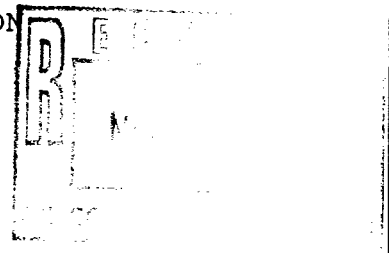
STATE OF NEW MEXICO

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 YATES PETROLEUM CORPORATION

CASE NO. 11,235

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

April 7th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Friday, April 7th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

April 7th, 1995
Examiner Hearing
CASE NO. 11,235

(Continued...)

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A P P E A R A N C E S

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* * *

WHEREUPON, the following proceedings were had at 8:15 a.m.:

EXAMINER CATANACH: Call the hearing back to order this morning, and first thing we'll call is Case 11,235.

MR. RAND CARROLL: Application of Yates Petroleum Corporation for an unorthodox oil well location and simultaneous dedication, Eddy County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. ERNEST CARROLL: Mr. Examiner, I'm Ernest Carroll of the Artesia law firm Losee, Carson, Haas and Carroll, and I'm here on behalf of Applicant Yates Petroleum, and we will have -- we have four witnesses today.

EXAMINER CATANACH: Okay, additional appearances?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of Conoco, Inc., in opposition to the Applicant.

We have two witnesses to be sworn.

EXAMINER CATANACH: Are there additional appearances here?

Okay, can I get all the witnesses to stand and be sworn in at this time?

(Thereupon, the witnesses were sworn.)

MR. ERNEST CARROLL: Mr. Examiner, we'd first call Janet Richardson.

JANET RICHARDSON,

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

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

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

A. Janet Richardson. I live in Artesia, New Mexico.

Q. By whom are you employed?

A. Yates Petroleum Corporation.

Q. And in what capacity?

A. I'm a landman.

Q. Have you had occasion to testify previously before this Commission [*sic*] and have your credentials accepted as a petroleum landman?

A. Yes, I have.

Q. And are you familiar with the case that is now being heard by the Examiner, that being the case for an unorthodox well location in the southwest quarter of Section 29, Township 19 South, Range 25 east?

A. Yes.

MR. ERNEST CARROLL: Mr. Examiner, I would tender Ms. Richardson as an expert in the field of petroleum land

management.

EXAMINER CATANACH: Ms. Richardson is so qualified.

Q. (By Mr. Ernest Carroll) Ms. Richardson, you have prepared a couple of exhibits for today; is that correct?

A. Yes.

Q. Would you first turn to Exhibit Number 1, identify for the record what that exhibit is, and then if you would explain the exhibit for the Examiner?

A. The Exhibit Number 1 is a plat of the well location and the surrounding area. The well is located in the southwest quarter of Section 29 of Township 19 South, Range 25 East.

I have colored in the areas in the nine sections, including surrounding that -- the Section 29. The solid yellow denotes acreage that Yates Petroleum owns a hundred percent, and the yellowed outline is where Yates only has a partial interest.

Then I have outlined the actual spacing unit for our well and shown with a red dot where the actual well location is, and I believe that's 330 feet from the south line and 1980 feet from the west line.

Also, I have -- Yates Petroleum operates the wells in Section 29, but I've also shown the other

operators in the other nine spacing units surrounding the wells.

The east half of 30 is operated by Conoco, the north half of 32 is operated by Conoco, and the northeast quarter of 31 is operated by Nearburg.

Q. All right. Your Exhibit Number 2 deals with the notices that were sent out with respect to this Application; is that not true?

A. Yes, it is.

Q. To whom were notices sent?

A. We sent notices to both Conoco, Inc., and Nearburg, who are the offsetting operators to this well.

Q. All right. The operators that are the closest to the proposed well and its unorthodox site, those are either Yates Petroleum or Conoco; is that correct?

A. Yes, they are.

Q. Now, with respect to the Nearburg operatorship, we did not prepare an exhibit, but you have received a fax of a waiver with respect to this unorthodox location from Nearburg; is that true?

A. Yes, we have.

Q. But as of the date of this hearing, we have never received the actual original copy of that?

A. No, we have not seen that.

Q. Exhibit 2 is composed of the affidavit, the

certificate of mailing by myself, attorney for Yates, and then the copies of the letters that were sent to both Conoco and Nearburg Producing?

A. Yes.

MR. ERNEST CARROLL: Mr. Examiner, at this time I would move admission of Exhibits 1 and 2.

EXAMINER CATANACH: Exhibits 1 and 2 will be admitted as evidence.

MR. ERNEST CARROLL: And I would pass the witness.

EXAMINER CATANACH: Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Ms. Richardson, if you'll look at Exhibit 1 with me --

A. Yes.

Q. -- when we look at the south half of Section 29, we are in an area where these wells are being drilled and dedicated to production from the North Dagger Draw-Upper Penn Pool, are we not?

A. Yes.

Q. Are you aware that Yates' proposed location is 330 feet from the south side of Section 29?

A. Yes.

Q. And are you also aware that that well is 660 feet from the east side of a spacing unit consisting of the southwest quarter of Section 29?

A. Yes.

Q. Are you also aware that the southwest quarter is the dedicated spacing unit for any production from any well producing from the Cisco/Canyon formation?

A. Yes.

Q. And are you also aware that Yates currently has three existing producing oil wells within that spacing unit?

A. Yes, I am.

Q. And are those wells located on Exhibit Number 1?

A. Yes, they are.

Q. Describe for us how they're located.

A. The Aspden Number 1 well is 660 feet from the south and 660 feet from the west of Section 29.

The Boyd "X" Number 2 well is located 1980 from the south and 660 from the west.

And the Boyd "X" Number 4 is 1980 from the south and 1980 from the west.

Q. Within that spacing unit consisting of the southwest quarter of Section 29, the working interest owners that are sharing in that production are Nearburg and Yates, are they not?

A. Yes, they are.

Q. When we look into the southeast quarter of Section 29, that is also a spacing unit dedicated to production from the North Dagger Draw-Pennsylvanian Pool, is it not?

A. Yes, it is.

Q. And Yates and Nearburg are also the only working interest owners within the spacing unit consisting of the southeast quarter of that section?

A. Yes.

Q. When we look at the northwest quarter of Section 32, Yates has no interest in the spacing unit consisting of the northwest quarter of Section 32; is that correct?

A. None at all, that's correct.

Q. Any production in Section 32 is shared by Conoco and Yates; is that your testimony? I'm sorry, Conoco and Nearburg in the northwest quarter?

A. Actually, I do not believe that Nearburg has an interest in the northwest quarter. They have an interest in the southwest quarter. Apparently that is an error on the map.

Q. All right, so when we look at the spacing unit consisting of the northwest quarter of Section 32, your understanding of the title is that neither Yates nor Nearburg has any interest in that spacing unit?

A. Yes.

MR. KELLAHIN: No further questions, Mr. Examiner.

EXAMINER CATANACH: I have no questions of the witness.

You may be excused.

MR. ERNEST CARROLL: I have just one question, just to clarify.

REDIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. Ms. Richardson, with respect to the ownership in the southwest quarter of Section 29 and the southeast quarter of Section 29, is that the same or is it in different percentages between Yates --

A. It's in different percentages.

The southwest quarter, Yates Petroleum has 75 percent and Nearburg has 25 percent. And in the southeast quarter Yates Drilling has 50 percent and Nearburg has 50 percent.

MR. ERNEST CARROLL: All right, that's all I have, Mr. Examiner.

EXAMINER CATANACH: Okay. The witness may be excused.

MR. ERNEST CARROLL: We would next call Ken Beardemphl to the stand.

KEN BEARDEMPHL,

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

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

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

A. Ken Beardemphl. I live in Artesia, New Mexico.

Q. And how are you employed, Mr. Beardemphl?

A. Yates Petroleum Corporation.

Q. And in what capacity?

A. Landman.

Q. Mr. Beardemphl, have you had an occasion to testify before the Oil Conservation Division previously and have your credentials as a petroleum landman accepted?

A. Yes, I have.

Q. And Mr. Beardemphl, are you familiar with the facts and circumstances concerning or surrounding the Application now being heard by this Examiner, that being the Application for an unorthodox location in the southwest quarter of Section 29, Township 19 South, Range 25 East?

A. Yes, sir.

MR. ERNEST CARROLL: Mr. Examiner, I would tender Mr. Beardemphl as an expert in the field of petroleum land management.

EXAMINER CATANACH: He is so qualified.

MR. KELLAHIN: No objection.

Q. (By Mr. Ernest Carroll) Mr. Beardemphl, with respect to your -- the particular duties that you do perform for Yates Petroleum, you have a particular area of endeavor at this time, do you not?

A. Yes, sir.

Q. And what is that?

A. I do the applications to drill the right of ways, surface damages and anything to do with the locations.

Q. All right. Now, this particular area of land, the southwest quarter of Section 29, who owns the surface?

A. Where the well is, it's owned by the State.

Q. All right. What --

A. Oh, I'm sorry, this is -- It's owned by Carl Foster. He just bought it from the federal government. The minerals are owned by the federal government.

Q. All right.

A. The north half of that quarter is State.

Q. So the United States government, or the BLM actually, controls the minerals?

A. Yes, sir, BLM.

Q. All right. An application to drill, then, has to be also -- not only gotten from the State of New Mexico, but must be approved by the BLM; is that correct?

A. Yes, sir.

Q. Now, Mr. Beardemphl, have you been the party that has attempted to try to get this well permitted for drilling?

A. Yes. Yes, sir.

Q. Was an application sought to have this well located at an orthodox location?

A. Yes, sir.

Q. And what was that specific footage location that the well was first attempted to be located at?

A. 660 from the south and 1980 from the west in Section 29.

Q. Was that application granted by the BLM?

A. No, sir.

Q. What was the specific reason for denial of that permit?

A. The denial was during the on-site with the BLM representative. We went on location, we looked at the location, we walked the whole -- almost the whole 40, and he come up with the proposed location.

Q. Okay, apparently there was a problem on site; is that correct?

A. Yes, sir.

Q. Could you describe what that problem is?

A. The problem with the original location is --

MR. KELLAHIN: Mr. Examiner, I'm going to object to the testimony of this witness at this point.

It constitutes a hearsay statement by this witness with regards to what he was told by a BLM representative. It is an out-of-court statement offered to prove the truth of the matter asserted, and the BLM representative is not a witness and not present, and we would object to this testimony.

MR. ERNEST CARROLL: Mr. Catanach, I think this witness is qualified, and it is not hearsay for him to report to this Commission what the problem was, his understanding.

Mr. -- A hearsay objection is when you use a quoted statement from -- What Mr. Beardemphl here is to report the facts, the findings, what the problem was, why they have no -- have not been able to grant a -- or been able to obtain a permit, and it's not a true hearsay objection.

EXAMINER CATANACH: Mr. Beardemphl, were you present with the BLM representative?

THE WITNESS: Yes, sir.

EXAMINER CATANACH: And you have knowledge of what he said the problem was --

THE WITNESS: Yes, sir.

EXAMINER CATANACH: -- directly?

THE WITNESS: We discussed it for an hour and a half.

EXAMINER CATANACH: I think we're going to let this evidence continue.

Q. (By Mr. Ernest Carroll) Again, Mr. Beardemphl, what is wrong with the area that the original orthodox location was located at?

A. The original location is in the bottom of the draw, right next to where the main flow would take place.

Q. Okay, is this a drainage area, then?

A. Yes, sir, it's Seven Rivers draw.

Q. Seven Rivers draw. All right. Now, you have prepared several exhibits, have you not --

A. Yes, sir.

Q. -- to help describe what the problem is?

Let's first turn to Exhibit Number 3. What is Exhibit 3, if you'd identify it for the record and then kind of explain what's on it.

A. It's a location plat. It shows the 160 spacing, and I have four dots on it showing the orthodox location, proposed location, the 990 from the south location, and a reference point that I've used for the map.

Q. All right. The actual proposed location is the circle and lettering that is drawn in red; is that correct? On your plat here?

A. The current location?

Q. Yeah, the proposed unorthodox location.

A. Yes, sir.

Q. The reference point is denoted by a black dot; is that correct?

A. Yes, sir.

Q. Now, that reference point will show up as a stake in pictures that we have to present to the Commission; is that not correct?

A. Yes, sir.

Q. Then the orthodox location, which is the blue circle, that was the original location proposed by Yates to the BLM?

A. Yes, sir.

Q. And the green would be -- is this -- This is a 990-1980 location. Is it also a reference point that will be shown in your photographs?

A. Yes, sir.

MR. ERNEST CARROLL: All right. Mr. Examiner, we had just two sets of actual photographs. I have given Mr. Kellahin a set of xeroxes, and if -- I think you can tell most of it, but I'm going to have one set, and you have the other set of original photographs here under your --

EXAMINER CATANACH: I've got them.

Q. (By Mr. Ernest Carroll) All right. Let's first

turn to Exhibit Number 4, which is a photograph that is marked with a number "1" up in the right-hand corner. Do you see that, Mr. Beardemphl?

