogous fields and first 24 Q. discuss the Lea-Devonian field, and I refer you to Exhibit 25

4. 1 Exhibit 4 is a structure map of the Lea-2 Α. Okav. Devonian field, which is due west of our discovery. 3 It is 4 a feature similar to ours with some faulting on the east side, according to testimony by the predecessor to Marathon 5 6 in their case where they were looking for 160-acre spacing 7 back in the 1960s, early 1960s, actually. And to the west 8 we have an oil-water contact. I derived -- this map was pulled from an RGS 9 10 geological symposium where the map on the unit was 11 I have updated it for a couple of other presented. additional wells that have been drilled, and I then 12 13 digitized the map. Basically, we've got a structure with -- Well, 14 let me move on, I've got the data on the next pages. 15 16 The second page, again, I tried to put this data together for these three fields in a similar fashion so you 17 don't get lost looking at all this information. 18 The Lea-Devonian field was discovered in July 8 19 20 of 1960. It was the deepest Devonian production at the 21 time. The number of producing wells is 12, the cumulative 22 oil production through October of 2001 is 7.8 million barrels of oil, 3.8 BCF of gas and 94 million barrels of 23 24 water. The GOR initially was 321, the average over the 25 life was 492 cubic feet per barrel. Again, a low amount of

gas, first indication when you look at that data is, these
 were flowing wells, the drive has to be coming from
 somewhere else. The average water cut over the life of
 this field was 92.3 percent.

The area of oil column in the second block of 5 information, the area of oil column in this particular 6 field above the estimated oil-water contact at minus 10,700 7 feet is 1350 acres, the amount of closure above the oil-8 water contact is 111 feet, and the average thickness of net 9 10 pay across the field is 61.2 feet. That was derived from 11 testimony during the hearings on this field back in the 12 1960s. Just as a side note, there were three hearings on 13 this field, back in 1960, 1961 and 1962, and a lot of good 14 information came from those hearings.

The porosity, water saturation, formation volume factor, that type of information came from testimony in the hearings, and that information in the hearing, it was testified as to how that data was derived, and I've noted that.

A comparative here, the permeability in the lower portion of that second block, permeability from extended drawdown tests on the discovery well, 9.6 millidarcies, compares to 16 millidarcies in our well. And a pressure gradient of .42 p.s.i. per foot, which compares to .398, virtually .4 p.s.i. per foot, in our well.

Calculated original oil in place, 16.9 million 1 barrels of oil, and dividing the recovered oil by the 16.9 2 million barrels, we have a recovery factor of 46.2 percent. 3 In their initial hearing they tested with just the 4 discovery well producing that they would recover 50 percent 5 based on their experience also. It's not an uncommon 6 7 number to use for a Devonian recovery of 50 percent. And having history as hindsight, they have recovered 46.2 8 9 percent.

In the comment section, you'll notice in Case In the comment section, you'll notice in Case 2118 and 2459, results of interference testing in that particular field after they had drilled offsets indicated pressure communication and drainage of the Devonian pay was taking place between wells located 1867 feet apart. That distance represents a circular drainage area of 251 acres.

Also of note, the decrease in bottomhole pressure of the reservoir after the field had produced nearly a million barrels, or 12.7 percent of recoverable oil, in the first 28 months of life, was less than 100 p.s.i. The water drive in this field was significant.

Also in the Lea Unit Number 1, the discovery well, I just draw your attention to the recovery. Their recovery was less than what we had in our DST, and the reason I'm drawing your attention to these recoveries is because the Lea-Devonian field and the next field that I'll

show you were strong flowing wells. Ours is a pumping well 1 right now. 2 But what I wanted to illustrate was, they 3 4 acidized their discovery well with 4000 gallons of acid, and we've only acidized ours with 500 gallons at a very 5 mild rate. We're trying to be very careful. We don't want 6 to open up any communication to water, make sure we figure 7 out what we have first before we get wild with stimulation. 8 Before you move off of this exhibit, Mr. Maxey, 9 Q. 10 again I'd like to have you emphasize a couple of things. 11 In the second block of data, the permeability for this Lea-Devonian field is less than what you have in your well, is 12 that not --13 It's less, according to -- calculated from their 14 Α. drawdown test, it's less than what we calculated from our 15 DST buildup. 16 And in the next block there's a couple of numbers 17 Q. that I want to reiterate. First, the recovery factor of 18 46.2 percent. So that gives you a basis for estimating 19 your 50-percent recovery in the proposed field? 20 That's correct. 21 Α. 22 Then finally these last two numbers where you Q. 23 have the regulatory spacing, the Lea-Devonian Pool is 24 spaced on 160 acres under orders of the Division; is that 25 correct?

A. That's correct.

1

2 Q. And then below that you have "actual spacing".3 What does that mean?

A. In the last block, the bottom of the last block, just for information purposes, this field is spaced on 160acre spacing for regulatory purposes. I actually took the number of acres that I planimetered above the oil-water contact, divided by the number of producing wells. We come up with 112.5 acres per well.

Q. Okay. Move on to the next two exhibits, and you might want to discuss those -- or two pages, and you might want to discuss those together.

Okay. The next two pages are graphs to help see 13 Α. this information visually. I have a spreadsheet following 14 that we'll go through. Basically what I've taken on this 15 16 first graph is -- the 12 producing wells, I've plotted their completion date versus their cum oil production. 17 It's a little easier to look at this information in this 18 fashion than it is on a spreadsheet, and what pops out is 19 20 that the majority of wells were drilled, you can see, 21 between March of 1960 and September of 1965, in that band. 22 The field was developed pretty rapidly.

