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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 PHILLIPS) CASE NO. 10675
PETROLEUM COMPANY)
-----)

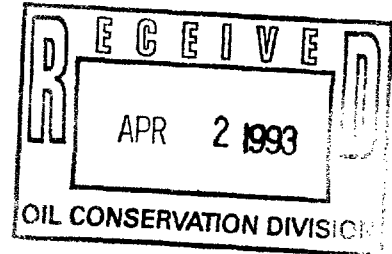
REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: David R. Catanach, Hearing Examiner
March 4, 1993
Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on March 4, 1993, at 10:00 a.m. at the Oil Conservation Division Conference Room, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Freda Donica, RPR, Certified Court Reporter No. 45, for the State of New Mexico.

ORIGINAL



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I N D E X

March 4, 1991
Examiner Hearing
CASE NO. 10675

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APPEARANCES

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A P P E A R A N C E S

FOR THE DIVISION: ROBERT G. STOVALL, ESQ.
 General Counsel
 Oil Conservation Commission
 State Land Office Building
 310 Old Santa Fe Trail
 Santa Fe, New Mexico 87501

FOR THE APPLICANT: KELLAHIN & KELLAHIN
 117 N. Guadalupe
 Santa Fe, New Mexico
BY: THOMAS KELLAHIN, ESQ.

1 EXAMINER CATANACH: At this time we'll call
2 Case 10675.

3 MR. STOVALL: Application of Phillips
4 Petroleum Company for an unorthodox gas well location,
5 Lea County, New Mexico.

6 EXAMINER CATANACH: Are there appearances
7 in this case?

8 MR. KELLAHIN: Mr. Examiner, I'm Tom
9 Kellahin of the Santa Fe law firm of Kellahin &
10 Kellahin, appearing on behalf of the applicant. And I
11 have two witnesses to be sworn.

12 EXAMINER CATANACH: Any other appearances?
13 Will the two witnesses please stand to be sworn in?

14 (Witnesses sworn.)

15 MR. KELLAHIN: Mr. Examiner, my first
16 witness is Mr. Scott Balke. He's a geologist with
17 Phillips Petroleum Company.

18 SCOTT C. BALKE
19 the witness herein, after having been first duly sworn
20 upon his oath, was examined and testified as follows:

21 EXAMINATION

22 BY MR. KELLAHIN:

23 Q. Mr. Balke, for the record, would you please
24 state your name and occupation?

25 A. Scott C. Balke; I'm a petroleum geologist

1 with Phillips Petroleum.

2 Q. And where do you reside, sir?

3 A. Odessa, Texas.

4 Q. On prior occasions, have you testified
5 before the Division as a petroleum geologist?

6 A. Yes, I have.

7 Q. And pursuant to that employment, are you
8 appearing again today with regards to Phillips'
9 application for an unorthodox location in the West
10 Ranger Lake-Devonian Gas Pool of Lea County, New
11 Mexico?

12 A. Yes, sir.

13 MR. KELLAHIN: We tender Mr. Balke as an
14 expert petroleum geologist.

15 EXAMINER CATANACH: Mr. Balke is so
16 qualified.

17 Q. (By Mr. Kellahin) Mr. Balke, before we
18 start looking at the exhibits, would you give the
19 Examiner an overview of what you're proposing to
20 accomplish with this particular application insofar as
21 it affects well locations in this pool?

22 A. Okay. Essentially, what we're trying to do
23 is -- the West Ranger Lake was developed on 320-acre
24 spacing through our 3-D seismic interpretation. The
25 320-acre spacing did not adequately develop the

1 field. We have a separate fault block, as you can
2 see, up to the northwest of Section 26 there. The
3 orthodox location would not penetrate that isolated
4 fault block. We need an unorthodox location to
5 actually penetrate and develop this field.