A. Yes, sir.

Q. All right. What does that photograph depict?

A. That is from the proposed 330 location, looking north. That is the actual stake where the location is staked.

Q. All right. There is a -- It looks like a brown line that crosses the entire photograph. Is that the stake for the 330-1980 location?

A. That is the centerhole stake, yes, sir.

Q. All right. And what direction are you looking, Mr. Beardemphl?

A. Looking north.

Q. Now, Mr. Beardemphl, just -- There is a line of green -- I guess they're mesquite bushes or creosote bushes?

A. Creosote.

Q. Creosote. There is a stake just in the edge of that green, in the midpoint of that picture, is there not?

A. Yes, sir, that's the reference point.

Q. Okay. That is the reference point that is marked, shown as 530 feet from the south line and 1980 feet from the west line?

A. Yes, sir.

Q. Can you see that?

A. Yes.

Q. I'm going to ask you to now look at what is marked as Exhibit Number 5, and it is photograph number "2" in the right-hand corner.

Could you describe for the record what that photograph is of?

A. That is the reference point at 530 feet from the south, looking north. Actually, it's looking more northeast, a little northeast.

Q. All right. That is the stake that we could just barely see in the distance in photograph number 1 now?

A. Yes, sir.

Q. And we're still looking, though in a northerly-type direction?

A. Yes, sir.

Q. Now, right behind this stake -- Well, first, why don't you tell me why you picked this as a reference point? What is significant about this point?

A. Well, it is on the very edge of the draw, and it is also 200 feet north of the centerhole, which on a government location you have a stake a 400 by 400, and we put a 200 north, 200 south. So they're reference points for the BLM when they go out on location to look.

Q. All right. That 200 foot is the area that must be arc-cleared --

A. Yes, sir.

Q. -- for getting in the location actually approved then?

A. Yes, sir.

Q. Now, right there behind, there seems to be an area of just -- It looks like white gravel or something.

A. Uh-huh.

Q. Is that level of the ground, is that the same height as where the stake is actually stuck --

A. No, sir.

Q. -- into the ground?

A. No, sir, that is a drop of approximately 20-plus feet.

Q. All right. We have a photograph later that will better show that drop?

A. Yes, sir.

Q. Okay. Now, the area that is south of this stake, is it within this floodplain that the BLM was concerned with?

A. No, sir, it's out of the floodplain.

Q. All right. So this reference point, then, is basically the edge of this -- is the southern edge of the floodplain in this part of the southeast quarter of the

southwest quarter of Section 29?

A. Yes, sir, at the very edge.

Q. All right. I'll ask you to look now at Exhibit 6, which is the photograph marked with the number "3".

A. Yes, sir.

Q. Could you identify for the record what this picture is depicting?

A. I just got closer to the reference point and took another shot looking down.

Q. Okay. This is the same stake that we have seen in the two previous photographs; is that correct?

A. Yes, sir, uh-huh.

Q. All right. And again, the area of this gravel, white gravel, is better shown in this particular photograph?

A. Yes, sir.

Q. All right. I ask you, then, to look at what has been marked as Exhibit Number 7, which has the large "4" marked in the upper right-hand part of the picture, and what is this?

A. That is looking north -- excuse me, looking south to the reference point, standing in the bottom of the draw down there in the middle of the rock, draw.

Q. This photograph actually shows this cut bank that you have earlier testified to?

A. Yes, sir.

Q. And right at the -- in the middle of this picture, you can actually see that reference point staked, can you not?

A. Yes, sir.

Q. I don't know -- Was it marked?

I'm going to ask you now to look at Exhibit 8, which has the "5" in the corner. What is this of?

A. That is the original 660 from the south, 1980 from the west, location, just a picture of the centerhole.

Q. Okay.

A. Looking north.

Q. Looking north. All right, this was the original proposed orthodox location?

A. Yes, sir.

Q. And we're looking again north?

A. Yes.

Q. Now, this location is within the floodplain; is that correct?

A. Yes, sir.

Q. And this is the location that was denied by -- And who was the on-site BLM --

A. Barry Hunt.

Q. Barry Hunt, okay. He is out of the Carlsbad office of the BLM, is he not?

A. Yes, sir.

Q. All right. I ask you, then, to turn to Exhibit Number 9, which has the "6" marked in it. Can you tell me what that photograph is of?

A. That is the 990 from the south, 1980 from the west, location --

Q. All right.

A. -- where the flagging is in there.

Q. Okay, there is a red --

A. The closest flagging.

Q. Okay, there is a red tape tied to a tree limb; is that correct?

A. Yes, sir.

Q. All right. And that denotes what is shown on your land plat, the green circle, then?

A. Yes, sir.

Q. And you're looking south, I believe you told us?

A. Yes, sir.

Q. All right. And you can actually see that cut bank which was in the earlier photograph, marked number "4" --

A. Yes, sir, that's my --

Q. -- in the distance?

A. -- that's my pickup which is right at the centerhole, at the 330 location.

MR. ERNEST CARROLL: Can you see that? Yeah, and here's his pickup truck.

EXAMINER CATANACH: Uh-huh.

MR. ERNEST CARROLL: All right.

Q. (By Mr. Ernest Carroll) Did you walk to this site with the BLM investigator?

A. Yes, sir.

Q. Was this site acceptable for the location of a well?

A. No, sir, he said it's still in the floodplain. So we walked north, south, east and west. We walked all four ways, trying to figure the closest spot to put a location out of the floodplain.

Q. How much farther to the north did this floodplain extend?

A. I stood on the location, and Mr. Hunt started pacing to the north, and I kind of kept him on line, and he had stepped off about 400 feet, he figured, and he said that that was about the edge of the -- close to the edge of the floodplain.

Q. All right. So it would have been an additional 400 feet before you could get out of the floodplain north of the green dot or the location 990 from the south line, 1980 from the west line?

A. Yes, sir.

Q. That edge of the floodplain, would that be the point where you could actually locate a well, or would that be the beginning of the 200-foot square that the BLM would have required you to be in?

A. It would probably be the beginning of the 200 foot. They would probably make us go at least 150 to 200 past that for the centerhole.

Q. I ask you to look at Exhibit Number 10, which has the number "7" in the right-hand corner. What is this photograph?

A. Let's see, number "7". That is the 990 strip again, where the flagging is. And we're looking north towards where Mr. Hunt had walked.

Q. All right. This shows, again, the gravel left in the floodplain; is that correct?

A. Yes, sir.

Q. Now, this particular floodplain, was it just composed of one rivulet where there was a main body of water, or was there more than one?

A. No, that's the problem with this one, is that it kind of has a -- turns into a "V". There's a -- as you can see, that deep eroded one at the 660 location. And then north of the 990 location is another smaller channel that we ran into, that you could tell carried water when it ran.

Q. And the area between these two channels is all

within a floodplain, then; is that correct?

A. Yes, sir, it's all low enough to be in a floodplain.

Q. Turning next to Exhibit 11, which is marked by the number "8", what is that?

A. Okay, number 8 is at the 990 location from the south, again, looking -- Let me see, which way is that looking at? East. And you can see the river rock, actually, looking over towards the east.

Q. All right.

A. And it's still floodplain.

Q. And then the next exhibit, Exhibit 12, which is marked by the "9", what is that direction?

A. Okay, that is at the 990 from the south location, looking to the west. You can kind of see the part of the draw over to the right where it had been --

Q. This second river channel?

A. -- cut out. Yes, sir.

Q. All right. So what we have now seen in these photographs, then, we have looked both -- in all directions, in north, south, east and west, and we see the river plain -- or the floodplain, excuse me -- depicted in all photographs?

A. Yes, sir.

Q. Now, I believe you also testified that you walked

out almost this entire 40; is that correct?

A. Yes, sir.

Q. And this floodplain exists over the bulk of this quarter-quarter; is that correct?

A. Yes, sir.

Q. The direction of the floodplain, does it run north-south or east-west, or in what direction?

A. It's from the west, going to the east, towards the river.

Q. Okay. I ask you to look at Exhibit 13, which is the photograph with the large "10". What is this?

A. That's a little over a hundred feet north of the 990 location, looking south.

Q. Okay. You can actually see, right in almost the center of this photograph, that flagging tied to the bush --

A. Yes, sir.

Q. -- that we've seen in the earlier photographs?

A. Yes, sir.

Q. And again, the floodplain is depicted here; is that correct?

A. Yes, sir.

Q. Exhibit 14, which has the number "11" in it, marked in the corner, what is that?

A. That is a -- I moved a little further to the

north, and that's the -- The orange flagging on the left side there is the 990-from-south location, looking west. That is kind of showing another part of the draw through there --

Q. Okay.

A. -- the northern draw.

Q. Okay. This is a channel here --

A. Yes, sir.

Q. -- is what you're -- And this is the northernmost channel?

A. Yes, sir, there's -- it's -- it's real -- kind of flat going to the north, and that's about the deepest cut in it, but it's -- There's another channel running through there.

Q. All right. I ask you to look at Exhibit 15, which is marked by the "12". What is that?

A. That's another 990 from the south, looking to the east.

Q. Okay. So you've looked both directions, again --

A. Yes, sir.

Q. -- from the area of this 990?

And again, the 990 flag tied to the bush is in the center of this photograph?

A. Yes, sir.

MR. ERNEST CARROLL: Tom, did you need to see

those?

MR. KELLAHIN: No, sir, they're fine.

Q. (By Mr. Ernest Carroll) What is the size of the pad that would be required to drill this particular well, Mr. Beardemphl?

A. The size of the pads we use at present for this depth of a well is approximately 150 each direction, with probably another 40 to the pit side, which is usually to the north.

Q. And the actual site of the drill hole, the wellbore, would be in the center of that 150-square pad?

A. Yes, sir.

MR. ERNEST CARROLL: Mr. Examiner, I would move admission of Yates Exhibits 3 through 15 at this time.

MR. KELLAHIN: No objection.

EXAMINER CATANACH: Exhibits 3 through 15 will be admitted as evidence.

MR. ERNEST CARROLL: And I'd pass the witness.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Beardemphl, did you keep any notes or make any writings with regards to your meetings and conversations with Mr. Hunt when you went out and made a field inspection of this 40-acre tract?

A. I have a planner I carry with me, and all I wrote

in it was "move location 330 south", because we looked at three, four locations that day, per BLM's Al Loretta [phonetic].

Q. How many locations did you look at with regards to this particular well?

A. This -- We looked at these three marked on the map, plus every direction off all three.

Q. On this same day did you also go to other properties to look for well locations for other wells?

A. Yes, I did.

Q. Other than your notation that you were on this tract at that point, do you have any other writings concerning your conversations with Mr. Hunt?

A. No, sir, we did most of it verbal.

Q. Approximately when did this occur?

A. The on-site was December 19th, 1994.

Q. And was anyone else present for the on-site inspection, besides you and Mr. Hunt?

A. No, sir.

Q. What is Mr. Hunt's function with the BLM?

A. His title is -- I believe it's Resource Specialist. He is -- He does all of the APDs, applications to drill, that come into the BLM for Eddy and part of Lea County.

Q. His function has only to do with the surface use,

then, of the well and the well pad?

A. Yes.

Q. Has nothing to do with subsurface geology --

A. No.

Q. -- or anything else?

A. No, sir.

Q. Do you have a topo map or other map that you would believe to be accurate and reliable, by which we could determine where we are within this 40-acre tract, as you and Mr. Hunt went around that property?

A. Yes, I carried the USGS topo maps with us.

Q. All right --

A. Barry has one and I have one.

Q. -- do you have one of those with you now?

A. No, sir.

Q. When we're looking at the initial proposed location, which was 660 from the south and 660 from the east of that spacing unit -- You're with me, right?

A. (Nods)

Q. That was where Yates had wanted to put the well; is that not correct?

A. From the east?

Q. Look at the spacing unit.

A. Okay, just the 40.

Q. Within that -- Within that 160 acres --

A. Okay.

Q. -- you're going to have a west dimension of 1980 --

A. Right.

Q. -- within the spacing unit 660 from the east side --

A. Yes, sir.

Q. -- and 330 from the south side.

What was your understanding of the basis for Yates requesting that location as its first choice?

A. After the on-site and a visit with Mr. Hunt, we both concurred that that would be the only safe legal location.

Q. I didn't make myself clear.

The original location you went out to look at was 660 from the south and east lines of the spacing unit, the original location?

A. The original location, yes.

Q. The standard location?

A. Yes, sir.

Q. And what was Yates's basis for the original location?

A. I guess geology.

Q. Were you involved in staking of the -- any of the other three wells within the spacing unit?

A. Yes, sir.

Q. The Boyd 4, the Boyd 2 and the Aspden Number 1, you did all three of those?

A. Yes, sir.

Q. All right. It's true, is it not, Mr. Beardemphl, that the Boyd 2, which is up in the northwest of the southwest quarter-section spacing unit, is in fact in the bottom of the Seven Rivers draw?

A. No, sir.

Q. It is not?

A. No, sir.

Q. All right. Is not that well in the same point in terms of depth of the draw as the proposed Aspden Number 2 well would be?

