

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY)
THE OIL CONSERVATION DIVISION FOR THE)
PURPOSE OF CONSIDERING:)

CASE NO. 11,966

APPLICATION OF DEVON ENERGY CORPORATION)
(NEVADA) FOR 23 UNORTHODOX OIL WELL)
LOCATIONS, EDDY COUNTY, NEW MEXICO)

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

April 16th, 1998

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, April 16th, 1998, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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 Examiner Hearing
 CASE NO. 11,966

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A P P E A R A N C E S

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* * *

1 WHEREUPON, the following proceedings were had at
2 11:25 a.m.:

3 EXAMINER STOGNER: Call next case, Number 11,966.

4 MR. CARROLL: Application of Devon Energy
5 Corporation (Nevada) for 23 unorthodox oil well locations,
6 Eddy County, New Mexico.

7 EXAMINER STOGNER: Call for appearances.

8 MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe,
9 representing the Applicant. I have four potential
10 witnesses.

11 EXAMINER STOGNER: Any other appearances? Why
12 don't we get all four of the potential to please stand at
13 this time?

14 (Thereupon, the witnesses were sworn.)

15 EXAMINER STOGNER: Mr. Bruce?

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

19 DIRECT EXAMINATION

20 BY MR. BRUCE:

21 Q. Would you please state your name for the record?

22 A. My name is Ken Gray.

23 Q. Where do you reside?

24 A. In Oklahoma City, Oklahoma.

25 Q. Who do you work for and in what capacity?

1 A. I'm one of the district landmen for Devon Energy
2 Corporation.

3 Q. Have you previously testified before the Division
4 as a landman?

5 A. Yes, I have.

6 Q. And were your credentials as an expert accepted
7 as a matter of record?

8 A. Yes, they were.

9 Q. And are you familiar with the land matters
10 involved in this Application?

11 A. I am.

12 Q. And is this particular area -- is it within your
13 scope of responsibility at Devon?

14 A. Yes, it is.

15 MR. BRUCE: Mr. Examiner, I'd tender Mr. Gray as
16 an expert petroleum landman.

17 EXAMINER STOGNER: Mr. Gray is so qualified.

18 Q. (By Mr. Bruce) Mr. Gray, what is Exhibit 1?

19 A. Exhibit 1 is a plat. It's a combination of
20 various things. First and foremost, it's a land plat
21 showing Devon's leasehold position. And also it's a
22 structure map on top of the San Andres. It also denotes
23 the offset owners and/or operators of which this
24 Application is the subject.

25 Q. Okay, let's go through this a little bit.

1 Although the township and ranges aren't on here through the
2 middle cuts, Sections 1 through 6, the south half of the
3 map is what? 18 South, 27 East?

4 A. Yeah, south of that solid black line running
5 through the middle horizontally is Township 18 South, 27
6 East, and north of that is 17 South, 27 East.

7 Q. Okay. Now, you mentioned the acreage. There's a
8 schedule at the bottom, but the red -- Devon has a partial
9 interest in it; is that correct?

10 A. Red represents partial interest, and that could
11 mean we own less than 100 percent working interest, or it
12 could mean we own 100 percent working interest as to
13 certain depths but not all depths.

14 Q. Okay. And then the yellow is 100 percent --

15 A. Right.

16 Q. Okay. Now, initially, this Application was for
17 23 unorthodox locations; is that correct?

18 A. We initially applied for 23, but since then Mr.
19 Stogner has approved four of those, those being the Hawk 17
20 C Federal Number 1, the Hawk Federal 17 C Federal Number 2
21 [sic], the Carter Collier Federal 5 Number 9 and the Evarts
22 Federal 6 Number 4.

23 Q. Okay. Now, the locations that you are still
24 seeking approval for are marked in green on this map; is
25 that correct?

1 A. That's right.

2 Q. Now, let's talk about the type of acreage on this
3 map. What is it? Fee, state, fed?

4 A. All of the acreage on this map is federal
5 acreage, with the exception -- or let me put it this way,
6 all the acreage on this map that's the subject of this
7 Application is federal, with the exception of the fee
8 lease, which is down in the bottom left-hand corner of the
9 map, and then the State -- the Herd State lease, which is
10 located in Section 32.

11 Q. Okay. Now, there might be some other fee or
12 state land, but they're not affected by the unorthodox
13 locations you're seeking approval --

14 A. That's right.

15 Q. -- for today?

16 A. Yeah.

17 Q. So for instance, looking at -- oh, up in Section
18 34, the easternmost well, which is in -- what? -- the
19 northeast southeast of Section 34, it's offset by ARCO and
20 Altura, that well is on federal acreage, correct?

21 A. Correct.

22 Q. And the acreage offsetting it is federal acreage?

23 A. Yes.

24 Q. Okay. Then the final thing is, regarding your
25 locations, the map shows the offset operators; is that

1 correct?

2 A. Yes, it does.

3 Q. And where there is no operator, the -- you have
4 notified the offset lessees or offset unleased mineral
5 interest owners?

6 A. That's correct.

7 Q. Okay. What is the primary reason Devon has a
8 number of unorthodox locations in this area?

9 A. The primary reason, just as a general sense, is
10 the topographics of the area, and our other witnesses will
11 go into more detail about where there is pipeline or some
12 other topographic reason. But topographic, generally
13 speaking.

14 Q. Okay. Now, a lot of these -- Well, for this
15 hearing we notified some -- a number of offsets; is that
16 correct?

17 A. Yes.

18 Q. And a number of these locations you had
19 previously applied for administratively; is that correct?

20 A. That's correct.

21 Q. And offsets were notified for a number of those
22 also?

23 A. Probably most of them, yeah.

24 Q. Okay. Now, have you received any objections from
25 any of the offsets?

1 A. No, we have not.

2 Q. Looking at this Exhibit 1, a number of the
3 locations are interior to Devon acreage or Devon-operated
4 acreage?

5 A. That's right.

6 Q. So that minimizes any effect; is that correct?

7 A. Correct.

8 Q. Has Devon objected to any unorthodox locations by
9 offset operators?

10 A. No, we haven't. As a matter of fact, ARCO has
11 requested at least one, and I'm -- I don't remember if
12 there's two unorthodox locations that offsets our acreage,
13 which we have given them waivers on.

14 Q. And we have a reservoir engineer here today who
15 will discuss any drainage effects from these unorthodox
16 locations?

17 A. Yes, he will.

18 Q. Finally, this is one area -- or this is an area
19 where there -- you're generally drilling infill wells on a
20 40-acre unit?

21 A. That's correct.

22 Q. Are any of the offsets doing that also at this
23 point?

24 A. No, other than ARCO, no.

25 Q. Okay. Couple of final questions. And I believe

1 the reservoir engineer will get into this also.

2 There's a number of oil wells spotted on this map.
3 They're not all -- The wells you're seeking approval for
4 are in the Red Lake-Grayburg Pool?

5 A. That's correct.

6 Q. Not all the wells on this -- oil wells on this
7 map are Grayburg wells?

8 A. That's correct, there are a lot of Grayburg
9 wells, there are a lot of Queen and a whole bunch of Abo
10 wells. We're right in the middle of the Empire Abo unit.

11 Q. And Devon has -- Since Devon acquired its
12 interest, approximately, on this mapped area, how many
13 wells has it drilled? Do you have an idea, or does one of
14 the engineers have a better idea?

15 A. They probably have a better idea.

16 Q. Okay. And they will also go into potential
17 waterflooding in this area?

18 A. Correct.

19 Q. Besides these wells marked in green, is there
20 also the potential in the future to drill additional
21 Grayburg wells, some at unorthodox locations, in this
22 mapped area?

23 A. Yes, absolutely.

24 Q. Okay. Now, regarding notice, is Exhibit -- Let's
25 look at Exhibit 2, Mr. Gray, which is my notice affidavit.

1 Exhibit A to the notice letter contains a rather lengthy
2 list of offsets.

3 Was this notice prepared by your office --

4 A. Yes.

5 Q. -- or this listing of the interest owners?

6 A. Yes, it was.

7 Q. And does it contain a complete listing of
8 offsets, to the best of your knowledge?

9 A. Yes, it does.

10 Q. Mr. Gray, in your opinion is the granting of
11 Devon's Application in the interests of conservation and
12 the prevention of waste?

13 A. Yes, it is.

14 Q. And were the land matters set forth on Exhibit 1
15 prepared by you or under your direction?

16 A. Yes, it was.

17 MR. BRUCE: Mr. Examiner, at this time I'd move
18 the admission of Exhibit 1 as to the land matters and
19 Exhibit 2.

20 EXAMINER STOGNER: Exhibits 1 and 2 will be
21 admitted into evidence at this time.

22 EXAMINATION

23 BY EXAMINER STOGNER:

24 Q. Mr. Gray, the red portion you show is partial
25 interest?

1 A. Uh-huh.

2 Q. What do you mean, "partial"?

3 A. Well, it could mean that we own anywhere from one
4 -- it could mean less than 100 percent of all debts, or it
5 could mean 100 percent of less than all debts.