6 Q. You're dealing with 320 gas spacing in this
7 pool?

8 A. That's correct.

9 Q. A standard location would be 660 from a
10 side boundary and 1980 from the end boundary?

11 A. That's correct.

12 Q. Where do you propose to put this well?

13 A. As you can see on Exhibit 1, Section 26, in
14 green, well name and number is Ranger Number 20 up in
15 the northwest, which is, I believe, 860 from the
16 north, 660 from the west, in Unit D of Section 26.

17 Q. My information is 810.

18 A. 810?

19 Q. 810 from the north line and 660 from the
20 west boundary?

21 A. That's correct.

22 Q. Give us a picture of the Devonian
23 Reservoir. Is there a word description by which you
24 can characterize for us what this Devonian looks like
25 to you?

1 A. Well, the trapping mechanism for the
2 Devonian is structural. You have within the Devonian
3 Reservoir itself porosity of less than, say, five
4 percent, on the average of four percent. Primary
5 porosity and permeability is almost like broken
6 glass. You don't see this on the porosity log,
7 porosity logs don't pick up this type of porosity, and
8 so your permeability is going to be essentially
9 fractured porosity and trap, structurally. Gravity
10 will be oil -- I should say, the condensate with gas
11 is like 58 to 60 high-gravity oil. And it's a gas
12 reservoir.

13 Q. The type of geologic tools that you use to
14 help you find locations in this particular reservoir
15 are what, sir?

16 A. A couple of things. Since it is a
17 structural trap, we use both seismic -- in this case
18 it was 3-D seismic -- across the entire field area and
19 subsurface control, in combination with our
20 understanding of the reservoir. We want to be in the
21 structurally highest position possible and yet still
22 be within our productive trend to see if there's a --
23 there's a forced-in grauven feature here. We want to
24 stay up on the forced, not within the grauven, which
25 is an essential part of the field right here.

1 Q. Is this a reservoir where it's useful for
2 you, as a geologist, to prepare an isopach map of the
3 reservoir?

4 A. Not in this case, strictly because of its
5 complexity. The reservoir itself is out of a
6 dolomite. There's a limestone cap on top. Sometimes
7 this limestone cap cannot be present at all, could be
8 eroded. In other cases, it can be over a hundred feet
9 thick. And so when you're dealing with an isopach,
10 you want to make sure that you're dealing with the
11 same continuous reservoir. In this case, we're not
12 completely confident that we are dealing with the same
13 continuous reservoir.

14 Q. When you look at Section 26, as shown on
15 Exhibit Number 1, are there any producing wells
16 dedicated to this pool at this point?

17 A. There's one producing well currently
18 producing, Ranger Number 17, located in the
19 southwest-southwest, or I believe that's Unit M,
20 Section 26. We completed that June of '92, and it's
21 currently flowing from the Devonian.

22 Q. What is the spacing unit dedicated to that
23 well?

24 A. 320-acre spacing, or the south half of
25 Section 26.

1 Q. When you look at the north half, which is
2 the spacing unit you propose to dedicate to the Ranger
3 20 Well, has it had historically any wells producing
4 in that spacing unit from this pool?

5 A. Yes, it has.

6 Q. Which well?

7 A. The number 15 well, which you can see on
8 Exhibit Number 1, is located in the northeast of the
9 northwest of Section 26. It's located there with a
10 red dot with a slash, indicating that it had been an
11 abandoned producer. It had been produced from the
12 Devonian later, had been plugged back and moved up and
13 produced out of the pin.

14 Q. That is at a standard location for a north
15 half dedication?

16 A. That is correct.

17 Q. What are the open blue circles in the north
18 half of Section 26?

19 A. Those are the orthodox locations for the
20 north half of 26 and just showing in reference to what
21 our structural picture looks like.

22 Q. Give us your geologic conclusions why none
23 of the three remaining standard locations for that
24 spacing unit represent to you, as a geologist, viable
25 locations from which to drill a replacement well for

1 the 15 well.