A. I don't follow "the same point".

Q. All right. That Seven Rivers draw --

A. Yes, sir.

Q. -- moves through that quarter section approximately from northwest to the southeast, takes a little bend through there and --

A. Takes a big bend, yes, sir.

Q. Takes a big bend. When you're in the bottom of that draw where you're proposing to locate the Aspden Number 2 well, that's in a similar relationship in that draw when we get over to the Boyd Number 2, which is an

existing well; is that not true?

A. The 330 is a similar situation, yes, sir.

Are you asking where the Boyd 2 is situated --

Q. Yes, sir.

A. -- in the draw?

Q. Yes, sir.

A. It is on top.

Q. It's not in the draw?

A. No, sir.

Q. When we look at the size of the architectural [*sic*] area to be cleared by Mr. Hunt, is that one of his functions?

A. Yes, sir, he walks the whole thing.

Q. All right. He's looking at an area to clear archaeologically?

A. No, sir, he doesn't do the archeological.

Q. All right. How big a pad is he looking to approve for terms of surface use?

A. He's looking at the whole 400 by 400.

Q. All right. Where in that criteria do we fit your last statement to Mr. Carroll about the pad size being 150 by 150?

A. That's our normal size.

Q. All right. The closest point, up off of the draw to the south, is this reference point that's shown on

Exhibit Number 3?

A. Yes, sir.

Q. And that's 530 feet from the south line?

A. Yes, sir.

Q. And if we're using a pad 150 feet by 150 feet, how close to that reference point can you put the actual well itself?

A. We could probably put the well within 150 feet of that, but then we have to build a berm, and that would take away a lot of the footage.

Q. All right. Did you ask --

A. With a 20-foot drop you'd need a berm.

Q. Did you ask Mr. Hunt if he'd let you do that?

A. Yes, sir.

Q. And what did he tell you?

A. He thought it would be safer to move the 200-foot distance, to be 200 feet from the draw.

Q. Did you pursue with Mr. Hunt any other location within the 40-acre tract?

A. We kind of stayed on the line, because we looked from the original 660 south. Going west is right straight up the draw, going east is right straight up the draw, so we just tried north and south. That's all we proceeded at the time. And the draw is -- We figured going from the 990, going west, was the draw, going east was the draw.

And the 330, it was a flat semi- -- as close as we could get to a legal location, so that's where we left it.

Q. All right. Mr. Hunt did tell you that you could go north, east and west of the location, didn't he?

A. Yes, we looked at all of them.

Q. Yeah, he told you you could go in those directions if you wanted to?

A. No, we couldn't go that way. We looked. They wouldn't fit his criteria, in the floodplain.

Q. Did he ever indicate to you that you could have a location at least 500 feet north of the original proposed location, 600 by -- 660 by 660?

A. No, 500 feet wouldn't work.

Q. Absolutely certain he never told you that you could go 500 feet north of the 660-times-660 location?

A. Right. We could go from the 990 location, is what I said.

Q. All right. The 990 location by 1980 from the west line represents what, sir? Is that a point out of the Seven Rivers draw?

A. That is a point we used to see if that would be a legal location. It is still in the bottom of Seven Rivers draw.

Q. All right, 990 from the south line is going to

put you up in the northeast corner of the standard box for a Dagger Draw well within this 40-acre tract, right?

A. "Standard box"? What do you mean?

Q. Yes, sir, within a 40-acre tract. You've got to be 660 from the side boundaries, don't you?

A. Yes, uh-huh.

Q. All right, and if you take 1320, which is the 40-acre box, and draw 660 from each side boundary, you've got an interior box that is your standard well location?

A. Okay.

Q. All right. Within that box, then, the southeast corner of that box is going to be the 660-660 location from the south and east of the spacing unit, right?

A. Okay.

Q. All right. If you go to the northeast corner of that standard box, that's the 990 location from the south line, isn't it?

That's what you're talking about?

A. Yes, sir.

Q. All right. Mr. Hunt would have approved a location for you farther north than the 990 location, wouldn't he?

A. Yes, sir.

Q. All right.

A. But it would have been on State land.

Q. It would not have still been within this 40-acre tract?

A. No, sir.

Q. When we look at the location of the Seven Rivers draws, it cuts through the 40-acre tract. You're out of the draw with the well location if you're 330 from the south line?

A. Yes, sir.

Q. And you can maintain that criteria of staying out of the draw by 200 feet if you swing the well to the east and to the north, follow the contour of the bank of the south side of the Seven Rivers draw, can't you?

A. A little bit.

Q. How far can you go?

A. As a guess, I would -- are you talking -- How far east are we talking?

A. Yes, sir --

Q. How far east?

A. -- I'm talking about going north and east of the 330 location. The location that you propose is 330 from the south, 660 from the east of the spacing unit.

A. Yes.

Q. I'm suggesting to you that you follow the contour of the draw --

A. Uh-huh.

Q. -- maintaining the 200-foot setback --

A. Right.

Q. -- and swing that up to the north and east, and seeing what happens.

A. I would say that the closest you could get from the north would probably be -- maybe 420, 430 maybe, and that would probably be on the line.

Q. What dimension would that give us from the south line? Is that 420?

A. Yeah, that would be from the south line, yes.

Q. All right, 420 is from the south line.

A. And the east line would be zero.

Q. Okay. Is it your testimony, sir, that there is no location within the 40-acre tract north of the north edge of this Seven Rivers draw that would still be within the 40-acre tract, that's --

A. Yes, sir.

Q. -- a drillable location?

A. Yes, sir.

Q. And there would be no location that would be west or northwest by northwest on the north edge of that draw within the same 40-acre tract?

A. Yes, sir.

MR. KELLAHIN: All right. Thank you, Mr. Examiner.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Beardemphl, just following up a little bit on Mr. Kellahin's question, if you could move the well location to the east and north, following the contour of the draw, that would put you, you believe, at a maximum of 420 feet from the south line; is that what you said?

A. That would be a guess. It would be around maybe 400 from the south. That would be probably as close as you could get.

Q. How far would that require -- How far east would you be required to move to do that?

A. I would guess to the line.

Q. All the way to the line?

A. Yes, sir.

Q. Okay. Basically, you're not able to move any further north than 330 from the south in that 40-acre tract; is that correct?

A. You mean from the original location?

Q. From the original -- No, from the proposed location, you're really not able to move any further north?

A. Not within safety factors.

Q. Regardless of if you move east or west, you're still not really -- you're still not going to be able to really move north?

A. No, sir, you wouldn't gain anything north.

EXAMINER CATANACH: Okay, I have nothing further.

MR. ERNEST CARROLL: I have nothing else.

EXAMINER CATANACH: Witness may be excused.

MR. ERNEST CARROLL: Next call Brent May.

BRENT MAY,

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

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

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

A. Brent May, Artesia, New Mexico.

Q. Mr. May, how are you employed?

A. I'm employed with Yates Petroleum.

Q. And in what capacity?

A. As a petroleum geologist.

Q. Mr. May, are you familiar with the present Application being heard by this Examiner today?

A. Yes, I am.

Q. And Mr. May, have you testified before this Division, Commission, before and had your credentials as a petroleum geologist accepted?

A. Yes, I have.

MR. ERNEST CARROLL: Mr. Examiner, I would tender

Mr. May as an expert in the field of petroleum geology.

EXAMINER CATANACH: Mr. May is so qualified.

Q. (By Mr. Ernest Carroll) Now, Mr. May, this particular area of Dagger Draw, North Dagger Draw, is this an area that you are presently working for Yates Petroleum?

A. Yes, I am.

Q. And have worked on many -- the other wells -- particularly the other wells that are in this 160 proration unit?

A. I have been involved in one way or another with some of the other wells, yes.

Q. All right. Now, you have prepared today three exhibits for the Commission; is that correct?

A. That's correct.

Q. Turning to your first exhibit, Exhibit 16, would you identify that for the record?

A. That's a topographic map, set around Section 29 of 19 South, 25 East.

The Aspden 2 Number location is shown in red, and the original standard location asked for is shown in blue.

This topo map was produced -- It was basically digitized from four different USGS 7-1/2-minute topo sheets, with Section 29 coming basically from a 1975-vintage sheet.

I might point out, over on the very east side of

Section 29 there's a problem because the two of the topo sheets join together there, and there's a bus between those two topo sheets.

You might note the dashed line in the southwest corner and note that they don't connect up with the contours over in Section 28. That's the bus between the two topo sheets. I just wanted to point that out.

But that does not affect the southwest quarter, which is what we're talking about here today.

Q. Now, is this the only available topo map of the area, this USGS map?

A. As far as I'm aware, yes.

Q. And what is the age of this particular map?

A. Like I said, this map is made up four -- came from four different topo sheets, and basically from -- Let's see, I believe the six sections in the north part of the map, that was around 1975, from the two maps. And I believe the lower three sections came from even older maps. So it's around 20 years.

Q. What is -- Apparently just to the east -- Excuse me. Yes, east of the two location circles is the Seven Rivers -- river, I guess, or this is part of the draw that leads into a larger draw; is that correct?

A. Actually, the Seven Rivers drainage or floodplain or arroyo, is right -- real close to those two locations.

You can see how close the topographic contours are, very close together. That represents the draw on this topo sheet.

Q. All right. And in fact, there's a line that -- topo line that runs through the Number 29, does it not?

A. Yes.

Q. And works its way down to the southwest of the section. That is also part of the floodplain, is it not?

A. I believe it is, especially when you consider Mr. Beardemphl's testimony.

Q. All right. Let's turn now to geologic matters with respect to this particular location.

You have prepared two maps, have you not?

A. Yes, I have.

Q. Let's turn first to Exhibit 17. Would you identify for the record what that is and then explain it to the Examiner?

A. This is a structure map which shows the top of the Canyon or Upper Penn dolomite. The contour interval is 50 feet. The different colors denote 100-foot contour intervals.

The purple circle around the location shows the location of the Aspden Number 2. And just to the west of that, the direct offset is the Aspden Number 1.

Any part of this map that is not colored denotes

that there's no dolomite present in the area.

I might note that the local dip in this localized area is basically to the southeast, with the Aspden Number 2 location being downdip of the Number 1 and also downdip of the Conoco Joyce Number 1, which is in the northwest-northwest of Section 32.

Even though the proposed location is downdip of these producing wells, it still should be a good well.

But a standard location, which from -- 660 from the south line -- would be further updip and would have a thicker hydrocarbon column.

Basically, geologically, Yates would prefer to have a standard location because of the problems we had with the floodplain and the BLM denying that. We can't drill that location, and this is the only one we can get.

Q. Mr. May, how relevant is structure to developing or obtaining a producer from the Canyon dolomite?

A. We're getting to an area here where there hasn't been much production below where some of these other wells have been drilled, and I believe we're going to have hydrocarbon column enough there to make a well that we are adding to our risk by going downdip, because of the possibility of getting below -- too far below our hydrocarbon column.

Q. If Yates were to move east of this proposed

unorthodox location, would you be jeopardizing the chances of Yates to obtain a producer, in your opinion?

A. It would add further risk.

Q. Do you have any other comments that you would like to address to the Examiner with respect to Exhibit 17?

A. No, that's all.

Q. If you would, would you please turn to Exhibit 18 and for the record identify what this exhibit is?

A. This is a net isopach of the Canyon or Upper Penn dolomite. Again, the contour interval is 50 feet, and the colors denote 100-foot contour intervals.

Again, the purple circle denotes the Aspden 2 location.

This map shows a dolomite thick trending northeast-southwest and with the proposed location on the southeast flank of that thick.

Again, this map shows something similar to the structure map, is that a standard location would be the better location. We would have more dolomite at the standard location than this unorthodox location, plus we would be further away from the edge of the dolomite.

The closer and closer we get to the edge of the dolomite, the more risk you have of losing the dolomite, and the dolomite is the reservoir rock. The less reservoir rock you have, the more risk you incur.

Q. Are there any other comments that you would like to make with respect to Exhibit Number 18?

A. No, just in summary I'd just like to say that Yates would have preferred to drill the best geologic location on this 40, which would have been the orthodox location. But because of the floodplain of the Seven Rivers arroyo, the BLM will not allow us to do that and given us the 330 location.

Q. Mr. May, if Yates is able to drill the well in the proposed unorthodox location, and based upon the fact that the BLM would deny a well elsewhere within -- any closer to an orthodox location than this well, and based upon Mr. Beardemphl's testimony, it would be -- you would have to go into the next northern 40-acre block, do you have an opinion as to whether or not Yates' correlative rights would be hurt or hampered?

A. If we weren't allowed to drill a well in the 40, I believe our correlative rights would be damaged.

Q. Do you feel -- what -- With respect to the oil that might be in place there, in the southern reaches of that 40 acres, do you have an opinion as to what would happen to that oil?

A. If we weren't allowed to drill a well, the oil in that 40 would not be recovered.

Q. Would that oil then be wasted?

A. Yes, sir, in my opinion.

MR. ERNEST CARROLL: Mr. Examiner, I would move admission of Yates Exhibits 16, 17 and 18 at this time.

EXAMINER CATANACH: Exhibits 16 through 18 will be admitted as evidence.