6 Q. Okay. Is that red all one single lease, or is
7 there several other leases?

8 A. No, there's a bunch of leases.

9 Q. Okay. So the leases which are not marked on
10 there, within that partial area, could have varied
11 overriding royalties?

12 A. They could, and they do, yeah.

13 Q. And different working interests?

14 A. Well, for the most part the working interest
15 is -- It's not uniform, I don't want to say that, but we've
16 notified the working interest owners under the affidavit of
17 mailing.

18 And there are different overriding royalty
19 interests from one lease. Some of them may have no
20 overrides, some of them have -- some of them are common,
21 and -- But they're not all identical, no.

22 Q. Okay. So the -- This list on Exhibit Number 2
23 would essentially be all the working interest that's in the
24 red -- well, of course, the yellow area, that -- well, that
25 would be included too, because that's all Devon, right? So

1 they're all represented, all the working owners. If I just
2 stuck my finger anywhere within that red area, that would
3 be included in this notification, would it not?

4 A. With the exception of the West Red Lake unit,
5 which is in the bold black outline in Sections -- primarily
6 7, 8 and 9, the bold outline. It's the West Red Lake
7 Waterflood Secondary Recovery Unit. And that list that you
8 have on the affidavit of mailing does not include some
9 small interest owners in that unit, but we operate that
10 unit.

11 Q. And none of these wells that you're proposing
12 within this Application are offsetting that unit area; is
13 that correct?

14 A. We aren't encroaching on the unit area
15 specifically, no.

16 Q. Can I recognize the lease lines within that red
17 area? Because when I look over there in Section 6, even
18 there -- those two red areas -- There's two, seems to be,
19 red areas together. Would that be essentially a lease for
20 me to recognize?

21 A. In Section 6?

22 Q. Yeah.

23 A. Specifically?

24 Q. Yeah.

25 A. Yeah, in that case those are pretty well broken

1 down by lease. For instance, the -- What would that be?
2 The north half of the northwest, south half -- or the
3 southwest of the northwest and the northwest of the
4 southwest is one lease.

5 Q. Okay.

6 A. The southeast of the northwest and the east half
7 of the southwest is one lease. So you --

8 Q. The reason I'm picking that area, because I'm
9 looking down there about in the middle -- well, towards the
10 south, that Well Number 4 --

11 A. Uh-huh.

12 Q. -- that seems to be straddling that lease line?

13 A. Uh-huh.

14 Q. Okay. So even though -- And when I show this
15 partial interest, I'm assuming that Devon is the operator?

16 A. We are.

17 Q. Okay, and you're offsetting your Devon-operated
18 and other-operated lease.

19 A. Correct.

20 Q. There could be working interest differences; is
21 that correct?

22 A. But -- And they are on the list.

23 Q. They are on the list?

24 A. Yes.

25 Q. Okay. How about overrides?

1 A. No.

2 Q. No overrides? Now, is there any overrides within
3 that red area or --

4 A. Let me back up. Are you asking me if there are
5 overrides on the leases, or are you asking me if we've
6 notified the overriding royalty interest owners?

7 Q. Okay, let me ask it, are there overrides within
8 this area?

9 A. Yes.

10 Q. There are. So there's a variance in that?

11 A. Right.

12 Q. Okay, have they been notified?

13 A. No.

14 Q. Okay. Now, this is all federal acreage, so the
15 royalty is common throughout, correct?

16 A. Right. And I think -- I appreciate your concern
17 about the overriding royalty interest owners, but I think
18 if we counted them up, most of them -- most of what we're
19 seeking approval of are offset Devon acreage, Devon-
20 operated acreage. Most of them are not substantially
21 unorthodox, and we can get into that with the other
22 witnesses.

23 Q. Well, I hope we do.

24 A. And -- Yeah. And from a reservoir standpoint, I
25 think we'll discuss the impact, the relative impact, on

1 drainage. And we certainly haven't opposed the one and
2 only other operator who's asked for unorthodox locations
3 out here either.

4 Q. And that being ARCO?

5 A. Yes, to date.

6 Q. So when you just told me that you can appreciate
7 my concern for the overrides, what part of that can you
8 appreciate?

9 A. Well, I think it's your duty to oversee those
10 types of things. It's -- I appreciate your concern.

11 Q. Okay. So you understand by that, then, what
12 correlative rights is?

13 A. I certainly do.

14 Q. Okay. That's where I wanted to go on that
15 particular aspect of it.

16 Okay, let's go over to Section 3, and there's a
17 well in there, I guess the only one in Section 3.

18 A. Uh-huh.

19 Q. Now, this is going to be drilled on 100-percent
20 -- what is on the yellow end, right?

21 A. Correct.

22 Q. All right. And there again, you're offsetting
23 some partial interests, so those working interests are
24 notified?

25 A. Correct.

1 Q. Do you know if there's any override royalties
2 within that -- What would that be? The west half of the
3 southwest quarter?

4 A. Yeah, I do know that there are, yes.

5 Q. And were they notified?

6 A. No.

7 Q. Okay. And that is Devon-operated property over
8 there in that portion?

9 A. Yes.

10 Q. Okay. Now, you made a statement that the primary
11 reason is for topography?

12 A. Yes, sir.

13 Q. Okay, you're going to have somebody that's going
14 to discuss that?

15 A. We have -- yes, a number of exhibits.

16 Q. Now, you mentioned something about infill wells,
17 and this is infill activity, essentially?

18 A. We have drilled infill wells on 40-acre spacing,
19 yes, on a lot of these spacing units.

20 Q. Uh-huh. Do you understand why you're drilling
21 more infill wells?

22 A. Do I understand why?

23 Q. Yeah.

24 A. I think I do, yes. We're not -- I don't believe
25 we're recovering all the recoverable reserves with one well

1 per 40 acres.

2 Q. Okay. Do you know what an unorthodox location on
3 a 40-acre tract is?

4 A. You mean in terms of what constitutes one?

5 Q. Yes.

6 A. Yes, I do.

7 Q. Okay, what is it?

8 A. I believe the statewide spacing rules are, no
9 closer than 330 feet to the quarter-quarter line.

10 Q. Okay. So if I look at that well in Section 34,
11 the one on the east side --

12 A. Uh-huh.

13 Q. -- if I was to draw a box in there that was 660
14 by 660, with a 30-foot boundary in that quarter-quarter
15 section, that would be my standard window, would it not?

16 A. I believe it would be, yeah.

17 Q. Okay. Now, you're drilling outside of that
18 because that green dot's there?

19 A. Right.

20 Q. So you have that whole standard area that you
21 can't drill?

22 A. Uh-huh.

23 Q. And you're telling me the primary reason is
24 because of topography?

25 A. That's correct.

1 Q. Okay. So you're going to prove to me that that
2 whole 660-by-660 window is occupied by topography?

3 A. That's what we hope to do.

4 Q. Even if you had something up there next to that
5 Well Number 17?

6 A. I don't understand. If we had --

7 Q. You had another well, that Well Number 17 in that
8 same quarter-quarter section.

9 A. Uh-huh.

10 Q. Is that within this area, that you know of?

11 A. Area -- ?

12 Q. In this pool?

13 A. Pardon me?

14 Q. Is that an infill well to that particular well?

15 A. Yes.

16 Q. Okay. Then why don't you drill next to it?

17 A. You mean twin that well?

18 Q. Yes.

19 A. Well, I think -- I think our reservoir engineer
20 will --

21 Q. So it's not primarily topography, is it?

22 A. Well, we don't want to --

23 Q. The reason you're here today, Mr. Gray, is
24 because all I was getting was these applications that had
25 one statement on it, due to topography, and they got

1 overwhelming. When in actuality, you got an infill project
2 out there, substantially, a lot of good infill drilling?

3 A. We do.

4 Q. So it's not primarily topography --

5 A. Well --

6 Q. -- is it?

7 A. -- I think it is, yeah. I mean, we have -- we'd
8 like to drill two wells per 40, not one right next to each
9 other, no.

10 Q. So it's not topography, is it? You want to space
11 the other end of that 40-acre tract. It no longer becomes
12 topographic. What you've got to show to me is that whole
13 standard area is undrillable to you --

14 A. Well, what I --

15 Q. -- and according to what your applications were,
16 that's what it was.

17 A. What I'm saying is, that particular well,
18 Number --

19 Q. That particular well, and many others.

20 A. Okay, what I'm saying is, we staked those at
21 legal locations, and we were requested to move them --

22 Q. But you could have moved in the other direction,
23 could you not?

24 A. We could have -- well, I don't know that -- Let
25 me say that. I don't know that we could have. The

1 topography could have prevented us from doing that, and I
2 think that's what we'll show.