However, there have been three wells drilled at much later dates, or completed, I should say, at much later dates. And those three wells recovered uneconomic to very

marginal amounts of reserves. So that's the kind of trend 1 I wanted to see with what's going on in this field. 2 So -- I wanted to see if those three wells, so if 3 you'll move to the next page where it's a similar plot, 4 however I plotted the subsea Devonian top versus the 5 cumulative oil production. And you can see that those 6 wells completed after, basically, September of 1965 -- I've 7 noted them on this plot -- one of them was well 8 9 offstructure, so it doesn't surprise you that it was 10 uneconomic. The other two were well up on structure, one of 11 them being at the top. It was swept by the other wells, it 12 was drained, there was no recoverable oil, or very little 13 recoverable oil at that position. So their effort to 14 obtain 160-acre spacing in this field was a good decision. 15 They recognized with their interference tests that they 16 were draining large intervals, and this helps to confirm 17 that that's, in fact, what was taking place. 18 One thing I might add on the Lea-Devonian, on 19 both these fields that I'm showing you, they don't have the 20 advantage of 3-D seismic to delineate the field, they have 21 to delineate the field by drilling. All they have is 2-D 22 23 seismic. 24 Okay, moving on to the next -- It's another map. This map is really window dressing; it's to help you see 25

what's going on in the field, though. It's the structure map that you saw on the first page, but I've superimposed over that an image map, and you can see the scale of the image map in the upper right-hand corner. The darkest images are the highest cumulative oil production. The lightest images are basically white, is no oil production, no cumulative oil production.

And you can see that there was a very sweet spot in the south half of the structure, primarily the Lea Unit Number 9 and 10, well up on top of the structure. And you did have production from the edge wells to the north, however the edge wells to the south, the Number 11 and 17, virtually didn't recover anything, very close to the oilwater contact, and were uneconomic wells.

Okay, the last page of this exhibit, now, this is information that you saw on the graph. But what I've done on this spreadsheet is sorted this information by cumulative oil production, the fourth column, cumulative oil production. So you basically have the best well on top, with the worst well on bottom.

Now, if I can attract your attention to the right-hand side, the last four columns, if you'll notice that I have a column titled "Individual Well Percent of Cum Oil", that's what each well percentwise did of the total cumulative production. I then totaled that -- had a

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| | 20 |
|----|--|
| 1 | running column or a running cumulative of that column |
| 2 | titled "Individual Well Percent of Cum Oil". |
| 3 | And you can see from that column that about |
| 4 | halfway through, or just over halfway, actually two-thirds |
| 5 | of the way down, 96.3 percent of the oil was recovered by |
| 6 | two-thirds of the wells, because the last column or |
| 7 | excuse me, the second-to-the-last column shows you the |
| 8 | percent of wells drilled. In other words, the first well |
| 9 | was 8.3 percent. One over 12 is 8.3 percent. And I'm just |
| 10 | running the cumulative of the wells drilled in percent |
| 11 | fashion. |
| 12 | So you can see that 96.3 percent of the |
| 13 | cumulative oil production was produced by 66.7 percent of |
| 14 | the wells. Fully |
| 15 | Q. So in other words, Mr. Maxey, the final four |
| 16 | wells really probably shouldn't have been drilled? |
| 17 | A. They probably shouldn't have been drilled. Fully |
| 18 | one-third of the wells were uneconomic, and it constituted |
| 19 | a waste of their drilling budget. |
| 20 | Again, though, you have to defend the folks, |
| 21 | because they don't have a clear picture of their reservoir |
| 22 | yet. As they're establishing their picture they still have |
| 23 | to test the downdip limits. They don't have 3-D seismic. |
| 24 | Q. Let's move on to your final exhibit, Number 5, |
| 25 | and discuss data from the South Vacuum-Devonian Pool. |
| | |

Okay, again this is another analogous field, same 1 Α. type of information. There's a lot of it, but I've tried 2 to present it in the same fashion, so that once you get 3 familiar with the first -- or excuse me, Exhibit 3, that 4 you could work through 4 and 5. 5 Another bounding fault roughly to the east, it's 6 7 actually to the northeast, with a downdip oil-water contact estimated, based on the subsurface data, as minus 7900 8 This field is roughly to the north -- Actually, 9 feet. 10 north-northwest is where this would be, in 18-35. Now, this spaced -- before we begin, is spaced on 11 Q. 12 80 acres? 13 Α. This field is spaced on 80 acres, that's correct, they obtained pool rules for 80 acres. However, one thing 14 I call your attention to is, this field was drilled up in 15 16 the late 1950s. So I don't know, but it's possible that 17 the predecessor to Marathon, those folks that drilled the Lea-Devonian, this probably was one of their analogy fields 18 to look at and use some of the information. And I think 19 20 the information that we see here is very similar to the 21 Lea-Devonian and the South Vacuum. It could have very well 22 produced on 160s and been efficient. 23 Again, we've got the same set of data on the 24 second page. Date of discovery, January 26, 1958, a couple years earlier than the Lea Devonian. Number of producing