MR. ERNEST CARROLL: Mr. Catanach, I would pass the witness.

EXAMINER CATANACH: Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. May, if you'll turn to Exhibit 17 for me, within Section 29, your subsea interval, the minus-4200-line information covers over the contour line that is at that point.

If I may approach the witness, Mr. Examiner, I'd like him to take my red pen and to simply connect that line as he would do it, so I can see where that contour line really is.

A. Approximately there. And I apologize for covering up the contour line.

MR. KELLAHIN: Mr. Examiner, I show you what Mr. May has done to my copy of Exhibit 17. If you desire to have your copy so noted, I'll have him do it on your copy, but I show you what he's done on mine.

Q. (By Mr. Kellahin) Mr. May, Yates is also developing other well locations in the south half of Section 29, are you not?

A. That is correct.

Q. You're currently drilling a well that's identified as the Boyd 6 well?

A. That is correct.

Q. You're familiar with that well?

A. Yes, sir.

Q. Would you locate for me on my Exhibit Number 17 where Yates is currently drilling the Boyd 6 well?

A. It would be approximately 660 from the south line and 1980 from the west line, if I remember right.

Q. Of that section?

A. Of Section 29.

MR. KELLAHIN: Again, Mr. Examiner, I show you what Mr. May has indicated on my exhibit as the approximate location of the Boyd 6 well, which he's testified to is 660 from the south and 1980 from the east [*sic*] line of Section 29.

Q. (By Mr. Kellahin) When we look at the Boyd 6 location that you're currently drilling, Mr. May --

A. Yes, sir.

Q. -- and looking at Exhibit 17, the structure map --

A. Yes, sir.

Q. -- describe for us Yates' reason for locating and attempting the Boyd 6 well at that particular place in the reservoir.

A. It is a risky location, but we felt at this time that we should go ahead and drill it, because we felt like we still could hit enough pay to make a producing well.

Q. When you look at the structural criteria and compare the Boyd 6 location structurally to any location within the 40-acre tract where you propose the subject Aspden Number 2 well --

A. Yes.

Q. -- is the entire 40-acre tract for the Aspden 2 well always favorable structurally to where you're drilling the Boyd 6 well?

A. I believe it is.

Q. On your net isopach, which is Exhibit 18, describe for me your method to get a net isopach. What cutoff parameters are you using?

A. Basically, I look at the whole Canyon section, and where there is dolomite I count up the feet of thickness of dolomite and add it up in that section.

Q. Do you use any cutoff criteria within that judgment?

A. I do not use porosity cutoffs in a pure net

dolomite map, no gamma-ray cutoffs, because sometimes the dolomite can be hot on the gamma ray out here. But I did not use any porosity cutoffs. This is a straight net dolomite map.

Q. So there is no gamma-ray cutoff either?

A. No, sir, because the gamma ray, sometimes we get to see, a lot of times, hot gamma rays in the dolomite.

Most carbonates are very clean, not very hot on the gamma ray. But in Dagger Draw, in this Canyon dolomite, a lot of times you can see hot or very high gamma-ray readings for the dolomite.

So I did not use the gamma ray.

Q. You indicated to us that the geologic criteria that you have used for locating the Aspden Number 2 well is more favorable at the standard location versus this proposed unorthodox location?

A. That's correct.

Q. If I may approach you, I'm going to ask you on Exhibit 18 to also approximate for me on this display the location of the Boyd 6 well, Mr. May.

A. Okay.

MR. KELLAHIN: Mr. Examiner, Mr. May has approximated on Exhibit 18 the location on his map of the Boyd 6 well in relation to this display.

Q. (By Mr. Kellahin) The difference in color code,

Mr. May, for Exhibit 18 is simply a visual reference so we can see the 100-foot contour components of the isopach?

A. That is correct.

Q. Within the south half of Section 29, have all the attempts that Yates has drilled in the south half of 29 been successful producing wells in the North Dagger Draw?

A. Yes.

Q. What is the last well you drilled in 29, prior to the Boyd 6?

A. The Aspden Number 1, which is the --

Q. I'm sorry, I didn't hear you, sir.

A. The Aspden Number 1, which is 660 from the south and west line of 29, Section 29.

Q. All right. And where in that sequence, then, do the other three wells in the south half of 29 -- Do you remember the sequence?

A. No, because those wells were drilled before I took over this area, so I'm not sure exactly what the sequence was.

Q. What kind of rates are you getting on the Aspden 1 well?

A. I believe the last time I checked the production on that -- and it may have been for mid-March, and the engineer coming up probably might correct me -- but I believe it was around 220 barrels of oil per day and around

150 of water.

Q. What kind of current rates are you getting on the other three wells in the half section?

A. I don't think I can recall that off the top of my head.

Q. In making your analysis of where to find or of where to locate Cisco wells, is there a direct relationship to productivity and structure?

A. Yes and no. You like to be updip and higher structurally, because that could possibly give you more dolomite to work with. And the more dolomite, the more chance you have of making a good well.

But there's also reservoir quality that's thrown in, so that can -- even though you may be structurally high, you could have problems with porosity, permeability, and you may not have as good a well because of that.

But structure is definitely something you do want to strive for.

Q. Is this North Dagger Draw, this portion of the North Dagger Draw, one where we have a significant water problem?

A. Yes, sir.

Q. Where in this area do you approximate to be the oil-water contact?

A. This would be a pure guess, but I'm guessing

somewhere, from what we've seen, maybe close to the minus 4300, and that's a pure guess, because sometimes that oil-water contact can vary from well to well. It's very fickle.

Q. At the unorthodox location, does that increase the risk of potential increased water production over the standard location?

A. Not necessarily, because it's -- if you perforate high enough and stay out of the -- what we loosely term the big water, then you may not increase your water production.

But what it does, if you go lower down and have less dolomite, you may have less productive reservoir above that oil-water contact to work with. So even though you may not increase your water production, you may not have as much effective hydrocarbon column.

Q. Approximately where are you in a subsea depth with the Boyd 6 well in a structural -- on the structure map?

A. According to my map, pretty close to minus 4250.

Q. When we look at the thickness map, the dolomite thickness map, Exhibit 18, is there a relationship in productivity and thickness?

A. It's the same thing. The more dolomite you have that may be above that oil-water contact, then the more potential hydrocarbon column you could have.

Q. When we're looking at other possible locations, other than the one the BLM has approved, the 330-660 location, are there other locations within the 40-acre tract that are better for you geologically?

A. Besides the -- I'm sorry, the 330?

Q. Yes, sir.

A. The standard location and anything north. Basically anything to the north and west, geologically, would be better than the 330 location.

Q. In addition, geologically you could move to the east and north and meet the same criteria that you're to attain at this proposed unorthodox location?

A. Depending on how far you moved each direction, but that's possible.

Q. So the entire case is driven by a topographical problem, as opposed to a geologic reason?

A. That is correct.

MR. KELLAHIN: No further examination, Mr. Examiner.

EXAMINER CATANACH: Just a couple, Mr. May.

EXAMINATION

BY EXAMINER CATANACH:

Q. Can you approximate for me how much structural position is being lost, moving to this proposed location from a standard one?

A. From the standard, it would be -- Oh, approximately maybe 20 to 30 feet.

Q. Can you do the same for me in terms of the dolomite thickness?

A. It would be maybe around 30 feet, based off these maps.

Q. Mr. May, is the proposed location -- is it a safe location to drill, or is it risky, in your opinion?

A. Geologically?

Q. Yeah.

A. I feel that we're going to make a well there, but there is added risk from the standard location, just because we are losing structure, we are losing dolomite thickness, and we are moving closer to the zero line on the dolomite.

Another thing I might add, that the closer you get to the zero line of the dolomite, the edge of the dolomite is very hard to predict and can be very erratic. We've seen -- I've seen the Canyon dolomite in some areas within a mile go from over 500 feet of dolomite to less than 20.

Q. Is the proposed location not risky enough to propose, say, directional drilling?

A. That I don't know, because I wouldn't know what the additional cost for the directional drilling would be,

so I couldn't answer that question.

EXAMINER CATANACH: Okay, I have no further questions.

MR. ERNEST CARROLL: I have no other questions.

We next call Bob Fant to the stand.

ROBERT S. FANT,

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

DIRECT EXAMINATION

BY MR. CARROLL:

Q. Would you please state your name and place of residence?

A. My name is Robert Fant. I live in Artesia, New Mexico.

Q. By whom are you employed?

A. Yates Petroleum.

Q. What capacity, sir?

A. I am a petroleum engineer.

Q. Mr. Fant, are you familiar with the present Application of Yates Petroleum that is being heard by this Examiner?

A. Yes, sir, I am.

Q. Mr. Fant, have you also testified before this Division and had your credentials as a petroleum engineer accepted?

A. Yes, sir, I have.

MR. ERNEST CARROLL: Mr. Catanach, I would tender Mr. Fant as an expert in the field of petroleum engineering.

EXAMINER CATANACH: Mr. Fant is so qualified.

Q. (By Mr. Ernest Carroll) Mr. Fant, you have prepared certain exhibits for presentation today, have you not?

A. Yes, sir, I have.

Q. Let's turn to your first exhibit, Exhibit 19. Would you describe for the record what that exhibit is and then, if you would, explain its significance to this case?

A. Exhibit 19 is a drawing of Section 29, showing with a box around the southwest quarter section which represents the 160-acre proration unit in the southwest quarter.

There are three solid dots in the southwest quarter. They represent the currently drilled and producing wells in this proration unit.

There are four small gray squares within this, and these gray squares represent, according to the rules of the North Dagger Draw Pool, where an orthodox well can be located within this proration unit.

The proration unit is further subdivided by some dashed lines showing the 40-acre tracts.

I'd like to just briefly go through some of the engineering problems with -- and reasons of why the locations need to be where they are.

I have -- When you concentrate on the southeast quarter of the southwest quarter, near the proposed location, you see two small circles, open circles. Those were the two orthodox locations that we applied for -- that we talked to the BLM about, as testified by Mr. Beardemphl.

Q. And in fact, Mr. Fant, the southernmost one was represented by the blue dot on his Exhibit 3, and the north one was the green dot on his Exhibit 3; is that correct?

A. I believe that to be correct, yes.

Q. All right.

A. Those two were denied. That's -- Those are the orthodox locations.

We -- As testified by Mr. Beardemphl, we didn't have the option, especially in the orthodox section, of moving to the east or the west within -- because of the drainage, so I didn't put those on here.

There -- To the north of these, there --

Q. Excuse me, Mr. Fant, just so the record is clear, the drainage that you're speaking about is the floodplain drainage; it's not drainage of oil or anything to that --

A. Absolutely, yes --

Q. All right.

A. -- the surface floodplain drainage.

As you move further to the north and cross the quarter-quarter section boundary, there is a dashed circle. It has a dimension marker off to the right of 1400 feet.

When I prepared this particular exhibit, we looked at that as being the minimum distance you had to move to get out of the surface drainage.

You move further north -- We would have to move approximately 150 feet north of that, at least, to get -- 150 to 200 feet, as testified by Mr. Beardemphl -- to get an actual well location.

That would put that well within -- You know, if it were on the line, it would be 660 feet. As we continue to move north, you're under 500 feet from that existing well. I mean, these two wells would be -- To put it there would be putting two wells in a 40-acre tract and would be -- would constitute waste; they would just compete with each other.

So from an engineering standpoint, we really had no choice, but -- of the location we were given to move south. It's the only location we were given within the 40-acre tract.

The location we picked -- the 330 from the south, 1980 from the west -- represents the least amount of deviation from the orthodox location. Any movement to the

east, and that particular location gets further away from the orthodox location, it gets more unorthodox, it gets worse. And so we chose that as the minimum amount of movement.

That's basically what I have there. That was the -- From an engineering standpoint, if we move to the north, we have to go all the way to another pro- -- another -- not proration unit, but tract, 40-acre tract. And so this was really our only option.

Q. All right. Now, Mr. Fant, there was some confusion earlier last week. This well is not drilling, is it?

A. No, sir, this well is not drilling.

Q. There is a well, though, in the next 40-acre tract that is drilling, and that was the well that Mr. Kellahin spoke of when he was visiting with Mr. May a moment ago; is that correct?

A. Absolutely, that's correct.

Q. All right. That's all you have to deal with this Exhibit 19; is that correct?

A. That's correct.

Q. If you would then turn to Exhibit 20 and if you would identify it for the record and then describe its significance to this case.

A. For the record, Exhibit Number 20 is some

calculation formulas that have been used to calculate penalties in the past. We do understand that from time to time, in order to balance equities, the OCD has assigned penalties to wells, and I wanted to go in and address those right here.

There are -- The first four equations on this sheet are part of what, in our -- at Yates Petroleum, has been termed a three-factor penalty, dealing in distances from the lines, plus an area factor. And I have some visual representations that show the area factor better, later.

But the east-west fact- -- The first line is just, how far are you moving towards the edge of the proration unit?

North-south factor is the same thing. They both work the same way. The -- You know, those factors are simply calculated.

The area factor is significantly more complicated, but this is the particular equation used for it.