2 A. Primarily structural. You'll see each one
3 of the three orthodox locations occurred downdip from
4 the 15, 15 had -- when it was abandoned, had watered
5 out, and any wells downdip from this watered-out well
6 should be noncommercial.

7 Q. When you look at the proposed unorthodox
8 location for the Ranger 20, describe for us what you
9 see, as a geologist, to be the critical points that
10 distinguish that location from the remaining three
11 standard locations.

12 A. Primarily two reasons. The first, being of
13 most significance, is structural. You're going to be
14 structurally high, significantly. You can see you're
15 going to be structurally high from the orthodox
16 locations. The second reason is you have a ceiling
17 fault that separates where the orthodox locations are
18 from our unorthodox location proposed.

19 Q. If the Division does not approve the
20 unorthodox location for the Ranger 20, will there be
21 hydrocarbons left in the reservoir that might
22 otherwise be produced?

23 A. Yes, sir, there will be.

24 Q. Do you have a way to describe for us who
25 are the offsetting operators towards which this well

1 is moving?

2 A. Yes, I do. Using Exhibit 1 again, they're
3 in Section 26, Section 27, Section 23 above Section
4 26, are all Phillips Petroleum 100 percent. In
5 Section 22, which is the northwest of Section 26 --

6 Q. The northwest offset to your spacing unit
7 in -- what's that, 22?

8 A. Twenty-two, excuse me. Yes.

9 Q. Who controls that spacing unit?

10 A. Yates Petroleum and several affiliates of
11 Yates.

12 Q. Have you notified Yates Petroleum and the
13 other Yates entities of your proposed location?

14 A. Yes, we have.

15 Q. Did they waive any objection to your
16 locations?

17 A. They waived any objection. It's Exhibit
18 Number 4.

19 Q. When you look at Exhibit Number 1, Ranger
20 20 is located on the edge of that structural contour
21 line minus 8620?

22 A. Uh-huh.

23 Q. Why have you not located it farther to the
24 east and to the south so that you're in the center of
25 the highest structural point within that fault line?

1 A. Two considerations. The first
2 consideration, there is a Pennsylvanian well drilled
3 660 from the north, 660 from the west line, and
4 reached its TD within the Pennsylvanian Formation
5 approximately 10,500 feet. We wanted to stay away
6 from that so there wouldn't be any kind of drilling
7 problems, actually deviating into a previously drilled
8 bore hole.

9 The second concern is just north and a
10 little bit to the east of -- approximately where that
11 one fault block is -- or one fault trends in Section
12 23, there's a house. They have a pecan orchard up
13 there. We'd like to stay as far away from that pecan
14 orchard as possible so we don't have any influences
15 from our drilling proceedings affecting his pecan
16 orchard.

17 Q. Let's turn now to Exhibit Number 2. Is
18 this a cross section that you prepared, Mr. Balke?

19 A. Yes, it is.

20 Q. Before we discuss the details of the
21 display, tell us what we're looking at.

22 A. What you have here is your -- to the right,
23 lower right-hand section is a condensed version of
24 Exhibit 1, giving the location. As you can see, I've
25 made a cross section called A-to-A prime. It goes

1 through our proposed unorthodox location, Ranger
2 Number 20, through the previously drilled well number
3 15, and the orthodox location, and then further to the
4 east to A prime. That A-to-A prime cross section can
5 be seen -- seismic cross section can be seen here on
6 the upper left. What we have there marked is the
7 Ranger Number 20 location. Going over to the Ranger
8 15 location, you can see that also on the cross
9 section, or the location of the cross section. And
10 then the other faults that are shown in the location
11 map.

12 Q. What's the basis for the orientation of the
13 seismic line A-to-A prime?

14 A. To show the two ceiling faults, the one
15 that's over to the west of the Ranger Number 20, and
16 the one that's over to the east of Ranger 20 that
17 separates the Ranger 15 from our proposed Ranger
18 Number 20.