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| 1 | wells, 17. Again, cum oil production through October, 9.1 |
|----|--|
| 2 | million barrels; cumulative gas, 384 million cubic feet; |
| 3 | and 117 million barrels of water produced. |
| 4 | I'd like you to look at the GOR of 35 cubic feet |
| 5 | per barrel over the life, 42 cubic feet per barrel |
| 6 | initially. I found that on a scout ticket. There's not |
| 7 | much energy derived from the gas in this reservoir, |
| 8 | primarily water drive. |
| 9 | Second block, the area of oil column above the |
| 10 | estimated oil-water contact at minus 7900 feet is 1251 |
| 11 | acres. Amount of closure is 367 feet. |
| 12 | Now, I'm going to point out before I go on, |
| 13 | again, this data was pulled from an RGS symposium. If |
| 14 | you'll notice on that first page, I have updated it for a |
| 15 | couple of wells drilled up there in the northwest portion, |
| 16 | so I have changed those contours a little bit, but not a |
| 17 | lot. They had a good interpretation. |
| 18 | So what happened in the second block of page 2, I |
| 19 | did not have some of the information. Obviously in the |
| 20 | Lea-Devonian they had to testify to a lot of their |
| 21 | engineering data, and I pulled that. The South Vacuum, I |
| 22 | searched and couldn't find much in the way of information, |
| 23 | engineering data. However, I found one good piece of |
| 24 | information I'll discuss later. |
| 25 | So, what I wanted to do in the south vacuum was |
| • | |

| | 23 |
|----|---|
| 1 | see if I could come up with the same number, to see if this |
| 2 | was similar, or to disprove if it was different. I had a |
| 3 | You'll notice, on the average thickness of net pay |
| 4 | across the field, I used the numbers from the Lea Devonian |
| 5 | field, I used 61 feet net. |
| 6 | I did have some porosity data from a core |
| 7 | presented at the RGS symposium by Mobil Oil Company. And |
| 8 | the water saturation, again, I just pulled it from the Lea |
| 9 | Unit. The rest of the information is explanatory there. |
| 10 | Again, the pressure gradient, .414 p.s.i. per foot, very |
| 11 | similar to the Lea-Devonian in our well. |
| 12 | Okay, based on these numbers I have a calculated |
| 13 | original oil in place of 18.7 million barrels of oil. I |
| 14 | feel comfortable with that volumetric number because I did |
| 15 | have a good porosity number for core data. Dividing |
| 16 | recovery oil by that number, I come up with a 49-percent |
| 17 | recovery factor. |
| 18 | Again, this field was on regulatory spacing of 80 |
| 19 | acres and taking the planimetered area above the oil-water |
| 20 | contact, dividing by the well count of 73.6 acres per well. |
| 21 | Again, the DST data is presented because it's a |
| 22 | less recovery than what we recovered on our well, just to |
| 23 | illustrate that these wells are damaged initially, and we |
| 24 | can't look at our Devonian DST and say we have a tight |
| 25 | formation, because we have permeability similar to the Lea |
| | |

1 field.

| - | |
|----|---|
| 2 | But I want you to look at the last paragraph. A |
| 3 | recovery factor for a hydraulically controlled reservoir |
| 4 | can be computed from water saturation and residual oil |
| 5 | saturation from a core. So I took basically my guess from |
| 6 | the Lea-Devonian field, and I combined it with the residual |
| 7 | oil saturation as reported at the RGS symposium by Mobil |
| 8 | Oil Company, that residual oil being 25.3 percent. I |
| 9 | calculated a recovery factor based on that information at |
| 10 | 55.6 percent. |
| 11 | So I feel pretty confident. I'm comparing 49- |
| 12 | percent actual recovery based on historic data, versus 55 |
| 13 | percent. I believe we're looking at this very exact same |
| 14 | animal as we are in the Lea Unit, and as we'll see in our |
| 15 | field. |
| 16 | Okay, again we have two plots, the first one |
| 17 | completion date of the wells versus cum oil production, the |
| 18 | second one is subsea Devonian tops versus cum oil |
| 19 | production. You'll see the same trend in this information. |
| 20 | Three wells drilled after the initial band of wells was |
| 21 | drilled from 1957 to 1960, roughly. You have three wells |
| 22 | drilled after 1965 with low cumulatives. So I wanted to |
| 23 | see how that compared on the subsea Devonian top |
| 24 | information. |
| 25 | Again we see those three wells that I've noted. |

Two were down on structure, so it doesn't matter when they
were drilled. They could have been drilled earlier and
still been uneconomic. But again, one of those wells was
drilled well up on structure, above minus 7650. And if
you'll look to the right and see the grouping of four wells
drilled in that vicinity, they've produced over 400,000
barrels of oil.

The linear fit, which I have forgotten to mention 8 on the previous exhibits -- but that linear fit is based on 9 all the wells, with the exceptions of the ones that were 10 drilled late. The linear fit is on the wells that were 11 drilled in the grouping of wells that are competitive. And 12 you can see actually with the fit data, that a well at that 13 point on structure should actually produce over 600,000 14 15 barrels of oil. So there was probably some competition 16 between wells.

But all this information -- I feel that it clearly indicates that we saw very good drainage taking place in these reservoirs, because we had data points after the fact that did not produce economic quantities on various placement in the structural top and bottom of the reservoir.