3 Q. Hopefully your reservoir engineer can come in and
4 tell me why you primarily want this infill drilling. You
5 might not have been able to drill at that particular
6 location by topography, but topography was not the main
7 reason why these unorthodox locations are there. And that,
8 in fact, is why you are here today.

9 A. Well, I hope to --

10 Q. No longer could I make those applications just
11 one standard -- Are you familiar with what the Rules and
12 Regulations say?

13 A. Well, as to what?

14 Q. As to what is required to get an unorthodox
15 location? You said you knew what correlative rights and
16 the violation of correlative rights were.

17 A. Correct.

18 Q. Okay. So you have different working interest
19 owners?

20 A. That's correct.

21 Q. It appeared that those particular people were not
22 being protected --

23 A. Correct.

24 Q. -- due to the geological nature in which most of
25 these applications were being made. That's essentially

1 what you're here for.

2 A. Well, I hope we prove differently.

3 EXAMINER STOGNER: Quite frankly, you're not
4 getting off to a very good start.

5 Mr. Gray may be excused.

6 Mr. Bruce?

7 ERNEST DALE BUTTROSS, JR.,

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

10 DIRECT EXAMINATION

11 BY MR. BRUCE:

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

14 A. Ernest Dale Buttross, Jr., and I reside in
15 Oklahoma City, Oklahoma.

16 Q. Who do you work for and in what capacity?

17 A. Devon Energy Corporation, as a petroleum
18 engineer.

19 Q. Have you previously testified before the
20 Division?

21 A. Yes, I have.

22 Q. Were your credentials as an expert petroleum
23 engineer accepted as a matter of record?

24 A. Yes, they were.

25 Q. And are you familiar with the matters pertaining

1 to the drilling of the wells in this area?

2 A. Yes, I am.

3 MR. BRUCE: Mr. Examiner, I would tender Mr.
4 Buttross as an expert petroleum engineer.

5 EXAMINER STOGNER: Mr. Buttross is so qualified.

6 Q. (By Mr. Bruce) Mr. Buttross, let's look first at
7 Exhibit 3. Could you identify the first page of that for
8 the Examiner?

9 A. Okay, Exhibit 3 lists the 19 unorthodox well
10 locations with the original standard location and the
11 reason for the moves.

12 We've also attached a memo from Barry Hunt with
13 the BLM that supports our reasoning for moving these
14 locations.

15 Q. Well, let's go through this. This lists the 19
16 remaining wells you seek unorthodox locations for; is that
17 correct?

18 A. Right, that's correct.

19 Q. And we go to the middle and it says "original
20 location". You had originally requested -- Well, other
21 than the one land -- or one well on the state -- on the fee
22 lease, you have originally requested these locations --

23 A. Right.

24 Q. -- from the BLM; is that correct?

25 A. Correctly. This was our original location, and

1 the procedure was to go out there and stake it, and if the
2 BLM will approve it at that location, we left it there. If
3 not, we had to move it to another spot.

4 Q. All of these original locations were at orthodox
5 locations; is that correct?

6 A. That is correct.

7 Q. And the next column over is the "moved location",
8 which is the current unorthodox location, correct?

9 A. That's correct.

10 Q. And then the final column, I believe, sets forth
11 a short comment regarding the reason for the move?

12 A. Yes, sir, that's correct.

13 Q. Let's go to your Exhibit 4. Just briefly, what
14 is that?

15 A. Exhibit 4 is a topographic map with the
16 unorthodox wells indicated by colored circles. This map
17 shows that there is significant elevation change throughout
18 the field area, as much as 200 feet. And there are also
19 numerous draws. It's a drainage area for the Pecos River.

20 Q. And that's shown off to the west?

21 A. Yeah, the Pecos River is off to the west.

22 Q. Now, just a few other things. It shows roads on
23 here --

24 A. Roads, and there's also pipelines. It doesn't
25 show all the pipelines, but there are --

1 Q. These are the --

2 A. -- numerous pipelines.

3 Q. -- perhaps the longer of the transmission
4 lines --

5 A. Right.

6 Q. -- or the longer parts of the gathering lines?
7 But this does not show all the pipelines?

8 A. Right, it does not show all of them. It shows
9 some of the major pipelines.

10 Q. Okay. Now, let's get into a few examples of why
11 the wells were moved, and I refer you to Exhibits 5 through
12 8, which are aerial photos. Let's take them one by one.

13 Let's look at Exhibit 5 and address some of the
14 Division's concerns here.

15 What well does this involve, and what is the
16 section, so we can identify it?

17 A. Okay, Exhibit 5 is an aerial photo that shows the
18 location of the Kaiser Number 1 that is in Section 18,
19 Township 18 South, Range 27 East.

20 Q. That's the one that's on the fee lease?

21 A. Right, that's correct.

22 Q. Okay. Now, let's look at -- You have a little
23 red arrow by the proposed well, and this was at --
24 originally further to the east; is that correct?

25 A. That's correct.

1 Q. Okay. Now, you moved it to the west. Why?

2 A. Well, there was a bluff, large bluff right there,
3 an elevation change of probably about 150 feet, really
4 rugged land there.

5 You can see there are several small draws through
6 that area too, the dark stuff, that goes in -- that
7 intersects the lighter stuff --

8 Q. So it's not only the bluff, but there are some
9 draws --

10 A. Some draws, and then the --

11 Q. -- that affect locations in the north part of
12 that unit --

13 A. Right.

14 Q. -- well unit?

15 A. Right. And there's also a pipeline, or actually
16 pipelines that parallel each other, that traverse from the
17 northwest corner of that proration unit, down through the
18 southeast, that we had to -- had to stay away from the
19 right of way for those pipelines. So that was another
20 reason for this unorthodox location.

21 And that put the well 210 feet from the Kaiser B
22 lease, which is to the west, which Devon owns 100 percent
23 working interest in that lease also.

24 Q. Now, looking at -- the pipeline traverses --
25 affects, you know, a large area in the west half of that

1 well unit; is that correct?

2 A. That's correct.

3 Q. And so does the bluff?

4 A. Yes, sir.

5 Q. Looking not only at Exhibit 5 but at Exhibit 1,
6 which I think you have in front of you, on Exhibit 1,
7 throughout the Devon acreage, there's a number of open
8 circles. What do those wells represent?

9 A. Those represent proposed locations.

10 Q. Okay. So there will be -- Devon has plans to
11 drill a number of additional wells in this area?

12 A. That's correct. And the drilling plan is to
13 pretty well stagger those locations, two per 40 acres. And
14 that's why they're located at those points. We're trying
15 to locate them 330 from that proration unit boundary in
16 each case, on each corner of it.

17 Q. If you're trying to get -- It looks like a well
18 in the -- what? The northwest corner and the southeast
19 corner of each well unit?

20 A. Right, we're practically -- That's what we try to
21 do.

22 Q. So --

23 A. And the reason for that is future waterflood
24 development, which our reservoir engineer will go into.

25 Q. Okay.

1 A. It would be better to have the locations
2 consistent.

3 Q. So looking at the Kaiser 1, even though you may
4 be able to -- it appears there's -- well, it kind of
5 depends. Even though you could move that well somewhat to
6 the south, or south southeast, and be at a standard
7 location, there's still the pipeline to contend with --

8 A. Right, that was -- we --

9 Q. -- and you would be too close to another proposed
10 well in that unit?

11 A. Yes, sir, that's correct. We looked at all
12 avenues in that proration unit for that location. That was
13 absolutely the only spot that we could put it.

14 Q. Okay. In order to fit future development?

15 A. Yeah, to fit future development and not be right
16 next to another well.

17 Q. Okay. Let's move on to your Exhibit 6 and go
18 through the same procedure. You have three wells on here.
19 Why don't you start with the northernmost --

20 A. Right.

21 Q. -- well, and that is -- this is in Section 9 of
22 18 South, 27 East?

23 A. That's correct. Yeah, the northernmost location
24 is the Hawk 9B Federal Number 4, and this location was
25 moved 290 feet east, due to an ARCO well, and also there's

1 a draw there. And the location is only 40 feet from an
2 interior proration unit boundary, but that -- you know,
3 that's all part of that same lease.

4 Q. Okay. So there would be no effect on this one,
5 because it's part of the same lease?

6 A. Right.

7 Q. Now, looking at the draw, like you say, there's
8 an ARCO -- the 9B-4, there's an ARCO well to the west?

9 A. Yes, sir.

10 Q. And then there's a draw to the south and
11 southwest?

12 A. Yes, sir.

13 Q. In this unit -- I can't tell -- is there another
14 Devon well that you don't want to get too close to?

15 A. There is -- Well, there's another Devon well
16 farther to the east.

17 Q. Okay. To the east, and how about to the north?

18 A. Well, to the north -- Actually to the northeast,
19 there's a Devon well.

20 Q. Okay. Now, through this -- throughout this whole
21 area, there's a number of straight lines.

22 A. Right. A lot of those --

23 Q. Those are a lot of --

24 A. -- roads.

25 Q. -- pipelines, that you're --

1 A. Some of them are roads, and then the others are
2 pipelines. There's a pipeline there that kind of goes from
3 north -- northeast to southwest through that area too.