19 The Devonian is highlighted in pink on the
20 3-D seismic cross section there. And you can see the
21 first fault slanted sort of north-northwest to
22 south-southeast. That is the high-angle fault, which
23 you can see as you're going in, just past the letter
24 A. Then you have the next fault, which is right
25 before Ranger 15 on the cross section. Those two

1 faults isolate the Ranger Number 20 location.

2 Q. When you look at the fault between the
3 Ranger 20 and the Ranger 15 location, describe for us
4 that fault as it cuts through and penetrates the
5 Devonian.

6 A. These are not straight vertical faults.
7 They're high-angle faults. The fault that's directly
8 to the east of the Ranger 20 location actually comes
9 down. You can see -- on this line it doesn't show as
10 dramatic as we've seen on other lines, but you can see
11 it trends sort of north northeast to south-southwest.
12 We want to stay away from cutting on the other side of
13 the fault as we're going through there, which gives
14 the proposed location a better shot of not cutting
15 across that fault.

16 Q. What is it about the data that's caused
17 you, as a geologist, to conclude that you're going to
18 have reservoir isolation between that portion of the
19 Devonian that was produced in the 15 well and what you
20 have proposed to produce out of the number 20 well?

21 A. Something key to look at is if you look on
22 the seismic cross section, go down -- from the Ranger
23 15, go down to the Devonian. See where the pink is
24 highlighted in the Devonian there, that is a change of
25 energy, essentially. These are very brittle

1 carbonates. You don't have the elasticity to bend
2 these things. They actually just break and snap. We
3 see that's the evidence of the fault. With that much
4 throw, you're looking at almost 100 foot of throw
5 right there. You're not going to be able to bend rock
6 100 feet. It's actually faulted across. And that
7 would -- with the dense carbonate we're dealing with,
8 would cause a ceiling fault.

9 Q. Have you applied this geologic
10 investigation and analysis to drilling and locating
11 any other wells in this pool?

12 A. Yes, we have.

13 Q. Which well or wells were utilizing this
14 technology to locate those wells?

15 A. We have one more well at this time
16 proposed. It's in an unorthodox location, 1980 from
17 the south, 660 from the east line, in Section 27.
18 That's going to be a Ranger Number 21. As you can
19 see, it's also in a structurally high position and
20 should drain that -- effectively drain that ridge --
21 productive ridge that you see to the west side of the
22 field.

23 Q. Was this technology and data utilized to
24 locate number 17 well in 26?

25 A. It was.

1 Q. And that has been a successful attempt on
2 Phillips' part to develop additional reserves for the
3 spacing unit in 26 that the well 16 did not achieve?

4 A. That's correct.

5 Q. Would you turn now to Exhibit Number 3 and
6 identify and describe that for us?

7 A. This is our survey plat showing the Ranger
8 Number 20 location being surveyed in 810 feet from the
9 north, 660 feet from the west.

10 Q. Do you have an opinion as to whether the
11 surface location for this well has met all the
12 necessary approvals?

13 A. It has met all the necessary approvals.

14 Q. Were Exhibits 1 and 2 prepared by you or
15 compiled under your direction and supervision?

16 A. Yes, they were.

17 Q. Do the conclusions you've made concerning
18 those displays represent your own personal conclusions
19 as a geologist?

20 A. Yes, they do.

21 MR. KELLAHIN: We move the introduction of
22 Exhibits 1 through 4.

23 EXAMINER CATANACH: Exhibits 1 through 4
24 will be admitted as evidence.

25 EXAMINER CATANACH: Mr. Balke, is this

1 acreage shown in pale yellow, is that actually part of
2 the unit?

3 THE WITNESS: The unit's boundaries
4 encompass 23, 26, the northwest of 25, and that
5 80-acre block there in Section 24 is an active
6 exploration unit started in 1958. The unit does not
7 encompass 27 or 34.