To determine the penalty in the past at times, they've used just simply the average of those three numbers. Whatever those penalties worked out to, average the three, that's the number.

I have submitted also what I call a drainage area

penalty, which illustrates -- which is -- illustrates a penalty based upon an encroachment of drainage area. And, you know, that's basically -- These are simply the formulas I used to determine those factors.

Q. With respect to that last formula, you have two exhibits which depict how that actually works, and those are 21 and 22, are they not?

A. Yes, sir, they are.

Q. Why don't you explain those before we then go into your actual calculation of the penalty factor?

A. Exhibit Number 21 is a plat of Sections 29 and 32. You have the location of -- the proposed location of the well, 330 from the south line, 1980 from the west line.

There are two large circles on that, on this plat. The northernmost circle is a 160-acre circle placed around the nearest orthodox location, or in this particular case, 660 from the south line, 1980 from the west line.

The southern large circle is a 160-acre drainage circle, or a 160-acre circle, surrounding the proposed location.

I have grayed in the additional area south in the southern circle that -- the area that is beyond the original circle, or the northern circle.

Now, the -- Looking back to Exhibit 20, what I call the area factor is simply the total gray area divided

by 160 acres. That's how that particular -- That's what that formula visually represents. That's the encroachment of that total drainage area down.

The drainage area penalty, which is the second penalty I discussed, simply represents -- If you'll notice, there are two shades of gray in these particular exhibits.

The portion of the grayed-in area below Section 29 is what is represented by the drainage area penalty, and that's simply the encroachment on the other person's acreage. That -- You know, encroachment on our acreage should not be considered encroachment, we don't feel.

And Exhibit 21 represents 160-acre drainage circles.

Exhibit 22 is exactly the same type of plat, except it's for -- if someone were to argue for 40-acre drainage circles, because essentially -- I mean, the proration in Dagger Draw is 160 acres. They're being developed on 40s right now. And I'll discuss which one of these we should use in just a moment.

But these are just visual representations of those two formulas, those formulas -- It's tough to get a feel for how those formulas work just by looking at them.

Q. All right. Now, Mr. Fant, you have actually calculated, then, what the penalty factors would be, based upon these equations that you've just described?

A. Yes, sir, I have.

Q. And those are -- the results of those calculations are shown on Exhibit 23, are they not?

A. Yes, sir, they are.

Q. If you would, then, why don't you explain, then, the results that you achieve, then?

A. Okay. I did the calculations both for 160-acre proration, and for -- if someone were to argue 40-acre proration. And again, I'll discuss which one we should choose in a minute.

But for the calculation of the east-west factor, the well has not moved to the east or the west, so that factor is zero. There should be no penalty assessed based on those.

North-south factor, it's 50-percent closer to the line than the rules allow, and therefore that factor is 50 percent.

The area factors calculate for 160-acre proration. The area factors are 14 and 28 percent. Basically, it doubles as you move to the other one.

When you average those out and obtain the three-factor penalty for 160-acre proration, you're looking at 21 percent; for 40-acre proration you're looking at 26 percent on the average.

Now, moving to the drainage-area penalty, when

you're looking at the 160-acre drainage areas or the 160-acre proration, drainage area penalty calculates out to 13 percent.

The 40-acre proration, that would calculate out to 20 percent.

Now, as to which one to choose, you know, we believe it should be based upon the 160-acre proration, because that is the proration of this -- of these particular wells.

Furthermore, if one were to argue for 40-acre proration -- You know, first of all, we are on 160s. But if they were to argue for 40-acre proration, under 40-acre proration, this is not an unorthodox location. 40-acre proration provides for 330 from the line, and we wouldn't even be here. We would not be, you know, taking up the time of this group.

Q. As I understand it, then, Mr. Fant, that the -- one of the principal reasons that you disagree with using the 40-acre calculation is that -- is, if we look at the standard fieldwide rules that are presently enforced in New Mexico, if we were just considering the 40-acre proration unit, this well would not be an unorthodox location?

A. That's absolutely true. I believe that's Rule 104-C.

Q. All right. Now, then, just so that the record is

abundantly clear, do you have an opinion as to what would be the appropriate penalty factor that should be used in this particular case, should the Commission choose to impose one?

A. I believe that the encroachment that is occurring here would only be calculable in the drainage area situation, and that would be the 13-percent penalty. I believe that's what is applicable in this case.

The problem comes in determining against what.

Q. Okay. Now, that's -- This particular field, this North Dagger Draw field, does present kind of a unique situation, because the field rules allow for 160-acre proration and allow four wells to be drilled within that; is that correct?

A. That is correct. This is the fourth well on this proration unit.

Q. All right. Now, there has -- The Commission has been faced with this situation before, in your experience; is that not true?

A. They have been faced with situations in Dagger Draw where they have been asked to assess penalties on wells in the Dagger Draw reservoir, yes, sir.

Q. Okay. And they have been -- The Division at that time had to take into account this problem of having four wells within a proration unit?

A. Well, I'm not sure that they had the problem with the four wells, but they did have the problem of what to assess it against.

Q. Okay.

A. You know, we have a unique situation here. Assessing a penalty against a proration unit might penalize the existing orthodox wells.

Q. All right. And that case involved the same parties as this case involves --

A. Yes.

Q. -- Conoco and Yates?

A. Yeah, the particular case I'm dealing -- I'm talking about is Case 10,519. We call it the Diamond case, because the well was the Diamond Number 1.

Q. In that particular case, Yates was again the proponent of an unorthodox location; is that not true?

A. Yes, we were asking for an unorthodox location. The opponent was Conoco.

The decision -- The request and the decision of the Commission was that any penalty assessed was assessed against the initial potential of the well. And to -- in order to be fair to the well -- and I believe that's the case -- that what would need to be done in this case to avoid penalizing existing wells that are orthodox, that if there were a penalty, it would be assessed against the

initial potential of the well and -- you know, as witnessed by the State.

Q. As I understand your testimony, then, that procedure of assessing whatever penalty is chosen, assessing against the initial potential of just the offending well --

A. Yes, sir.

Q. -- the unorthodox well, that was what was suggested by Conoco at this hearing that you have just described for us?

A. Yes, sir, that is --

Q. And that was -- Excuse me, I didn't mean to cut you off.

A. Oh, no, that's -- You know, I just answered it.

Q. And that was what position was adopted by the Division?

A. Yes, sir, that was the position.

Q. In your opinion, then, do you feel that that is the appropriate way to handle this situation?

A. If a penalty is assessed that would be the appropriate method of assessing it.

Q. To make the record abundantly clear, Yates is not asking for a penalty, are they?

A. No, sir, we are not asking for a penalty.

Q. And why do you feel that the Commission should at

least consider not invoking a penalty in this case?

A. Primarily, we are -- we are being forced into this by the Bureau of Land Management. This is not our choice, to move to this location. It is being forced upon us.

Secondly, as it is being forced upon us, it does increase our risk.

And thirdly, you now, basically it is being developed on 40-acre tracts. I mean, the -- The field is being developed on 40-acre tracts. And under 40-acre spacing, this would not be an unorthodox location.

Q. Now, Mr. Fant, do you have any other comments that you would like to make with respect to your Exhibits 19 through 23?

A. Well, I do have one just small comment on 19 that I forgot to mention, and I apologize.

When drilling a well, there is a small amount of deviation that naturally occurs. We cannot drill a perfectly straight well.

And although this is not a deviated hole, there's -- You know, within the rules prescribed by the OCD and also overseen by the BLM in certain instances, we monitor the deviation of wells.

The bit naturally has a tendency to walk in a specific direction. What I mean "walk", deviate in a

certain direction.

What little deviation would occur in this well by natural forces, would occur upstructure, up the structure of the regional structure. And the regional structure dips to the southeast in this area, so the bit would naturally walk to the northwest, back towards our location.

Q. Our orthodox location?

A. Back towards the orthodox location, back towards our acreage, away from the offset acreage in this particular instance. That's simply a fact of drilling.

Q. Anything else that you'd like to share?

A. No, sir.

MR. ERNEST CARROLL: Mr. Examiner, I would move admission at this time of Exhibits 19 through 23.

EXAMINER CATANACH: Exhibits 19 through 23 will be admitted as evidence.

MR. ERNEST CARROLL: And I would pass the witness.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Fant, if the wellbore is going to drift naturally to the north or northwest, have you examined what the practicality is of going ahead and intentionally deviating this wellbore so that it's at a standard bottomhole location in the Cisco formation?

A. We looked at the practicalities of it. There are two components to that.

One is the consideration of the ability to drill and the additional costs associated with drilling it. 25- to 50-percent increase in deviation -- You can't put a specific number on it, simply because it's not -- it's -- there are problems that you could get into when deviating a well. Your -- The variables go up greatly.

The second component is operating costs. Initially, these wells start off on submersible pump, and honestly, that's not a problem with deviation. But as they deplete, that is moved from submersible pump to an artificial lift method of rod-pumping.

Rod-pumping in deviated wells is approximately double the cost, and so we would have waste occurring. We looked at that, and it was not justifiable from the expense standpoint.

Q. As a petroleum engineer, when you look at cost components, you are comparing them by looking at hydrocarbon recovery volumes, are you not, sir?

A. They must be compared against that, yes, sir.

Q. And what is your assessment of the oil in place that is to be produced by the encroaching well?

A. The oil in place at Dagger Draw, I am not going to make a guesstimate of that. Nobody has been able to

nail oil in place in Dagger Draw, to my knowledge.

Q. All right. You, sir, have not attempted to do oil-in-place for the southwest quarter of the section?

A. Not oil-in-place calculations, no, sir.

Q. All right.

A. We do not have the tools to do that.

Q. Last time I saw you, Mr. Fant, you were making a reservoir-simulation presentation to the Commission.

Have you attempted to simulate this portion of the reservoir to see how these wells would perform and how you could hypothecate a well at an unorthodox location and what it would do in terms of competition with the offset?

A. No, sir, I haven't, for the primary reason that there is not enough information, geologically speaking, about Dagger Draw.

There's a wealth of information, but to understand how the reservoir produces oil, water and gas, nobody has specifically been able to nail that down as of yet.

And to go in and -- The specific reservoir simulation you're speaking of, it was a gas-reservoir simulation, which is an order-of-magnitude simpler project, simply because the analysis of gas wells is -- you can engineer that. It's much, much simpler. The formulas are better described than are the formulas dealing with oil

reservoirs. They're much more complicated.

And we don't have enough data to be getting down in Dagger Draw and speaking about the competition between two wells at this point. We may be able to in the future, but not right now.

Q. Your oil allowable in North Dagger Draw -- In fact, this is a North Dagger Draw well, is it not?

A. Yes, sir, it is.

Q. Your oil allowable is based upon 160-acre spacing, and you get 700 barrels of oil a day for this spacing unit?

A. Yes, sir, that is correct.

Q. And that spacing-unit allowable is shared among the producing wells in that spacing unit at the discretion of the operator?

A. It is shared amongst them, yes.

Q. All right. Your suggestion that if the Examiner adopts a penalty, it would be a well-specific penalty, and that if he does adopt it, it be established against the initial potential of the encroaching well -- Do I understand that correctly?

A. Yes, I believe that's correct.

Q. What do you anticipate to be the initial potential of the Aspden Number 2 well?

A. Our estimates are around 500 to 800 barrels of

oil per day for the initial potential.

Q. What was the initial potential on the Aspden Number 1 well in the southwest-southwest of the section?

A. I'm not specifically -- I do not have that particular information in front of me, sir.

Q. What was the current rate on that well?

A. That well -- I have checked it, as of April 4th, a little bit more updated well, it was producing 175 barrels of oil per day.

Q. On the Boyd 2, which is in the northwest-southwest of the section, that's another well in the spacing unit?

A. Yes, sir.

Q. What's the initial potential, or was the initial potential on the Boyd 2 well?

A. I do not have that particular information.

Q. What is its current rate of production?

A. If I may be allowed to look at a particular -- a production report, I can give you that number. I do not have that one on the top of my head.

Q. All right, sir, if you'll look it up for me.

A. You want the Boyd -- What number?

Q. We're looking at the Boyd 2 at this point.

A. Okay. The Boyd 2, 208.

Q. 208. And what's the date of that information?

A. This is also the -- Oh, excuse me, let me get out to April 4th. 201.

Q. 201, and that's a daily rate on April 4th?

A. That was the April 4th rate, yes, sir, two hundred and --

Q. That's not a daily average of a monthly total?

A. No, that was the rate on Tuesday, April 4th.

Q. All right. On the Boyd 4, then, which is the other well in the spacing unit, what's its rate on April 4th?

A. 112.

Q. Do you have an initial potential on the Boyd 4?

A. No, sir.

Q. Do you have a tabulation there in front of you of all the production from those three wells for the life of those wells?

A. No, sir, I do not.

Q. What were you looking at?

A. This is a report for -- just simply a production report from our office for the week of -- from Wednesday, March 29th, through Tuesday, April 4th.

Q. Has Yates filed the C-115 operator reports for each of these three wells with the Division through the last reporting period required?

A. I would -- That is not my -- within the bounds of

my responsibility, so I can't attest to that directly.