4 Q. Okay. Looking at the middle well, which is what?
5 The Hawk? I can't quite read it.

6 A. Hawk -- That's the Hawk 9J Federal Number 16.
7 And that location was moved 20 foot south for the BLM, due
8 to the ground slope. And it's -- This location is 310 feet
9 north of Devon's offsetting lease line. And the reason --
10 Well, the reason for that move is the BLM. They don't want
11 you to disturb any more surface terrain than necessary, so
12 they want you to minimize any cut and fill.

13 Q. Okay. And then the final move -- well that was
14 moved, is the 9-17?

15 A. Hawk 90 Federal Number 17, and the location was
16 moved 180 foot north, also due to an ARCO location. And
17 there's a small draw through there, in the area. And this
18 particular location is 150 foot south of Devon's -- also
19 Devon's lease. You've got two separate leases there.

20 Q. Now, that last well, if you move further to the
21 south, there was an ARCO well there also?

22 A. Right, there's an ARCO well.

23 Q. ARCO owns some deeper rights in the Abo?

24 A. Yes, sir, it's an Abo producer.

25 Q. Okay. And once again, if you move further south

1 it looks like there's another pipeline?

2 A. There's a pipeline running through there, so you
3 would run into that pipeline.

4 Q. If you moved to the south?

5 A. That's correct.

6 Q. Okay. Let's move on to Exhibit 7 and discuss
7 these wells. These wells are -- You've already discussed
8 the one that's in the very southernmost --

9 A. Right.

10 Q. Which is the Hawk 9B-4, but the other wells --

11 A. Right.

12 Q. -- the Eagle and the Falcon well, let's start
13 with the one up in the northwest corner of this picture.

14 A. Okay. The Eagle --

15 Q. And these are what? In Section -- That one is in
16 Section 33?

17 A. Thirty-three.

18 Q. Okay, go ahead.

19 A. Yeah, the Eagle 33N Federal Number 10 was moved
20 100 foot south and 170 foot west due to draws, and it is
21 located 230 foot north of an ARCO lease.

22 Q. Okay. What about the well in Section 3, the
23 Falcon 3-18?

24 A. Okay, the Falcon 3N-18, when we originally staked
25 that location it wound up in the gas plant. There's a gas

1 plant to the east there, and it was inside that gas plant.

2 So our field personnel moved a stake to about the
3 only spot you could place it and still have a location, and
4 it wound up pretty close to that lease boundary there,
5 which is offsetting a lease that Devon has an interest in.
6 We're only 50 foot east of that boundary. It was -- The
7 location was moved 350 foot north and 300 foot west, due to
8 that gas plant, plus all the associated pipelines that fed
9 the plant.

10 Q. Fed the gas plant. And it looks like -- Is that
11 a Devon well over to the east that's already --

12 A. Right, there's a Devon well over there to the
13 east.

14 Q. In that same proration unit?

15 A. In that same proration unit that the Falcon 3N
16 Federal Number 17 --

17 Q. So you didn't want to --

18 A. So --

19 Q. -- drill just immediately next --

20 A. No, we didn't want to drill it right next to it.
21 So that was -- that's basically the only -- In that
22 proration unit, that's the only location we have.

23 Q. Now, looking at Exhibit 7, Mr. Buttross, once
24 again, a number of open circles. Just to the -- The lease
25 that's just to the west of the Falcon 3 well, Devon has

1 plans to drill several wells on that lease?

2 A. That's correct.

3 Q. So you're not just trying to encroach on that
4 lease, just to drill a well for --

5 A. No.

6 Q. -- your own benefit? I mean, you plan to fully
7 develop --

8 A. Right.

9 Q. -- that whole area?

10 A. The plans are to continue development in the
11 area. We just haven't got all --

12 Q. So if there's a difference in ownership between
13 those two tracts, the people to the west will also be
14 having wells drilled and will also --

15 A. Right.

16 Q. -- get their share of reserves?

17 A. That's correct. In fact, the ones to the west
18 will probably be a little better wells.

19 Q. Based on geology?

20 A. Geology. You know, it's updip a little bit.

21 Q. Okay. Let's move on to your Exhibit 8 and go
22 through a few more of these wells. Now, these are the ones
23 in Section 6; is that correct?

24 A. That's correct.

25 Q. Okay. Let's -- Why don't you start with the ones

1 on the top and go down to the bottom?

2 A. Okay. The very northernmost well -- actually the
3 one to the northeast on the edge of the map is the --

4 Q. Oh, I see, the --

5 A. It's actually on the edge there, the Evarts 31
6 Federal Number 3. And this location had to be moved 320
7 foot south and 20 foot east, due to a pipeline and several
8 draws. We went out there and looked for a spot to move
9 that well, and there was just no place we could go with it.

10 Q. And once again, with the open circles you do have
11 plans to drill in other portions --

12 A. Right.

13 Q. -- of this unit?

14 A. Yeah, it's close to the proration unit boundary,
15 but the nearest lease -- it's still 310 feet from the
16 nearest offsetting lease.

17 Q. Okay, go to the next one, which is the Fred --

18 A. Fred 6 Federal Number 5, and that location was
19 moved 270 foot south due to a large draw. You can see that
20 draw there, just to the north of it, that dark area with
21 the ragged streamers coming off of it. That's a draw.

22 Q. And that well offsets the same lease?

23 A. Right. That's just interior proration unit.

24 Q. Okay. How about the Patton --

25 A. Patton --

1 Q. -- 6 Fed Number 6?

2 A. Right. And that particular location was moved
3 150 foot south, due to draws, and it's also just offsetting
4 -- It's an interior proration unit offset.

5 Q. Okay. Then the -- Is it the Patton 6 Number 4?

6 A. 6-4. The Patton 6-4 was moved 57 foot south and
7 841 foot west, due to a bunch of pipelines.

8 Q. It looks like there's quite a few in this area.

9 A. Yeah, there's several pipelines that traverse
10 that area.

11 Q. And then looking at that particular proration
12 unit, which would be the northeast of the southwest
13 quarter, besides the pipelines there's draws going through
14 that?

15 A. Yeah, there's a huge draw right through there.

16 Q. And so --

17 A. It just makes it real difficult to even get any
18 locations in there. We just had to do the best we could.

19 Q. Okay. And once again, you are planning on
20 drilling more wells in the offsetting lease --

21 A. Right.

22 Q. -- to the west?

23 A. Yes, sir, that is correct.

24 Q. Okay. Then the final well on this one is the
25 Patton 6 Number --

1 A. Yeah, that Patton 6 Federal Number 3?

2 Q. Yes.

3 A. Okay, and that location was moved 60 foot south
4 and 200 foot west, due to pipeline and draw, and it offsets
5 our West Red Lake unit.

6 Q. Now, it looks like there could be a location in
7 the southeast portion of that proration unit, but it looks
8 like there's a potential for drilling a different --
9 another well there?

10 A. Right.

11 Q. Okay. Once again, to fit in with a potential --
12 well, to -- You want to produce what reserves you can in
13 the primary in these wells?

14 A. That's the plan, and then have the location in
15 the right spot for possible secondary recovery.

16 Q. Now, looking overall at these locations, and for
17 the potential of a future waterflood program, you don't
18 want these unorthodox locations, do you?

19 A. No. No, we --

20 Q. You'd much rather have the standard --

21 A. Right.

22 Q. -- locations?

23 A. Yeah, you know, just studies have proven that
24 your better waterfloods are in standard, orthodox patterns.
25 Any ragged patterns, you're going to get lower recoveries.

1 Q. Okay. What you have to do in this instance, you
2 have to do pretty much what the --

3 A. What the land will --

4 Q. -- what the land says, what the BLM says and what
5 the Division allows you to do?

6 A. That's correct.

7 Q. What about drilling these wells directionally to
8 a standard bottomhole location?

9 A. Well, I've got Exhibit 9, which shows the
10 vertical well costs versus the directional well costs, and
11 as you can see, a directionally drilled well to an orthodox
12 location would cost \$101,000, or 43 percent, more than a
13 vertical well. And the operating cost associated with a
14 deviated well due to rod, tubing, pump problems, would also
15 be 30 percent higher.

16 Q. Do the reserves in these wells justify the added
17 costs of directional drilling?

18 A. No, they really wouldn't. We probably couldn't
19 justify the drilling program if we had to drill them
20 directionally.