8 EXAMINER CATANACH: 26 is in the unit?

9 THE WITNESS: Yes, it is.

10 EXAMINER CATANACH: All of 26?

11 THE WITNESS: All of 26.

12 EXAMINER CATANACH: So do you have
13 different interest owners in Section 26 than in 27?

14 THE WITNESS: No, sir, it's 100 percent
15 Phillips.

16 EXAMINER CATANACH: What type of land is
17 it? Do you know? Federal land? State land?

18 THE WITNESS: It's all state land.

19 EXAMINER CATANACH: Is it my understanding
20 both well number 15 and 16 are currently abandoned?

21 THE WITNESS: That's correct, within the
22 Devonian.

23 EXAMINER CATANACH: The well number 15
24 watered out; is that correct?

25 THE WITNESS: That is correct.

1 EXAMINER CATANACH: And number 16?

2 THE WITNESS: It's watered out also.

3 Simone will have wellbore sketches and documentation
4 for that.

5 EXAMINER CATANACH: In your opinion, is the
6 3-D seismic accurate in locating the faults?

7 THE WITNESS: Yes, it is very accurate.
8 We've proved it successful in number 17 well, and
9 we've drilled other wells both in New Mexico and Texas
10 that have been very effective with 3-D seismic.

11 EXAMINER CATANACH: Well number 17 is
12 currently producing?

13 THE WITNESS: That is correct, currently
14 flowing.

15 EXAMINER CATANACH: Mr. Kellahin asked you
16 a question about drilling on the top of the
17 structure. If you moved east, you would get higher in
18 the structure; is that correct?

19 THE WITNESS: If we moved eastward, we
20 would get at a maximum maybe ten feet higher, which is
21 not significant. We would like to -- when we take
22 into consideration the surface owner and his pecan
23 orchard, the possibility of crossing across that fault
24 -- because it is angling towards the west -- we feel
25 that we'd rather lose the minor amount -- again, a

1 maximum of ten feet -- to gain comfort level both from
2 the fault and be able to provide the surface owner a
3 little bit better location.

4 EXAMINER CATANACH: In essence, this
5 northwest portion of Section 26 is effectively
6 isolated from well number 15, the reservoir in well
7 number 15?

8 THE WITNESS: That is correct. One
9 important point to note, number 17, when we completed
10 it, came in with essentially virgin pressure, no
11 pressure depletion from the 16 at all.

12 EXAMINER CATANACH: It appears that that's
13 not totally isolated in well number 16 by fault.

14 THE WITNESS: The 17 and the 16?

15 EXAMINER CATANACH: Yes.

16 THE WITNESS: Could be due to two things;
17 again, the reservoir itself being fractured up may be
18 able to not drain out. That's what we're learning
19 about the reservoir, the drainage area of the
20 reservoir itself. But you see that there's two faults
21 that essentially die out right before they separate
22 the 16 and the 17 from each other? Those faults could
23 actually extend across there. However, they could be
24 continuing the energy from the previous survey itself,
25 and we were not able to actually delineate those

1 faults across there. Believe me, I'd like to carry it
2 across here and be able to say that this is separated,
3 but I cannot justify that.

4 EXAMINER CATANACH: The number 1 well in
5 Section 27, do you believe that produced or will
6 produce, or do you believe the number 20 will produce
7 in the same portion of the reservoir as that well?

8 THE WITNESS: I believe so, yes.

9 EXAMINER CATANACH: I think that's all I
10 have.

11 MR. KELLAHIN: Mr. Examiner, you may have
12 noted that while 17 in Section 26 appears to be
13 unorthodox for the pool, it, in fact, was approved
14 administratively. Here's a copy of the application
15 and the administrative order issued June 8th of '92.
16 It's NSL 3117. It was administratively approved
17 because 17 was an Ellenburger test, and it was
18 recompleted up back into the Devonian and thereby
19 eligible for administrative process.