Again on this field, the last page of Exhibit 5, it's the same thing. Two-thirds of the wells produced 93.8 percent of the oil. They had fully one-third or six wells

| 1 | that may not have had to have been drilled or, in my |
|----|---|
| 2 | opinion, did not have to be drilled. |
| 3 | Q. So looking at this data overall from the two |
| 4 | correlative fields, Mr. Maxey, obviously you don't want to |
| 5 | overdrill these reservoirs, do you? |
| 6 | A. That's correct. |
| 7 | Q. And secondly, you need to be relatively high on |
| 8 | structure? |
| 9 | A. That's correct. The more efficient drainage of |
| 10 | the reservoir is from the wells that are higher on |
| 11 | structure. |
| 12 | Q. Mr. Maxey, now I'd ask you to pull out in front |
| 13 | of you your Exhibits 1 and 3 again, and I refer you just to |
| 14 | the top page of Exhibit 3, to compare with Exhibit 1. Now, |
| 15 | you're asking for 160-acre spacing, correct? |
| 16 | A. That's correct. |
| 17 | Q. The way you have, looking at Exhibit 3, the |
| 18 | reservoir mapped here, there isn't any particular quarter |
| 19 | section of land that is entirely productive in the |
| 20 | Devonian? |
| 21 | A. That's correct. |
| 22 | Q. But let's compare that with the land ownership |
| 23 | and at this point in your knowledge of drilling plans for |
| 24 | this reservoir. Looking at the southwest quarter of |
| 25 | Section 4, Mr. Maxey, you don't see any need at this time |

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| 1 | to drill a second well in the southwest quarter of Section |
|----|--|
| 2 | 4? |
| 3 | A. No. |
| 4 | Q. When you look at Exhibit 1, when you look at the |
| 5 | southwest quarter, there are two separate tracts, aren't |
| 6 | there? |
| 7 | A. Yes. |
| 8 | Q. There is one that covers or one tract with |
| 9 | uniform interest covering the north half of the southwest |
| 10 | quarter, and then a separate tract with uniform interest |
| 11 | covering the south half of the southwest quarter? |
| 12 | A. Yes. |
| 13 | Q. Okay. Now if, for instance, 80-acre spacing was |
| 14 | instituted and just looking again at the southwest |
| 15 | quarter of Section 4, if you did a standup unit, you'd be |
| 16 | cutting out the people in the south half of the southwest |
| 17 | quarter, correct? |
| 18 | A. I'm sorry, say that again. |
| 19 | Q. If you did a excuse me, did a laydown unit |
| 20 | covering the north half, southwest quarter |
| 21 | A. Okay. |
| 22 | Q you'd be cutting out the people in the south |
| 23 | half of the southwest quarter? |
| 24 | A. That's correct. |
| 25 | Q. But you don't see any need to drill a second well |

| 1 | in the south half of the southwest quarter? |
|----|---|
| 2 | A. No, sir. |
| 3 | Q. And furthermore, this in Exhibit 1, the |
| 4 | acreage you kind of coded, the blue is actually term- |
| 5 | assignment acreage? |
| 6 | A. That's correct. |
| 7 | Q. So if you have 80-acre spacing and you don't |
| 8 | drill everything up, the assignment will expire as to the |
| 9 | undrilled acreage? |
| 10 | A. That's correct. |
| 11 | Q. And that could give the opportunity for some |
| 12 | other operator to come in here and drill a second well in |
| 13 | the southwest quarter? |
| 14 | A. After all the work we've put into it, that's |
| 15 | correct. |
| 16 | Q. Okay. Now, in the northwest quarter, again, it's |
| 17 | not entirely productive in the Devonian? |
| 18 | A. Yes, that's right. |
| 19 | Q. But looking at Exhibit 1, again, there are two |
| 20 | separate tracts, one the north half of the northwest |
| 21 | quarter, and one the south half of the southwest quarter? |
| 22 | A. Correct. |
| 23 | Q. And at this point do you see any need to drill |
| 24 | more than one well per more than one well in the |
| 25 | northwest quarter of Section 4? |

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At this time, with the information we have, no. Α. 1 And again, because of those two tracts and 2 Q. because this is term-assignment acreage, if you --3 depending on how you form the unit, the term assignment may 4 expire as to certain acreage and give someone else the 5 opportunity to come drill an unneeded well in that quarter 6 section? 7 Α. That's correct. 8 Now, when you look at the southwest quarter of 9 Q. Section 33 and the southeast guarter of Section 5, again, 10 not the whole quarter section is going to be productive? 11 12 That's right. Α. But when you look at the land plat, the southwest 13 Q. quarter of Section 33 and the southeast quarter of Section 14 5, both of them comprise one single uniform interest tract, 15 do they not? 16 17 Α. That's right. So nobody would be adversely affected by the 18 Q. southwest quarter -- or I should say by the 160-acre 19 spacing, because the interests are uniform whether you look 20 at it as 80s or 160s? 21 22 Α. Correct. The other thing you've asked for, Mr. Maxey, is 23 Q. the 330-feet spacing requirement. In other words, no wells 24 25 should be closer than 330 feet to the outer boundary of a

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| 1 | quarter section or to a quarter-quarter section line. You |
| 2 | understand that usually when spacing is 160 acres, the |
| 3 | Division has a requirement that the wells be 660 feet off |
| 4 | of a quarter-section line, do you not? |
| 5 | A. Yes. |
| 6 | Q. Why are you asking for 330-foot location |
| 7 | requirements? |
| 8 | A. The reason for the 330 feet, number one, with the |
| 9 | advent of 3-D seismic and the opportunity to see the |
| 10 | geometry of the reservoir or have a good estimate of the |
| 11 | geometry of the reservoir prior to drilling it, and to try |
| 12 | to apply very firm spacing rules to that reservoir without |
| 13 | flexibility is going to create a problem with either not |
| 14 | drilling enough wells or drilling too many wells, and we |
| 15 | need the flexibility of the 330. |
| 16 | For instance, in the southeast quarter of 5, if |
| 17 | we have 660 off the line there, it's going to force us very |
| 18 | close to the oil-water contact. And the data that I've |
| 19 | shown, that well is doomed, basically, statistically, to |
| 20 | produce an uneconomic amount of reserves. |
| 21 | We do have to drill the well in the southeast |
| 22 | quarter of 5 to protect correlative rights, but we want to |
| 23 | be on top of the or closer to the top of the structure, |
| 24 | and the 330 standoff will give us that. |
| 25 | Q. Okay. |