Q. Would you be able -- Is it within your job description and would you be able to produce to the Examiner individual production plots for each of these three wells showing water and oil production?

A. If the Examiner so desired, I could.

MR. KELLAHIN: We make that request of the witness and of the Applicant, Mr. Examiner, that that information be provided and made a part of the record.

EXAMINER CATANACH: From what period of time, Mr. Kellahin?

MR. KELLAHIN: From inception of production of all three wells to the current date, tabulated on a daily or a monthly basis.

MR. ERNEST CARROLL: What's the purpose? I don't know that we have an objection, but I'm wondering what relevance that this would have. What significance should the Examiner attest to it when we do furnish it?

MR. KELLAHIN: Mr. Examiner, the relevance is obvious. You have 160-acre spacing, and you have the challenge of trying to figure out a penalty for an encroaching well in a spacing unit where there exist three current producing wells.

And I think it's essential, if you're going to try to undertake that task, to understand how much of the

700-barrels-a-day allowable has historically been used by this well -- wells -- and how much is available for any offending well.

EXAMINER CATANACH: I think it's appropriate, Mr. Carroll.

MR. ERNEST CARROLL: Mr. Examiner, we will furnish that within a very short time, but I want -- I would on the record object to the use of it as Mr. Kellahin has indicated, because -- and we find -- we would point out to the Examiner that the amount of production from these wells is irrelevant to the issue of penalty with respect to the offending well, because the other three wells are orthodox, and I'd just like that noted in the record.

EXAMINER CATANACH: Okay.

MR. ERNEST CARROLL: Mr. Fant, how long will it take you to -- So that the Examiner will know when to expect that, how long will it take you?

THE WITNESS: This is Friday. You know, at best I can prepare them Monday and mail them. I assume that's what we should do. I mean, I can have them prepared, you know, no later than Tuesday.

MR. ERNEST CARROLL: Mr. Examiner, then we will represent to you that Mr. Fant will furnish these items to me by Tuesday of next week, and I will mail copies both to you and Mr. Kellahin.

EXAMINER CATANACH: Thank you, Mr. Carroll.

Q. (By Mr. Kellahin) Mr. Fant, if I remember your conversations with Mr. Carroll, one of the topics you discussed is the proximity of wells one to another within Dagger Draw. And at one point you were referencing the fact that wells can in fact be drilled too close together in this pool. Is that a correct understanding of what you told us?

A. I believe that that could possibly be the case.

Q. All right. Have you made a reservoir-engineering study to determine if any interference is currently existing among any of the three wells that you currently operate in the southwest quarter of the section?

A. This is Section 29. As a matter of fact, sir, yes, I have examined these particular wells for interference between them.

Q. All right. Have you made a study in the North Dagger Draw to see whether or not wells on standard 40-acre locations within a 160-acre spacing unit in fact are showing interference among each other?

A. I have made that study, yes. I've made that study in this -- in a small area surrounding these particular wells.

Q. How close would we have to locate the Aspden Number 2 well to the Boyd 4 well to the north, before the

Aspden Number 2 well would interfere with the Boyd 4?

A. The data does not provide for that analysis of how close you can get. The data simply says at this point that the 40s, at this point, in this small area, the wells drilled on 40 are not interfering with each other. It does not -- You cannot extrapolate from that how close you can go.

Q. Could that be attributable to the vintage of these wells, insofar as they have not produced sufficient oil production from this portion of the reservoir to show a signature of interference, even though that interference may already be occurring?

A. That is a conceivability. However, based upon the withdrawal rates seen in these wells, if interference is going to occur it should occur fairly quickly, and these wells do not show interference at this time.

Q. Are you suggesting to the Examiner that one solution would be to carve out a nonstandard 40-acre spacing unit for the encroaching well?

A. Absolutely not, sir. I'm not saying that at all.

Q. So you're advocating a penalty using a 160-acre acreage factor in the calculation?

A. I am, yes.

Q. And without regard to what the other three current wells are producing or are capable of producing?

A. The other wells do not really enter into this particular well. They are at standard proration locations.

Q. And your precedent that you're working with is what you and I know as that Diamond case?

A. Absolutely, yes, sir.

Q. All right. In your research, did you find any other example of a penalty that you have used in your work?

A. Not where we were on the receiving end, no, sir.

Q. All right. The example you had was from Case 10,519, was it, sir?

A. Yes, sir.

MR. KELLAHIN: Mr. Examiner, I show you a copy of Order R-9731, taken from Case 10,519, and let me hand copies to the participants.

Q. (By Mr. Kellahin) The example that you've used as your precedent, Mr. Fant, is for the South Dagger Draw, is it not?

A. Yes, sir, it's a different pool from a legal standpoint, however from a reservoir standpoint it is the same pool.

Q. From a practical standpoint, there were significant differences in the Diamond case as to our current example, are there not, Mr. Fant?

A. Oh, yes.

Q. All right. In the South Dagger Draw Diamond

example, you were dealing with a single well in a 320-acre spacing unit wherein there existed no prior well; is that not true?

A. That's correct.

Q. And the Diamond-well case was based upon the assumption by all the technical witnesses that that was to be a gas well in that pool; is that not true?

A. That's true.

Q. When you look at the penalty factor you're proposing, am I correct in understanding that you're suggesting that the well can move 50 percent too close to the southern boundary, and yet be subject to only a 13-percent penalty?

A. Yes, sir.

Q. In your penalty, you have factored in an east-west dimension, have you not?

A. That has been the historical -- one of the historical precedents, yes, sir.

Q. Examiner Catanach, when he entered the order in the Diamond case, used both a north-south dimension and an east-west dimension, did he not?

A. If you quote it in there as being, then that would be the case, yes.

Q. Yes, sir. If you'll turn to page 3, if you'll look at order -- Finding Paragraph 17, you will see that

the Yates well in the north-south dimension --

A. Uh-huh.

Q. -- the standard location being 660 and it was 360 --

A. Uh-huh.

Q. -- so we put that into the formula?

A. Yes, sir.

Q. And the east-west dimension was also unorthodox, was it not?

A. In this particular case, yes, sir, it was.

Q. And that is not true in the current case before him, is it?

A. No, sir.

Q. And the effect of adding the east-west dimension as an additional factor simply dilutes the penalty, doesn't it?

A. No, sir, that's how we calculate the penalties. I don't do that to dilute the penalties. That's how we calculate the penalties, and therefore -- that's how they're done. I mean, I just took the way the rules were done before and applied them.

Q. What has been your experience in the relationship between the initial potential of an oil well in North Dagger Draw and its subsequent producing ability?

A. They decline.

Q. Dramatically so, do they not, sir?

A. Some wells do, some wells do not. But yes, it depends on the lift equipment in place in the well and whether or not the well flows. It depends on how the particular well is produced. But they do decline, yes, sir.

Q. Are you currently pumping all three existing wells in the spacing unit?

A. Yes, sir, we are -- we are using artificial lift.

Q. As opposed to rod and pump, are these submersible pumps?

A. I cannot specifically -- If I were to look in here I might be able to tell you whether or not they are on submersible pump or whether or not they are on rod pump, but I cannot off the top of my head say. I don't deal in the operations directly to deal with that.

Q. Do you know whether those wells are being produced at their capacity?

A. I would have to say yes, they are, since we are not producing the allowable.

MR. KELLAHIN: No further questions, Mr. Examiner. Thank you.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Fant, are you able to estimate the drift that

this well might encounter in this formation?

A. It's very -- I would put it that the natural tendency is, if you have a one-degree deviation going down on the well, that most of that at the time is spent in what we call the corkscrew effect. It's actually circling about itself.

I estimate it to be less than, you know, 20 to 30 feet, in speaking with our drilling people, that if we ran a continuous gyro, that it would be quite -- it would not be small, but it would be -- it should be to the north and west. So...

Q. So it's probably insignificant for purposes of this --

A. Yes, sir, that is a fair statement.

Q. Okay. I just wanted to go over the production figures again.

The Aspden Number 1, did you say the current rate was 180 barrels a day?

A. The Aspden --

Q. Aspden 1.

A. I'm sorry, I misspoke myself earlier. I pulled, again, early in the week.

On the 4th of April, the Aspden Number 1 was 161 barrels of oil.

Q. And the Boyd 2 was -- ?

A. -- was 201.

Q. Okay. The Boyd 4 was 212?

A. Let me see. Boyd 4 was 112.

Q. 112.

A. Just want to make sure my numbers agree. Yes.

Q. Mr. Fant, what determines in this pool how dramatically a well -- how dramatically the production decreases from IP?

A. It's controlled by reservoir quality. If you -- You know, the thickness of the column, the permeability, porosity, yeah, that's basically incorporated in reservoir quality, and specifically the lift equipment.

But it's driven by -- simply by the reservoir. Whatever the reservoir can deliver, it's going to decline from there. If you put a well on at the maximum possible rate that the well is producing, it will -- it, by definition, must go on decline. I mean, that's just physics. And --

Q. Is it then conceivable that if you apply a penalty to the IP, that assuming that you have a dramatic decrease in production from the well, that the penalty would be diluted?

A. That possibly could happen, yes, sir.

Q. Even on a natural decline over time, the penalty would be diluted if you apply the penalty to the IP; is

that correct?

A. Yes, sir.

Q. The -- I just wanted to ask you about -- The area factor that you've shown in your calculations is what?

A. You're talking in the three-factor penalty?

Q. The three-factor penalty, the area factor.

A. Okay, that is the -- when you look at the -- If you look at Exhibit 1, as you move the circle south -- If you had two circles sitting right on top of each other, the lines would be perfectly concentric, and they would lie on top of each other.

As you move the area south, as you move that one circle south, 330 feet, there's a portion of the southern circle that lies outside of the 160-acre circle at an orthodox location, and that's, as I understand it, the encroachment. That's the amount of area that is encroached upon southward, and that is the total gray area on this particular plat.

And if you take the area of that total gray area and divide it by the total area of the circle, that's the percentage of that that has encroached south, over an orthodox location.

Q. So basically that's the drainage-area encroachment?

A. Yes, yes. When I specifically calculate the

drainage-area penalty, I specifically look at the amount of encroachment that occurs south of the section line, and that would be the light-shaded area, as its ratio to the whole 160-acre circle, and that drops that down just a little bit.

As you can see, the area-factor penalty is 14 percent on 160 acres and 13 percent on -- when you're dealing with the drainage-area penalty, specifically looking at that.

But that's what we're looking at here, is drainage. That's the only thing that can specifically deal with it, is the drainage area, in my opinion.

Q. Mr. Fant, this well will not drain 160 acres; is that correct?

A. I do not believe so, sir, and I think there has been testimony in previous cases that were entered for allowing for the drilling of the extra wells on the proration unit that would support that.

Q. Would it be more appropriate, then, to utilize the 40-acre drainage penalty?

A. Again, I feel that if we went to the 40-acre drainage penalty, we would be talking -- we would essentially, *de facto*, be talking about 40-acre proration, in which case there should be -- If that's what we were talking about, this should not have any penalty, simply

because it would be orthodox under those situations.

That's the dilemma that I've been faced with, and I don't feel that that would be fair either.

EXAMINER CATANACH: I have nothing further, Mr. Carroll.

MR. ERNEST CARROLL: I have just a couple of questions, Mr. Catanach.

REDIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. First of all, Mr. Fant -- and I apologize, these were -- looking over my notes.

Let me ask you, in your opinion, would the approval of this proposed unorthodox location afford Yates the opportunity to produce the oil and gas that underlies its acreage in the southwest quarter of Section 29?

A. Yes, sir, it would afford us to do that.

Q. In your opinion, would the approval of this Application be in the interests of preventing waste and promote the correlative rights of Yates Petroleum?

A. Yes, sir, it would.

Q. Now, my last question deals with -- and I direct your attention back to the questioning that Mr. Kellahin did in relation to Finding Number 17 of the Order in the Diamond case, if you would pull that out a moment.

A. Okay.

Q. If you will remember, Mr. Kellahin pointed out the fact that at least in the Diamond case, there was a deviation from -- or an unorthodox positioning not only as to the north-south, but as to the east-west. Do you recall that?

A. Yes, sir, uh-huh.

Q. And in this particular case, now before the Examiner, it is only unorthodox in one, and that would be in the north-south?

A. Yes, sir.

Q. Now, let me propose to you -- and I'd ask for your opinion -- if it is suggested by Mr. Kellahin and Conoco that instead of using the factor of 3 as a denominator and to divide into this averaging process, let's suppose that it's advocated that you use just the number 2.

A. Uh-huh.

Q. That would change the percentage of penalty factor, would it not?

A. Yes.

Q. Do you feel that that would be fair, though? And you might want to describe in your answer how it would affect it and what you feel is wrong with that.

A. Well, changing that number from 3 to 2 in the denominator would increase the penalty by 50 percent. I

mean, that's just straight math.

The problem there would be that -- It's quite simple. If we made it 659 feet from the east line, move one foot east from there, then that would -- then we would bring that factor into it. It would be such a small number that it would be irrelevant. And they've already suggested that we try to move it that way, which would bring the three factors into it anyway.