21 Q. In your opinion, is the granting of Devon's
22 Application in the interests of conservation and the
23 prevention of waste?

24 A. Yes, it is.

25 Q. And were Exhibits 3 through 9 prepared by you or

1 under your direction?

2 A. Yes, they were.

3 MR. BRUCE: Mr. Examiner, I'd move the admission
4 of Devon Exhibits 3 through 9.

5 EXAMINER STOGNER: Exhibits 3 through 9 will be
6 admitted into evidence.

7 EXAMINATION

8 BY EXAMINER STOGNER:

9 Q. Mr. Buttross, you said something about
10 establishing a waterflood at a later date. Do you have any
11 start-up time for that?

12 A. Well, currently -- which our reservoir engineer
13 will go into a little further -- inside the West Red Lake
14 Unit, which we've outlined -- well, on Exhibit 1 in black,
15 and then on the topo map in red -- we're conducting a
16 waterflood pilot. And if it proves successful, the plan
17 would be either to expand the unit out or form additional
18 units outside of that boundary.

19 And I might add, the San Andres is one of the
20 major zones being waterflooded in the Permian Basin, so
21 there's a chance, you know, it may prove a secondary
22 recovery candidate out here too.

23 Q. So it's too early to form a unit at this time for
24 waterflood purposes?

25 A. Yes, sir, too early to tell at the moment.

1 Q. Okay. So that would eliminate falling under Rule
2 104 -- what is it? -- E, that would eliminate these --

3 A. Yes.

4 Q. -- unorthodox questions?

5 A. It would be nice if these were all in a unit.

6 Q. Okay. So we've established that there's not
7 unitization presently out there, nor is there anything in
8 the real near future. That's what I'm understanding,
9 right? You hope it can --

10 A. We hope it's near future, but at this time we
11 can't say we're going to go out there, here within the next
12 year, and try to form another unit or expand this one.

13 Q. Okay. So directional drilling is out for the --

14 A. Right.

15 Q. -- for the cost. Okay. So when I refer -- For
16 example, Exhibit Number 8. Now I'm beginning to see from
17 your exhibits, we're starting to identify leases. So I'm
18 looking both at Exhibit Number 8 and Exhibit Number 4.

19 Now, in this section -- I believe it's Section
20 6 -- you are actually identifying separate leases, correct?

21 A. Those are separate leases that we operate.

22 Q. Okay. So the four wells -- Well, actually,
23 there's five -- Well, we'll ignore that one up in the far
24 north there. That Patton 6 Federal Number 6, that's
25 internal offset only within the lease?

1 A. That's correct.

2 Q. Okay, so there's no problem on that one. That
3 one could -- That one would be an easy candidate for
4 administrative procedures.

5 Okay, but I want to take a look at that Number 3
6 and then that Number 4.

7 Now, the Number 3, you're encroaching from that
8 current unit how many feet?

9 A. Let's see, we're 130 feet from the West Red Lake
10 unit.

11 Q. Okay, 130 feet. Okay, now, I'm sure your
12 reservoir engineer is going to present some evidence about
13 radiuses of drainage?

14 A. Yes, sir

15 Q. Okay. So with what I've been seeing here, now,
16 up until this point, especially this Number 3 well, that
17 drainage pattern could affect crossing that lease line, of
18 what I see at this point; is that correct?

19 A. That's correct.

20 Q. Okay. In fact, you would hope it would, I would
21 assume. But you are encroaching it, nonethesame, and
22 you're encroaching some acreage in which you're an offset
23 operator?

24 A. Right.

25 Q. That in turn becomes the Catch-22 on a

1 notification situation, because you're required to
2 offset -- notify yourself, but yet the statute says we are
3 to protect correlative rights. So that's where the
4 notification in this particular instance -- and it quite
5 frankly failed miserably in the administrative
6 applications; that's why we're here at this point.

7 A. Okay.

8 Q. So when I look at the --

9 A. Yeah.

10 Q. So when I look at the notification with --
11 notified all the working interest.

12 Now, I believe your -- Mr. Gray had mentioned,
13 with the exception of the unit --

14 A. Yes.

15 Q. -- the well that's on -- the well location on
16 Exhibit 1 indicates that to be a little bit further away
17 than what I thought, but...

18 Have all the working interests in that unit been
19 notified, Mr. Bruce? If you can get back with me on that?
20 Because at this point we've eliminated -- we can't -- We
21 don't have a unit out there. So now we're affecting other
22 offsets.

23 You've already told me that you want to drill in
24 this pattern because it's less -- essentially less than 40
25 acres, and establish some sort of pattern. So it's --

1 You've got to drill it in this --

2 A. Right.

3 Q. -- in this particular form.

4 A. Right, to be consistent.

5 Q. And where those dots are for standard location,
6 when you go out there -- and yeah, there may be something
7 there, but you can't move it to a standard location --

8 A. Right.

9 Q. -- because that would take you off the pattern.

10 So our real reason out here, for a bunch of these
11 -- The topographic may be the reason you can't drill at
12 that particular point that you want to drill, but the
13 reason that these are is to establish that pattern. Now
14 we're getting a clearer idea where we're at and where we're
15 going --

16 A. Okay.

17 Q. -- and also, other applications that come in
18 subsequent to this can refer back to the example you're
19 giving me today.

20 A. Yeah, but --

21 Q. Now, we're identifying leases --

22 A. Right.

23 Q. -- like that Well Number 6, you bet, that one
24 could be approved just with the information that you have
25 provided at this point.

1 A. Okay.

2 Q. But I'm a little reluctant to approve the others,
3 because we need some more information on the drainage and
4 where -- the other parties that would be affected, and
5 that's the other working interest.

6 And what set this off from many others is, quite
7 frankly, the sheer number as they were coming in. This is
8 the reason why we are not only establishing this particular
9 hearing -- and I'm hoping to go beyond just the wells in
10 which you're requesting today, but this information that
11 you're providing. And that's the reason that we need to be
12 clear on that, so that then I can come back to these
13 exhibits and refer to your administrative application --

14 A. Right.

15 Q. -- and eliminate any others --

16 A. Any other questions.

17 Q. -- because we do have some that's already
18 pending. Hopefully, I could -- with this information we
19 can get it going.

20 A. Okay, appreciate it.

21 EXAMINER STOGNER: Okay. So with that, now, we
22 know where our other two witnesses need to go, because we
23 have established that there's some topographic problems and
24 have to -- notification.

25 I'm still not clear on override royalties. We

1 may want to discuss that, or hopefully you can suggest
2 something to meet that requirement in your closing
3 statement, or perhaps it's already been identified, Mr.
4 Bruce. I'll leave that up to you at the end of our
5 testimony.

6 I have no other questions of Mr. Buttross at this
7 time. I'm quite anxious to hear the remaining witness.

8 Mr. Bruce?

9 GARY KUMP,

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

12 DIRECT EXAMINATION

13 BY MR. BRUCE:

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

16 A. My name is Gary Kump, K-u-m-p. I live in Edmond,
17 Oklahoma.

18 Q. Who do you work for?

19 A. I work for Devon energy Corporation as a senior
20 reservoir engineer.

21 Q. Have you previously testified before the
22 Division?

23 A. No, I have not.

24 Q. Would you please briefly state your educational
25 and employment background for the Examiner?

1 A. I have a bachelor of science degree in petroleum
2 engineering from Montana School of Mines, which I received
3 in 1967. I have over 30 years of experience in the oil
4 industry, primarily in reservoir engineering, and I've
5 worked for several companies, both large and small,
6 including Shell Oil Company, Marathon Oil Company, Hondo
7 Oil and Gas, and Devon Energy Corporation.

8 Q. Does your area of responsibility include the Red
9 Lake Pool?

10 A. Yes, It does.

11 Q. And are you familiar with the reservoir matters
12 pertaining to this Application?

13 A. Yes, I am.

14 MR. BRUCE: Mr. Examiner, I tender Mr. Kump as an
15 expert reservoir engineer.

16 EXAMINER STOGNER: Mr. Kump is so qualified.

17 Q. (By Mr. Bruce) Mr. Kump, first refer back to
18 Exhibit 1 and just briefly discuss the geology of the Red
19 Lake Grayburg Pool.

20 A. Okay. The contours on Exhibit 1 represent the
21 structural configuration of the San Andres formation. The
22 map shows an elongated structural nose trending from the
23 northeast to the southwest, generally through the center of
24 Devon's acreage. The high part of the structure is located
25 within the West Red Lake Unit, primarily in Sections 7 and

1 8.

2 Q. Okay. The pool is just pretty much continuous
3 across this area from -- what? Southwest to northeast?

4 A. Yes.

5 Q. Okay. Let's discuss the reasons for your infill
6 drilling program and what these typical wells do in this
7 area. And I would first refer you to your Exhibit 10.
8 What can you tell me about that exhibit?