| 1 | A. And it's the same situation as you move through |
|----|---|
| 2 | the reservoir. We really need the flexibility to do that |
| 3 | in the spacing rules. |
| 4 | Q. Okay. And in order to protect the correlative |
| 5 | rights of the royalty interest owners underlying those |
| 6 | particular tracts? |
| 7 | A. That's correct. |
| 8 | Q. Were Exhibits 1 through 5 prepared by you or |
| 9 | under your supervision or compiled from company business |
| 10 | records? |
| 11 | A. Yes, they were. |
| 12 | Q. In your opinion, is the granting of this |
| 13 | Application in the interest of conservation and the |
| 14 | prevention of waste? |
| 15 | A. Yes, it is. |
| 16 | Q. And finally, Mr. Maxey, do you request that the |
| 17 | spacing order in this case be made retroactive to October |
| 18 | 31st, 2001, which is the date of first production from this |
| 19 | well? |
| 20 | A. Yes, I do. |
| 21 | MR. BRUCE: Mr. Examiner, I'd move the admission |
| 22 | of Read and Stevens Exhibits 1 through 5. |
| 23 | EXAMINER STOGNER: What date did you say make it |
| 24 | retroactive to? |
| 25 | MR. BRUCE: October 31, 2001. |

EXAMINER STOGNER: Okay, your Application says 1 2 October 29th. MR. BRUCE: Oh, excuse me, October 29 is correct, 3 4 I'm sorry. EXAMINER STOGNER: Oh, you got confused with 5 Halloween, okay. Let's see, what -- Exhibits 1 through 5; 6 7 is that correct? --8 MR. BRUCE: Yes. EXAMINER STOGNER: -- will be admitted into 9 10 evidence at this time. Thank you, Mr. Bruce. 11 Mr. Carr, your witness. 12 EXAMINATION 13 BY MR. CARR: 14 Mr. Maxey, if we look at Exhibit Number 1, the 15 Q. acreage shaded in yellow is 100-percent Read and Stevens 16 acreage; is that correct? 17 Yellow, without the cross-hach. 18 Α. All right, and then the blue is the area covered 19 Q. 20 by the term assignment that you now have from who? Conoco, 21 Arco, Chevron and Apache, is that what I understand from this? 22 23 That's right. Α. Pursuant to the terms of that assignment, you 24 Q. 25 earn acreage dedicated to a well; is that right?

| 1 | A. That's right. |
|----|---|
| 2 | Q. And so if the spacing is increased as you're |
| 3 | requesting, with each well you would earn 160 acres, as |
| 4 | opposed to 40? |
| 5 | A. We would earn the proration unit. |
| 6 | Q. Now, you notified Northern Oil Company in this |
| 7 | case. That's because Northern has a royalty interest under |
| 8 | the north half of the southwest; isn't that correct? |
| 9 | A. I don't know the exact location, but yes, it's in |
| 10 | the southwest. |
| 11 | Q. If the acreage spacing is changed as you request, |
| 12 | that would, in effect, mean that the actual share of |
| 13 | production attributable to Northern would be cut in half, |
| 14 | would it not, if we go from 40 to 160? |
| 15 | A. Yes, it would cut them in half that they would |
| 16 | share in whatever was drained from that. |
| 17 | Q. Now, when we look at Exhibit Number 1 and we |
| 18 | compare it to Exhibit Number 3, when you were talking with |
| 19 | Mr. Bruce a few minutes ago about the need for flexibility, |
| 20 | does Read and Stevens at this time plan to drill a well in |
| 21 | the northwest quarter of Section 4? |
| 22 | A. Yes, we've discussed that location. |
| 23 | Q. And when you discuss the location, do you have an |
| 24 | idea where it will be? Will it be 330 off the boundary of |
| 25 | the northwest quarter unit, or have you refined your |
| L | |

| 1 | decision on a location? |
|----|---|
| 2 | A. We have not refined our decision. We want to see |
| 3 | The next well will probably be the southeast of 5. That |
| 4 | will actually help I might add that when we drilled the |
| 5 | Liberty Number 1 we were right on, on the seismic. We had |
| 6 | no adjustment. So the southeast of 5 will help us to test |
| 7 | that a little bit; we'll be stepping out just a little bit. |
| 8 | And if you look at the structure map you see |
| 9 | I'll call it a nose, for lack of a better word in the |
| 10 | northern portion in the southeast of 5. We want to drill |
| 11 | that first and see how |
| 12 | Q. And so you do have plans to drill in the |
| 13 | southeast of 5? |
| 14 | A. Yes. |
| 15 | Q. And then you would go from there to the northwest |
| 16 | of 4? |
| 17 | A. Right. |
| 18 | Q. And under the time frame set forth in the term |
| 19 | assignment you have time to go and drill in the southeast |
| 20 | of 5 and then up to 4 and |
| 21 | A. Yes, we do. |
| 22 | Q acreage? |
| 23 | When you drilled the Liberty Number 4, you |
| 24 | testified you've confirmed your seismic? |
| 25 | A. Yes. |