20 Mr. Examiner, my next witness is Simone
21 Gutberlet.

22 SIMONE GUTBERLET
23 the witness herein, after having been first duly sworn
24 upon her oath, was examined and testified as follows:

25 EXAMINATION

1 BY MR. KELLAHIN:

2 Q. Would you please state your name and
3 occupation?

4 A. Simone Gutberlet; I'm a reservoir engineer
5 with Phillips Petroleum Company.

6 Q. Where do you reside?

7 A. Midland, Texas.

8 Q. On prior to occasions, have you testified
9 as an expert witness?

10 A. No, I have not.

11 Q. Describe for us when and where you obtained
12 your degree.

13 A. I have a bachelor's degree in petroleum
14 engineering from the Colorado School of Mines in 1984,
15 and I have worked for Phillips Petroleum since 1986.

16 Q. As part of your duties as an engineer, do
17 you make engineering studies and evaluations that
18 would include this portion of Lea County, New Mexico?

19 A. Yes, I do.

20 Q. Have you worked with Mr. Balke in analyzing
21 the opportunities for Phillips in the pool that's
22 known as the West Ranger Lake-Devonian Gas Pool, Lea
23 County, New Mexico?

24 A. Yes, I have.

25 MR. KELLAHIN: We tender Ms. Gutberlet as

1 an expert petroleum engineer.

2 EXAMINER CATANACH: She is so qualified.

3 Q. (By Mr. Kellahin) Let me ask you to take
4 Mr. Balke's index display, Exhibit Number 1, simply a
5 locator map for us.

6 A. Uh-huh.

7 Q. He had identified a potential issue of a
8 gas-water contact in the reservoir. Have you examined
9 that issue as a reservoir engineer?

10 A. Yes, I have. This reservoir has a very
11 strong water drive, and all of the wells that have
12 produced in this field have watered out during their
13 -- when they were producing. So based on that, we
14 determined that the water-gas contact is at least to
15 the point where the current wells have produced from.

16 Q. If we're looking at a spacing unit for the
17 north half of 26, within that spacing unit, and using
18 the well 15 as your control point, give us the contour
19 line that represents your opinion of the current top
20 of the water in that spacing unit.

21 A. It would be the negative 8670 or 74,
22 minimum.

23 Q. What effect, if any, does that have on the
24 remaining three standard locations in that spacing
25 unit?

1 A. It affects the three remaining locations in
2 that they are all structurally low and the oil-water
3 contact -- or the gas-water contact, excuse me, has
4 already passed through those locations. And if we
5 drill those three wells, they would be wet.

6 Q. Give us your opinion, as a reserve
7 engineer, of what is the next-best location in which
8 to recover additional hydrocarbons from this reservoir
9 using the north half as the spacing unit.

10 A. The next-best location would be the Ranger
11 Number 20, as drawn on this map.

12 Q. Describe for us what causes you to reach
13 that conclusion.

14 A. As I said, the three orthodox locations, as
15 shown in blue, would not be commercial wells. They
16 would be wet. There are some possible structural
17 highs just south of the number 15 that perhaps might
18 still have a little bit of hydrocarbon left behind.
19 But, again, due to the structure, that would be a
20 very, very limited reservoir. Where number 20 is
21 located is in a separate structural high and would not
22 be drained through any of the other locations. And
23 the number 20 is needed to adequately drain that
24 portion of the reservoir.

25 Q. Have you prepared wellbore schematics of

1 wells in this area that you consider relevant for the
2 hearing purposes?

3 A. Yes, I have. I've prepared wellbore
4 sketches. They're Exhibits 5 through 8, going from
5 north to south. The first one is the Ranger Lake 214,
6 which was also -- when it was producing from the
7 Devonian, it was known as the Tract 2 Well Number 2.
8 This wellbore shows that it had produced from the
9 Devonian and then was plugged back to the
10 Pennsylvanian and is now completely plugged out with
11 casing removed. The Phillips Petroleum Number 15
12 going south from there is the same situation.