9 A. Exhibit 10 was prepared to show the drainage
10 effects of well interference between two closely spaced
11 wells are minimal, the inference being that the drainage
12 areas are small and that a well in an unorthodox location
13 would have minimal effect on the adjacent lease.

14 Subsequent exhibits will show that an average
15 well out here in Red Lake field may be draining less than
16 15 acres.

17 I'll refer you to the first well on the table,
18 West Red Lake Unit Number 31. It's located in Section 9,
19 Unit C, Township 18 South, 27 East. This well was
20 completed in March of 1962. It had an initial potential of
21 20 barrels of oil per day.

22 In its first seven and a half years of production
23 it made 29,500 barrels of oil.

24 Currently the well has made over 84,000 barrels,
25 which is an exceptional well in this field, where, I'll

1 show in another later exhibit, the average is probably
2 around 47,000 barrels.

3 The second well on the list, West Red Lake Unit
4 Number 34, also located in Section 9, Unit C, was
5 drilled -- or completed in September, 1990, some 28 years
6 after the completion of the West Red Lake Unit Number 31.
7 That well was located 391 feet from the West Red Lake Unit
8 Number 31. Its initial potential was 32 barrels of oil per
9 day, and its full life is 7 1/2 years of production. Over
10 that time period it has produced 25,800 barrels of oil, a
11 very similar amount to the original well, West Red Lake
12 Unit Number 31. It appears to be relatively unaffected by
13 West Red Lake Unit Number 31 production.

14 The next well on the list, the Jackson Number 1,
15 was drilled in December of 1958. It's located in Section
16 7, Unit M, 18 South, 27 East. That well IP'd for 110
17 barrels of oil per day, and it has made over its life
18 92,000 barrels of oil. Again, an exceptional well.

19 In November of 1997 the Jackson Number 3, the
20 last well on the list, was drilled in Section 7, also in
21 Unit M, some 467 feet from the Jackson Number 1. The IP of
22 the Jackson Number 3 is very similar to the Jackson Number
23 1. It was 102 barrels a day, versus 110. There inference
24 there, again, being that the production from the Jackson
25 Number 1 was -- relatively unaffected the drainage area of

1 the Jackson Number 3.

2 Q. And again, Mr. Kump, these -- The two older
3 wells, these are pretty much exceptional wells in this
4 pool?

5 A. Yeah.

6 Q. They produce much more than the average well?

7 A. And that's why I chose them as -- for this
8 exhibit.

9 Q. And even though they produce that amount of oil,
10 you drill a well a few hundred feet away and there's -- you
11 can detect very little, if any, effect?

12 A. That's correct.

13 Q. Okay. Let's move on to your Exhibit 11. What
14 does that show?

15 A. Exhibit 11 was prepared to show what the average
16 reserves are for the wells that Devon has drilled since
17 we've operated this property and developed this area.

18 Each of the colored curves illustrates the
19 average production performance of the well -- the wells on
20 that lease.

21 There are six leases shown on here, five of which
22 -- the exclusive one being the West Red Lake Unit -- Hondo
23 has developed over the last one and a half years. There's
24 not a whole lot of production history, less than a year and
25 a half of production history.

1 You'll note that the shape of these curves are
2 all very similar, a steep decline initially and then a
3 flattening out after month seven or so.

4 The black curve on this exhibit represents the
5 average production performance of all the wells on all
6 these leases, which is about -- is 151 wells. That black
7 curve shows that the first month production, the average is
8 50 barrels per day, second month 40 barrels, and so on.

9 When I extrapolate this hyperbolic type curve to
10 an economic limit of three barrels per day, I get reserves
11 of 47,000 barrels. So the average well that Devon has
12 drilled out here has, we project, 47,000 barrels of
13 reserves.

14 Q. Are the wells that you've been drilling
15 recently -- do they conform with your reserve estimates?

16 A. Yes, they do.

17 Q. Would you move on to Exhibit 12 and discuss that?

18 A. On Exhibit 12 I've shown the same type curve, but
19 the scale is different here. It's barrels per month rather
20 than barrels per day. It's essentially the same type curve
21 as the average curve on the prior exhibit.

22 Overlain on the type curve is the production
23 performance of the Hawk 8L Federal 6, one of the first
24 wells we drilled outside West Red Lake Unit. You can see
25 this well is following along the type curve fairly well.

1 In fact, during the first 15 months the performance of the
2 Hawk 8L 6 was 3000 barrels higher than the type curve would
3 have projected, because of the -- It's a little higher
4 initially. But it's back on track on the type curve and
5 appears to be following the type curve over the last
6 several months.

7 Assuming that this well would continue to follow
8 along the type curve in its future, I've projected reserves
9 of 47,000 barrels, plus the 3000 barrels it had produced
10 higher than -- the first 15 months, than the type curve
11 would have projected. So I projected 50,000 barrels of
12 reserve for this particular well.

13 Now, what I'm going to show here, the next two
14 exhibits, I'm going to do a drainage-radius calculation for
15 this well. That's where we're headed with this.

16 Q. Go ahead, Mr. Kump.

17 A. If you look at Exhibit 13 [sic], these are my
18 calculations from the open hole log on the Hawk 8L Federal
19 Number 6. I've shown in the depth column the depth of the
20 zones that have been perforated, the net pay within those
21 perforated zones, the average porosity for each of those
22 perforated zones, the resistivity --

23 EXAMINER STOGNER: Which exhibit?

24 THE WITNESS: Thirteen.

25 MR. BRUCE: Twelve, it's actually 12. They've

1 been stapled together, Mr. Kump.

2 THE WITNESS: Oh, I'm sorry.

3 EXAMINER STOGNER: Okay, so we're still on 12.
4 This would be second --

5 MR. BRUCE: Second and third pages.

6 EXAMINER STOGNER: Okay. Okay, so we -- I'm
7 sorry, are we on the same page?

8 THE WITNESS: My fault.

9 EXAMINER STOGNER: Okay. I'm sorry, go ahead.

10 THE WITNESS: Again, I'm showing my log
11 calculations on the well that we just looked at the
12 production performance on.

13 And the last column is water saturations. I've
14 used the Archie equation shown at the bottom, with a
15 measured water resistivity of .04.

16 At the very bottom where it says "total", I've
17 shown that this well has 95 feet of net pay. Average
18 porosity is 6.5 percent, and average water saturation is 32
19 percent.

20 Q. (By Mr. Bruce) Go ahead.

21 A. On the next exhibit, I've taken those parameters
22 from the prior exhibits, projected reserves of 50,000
23 barrels, the net pay, porosity, water saturation from the
24 log calculations.

25 I've calculated formation volume factor based on

1 a GOR of 1000, which was the GOR of this well when it
2 originally IP'd.

3 I've assumed a recovery factor of 15 percent for
4 depletion drive reservoir. I should point out, that's
5 probably conservative. And if it is any higher, the
6 drainage radius, I would calculate, would be smaller.

7 Using those parameters, I put them into the
8 equation shown below, which is the standard volumetric
9 equation for an oil well. And I'm calculating for drainage
10 -- area of drainage radius. And that area calculates to be
11 14.3 acres or a radius of 445 feet.

12 Q. And some wells may be slightly more than this,
13 and others may be less?

14 A. Yes, this is the average. I'm trying to typify
15 the average, typical well.

16 Q. Okay. So for the average -- If you take an
17 average well unit, you really need two, maybe three wells,
18 to drain the entire 40 acres?

19 A. That's correct.

20 Q. And unless you're extremely close to another
21 lease, there's really little or no effect on the offsets?

22 A. Correct.

23 Q. Okay. Just digressing for a moment, Mr. Kump, if
24 you have Exhibit 1 in front of you, as Mr. Buttross said,
25 you're involved in a program to drill a couple of wells per

1 40 acres in this area; is that correct?

2 A. That's correct.

3 Q. So generally, even if there's an unorthodox
4 location well offsetting one lease, you generally have
5 plans to drill a well offsetting that unorthodox location
6 well in many instances; is that correct?

7 A. That's correct.

8 Q. Or there's already a producing well on there?

9 A. Correct.

10 Q. Let's move to your final exhibit, Exhibit 13,
11 which is a map of the West Red Lake area. What does that
12 map show?

13 A. This map shows the proposed waterflood pattern
14 that Devon will expand to, assuming that the pilot flood
15 that we've entered into proves that secondary recovery,
16 secondary reserves, are economic.

17 The dark blue triangles show the 18 injectors
18 that we are currently injecting into as part of our pilot
19 flood.

20 The thing that stands out fairly dramatically is
21 that these patterns are very nonuniform, and --

22 Q. That's because of the unorthodox locations within
23 the unit?

24 A. Yes. And this --

25 Q. Those locations were required by the Bureau of

1 Land Management?

2 A. Yes. Devon had drilled approximately 30, 35
3 wells within the unit since we had it, and it would have
4 been to our maximum benefit to drill those wells on a
5 uniform spacing, because we knew we were going to put this
6 pilot flood in.