You know, the three factors have historically been used, and that's -- Because we are not moving unorthodox in that direction, we should not be penalized because we are not moving unorthodox in that direction.

You know, we choose to move the least amount of distance from the orthodox location, which is in the interest of prevention of waste for this particular area, and protection -- and we're trying not to violate more correlative rights, and we don't feel that we're violating them now anyway. But moving it more just would -- might begin to create a problem.

Q. Then I take it it is your opinion that to adopt a method of calculation just utilizing the 2 as the denominator, would be not only wasteful but damaging to the correlative rights of Yates Petroleum?

A. Absolutely.

MR. ERNEST CARROLL: Mr. Examiner, I have nothing

further.

EXAMINER CATANACH: The witness may be excused.

THE WITNESS: Thank you.

EXAMINER CATANACH: Let's take a short break here and let Mr. Kellahin get ready.

MR. KELLAHIN: All right, sir. Thank you.

(Thereupon, a recess was taken at 10:10 a.m.)

(The following proceedings had at 10:25 a.m.)

EXAMINER CATANACH: Okay, Tom, turn it over to you.

MR. KELLAHIN: Call at this time Mr. Bill Hardie, Mr. Examiner.

Mr. Examiner, I have distributed all of Conoco's exhibits, and you have Mr. Hardie's set before you.

BILL HARDIE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

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

A. My name is Bill Hardie. I'm a geologist with Conoco, Incorporated, in Midland, Texas.

Q. On prior occasions, Mr. Hardie, have you testified before this agency as an expert in the area of

petroleum geology?

A. Yes, I have.

Q. Summarize the extent of your personal involvement as a geologist for your company with regards to production and well matters within the Dagger Draw reservoirs and pools.

A. I am the only geologist assigned to the Dagger Draw reservoir, Conoco-operated properties. I've been working in this field for approximately five years, and I work in a team with another reservoir engineer and another production engineer.

Q. Can you estimate for us the number of specific wells that you have been involved in as a petroleum geologist for your company within these various Dagger Draw reservoirs?

A. I would estimate approximately 45.

Q. When Conoco began to consider what to do about Yates' request for this encroaching well, in whose geologic area of responsibility did this problem lie?

A. It was in my area of responsibility.

Q. In this particular area, did Conoco already have geologic interpretations and maps that you had previously developed for your company?

A. Yes.

Q. Is your company continuing to pursue the

production and drilling of additional North Dagger Draw wells in this very vicinity?

A. Yes, we are.

Q. In response to Yates' application, have you re-examined your geologic information?

A. Yes, I have.

Q. In addition, have you made a surface inspection of this particular area in Section 29, where Yates proposes to locate the well?

A. Yes, I have.

Q. Have you made a search of information concerning topographic maps, USGS quadrangle maps, by which to compare your observations of the surface with recorded maps of the surface?

A. Yes, I have.

Q. Were you present today to see Mr. Brent May's geologic presentation?

A. Yes, I was.

Q. Have you had conversations with Yates and their representatives about this particular well?

A. I think my only conversations have been with Brent May.

Q. Have you caused a search to be made of the records of the BLM concerning the surface approvals and inspections conducted by Barry Hunt when he and the Yates

representative went out on the field of this property?

A. Yes, I have.

MR. KELLAHIN: At this point, Mr. Examiner, we tender Mr. Hardie as an expert in the field of petroleum geology.

EXAMINER CATANACH: Mr. Hardie is so qualified.

Q. (By Mr. Kellahin) Mr. Hardie, let me direct your attention, sir, to Exhibit Number 1.

Before we talk about specifics, give us a general understanding of how you have displayed this information and the significance of the well symbols and the color coding.

A. Okay, the -- This is simply a base map of the North Dagger Draw area. The color coding on here, the solid yellow shading indicates that Conoco operates the acreage. If it's cross-hatched yellow, it indicates that we have a working interest in that acreage but do not necessarily operate it.

Well symbols -- The solid black circles indicate producing oil wells from the Cisco/Canyon reservoir.

The solid red circles are simply those producing oil wells which have been drilled within the last couple of months, so you can get an idea as to where the current activity is in terms of development.

And then the open red circles are proposed well

locations, including the one that I've labeled as a proposed unorthodox well, Yates' Aspden Number 2, which is located 330 feet from the south line, 1980 from the west line in Section 29.

Q. Since you prepared this base map, one of these circles needs to be shaded in, does it not, when you look at the Boyd 6 well?

A. Well, I don't think it's actually completed yet.

Q. It's a drilling well, and --

A. It's drilling.

Q. -- and so until it's a completed well, you would leave it as an open circle?

A. Right.

Q. When we look at the offset properties that Conoco operates in the north half of 32, describe for us what wells you currently have producing.

A. There's only one producing well currently in the north half of Section 32, and that's the Joyce Federal Number 1, and it's shown by the red circle. It was completed approximately a month and a half ago.

Q. What are Conoco's plans, as you understand them, for further Dagger Draw wells in the North Dagger Draw Pool for this spacing unit?

A. For the spacing unit which comprises the northwest quarter of Section 32, we have staked two

additional wells, the Joyce Fed Number 2 and the Joyce State Number 3, and those wells are in the 1995 budget to be drilled this year.

Q. When we look over in the northwest quarter of 32, there's a well location for the Savannah State 1 well?

A. That is correct.

Q. What is the status of that?

A. Again, that is a proposed location. In that case -- We talked about that one yesterday. It's a Morrow well that is again in Conoco's 1995 budget to be drilled this year.

Q. Have you testified before this Examiner on prior occasions concerning requests by other operators in North Dagger Draw to locate North Dagger Draw oil wells closer to the outer boundaries of the spacing unit than the 660 location?

A. I'm currently aware of only one example.

Q. And did you testify in that case?

A. Yes.

Q. And where would we find the area in which you provided testimony concerning that issue?

A. If I'm not mistaken, that's -- we're talking about a Nearburg application for an unorthodox Cisco well. That would have been in the northwest corner of Section 31, which is just west of where we're talking here.

Q. If you look in the northwest quarter of 31, is that spacing unit --

A. Yes, the proposed well, I think, was the Dagger 31 Number 5, and they wanted to -- I don't remember the exact dimensions, but they wanted to encroach to the north and east and were applying to do so.

Q. And you testified in that case?

A. Yes.

Q. All right, sir. Let's turn now to what is marked as Exhibit Number 2.

Before you discuss the overlay, let's flip the overlay out of the way and look at the base map. Would you authenticate for us the source of the base map?

A. This is actually an aerial photograph that was taken in early -- either late 1989 or early 1990, by John West Engineering, for the purpose of staking locations in Dagger Draw for Conoco.

Q. Have you found that aerial photography to be accurate and reliable when you go upon the surface of the area depicted?

A. Yes, I have.

Q. And but for the recent well drilling and the disturbance of the surface for the additional wells subsequent to the taking of this photograph, is all the other information shown on the base display true and

accurate, to the best of your knowledge?

A. Yes, it is.

Q. What are we looking at when we look at the photograph?

A. The photograph is centered around the -- I guess the southwest quarter of Section 29, and of course you can see through the middle of it.

The Seven Rivers draw which is indicated by the whiter colors in the texture, that would be the actual gravel surface of the main channel of the Seven Rivers draw.

And within that, if you were to lay the transparency, the transparency itself is simply a copy of the USGS 7-1/2-minute surface topographic map. On that I have added the orthodox Cisco location windows in the green shading. I've also shown the outline of the proration unit boundary with the dashed black line.

Q. There is a brown contour line -- I'm a little color blind, you'll have to tell me. The orange or the brown contour line on the overlay --

A. Yes.

Q. -- what does that represent?

A. Those are simply the surface contours off of that surface topographic map. I'm not -- The values didn't actually get printed up as to what the elevations represent.

Q. You prepared this composition?

A. Yes, I did.

Q. What is the purpose of the black dots within the hached area?

A. Yeah, those are the existing wells that lie within that southwest quarter section.

Q. All right. And what do the green squares represent?

A. Those are the orthodox Cisco location windows.

Q. To the best of your ability, have you attempted to accurately depict the well locations and the standard well locations for oil wells in the North Dagger Draw as shown on this display?

A. Yes, that was done by measuring these off on the surface topographic map. And then that map was then enlarged to match the scale of the aerial photograph.

There are some distortions which occur in that enlargement, which may cause things to be off slightly, but not by much at all.

Q. If you see a point in the presentation where a distortion is material, if you'll identify it for us so that we'll understand the significance of any distortion.

A. Yeah, I think the most relevant one would be the well spot that's in the northwestern quarter of this southwestern Section 29. I believe it's the -- That would

be the Boyd Number 2 well, which appears on this map to be in the middle of the draw, and I feel that's probably due to a distortion.

I think, in fact, that well is located right on the very bank of the draw. So moving it over a slight amount would put that well on the bank.

Q. When you look at the red arrow, what is that intended to represent?

A. The red arrow points to the location of the proposed unorthodox Aspden Number 2 well, and the red circle itself is the staked well location.

Q. As part of your preparation for this case, did you obtain from the Bureau of Land Management copies of their public record documents that dealt with their surface inspection for the Yates proposed well?

A. Yes, I did.

Q. Let me ask you to turn in your set of documents, and let's look at Conoco proposed Exhibit 10.

Is this a true and correct copy of Mr. Barry Hunt's report in the files taken from the BLM records concerning their inspection of the surface for the Yates proposed well?

A. Yes, it is.

Q. And have you read the information contained in Mr. Hunt's report and summary?

A. Yes, I have.

Q. If you'll turn with me to the second page of the summary and look to the very top paragraph, Mr. Hunt in his report suggests alternative siting for the well?

A. Yes, that is correct.

Q. Have you also looked at the surface in terms of determining where this well could be located and be outside of the Seven Rivers draw effects?

A. Yes, I have.

Q. Let's turn now to Exhibit Number 11, Mr. Hardie. Was this document also taken from the BLM public files that contains reports of well site evaluation field forms prepared by Mr. Hunt and contained in those public records?

A. Yes.

Q. Describe for us your understanding of Exhibit Number 11 in terms of the decisions or recommendations Mr. Hunt was operating with regards to siting the well.

A. This form is typically the one that's used when you evaluate a proposed location. That proposed location is listed on the second line, with a footage of 660 from the south, 1980 from the west line. That would have been the standard location.

Q. Is there a date on the form to show when Mr. Hunt made his inspection of the surface?

A. Yes, it's December 19th of 1994.

Q. And the location he's inspecting is the 660-1980 location?

A. That is correct.

Q. In terms of evaluation, what evaluation did Mr. Hunt set forth on this form concerning the locations?

A. He makes a couple of comments in the description and topography section. It's a couple of lines from the top that the location is in fact in the bottom of Seven Rivers Draw.

He describes that, and then at the very bottom of the page, under his evaluation, he suggests two alternatives to moving that. One would be to move 330 feet south from the standard location, or at least 500 feet north from that standard location.

Q. Let's go back and examine the overlay to your Exhibit 2 now and find visually, using this illustration, where those points are.

If we start with the first location, which -- the requested 660 by 1980 location --

A. That would be -- We're looking now at the overlay and the green window which is in the southeastern part of this proration unit, that first spot, the first one proposed, would be in the southeasternmost corner of that orthodox Cisco window. And as you can see on that, it lies directly in the middle of the draw.

The draw is depicted on the topographic map by the blue dashed line. And then of course on the aerial photograph, the main channel of the draw shows up as the white linear area.

Q. Using this illustration in Exhibit 2 to approximate for us, based upon your personal observations, how far south do we have to go to get to the top of the draw?

A. Just an approximation, knowing that the scale of this photograph is about an inch equals 400 feet, I'd say approximately 150 feet, maybe less, to get out of the draw --

Q. There appears to be a --

A. -- and up onto the bank.

Q. There appears to be some kind of roadway --

A. Yes.

Q. -- running along the south edge of Seven Rivers draw. Do you see that?

A. Yes, I do. That's --

Q. What is that?

A. That's simply a vehicle trail that runs along that escarpment on the cut bank of that draw.

Q. Is the vehicle trail above the Seven Rivers draw?

A. Yes, it is.

Q. How far -- When we look at the proposed

unorthodox well location, approximately how far is that location south of the south edge of the draw?

A. I would estimate approximately 200 feet.

Q. All right, sir. Let's look at the other point. Mr. Hunt, on Exhibit 11, says an alternative location is at least 500 feet north of his original inspection location of 660 times 1980.

A. That is correct.

Q. Do you see that?

A. Yes.

Q. The side boundary dimension of a standard drilling window, as you've displayed it, is what? 410 feet?

A. As I've displayed it here, the side boundary of an orthodox Cisco window would be 330 feet.

Q. 330 feet, as you've displayed it here?

A. Yes.

Q. All right, sir. Approximate for us how far we would have to go north of the original standard location to be 500 feet north.

A. I interpret what he's saying here as -- moving 500 feet north, he's talking about moving 500 feet north from the 660-1980 spot.

Q. All right, sir.

A. So you'd move 330 feet to get to the top of the

window, and then an additional 170 feet north of that window to reach 500 feet, so that if you were 500 feet north of that spot, you would be 170 feet outside of that Cisco window.