13 Q. It's Exhibit Number 6?

14 A. Yes, Exhibit Number 6 -- had produced from
15 the Devonian, was plugged back, produced and is now
16 completely plugged out. Going further south, the
17 number 16, which is Exhibit Number 7, is still an
18 active well from the Pennsylvanian, but has been
19 plugged back from the Devonian. And then the next
20 wellbore sketch is the Ranger Number 17, which is the
21 active Devonian well in the area.

22 Q. Were all four wells completed in such a way
23 that you maximized the opportunity to recover the
24 hydrocarbons at the greatest extent above the water
25 encroachment?

1 A. Yes, I believe so. The three wells that
2 have produced in the past were open-hole completions.
3 They set casing to the top of the Devonian and then
4 drilled into the Devonian and produced it open-hole.

5 Q. Let's turn now to the next two displays.
6 The next one is marked Exhibit 9. What does that
7 represent?

8 A. This is the decline curve for the Ranger
9 Number 15, which is the well offsetting the Ranger
10 Number 20. That really is the decline curve, the
11 production curve. As it shows, these wells aren't
12 really on a decline due to the strong water drive
13 that's there. The wells produce anywhere from a year
14 to two-year life. And then, when the gas-water
15 contact hits the well, the well ceases to produce.

16 Q. Let's look at Exhibit Number 10. Would you
17 identify and describe that display?

18 A. That one is the Ranger Number 16, south of
19 the number 15, basically showing the same thing.

20 Q. What does this tell you about this
21 reservoir?

22 A. It tells us that when we drill these wells,
23 we're going to have a real short life, very quick life
24 span, that it's very difficult to do any kind of a
25 material balance calculation on these wells since we

1 have such a huge water influx. Basically, you get all
2 the gas and oil out until the water hits.

3 Q. What is the estimated ultimate recoveries
4 from these wells? They're fully depleted, so you have
5 actual recoveries at this point?

6 A. Right.

7 Q. What is that general range in terms of
8 barrels of oil?

9 A. Approximately 1 to 1.2 BCF and 120 to
10 150,000 barrels of oil, which equates to around
11 300,000 barrels equivalent of oil.

12 Q. Would that volume of production be
13 consistent with the geologic interpretation that Mr.
14 Balke has given us concerning the limited nature of
15 the wellbore that's produced by individual wells
16 because of the significant faulting in this area?

17 A. Yes, it is.

18 MR. KELLAHIN: That concludes my
19 examination of Ms. Gutberlet. We move the
20 introduction of her Exhibits 5 through 10.

21 EXAMINER CATANACH: Exhibits 5 through 10
22 will be admitted as evidence.

23 Ms. Gutberlet, have you done any kind of
24 estimate on what the Ranger Well Number 20 may
25 recover?

1 THE WITNESS: Yes, I have. Based on the
2 map we've drawn, I would say that it would cover
3 approximately 100 acres.

4 EXAMINER CATANACH: I'm sorry, in terms of
5 recoveries.

6 THE WITNESS: Recoveries?

7 EXAMINER CATANACH: Gas and oil recoveries.

8 THE WITNESS: Yes, my estimates are around
9 1 BCF and 100,000 barrels of oil.

10 EXAMINER CATANACH: Have you done any
11 investigation as to where the location of the
12 gas-water contact in that portion of the reservoir may
13 be?

14 THE WITNESS: Yes, I have. Based on the
15 well in Section 27 and the well in 214 and, again,
16 using the structure, I believe, that the water contact
17 probably is running around 8680, kind of snakes its
18 way up along the fault.

19 EXAMINER CATANACH: There's a standard
20 location, I guess it's 1980 -- 1980 from the north,
21 1980 from the west in Section 26, one of the blue
22 circles, that looks like it may be somewhat isolated
23 from the northern portion of the reservoir. Do you
24 have an opinion on that?