7 But because of the topographic problems we're
8 having, similar to the ones we're having on the wells on
9 the docket today, we weren't able to do that, and we ended
10 up with a pattern that looks very skewed, like you see on
11 this exhibit.

12 Q. Are the black dots on this Grayburg or Grayburg-
13 San Andres wells?

14 A. Not all the wells are Grayburg-San Andres.

15 Q. Okay.

16 A. There are some Abo wells and I think a few deeper
17 wells.

18 Q. Okay. In short, you'd rather have the orthodox
19 locations for your plans for waterflood?

20 A. Yes, that would be a more efficient waterflood,
21 result in higher recovery, symmetric patterns.

22 Q. When did injection start in the Red Lake -- West
23 Red Lake Unit?

24 A. The field was unitized back in the Sixties, but
25 there was not a pattern flood installed at that time. On

1 the west side of the unit there were, I think, seven wells
2 that were injected into in a sort of a peripheral pattern,
3 a very inefficient peripheral pattern. There appeared to
4 be some flattening of production, but no true waterflood-
5 type response on that wide-spaced injection pattern.

6 Q. When did -- But you started injecting in the unit
7 about a year ago?

8 A. In our pilot flood we started injecting on the
9 east side of the unit, approximately a year ago.

10 Q. Have you seen any response as of yet?

11 A. We've seen some flattening of the total unit
12 production curve and maybe some minor indications of
13 response on individual wells, but there has been a
14 flattening of unit production in total.

15 I should point out that we didn't convert all 18
16 wells at once. Over the past year we've converted about 12
17 of these wells. The original pattern consists of six wells
18 on the west side, and we've expanded that over the past
19 year. All 18 wells haven't been injected over a year's
20 period.

21 EXAMINER STOGNER: Which one were the six?

22 THE WITNESS: 71; 74, which is southwest of 71;
23 47, southeast of 74; and 63, which is northeast of 47; and
24 36, which is just about due east of 63; and then just south
25 of that one, number 26.

1 Q. (By Mr. Bruce) Mr. Kump, in your opinion is the
2 granting of Devon's Application in the interests of
3 conservation, the prevention of waste and the protection of
4 correlative rights?

5 A. Yes.

6 Q. And were Exhibits 10 through 13 prepared by you
7 or under your direction?

8 A. Yes.

9 MR. BRUCE: Mr. Examiner, I would move the
10 admission of Devon Exhibits 10 through 13.

11 EXAMINER STOGNER: Exhibits 10 through 13 will be
12 admitted into evidence at this time.

13 EXAMINATION

14 BY EXAMINER STOGNER:

15 Q. Now we're moving.

16 Okay, in referring to your three-page Exhibit
17 Number 12, what radius would I see if -- assuming it's 40-
18 acre drainage on a well, would all your parameters remain
19 the same?

20 A. I'd have to calculate that.

21 Q. I used to remember what it was, but I can't
22 remember.

23 A. Oh, you mean just a typical 40-acre --

24 Q. Yeah.

25 A. Yeah. Typically, 40 acres, the radius would be

1 745 feet.

2 Q. Okay. So even at a standup location, 745 feet,
3 which you're allowed to under rule of capture, would be
4 allowed to extend your influence beyond the 330-foot
5 radius?

6 A. Your radius would be 415 feet beyond your unit.

7 Q. So with your calculations, you're showing a
8 radius of about 445 feet, and that's still within some sort
9 of a setback. So with your information on this Hawk
10 Federal, which is essentially a typical well --

11 A. Yes.

12 Q. Okay.

13 A. Slightly better. The typical well I showed you
14 was 47,000, and that was 50,000.

15 Q. Okay, then the influence on an offset acreage,
16 theoretically, would be no more than what would be allowed
17 for standard location for a very good 40-acre drainage?

18 A. Right.

19 EXAMINER STOGNER: Now -- Now we're getting
20 places. Now we're -- Okay. So we've got a working
21 interest, we've addressed this issue of drainage, we've
22 established that a pattern is needed in this area, and we
23 don't have a waterflood, nor do we have a unit, so we have
24 some sort of influence here.

25 This is going to be a very, very good foundation

1 for anything else we do out there. You have given me
2 something to go by, because the applications I had,
3 whenever I was grilled by my supervisors, I couldn't stand
4 up for it. Now I'll give something -- I'll have something
5 to stand up for it.

6 I have no other questions of this witness at this
7 time.

8 Have you got one more --

9 MR. BRUCE: The only -- I have one more witness.
10 I didn't necessarily -- He's here to answer questions more
11 than anything else. He's a field supervisor for Devon.
12 And he's on the ground, he can tell you really exactly what
13 is out there, as far as --

14 EXAMINER STOGNER: I'll tell you what, let's go
15 ahead and bring him up while he's here, because I'm
16 assuming that this gentleman has dealt with Mr. Pool, or
17 whoever the BLM representative is, and I'm going to let you
18 just open up the questions to him, those general questions,
19 what kind of stuff you see.

20 And quite frankly, sir, we have a new supervisor
21 that has worked in the State that has never had to deal
22 with BLM problems, and I think this kind of testimony would
23 be beneficial to let our new Director have an understanding
24 of what an actual field person has to put up with -- let me
25 rephrase that -- of what concerns the BLM has whenever they

1 come out and get together.

2 So...

3 DANNY HOKETT,

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

6 DIRECT EXAMINATION

7 BY MR. BRUCE:

8 Q. With that, would you please state your name for
9 the record?

10 A. Danny Hokett.

11 Q. Where do you reside?

12 A. In Artesia, New Mexico.

13 Q. And who do you work for?

14 A. Devon Energy.

15 Q. What's your job with Devon?

16 A. Foreman.

17 Q. And are you responsible for dealing with the BLM
18 in getting your locations approved, Devon's locations
19 approved --

20 A. Yes.

21 Q. -- in the Red Lake area?

22 A. Yes, sir.

23 Q. I don't have any particular questions, Mr.
24 Hokett, but perhaps I'd open it up to the Examiner, and if
25 you have any comments based upon the topographic maps and

1 the aerial photos we've shown that Mr. Buttross discussed,
2 perhaps you could give them, especially with respect to the
3 -- you know, almost abnormally high number of pipelines out
4 in this area --

5 A. Yeah.

6 Q. -- and the draws and everything else.

7 EXAMINATION

8 BY EXAMINER STOGNER:

9 Q. Mr. Hokett, perhaps you can kind of give us a
10 little bit of an overlay, when a BLM federal individual
11 comes out. Do you have a plan, this is where we want to
12 drill?

13 A. Well, they'll stake the location. I'll go out
14 and look at it before the BLM gets there, and then I meet
15 with him and, you know, I've got a pretty good idea what
16 Barry Hunt wants before he ever gets there, and if I know
17 we can't drill it in the bottom of a draw or something,
18 I'll move it to where I think we can, and he might not
19 agree with that, and I'll move it a little more.

20 MR. BRUCE: Is Barry Hunt the main person you've
21 been dealing with --

22 THE WITNESS: Yes.

23 MR. BRUCE: -- at the BLM? He's with the BLM's
24 Carlsbad office?

25 THE WITNESS: Yes.

1 Q. (By Examiner Stogner) What other concerns
2 besides draws does --

3 A. Pipelines, lots of pipelines.

4 Q. How about other items in this particular area?
5 Are they so much concerned about cut and fill?

6 A. Yes.

7 Q. How about visual impact?

8 A. Well, I don't know as a visual impact, much,
9 but --

10 Q. Not like it would with you being in a pristine
11 area --

12 A. No.

13 Q. -- say, west of Carlsbad area or something?

14 How about concerns such as -- like the animals
15 and plants in this area?

16 A. There are really no plants for sure, and the
17 animals, there's really no big concern there.

18 Q. But they're mostly concerned about your -- their
19 surface constraints that you're having to deal with --

20 A. Right.

21 Q. -- whenever the BLM comes in?

22 A. Yes, sir.

23 Q. What would the scenario be if you put a stake
24 somewhere and said, I've got to drill here, and they
25 disagreed with it. Would that well get drilled?

1 A. Probably not.

2 EXAMINER STOGNER: Okay.

3 FURTHER EXAMINATION

4 BY MR. BRUCE:

5 Q. One other question, Mr. Hokett. We've mentioned
6 a little bit about the Abo wells out here. Who's the
7 operator of those, primarily?