| 1 | Q. The seismic, if we look at Exhibit Number 3 |
|----|---|
| 2 | First of all, Section 4 isn't an irregular section, is it? |
| 3 | A. No. |
| 4 | Q. It looks like it might be. |
| 5 | A. No, that's the way it was mapped. |
| 6 | Q. And the fault that you've projected runs through |
| 7 | the west half of the section? |
| 8 | A. Yes. |
| 9 | Q. Have you been able to estimate how many acres you |
| 10 | have in the southwest quarter of Section 4 that actually |
| 11 | could contribute to the well? |
| 12 | A. I did not break it down by 160 proration unit. |
| 13 | Q. But you would agree with me that a substantial |
| 14 | portion of it is outside the reservoir, as you've shown it? |
| 15 | A. Yeah, it looks like roughly half. |
| 16 | Q. Now, you testified about the need for additional |
| 17 | flexibility in locating wells, and you particularly |
| 18 | referenced your plans for the southeast of 5. Is it fair |
| 19 | to assume that the well in the southeast of 5 would be 330 |
| 20 | feet from the east line of that section? |
| 21 | A. Yes. |
| 22 | Q. And so what we're going to do is be developing a |
| 23 | reservoir for which you're seeking 160-acre spacing rules, |
| 24 | and the wells will be 660 feet apart; is that right? |
| 25 | A. Yes. |
| - | |

You have provided attached to Exhibit 3 a 1 Q. substantial amount of information that you have on the 2 Liberty 4 Number 1 well. With this information, have you 3 been able to calculate actually a drainage area for that 4 5 well? And I might add that that's why we're 6 Α. No. 7 looking for additional pressure data from the second well 8 and the core data. We're trying to establish more 9 information and see if there is communication between these 10 two wells, to what extent. Generally speaking, when do you plan to drill 11 Q. these additional wells in the southeast of 5? Is that --12 Southeast of 5 we hope to spud within two weeks. 13 Α. 14 Q. And then after that when are you required to 15 drill up in the northwest of 4? We have to be back over in the northwest of 4 by 16 Α. -- I believe it's June 28th. It's the end of June or 1st 17 18 of July. 19 Q. Is it reasonable to think you would have 20 additional data on this reservoir a year from now? Α. Yes. 21 22 That you could make a more informed call on what Q. 23 these wells will actually drain? 24 Yes. Α. At that time you also would have more information 25 Q.

| A. Yes, we'll definitely see more production. Q. Are you intending to do additional work to the well, or are you going to just continue to pump it? A. We will have to have another meeting with partners. The DST information on the Number 1 well indicates we have very good power. We've perforated the upper as you can see on the exhibit, the upper 15 feet of the porosity. However, it does not look like We have done some nodal work on the DST, and it looks like we still have an amount of skin factor and that that well could possibly, in fact, flow if that skin was removed. But we had some discussion as to, do we want to go in and put, as they did in the Lea field, a 4000-gallon treatment. Because if you ever connect up with that treatment to a water leg in the Devonian, you're pretty much shot. Q. If we look at Exhibit 4 and 5, on each of those, on the second page, you have a column that you call "Actuation Spacing". As to the Lea Devonian it's 112.5 acres, and as to the South Vacuum 73.6. Those are not based actually on | | |
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| drainage calculations, you just took the number of acres in the pool and divided it by the number of wells producing from the pool; is that correct? | 20 | Spacing". As to the Lea Devonian it's 112.5 acres, and as |
| 23 the pool and divided it by the number of wells producing 24 from the pool; is that correct? | 21 | to the South Vacuum 73.6. Those are not based actually on |
| 24 from the pool; is that correct? | 22 | drainage calculations, you just took the number of acres in |
| | 23 | the pool and divided it by the number of wells producing |
| A. That's the number of productive acres above the | 24 | from the pool; is that correct? |
| | 25 | A. That's the number of productive acres above the |

| 1 | oil-water contact. |
|----|---|
| 2 | Q. Divided by the number of producing wells? |
| 3 | A. Right. |
| 4 | MR. CARR: Okay, that's all I have. Thank you. |
| 5 | EXAMINER STOGNER: Mr. Carr. |
| 6 | MR. BRUCE: Couple of follow up matters. |
| 7 | EXAMINER STOGNER: Mr. Kellahin? [sic] |
| 8 | MR. BRUCE: First of all, Mr. Examiner, looking |
| 9 | at Exhibit 1, Section 4 is a slightly irregular section, |
| 10 | and I don't have the acreages in front of me, but the top |
| 11 | tier is Lots 1 through 4, and it looks like they're 40.3, |
| 12 | 40.5 acres or something like that. It's not substantially |
| 13 | out of kilter with the government |
| 14 | EXAMINER STOGNER: I believe the surveyors say |
| 15 | more or less. |
| 16 | FURTHER EXAMINATION |
| 17 | BY MR. BRUCE: |
| 18 | Q. And Mr. Maxey, just one question. Mr. Carr asked |
| 19 | you about a well in Section 5. That well is It won't be |
| 20 | 660 feet away from the Liberty 4 Number 1, will it? It's |
| 21 | going to be slightly further to the north than the like |
| 22 | 2000, 2100 feet from the south line of the section? |
| 23 | A. That's right, it's 2010, I believe, from the |
| 24 | south line, so it will be a little further. We actually |
| 25 | have with our seismic data there's other reservoirs in |