25 THE WITNESS: The one that's directly south

1 of the number 15?

2 EXAMINER CATANACH: Correct.

3 THE WITNESS: Yes, that one is isolated
4 through that fault, but it is structurally lower than
5 the number 15. So it's -- I perceive it as being in a
6 grauven, sitting lower. So it probably will be a
7 water well.

8 EXAMINER CATANACH: So you believe that
9 gas-water contact in that area -- it goes around and
10 is the same in that area?

11 THE WITNESS: Yes.

12 EXAMINER CATANACH: In terms of calculating
13 recoveries, is there a relationship between where your
14 well will be structurally and where the location of
15 the gas-water contact is? Is that how you determine
16 recoveries?

17 THE WITNESS: What I did was I took all the
18 produced volumes throughout the field based on some
19 PVT work we had on an offset reservoir, used that PVT
20 data to put those volumes back into the reservoir, and
21 to come up with some kind of a number that would say
22 for so many acres we should be able to recover so many
23 reserves. And then, just based on the structural map
24 and the 100 acres, applied that same factor to the
25 number 20. Came up with an average per-acre number,

1 and then applied that to the number 20 and said that's
2 probably what we could recover.

3 EXAMINER CATANACH: Explain to me where you
4 got the 100 acres.

5 THE WITNESS: Just from numbering the
6 isolated fault block around the number 20, and also
7 including where our estimate was of the gas-water
8 contact.

9 EXAMINER CATANACH: Likely, the drainage
10 area for the number 20 well will encompass a small
11 portion of Section 27 and --

12 THE WITNESS: A very small area. As I
13 said, we believe that the oil-water -- the gas-water
14 contact actually runs up along that fault and probably
15 takes away some of that from Section 27. So if there
16 is some drainage from 27, it would be a very small
17 amount. Most of it will come from that northwest
18 portion of Section 26.

19 EXAMINER CATANACH: I have nothing further.

20 MR. KELLAHIN: That concludes our
21 presentation with the introduction of Exhibit 11,
22 which is the certificate of mailing of notice to the
23 offset operators.

24 EXAMINER CATANACH: Let me ask you about
25 that, Mr. Kellahin. Is that waiver on behalf of all

1 the Yates entities?

2 MR. KELLAHIN: Yes, Exhibit 4 will show a
3 cover letter in which --

4 MR. STOVALL: All signed individually?

5 MR. KELLAHIN: All signed individually,
6 with the exception of Abo, and Ms. Porter indicates on
7 behalf of Abo that that waiver is forthcoming.

8 EXAMINER CATANACH: Can I get a copy of
9 that waiver when you get it?

10 MR. KELLAHIN: Yes, sir.

11 EXAMINER CATANACH: There being nothing
12 further, Case 10675 will be taken under advisement.

13 (The foregoing hearing was adjourned at the
14 approximate hour of 10:35 a.m.)

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I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 10675.
heard by me on March 4 1993.

David R. Catanch, Examiner
Oil Conservation Division

1 STATE OF NEW MEXICO)


2 :

3 COUNTY OF SANTA FE)

4 I, FREDA DONICA, RPR, a Certified Court
5 Reporter, DO HEREBY CERTIFY that I stenographically
6 reported these proceedings before the Oil Conservation
7 Division; and that the foregoing is a true, complete
8 and accurate transcript of the proceedings of said
9 hearing as appears from my stenographic notes so taken
10 and transcribed under my personal supervision.

11 I FURTHER CERTIFY that I am not related to nor
12 employed by any of the parties hereto, and have no
13 interest in the outcome hereof.

14 DATED at Santa Fe, New Mexico, this 26th
15 day of March, 1993.

16 
17 Freda Donica
18 Certified Court Reporter
19 CCR No. 45
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