8 A. ARCO.

9 Q. And do those well locations interfere with some
10 of your locations?

11 A. Yes, some of these were staked right next to an
12 ARCO wellhead, you know, when we staked them.

13 FURTHER EXAMINATION

14 BY EXAMINER STOGNER:

15 Q. Do you have to be a minimum distance from the
16 ARCO well, wellheads?

17 A. Well, yes, to get a location in, you do.

18 Q. But as far as the BLM is concerned? They're not
19 too concerned about that?

20 A. I'm not sure about that.

21 Q. Okay. So we have a problem with cut and fill --

22 A. Yes.

23 Q. -- pipelines, and then the draws. And the draws
24 are for the -- What? For the summer run and for the
25 runoff --

1 A. Yes.

2 Q. -- water runoff?

3 Would you typically say the BLM is pretty
4 unbending about their location?

5 A. Well, they've -- They'll give and take some, but
6 those is just -- you just can't drill one, you know,
7 they --

8 Q. Okay.

9 A. -- they won't change them. Wherever there's a
10 real big cut in the land, they'll...

11 Q. Okay. Mr. Hokett, you have probably the worst
12 job of all of us, and I appreciate you coming in today and
13 giving us that little rendition.

14 A. Okay.

15 EXAMINER STOGNER: You may be excused.

16 I do have one more question, Mr. Bruce, and you
17 have three of your representatives from Oklahoma. Does
18 Devon have operations in Oklahoma?

19 MR. GRAY: Yes.

20 MR. BUTTROSS: Yes.

21 MR. KUMP: Yes.

22 EXAMINER STOGNER: Which one of you three could
23 probably answer an Oklahoma question, regulatory question?

24 MR. GRAY: A regulatory question?

25 EXAMINER STOGNER: Yeah.

1 MR. GRAY: It's been a few years, but I might be
2 able to.

3 EXAMINER STOGNER: Okay. What, in similar
4 instances for an unorthodox location -- I don't know what
5 they call them there; I guess in Texas they call them
6 exception to Rule 36. Are you familiar with getting an
7 unorthodox location in Oklahoma?

8 MR. GRAY: (Nods)

9 EXAMINER STOGNER: Okay. That's a yes, I assume?

10 MR. GRAY: Yes.

11 EXAMINER STOGNER: Okay. What are the
12 notification requirements?

13 MR. GRAY: They're pretty similar to New
14 Mexico --

15 EXAMINER STOGNER: Okay, do -- is there --

16 MR. GRAY: -- as far as offset. I don't know if
17 it reads offset operator, offset working interest owner. I
18 don't remember specifically, but it's similar to --

19 EXAMINER STOGNER: Let's take the scenario of an
20 operator. If the operator is the same, in other words, if
21 you're moving closer to yourself, is there any other
22 stipulation in the State of Oklahoma for notification?

23 MR. GRAY: Not that I'm aware of.

24 EXAMINER STOGNER: I have been told -- I haven't
25 worked in Oklahoma, yet; maybe I'll get some property there

1 someday, whenever I have some rich uncles die.

2 I was under the impression, or I've been told
3 before, that if you offset yourself and you're moving
4 closer to yourself, then you're required to notify working
5 interest owners, those people that are a party to the
6 original well that you're moving closer to. You don't --
7 You're not familiar with that?

8 MR. GRAY: Well, it's not that I'm -- It's been
9 about 12 years --

10 EXAMINER STOGNER: Okay.

11 MR. GRAY: -- since I've done it, so I can't
12 really cite the --

13 EXAMINER STOGNER: Okay.

14 MR. GRAY: -- the rule.

15 EXAMINER STOGNER: Mr. Bruce, can you enlighten
16 me any further --

17 MR. BRUCE: Well, Mr. Examiner --

18 EXAMINER STOGNER: -- with some closing remarks?

19 MR. BRUCE: -- I think I'd just like to make a
20 couple of comments. Obviously Devon's out here doing a
21 heck of a lot of drilling, and they think not only the
22 primary production but perhaps the future -- hopefully the
23 future waterflood program would benefit everyone out here.

24 When it comes to notification, you know, we have
25 notified the offsets. Where -- certainly Devon's wells are

1 offsetting another operator, I mean, we think it's the
2 operator's obligation, certainly for himself and his
3 overrides and his royalty owners, to look after that. And
4 there's several instances here where you can see that Yates
5 or ARCO or Altura have been notified, and we think it's up
6 to them, and we think we've complied with those
7 requirements.

8 In other situations where Devon offsets itself,
9 in particular, in the southeast quarter of Section 9, even
10 though it encroaches from one lease to another, it is
11 drilling an offsetting well. And so we think that
12 minimizes any effect in the overrides, and the royalty and
13 the working interest owners will all get theirs.

14 If there are one or two instances -- and we could
15 probably pick, you know, one or two out from the map where
16 they are encroaching on themselves and they haven't given
17 the notice to the overrides, what I'd suggest as to those
18 one or two particular wells, give notice to the overrides,
19 and if you feel that's necessary -- I can only see about,
20 maybe, one or two or three in this instance where that
21 would apply -- and give them a chance to object.

22 However, as Mr. Kump has testified, the drainage
23 areas are so small out here that the effect is negligible
24 on the offsets. Certainly for future applications, I think
25 we've given some information here that will be useful in

1 just looking at -- and you can see what Devon's plans are
2 out here and what it has in mind.

3 But except perhaps in those one or two instances
4 where they might offset a lease, one of their own leases,
5 by 50 feet or 100 feet, I don't think notice to the
6 overrides is really necessary, especially where Devon has
7 plans to drill an offset well anyway.

8 EXAMINER STOGNER: If you'll verify that, Mr.
9 Bruce, where that does occur --

10 MR. BRUCE: I'll do that.

11 EXAMINER STOGNER: -- that there indeed is going
12 to be at least the same number of offset wells that in that
13 proration unit, but if not, then yes, I would like that.

14 While we're along the same line, because this is
15 a case file and a case number that I think any subsequent
16 applications administratively filed will refer back to
17 this, because we've already covered a lot of good
18 information here, what I'd like to see in future
19 applications is essentially what you've been showing in the
20 last few. Make a map, a lease map, showing the lease in
21 which the well is on and where it's moving closer to. That
22 will tell you everything you want to -- and you can chip
23 away from their requirements.

24 Like that well in Number 6, in Section 6, that
25 Number 6 well, you've answered the questions. Show me a

1 lease map. That could be done simultaneous to the time I
2 get it.

3 The others, as Mr. Bruce mentioned, when you're
4 moving closer to somebody, those are instances -- and
5 you're -- I'm going to, at this point, leave it up to your
6 judgment on an application-by-application basis.
7 Naturally, the closer you move to it, if you're right there
8 on that line, then you get ahold of those working
9 interests, identify them first, show that it is a different
10 lease, and then notify them. We're a heck of a lot better
11 off from that, and we can zip those on through.

12 Refer back to this case in most instances, don't
13 go out and take aerial pictures, but if you've got them,
14 those are nice too.

15 A statement about the BLM, because you've already
16 set a good foundation out from any other application. And
17 what I can do on a lot of these applications that aren't
18 covered in this particular case today, that I know that are
19 pending, I've got something to go on.

20 And one of the main things that I like is that
21 lease map. And that's what that topographic map -- that
22 tells me --

23 MR. BRUCE: Exhibit 4?

24 EXAMINER STOGNER: If I can get a -- I'll tell
25 you what, if I can get a similar map showing what those

1 leases are, a lot like something that had been given to me
2 a couple years ago -- I'm not going to require it in this
3 case, but that would sure be nice, for me to refer back to
4 it any time and hang on the wall.

5 I have no other questions at this time.

6 But Mr. Bruce, if you can identify those
7 particular proration units, I'm ready to take this one
8 under advisement.

9 MR. BRUCE: I'll do that in the next few days.

10 EXAMINER STOGNER: Yeah, work with me on that in
11 the meantime, because it's -- we're going to take at least
12 that much time in getting the orders written.

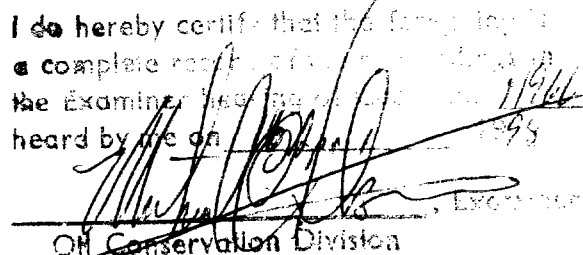
13 Gentlemen, I appreciate it. Thank you very much.

14 At this time I'll take Case Number 11,966 under
15 advisement.

16 And with that, this hearing is adjourned.

17 (Thereupon, these proceedings were concluded at
18 12:54 p.m.)

19 * * *

20
21 I do hereby certify that the foregoing is
22 a complete and correct transcript of the hearing
23 the Examiner heard on the 11/9/66
24 heard by me on 11/9/66
25  Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
 COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL April 27th, 1998.

 STEVEN T. BRENNER
 CCR No. 7

My commission expires: October 14, 1998