| 1 | the area, and we're trying to optimize between the Devonian |
|----|---|
| 2 | and other targets. |
| 3 | MR. BRUCE: Okay, thank you. I pass the witness, |
| 4 | Mr. Examiner. |
| 5 | EXAMINATION |
| 6 | BY EXAMINER STOGNER: |
| 7 | Q. When the Liberty 4 Number 1 was drilled, what was |
| 8 | its primary target? |
| 9 | A. The Devonian was one of the primary targets, but |
| 10 | the Ellenburger was another. |
| 11 | Q. Ellenburger oil? |
| 12 | A. Well, we thought gas. There's not any production |
| 13 | very close at all in the Ellenburger. I mean, we didn't |
| 14 | have a good analogy very close by. We were estimating gas |
| 15 | out of the Ellenburger, oil out of the Devonian. |
| 16 | Q. Okay, how was the well permitted, then? |
| 17 | A. We had to go to hearing. |
| 18 | Q. For what purpose? |
| 19 | A. For the Ellenburger on the gas. We permitted the |
| 20 | well as an Ellenburger gas well. |
| 21 | Q. But what was the purpose of the hearing? |
| 22 | A. It was an unorthodox location. |
| 23 | Q. Okay. Do you have reference to that order? |
| 24 | A. I'm sorry, I don't. |
| 25 | EXAMINER STOGNER: Okay. Mr. Bruce |

I'll get it for you. MR. BRUCE: 1 2 Q. (By Examiner Stogner) Was that going to be a 3 standup or a laydown 320? It was going to be a standup. 4 Α. 5 Q. A standup. Uh-huh. 6 Α. 7 And when was the well actually drilled? Q. 8 The logging date was July 14th of 2001, so we Α. TD'd roughly mid-July. 9 In mid-July, and you were testing a lower 10 Q. formation? 11 We tested like -- I believe it was 12 intervals. 12 Α. 13 We had a lot of testing. Okay, and then you finally hit pay dirt? 14 Q. Finally. 15 Α. In the Devonian? 16 Q. 17 Α. Yes. And started producing it on October 29th? 18 Q. Right. 19 Α. 20 Q. What was its original rates? Do you remember, or 21 do you have --They were -- just over 400 barrels a day, 22 Α. probably around 440, 430 to 440. I may have that on the 23 24 exhibit, let me look. 25 Did you produce at that rate? Q.

| 1 | A. Initially. |
|----|---|
| 2 | Q. Initially. For how long? |
| 3 | A. Well, it declined from that rate down to its |
| 4 | current rate of 330 over let's see, that was we've |
| 5 | probably been at 330 actually I can tell you this, |
| 6 | Mr. Examiner, we've been stabilized on the fluid level |
| 7 | since about January 14th. So we had a high fluid level |
| 8 | initially. And as the well pumped down it stabilized |
| 9 | approximately January 14th. So we have been stabilized |
| 10 | producing at a fairly stable fluid level since January |
| 11 | 14th. |
| 12 | Q. And if the well is to remain on 40 acres for some |
| 13 | reason, if the special request for 160 is denied, then that |
| 14 | would be over the allowable? |
| 15 | A. Yes, it would. And I have been in contact with |
| 16 | the Hobbs OCD office about this. And one of the things we |
| 17 | really needed from this well was stable production data, in |
| 18 | order to get that fluid level stabilized so that we could |
| 19 | see what kind of trend we had on production. |
| 20 | Q. Now, making the What would happen to this |
| 21 | particular well's spacing unit? Would it also be made |
| 22 | retroactive to that October 29th, the production and |
| 23 | assignment of proceeds? Would that be distributed |
| 24 | accordingly? |
| 25 | A. What we've done up to this point is distribute to |

| 1 | the working interest owners, because they'll be the same |
|----|---|
| 2 | under 40, 80, 160, whatever. The royalty interest is held |
| 3 | in suspense pending the outcome of this hearing. |
| 4 | Q. Okay, so if 160 acres is granted, those proceeds |
| 5 | then would be released? |
| 6 | A. We'll disburse those proceeds, and the sooner the |
| 7 | better, because we'd like to get those out. |
| 8 | Q. And if it was denied, then nobody in the north |
| 9 | half I mean, in the southern portion of that 160 would |
| 10 | yes or no? |
| 11 | A. If Are you asking if it stayed on a 40? |
| 12 | Q. If it stayed on a 40, that means the proceeds |
| 13 | would go a hundred percent to that northern half of that |
| 14 | lease or that proposed 160? |
| 15 | A. They would go to the northwest quarter of that |
| 16 | 160, yes. |
| 17 | Q. That's right. And nobody in the southwest |
| 18 | quarter |
| 19 | A. No, they would not get any income. |
| 20 | Q. Okay. The Lea-Devonian Pool, you stated earlier, |
| 21 | was on 160-acre spacing. Do you know what the setback |
| 22 | requirements in that pool is? |
| 23 | A. They were more than 330. I've read it and I |
| 24 | I've got it in my briefcase, I don't recall of the top of |
| 25 | my head. But they were more than 330. |

| | 45 |
|----|---|
| 1 | Q. Well, I'm looking at them here, and there's a |
| 2 | Rule 3.A that says each well shall be located no closer |
| 3 | than 330 foot to the outer boundary of a proration unit. |
| 4 | Now, it looks like this order |
| 5 | A. You know, they had I know there was an unusual |
| 6 | request in their hearing, and it may not have been on a |
| 7 | setback, but I know that What I do remember about that |
| 8 | case is, they were trying to in the 160 proration units |
| 9 | they were trying to alternate those units. There was a way |
| 10 | in which they had to drill the 160 spacing units, and we're |
| 11 | certainly not requesting that. |
| 12 | Q. Okay. Now, I knew there was one in the Vacuum- |
| 13 | Devonian that alternated them, but you think that's the way |
| 14 | it was, or at least at one time |
| 15 | A. Yes. |
| 16 | Q in the Lea-Devonian? |
| 17 | A. I read that in their testimony Through the |
| 18 | three hearings, I remember reading in the testimony about |
| 19 | alternating those 160-acre proration units. I can't |
| 20 | remember if it was from northeast to southwest or northwest |
| 21 | to southeast, but there was testimony to that effect. |
| 22 | Q. Okay, I'll take administrative notice of both of |
| 23 | the special pool rules in both the Lea-Devonian and the |
| 24 | Vacuum-Devonian Pool, since you don't remember specifically |
| 25 | about why it's 330 offset as opposed to something more. |
| | |

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| 1 | A. I believe they were seeking the flexibility also. |
| 2 | They had a drilling unit, and some of their rationale for |
| 3 | the alternating of the units was based on their |
| 4 | unitization, and I did not research that. |
| 5 | Q. As you move I'm going to refer to Exhibit |
| 6 | Number 3. As you move your subsequent wells, you said your |
| 7 | first one is going to be back to the west; is that correct? |
| 8 | A. Yes, the next |
| 9 | Q. In Section 5? |
| 10 | A. Right, uh-huh. |
| 11 | Q. And another well is being looked at, a third |
| 12 | well, in the northwest of 4; is that correct? |
| 13 | A. That's correct. |
| 14 | Q. What kind of production rates are you looking for |
| 15 | there? It looks like you're in a pretty sweet area |
| 16 | already. Are you expecting higher or lower or about the |
| 17 | same |
| 18 | A. Expecting the same. In the offset fields, |
| 19 | typically in the Devonian, if you have a strong water-drive |
| 20 | component, the amount of fluid produced is strong out of |
| 21 | all the wells. Now, if it's an edge well, we'll see a |
| 22 | water cut very early and water encroachment. And what |
| 23 | changes rapidly is the water cut or the oil cut, |
| 24 | whichever way you want to look at it. |
| 25 | There's still a lot of production, however it |

| 1 | does as far as flowing rates, they will drop off as the |
|----|---|
| 2 | water increases. But with the Devonian, with the porosity |
| 3 | and the fracturing that appears to be in the Devonian, the |
| 4 | productivity from point to point is very similar. |
| 5 | Q. So under the current allowable Are you aware |
| 6 | of what the current allowable on 40-acre spacing out here |
| 7 | is? |
| 8 | A. I don't know the number, but yes, I know we're |
| 9 | overproducing on that current allowable. |
| 10 | Q. Okay. And this completion is between 10,000 and |
| 11 | 11,000; is that correct? |
| 12 | A. That's right. |
| 13 | Q. Okay, pursuant to Rule 505, it wouldn't surprise |
| 14 | you to know that that was 320 barrels a day? |
| 15 | A. It would not surprise me. |
| 16 | Q. So 320 barrels a day at 40-acre spacing would be |
| 17 | 330-foot, but you're producing at a rate that's about that |
| 18 | level already; is that correct? |
| 19 | A. Right, we're about 330. |
| 20 | EXAMINER STOGNER: If I remember right also, when |
| 21 | Jim Bruce first started we're looking for a temporary |
| 22 | period of what? A year to a year and a half? |
| 23 | MR. BRUCE: That is correct, if we're making it |
| 24 | retroactive to October 29th, then we believe a year and a |
| 25 | half would be appropriate to allow at least two more wells. |
| | |

EXAMINER STOGNER: A year and a half from October 1 29th? 2 MR. BRUCE: That's correct. 3 EXAMINER STOGNER: Any other questions of this 4 Is there anything further? 5 witness? MR. BRUCE: The only thing, Mr. Examiner, I did 6 spend a little time going back, say, over the last 20 years 7 8 of Devonian pools that are spaced on 160 acres, and I found -- and I don't have the order on this one, the Southeast 9 10 Crossroads-Devonian, that one is spaced on 160 acres. That 11 has the 660-foot setback from the quarter-section line 330 12 from the quarter-quarter section line. There's also the West Maljamar-Devonian Pool, 13 Order Number R-10,854. That one has the same rules that we 14 are requesting here today, 160-acre spacing with 330-foot 15 setbacks. So there is some -- Besides the Lea-Devonian, 16 there is at least one other pool out there that does have 17 similar rules. 18 Do you know if there was a EXAMINER STOGNER: 19 20 finding in that particular order that stated why? MR. BRUCE: I did not see -- the finding -- Once 21 again, it does discuss maximum flexibility in locating 22 wells at favorable structural positions. 23 24 EXAMINER STOGNER: Okay, so there was a finding 25 in there, and I'm just asking you the question to verify

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what's in the order, as opposed to your opinion. 1 MR. BRUCE: Yes, I think that's Finding 10 in the 2 order. 3 4 EXAMINER STOGNER: Is there anything further, Mr. 5 Carr? MR. CARR: Nothing further, Mr. Stogner. 6 EXAMINER STOGNER: With that, then this case will 7 be taken under advisement. Thank you. 8 9 (Thereupon, these proceedings were concluded at 10 10:28 a.m.) 11 * * * 12 13 14 I do hereby certify then the foregoing th ● complete record of the presenting 15 the Examiner hypering of Case 128/5. heard by Mat 21 February 2002 16 Exercices 17 Oil Conservation Division 18 19 20 21 22 23 24 25

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 March 1st, 2002.

STEVEN T. BRENNER CCR No. 7

My commission expires: October 14, 2002