Q. Okay, go back to Exhibit 2 and the overlay, and let's follow the contour line on the overlay, and show us its relationship to the top of the back on the south edge of Seven Rivers draw. How might we follow that line?

A. That line -- The closed spacing that you see in the contour lines approximate the lip of that draw, and it essentially follows the outline of the draw.

Q. In addition to looking at the surface for locations, you have also mapped the subsurface in the Cisco?

A. Yes, I have.

Q. And you've done those in terms of analyzing structure and the thickness of the dolomite?

A. Yes, I have.

Q. Let's look at those, and then we're going to come back to the overlay.

A. Okay.

Q. Identify for us Exhibit Number 3, Mr. Hardie.

A. Exhibit Number 3 is a Cisco/Canyon isopach on the dolomite itself, very similar to what Mr. May showed earlier.

Q. This is your work product?

A. Yes, It is.

Q. Describe for us the points of significance to you when we look at the relationship on the isopach between standard locations for the Aspden Number 2 well, the proposed unorthodox location, and then its relationship to the Joyce Federal 2, which is your next location.

A. Right.

Q. All right.

A. The proposed unorthodox location should encounter approximately 170 feet of dolomite, according to my mapping. The Joyce Federal Number 2, which will be the well most directly affected by the encroachment, is expected to encounter approximately 120 or 130 feet of Cisco dolomite.

Q. And at the standard location, what would be the approximate thickness for the Yates well?

A. At the nearest standard location for the Aspden Number 2, the thickness would be -- It looks like just over 200 feet.

Q. What's your conclusion about the geologic advantage of going from the Yates standard location to the proposed encroaching location?

A. That it -- similar to what Yates has said, that it's detrimental geologically to move to an unorthodox

location, if you're going to encroach to the south.

Q. Describe for us how that is a detriment.

A. It's a detriment in that you have less dolomite as you move in that direction. And, as Mr. May testified, and the object in picking the best location is to find the maximum amount of dolomite, that is, the reservoir.

Q. Do you have an opinion geologically as to whether or not the encroaching location constitutes an unfair geologic advantage obtained by Yates over Conoco in terms of its Joyce Federal 2 location?

A. Because we are near the edge of the dolomite fairway, the thickness of the reservoir is considerably thinner than it is elsewhere in the field. And because of that, we feel like encroachment is particularly damaging. There's less reservoir there to develop, and the effects of encroachment would be even greater since there is less.

Q. Let's turn to Exhibit 4, Mr. Hardie. Identify this display for us.

A. This is the same mapped area as Exhibit Number 3, only this time we're looking at the top of the Cisco dolomite, the top of the reservoir, if you will.

On it we can see again the proposed Aspden Number 2 unorthodox location and then its encroachment upon the Joyce Federal Number 2.

Q. I'm going to show you Mr. May's Exhibits 17 and

18.

When you compare his map of the top of the dolomite to your map of the top of the dolomite within the area of concern, being the north half of 32 and the south half of 29, are there any differences of significance?

A. There are some differences, but I wouldn't necessarily say they're terribly significant.

Q. Let me direct your attention to your display, to the southeast quarter of 29. There is a contour line at minus 4150 subsea?

A. That is correct.

Q. And when you go north and west of that line, there's a similar line with the same value, minus 4150?

A. That is correct.

Q. What information did you have to cause you to create the additional contour in that area that's absent from Mr. May's contour map?

A. Essentially what the difference is, is a seismic line that Conoco shot jointly with Nearburg and failed to put it on this map, but that seismic line runs east and west through the north half of the north half of Section 32.

It passes through the Joyce Federal 1 well, the proposed Joyce 2, the Savannah State Number 1, and onward. It's about a four-mile line.

Based on that, we saw an increase in elevation in the north half of the north half that justified -- In my case what I did was to extend the structure that we both show in Section 28. I extended mine farther to the southwest than did Yates.

Q. Let's turn to the cross-section and get a vertical profile of the reservoir so we can see the relationship as you have interpreted how these two wells are going to fit into the existing well patterns.

If you'll look at Exhibit 5 for us, first of all help us get oriented, and keeping Exhibit 4 out is perhaps helpful. Give us the line of cross-section, and then let's talk about the information.

A. Okay, the cross-section shown in Exhibit 5, on the surface, at least, is shown in Exhibit 4, starting at the Dagger Draw Number 8 well, on the left-hand side of the cross-section, and then passing through Conoco's Dagger Draw Number 16, Yates's Aspden Federal Number 1, their proposed unorthodox location, the Aspden Number 2, Conoco's proposed Joyce Federal Number 2, and then ending up on the right-hand side of the cross-section with the old dryhole, the Getty State K 6096 B Number 1.

Q. All right. Characterize for us on the cross-section what is the producing portion of the Cisco that you're trying to extract hydrocarbons from.

A. The producing portion is simply the dolomite, and that is shown with the purple color. Anywhere there is dolomite, it has the potential of being productive.

The blue color indicates limestone. Typically, the limestones in this reservoir are tight and nonproductive. And as you can see here, there are tight lime encasing the dolomite reservoir.

The brown colors indicate shales, the Wolfcamp shales overlying the Cisco formation, and then at the base there's Canyon shales.

The black shading that occurs at the center of each well log indicates the perforated intervals for each of these wells.

I'd like to also point out the black dashed line running horizontally through the middle of the cross-section at a subsea elevation of minus 4300 feet, which is what Conoco believes to be the lowest known oil, indicating that in most cases you would not want to perforate a well below that line.

So on this cross-section, virtually anything below that line would be wet.

Q. Do we have an accurate scale to work with as we move horizontally on the cross-section?

A. Yes, we do.

Q. Describe for us the relationship of Yates'

encroaching well to the Conoco Joyce Federal proposed well and whether or not there's an unfair competitive advantage achieved by Yates if the unorthodox location is approved.

A. Conoco's location is -- for its Joyce Federal Number 2, is on the very edge of the dolomite fairway. As you can see, we're near the feather edge. And of course, we wouldn't want to complete, even though -- even -- The pay is considerably thinner, and we wouldn't want to complete anything below the minus-4300-foot elevation, which constrains us even more.

Due to the thin nature of the reservoir here, an encroaching well would be particularly damaging when you combine those two factors. The risk is already great enough as it is, without having to deal with additional encroachment by offsetting production.

Q. When we take the composite of your isopach, the structure map and the cross-section and go back to Exhibit 2, which is the topographic limitations within Yates' spacing unit, are there some alternative solutions that help you as a geologist access the reservoir if you were in Yates' position?

A. Yes, there would be.

Q. Describe for us where they might be.

A. My first alternative were -- by picking locations in Yates' acreage, which I don't think I can do. But

hypothetically, at least, would be to do what was suggested by the BLM agent, and that is to move 500 feet north of the 660-1980 originally proposed location.

As you can see on the overlay, the green shaded area is the orthodox window. If you pick that up and look underneath it, you see the dark area that lies beneath that with the -- and you'll look at some black specks that cover that area. Those black specks are the various mesquite or brush that occur on that floodplain. That dark area is the floodplain.

If you continue northward across that floodplain, you'll notice that it gets abruptly white again, and that is the opposite bank of the Seven Rivers draw.

My first choice would be to drill on that opposite bank at a location approximately 170 feet north of the Cisco window, as proceeded by the BLM agent.

Q. Geologically, how would you support doing that?

A. Geologically, that would be favorable. If you'll refer back to the Exhibit Number 4, if we were to move north of that Cisco orthodox location window, you can see that you gain elevation structurally. That's easily the best structural location that we would be considering here.

I would estimate that if you were at that spot north of the location window, that you would be at an elevation of about minus 4140, you would gain approximately

20 feet.

Q. What did it do to the thickness of the dolomite?

A. On Exhibit 3, again, if you'll compare the orthodox window and moving north from that orthodox window, you gain thickness. North of the window, I would estimate you'd encounter about 250 feet of total dolomite. That would be approximately 80 feet of difference from the unorthodox location that Yates is proposing.

Q. That would be an alternative location on the north side of the Seven Rivers draw?

A. That is correct.

Q. All right. Let's stay on the south side. Are there any other locations on the south side that are geologically favorable or superior to the proposed encroaching location that still stay outside of the drainage effects of that Seven Rivers draw?

A. If you were to -- Looking at Exhibit Number 2, if you were to move the proposed unorthodox location, I guess, due northeast, paralleling the banks of the draw, until you reached a point that was parallel with the bottom of the window, I think you'd be -- you would be 660 from Conoco's acreage, and I'm guessing approximately 200 feet from the proration unit boundary.

And that would be an alternative location. It would still be unorthodox, it would encroach on working

interest owners and the southeast corner of Section 29.

I think we had originally asked if Yates would consider doing this since even though there are some differences in those two proration units, they're certainly more similar than encroaching on working interest owners to the south where there are virtually no similarities in those two units in terms of owners.

Q. You're making reference to the fact that Yates and Nearburg control both of those spacing units in Section 29?

A. That is correct. Their working interests are slightly different, but --

Q. Admittedly with a different percentage?

A. Right.

Q. All right. Did you listen to Mr. Fant's presentation on the penalty?

A. Yes, I did.

Q. Have you examined, Mr. Hardie, whether or not it is practical to implement the penalty that Mr. Fant has recommended to the Examiner?

A. This whole issue has come up in the past, in particular with the previous unorthodox location that was being proposed by --

Q. -- Nearburg?

A. -- Nearburg. And we debated the problems

inherent in trying to impose production penalties in this particular reservoir.

The problem boils down to, what exactly do you penalize? If you penalize an individual well, the most likely way to do that would be on an initial potential.

Q. Would that work in this reservoir?

A. I think not, because initial potentials here can be very high.

For example, Conoco's Joyce Federal Number 1 in Section 32, the initial potential was 1131 barrels of oil per day. A penalty on that would be almost meaningless. And it very quickly declined and stabilized to a rate of -- its current rate, I think approximately 340 barrels of oil per day.

The alternative there would be to perhaps take the first month average of that well. But if that well were producing at the allowable, it would have already cum'd 21,000 barrels of oil by the time you reached the first-month average and would be well on its way to damaging the correlative rights. So that's a dilemma.

The other choice, as we see it, would be to, as Yates suggested, penalize the proration unit. But we would ask, if you were to do that, what would prevent the operator from producing all of its allowable out of the encroaching well and shutting in the others? That would

even further damage any offsetting operators who were being encroached upon.

Q. Were you involved in the Diamond case that Mr. Fant referred to?

A. Yes, I was.

Q. You were a technical witness in that case, were you not?

A. Yes, I was.

Q. Do you agree with his conclusion that that establishes a precedent in the Diamond case by which this Examiner can be directed for a solution in the current case?

A. By no means. The pool rules, particularly at the time that we implemented that penalty, were completely different.

Q. How so, were they different?

A. At that time -- Of course, South Dagger Draw has a different set of rules anyway, but -- They've since changed again.

But at that time we were talking about 320-acre spacing units. Everyone expected the Diamond well to be a gas well, meaning at that time you could only have one well, if it were a gas well, in a 320-acre spacing unit. A penalty applied to one well is a very simple thing to keep up with.

We don't have that situation here; we have four wells. And the question is, how are we going to penalize the proration unit appropriately and monitor that penalty?

Q. When you go back to Mr. Fant's concept of a three-part formula for establishing a penalty, do you have any comments or observation about using the three components?

A. My personal preference would -- I mean, the more components, you use, the more diluted the penalty gets. I can understand the reasoning, at least from Yates's standpoint of wanting to use more components.

Conoco, being the one encroached upon, would be very concerned about that. They are encroaching on Conoco half the distance of the standoff, and in our minds at least, that would calculate to a 50-percent penalty.

But again, we're not advocating the use of penalties, because we simply don't know how they could be enforced.

Q. The Nearburg location case that you're referring to, is that identified as Division Case 10,731, heard by Examiner Catanach on June 18th, 1993?

A. I assume so. I don't have that in front of me.

Yes, I do. I have it here.

Q. Do you have it?

A. Yes. At least a copy of it.

Q. As one of Conoco's representatives in that Nearburg case, describe for us the similarities that we were dealing with in that case, as they compare to this case.

A. The two cases were very similar in that both Conoco and Yates were concerned about the encroachment of the proposed Nearburg well upon our acreage. We both recognized the potential for interference and were concerned about how we would implement a penalty on an encroaching well.

In that case, we perceived that there were other available locations which would be orthodox and recommended that the case be denied as a result.

Q. Were Conoco and Yates in agreement about the impossibility of crafting a meaningful penalty to be imposed upon the Nearburg encroaching well location?

A. Yes, they were, and I believe that's reflected in the testimony of that case.

Q. What are your recommendations for the Examiner, Mr. Hardie? You've been involved in a number of these cases. What do you suggest he do?

A. My recommendation, since there are alternatives to the encroachment upon Conoco, is that Yates drill their well north of their orthodox Cisco window unit and encroach upon themselves. It's a better geologic location.

And by doing so, we eliminate the need to have to deal with the problem of trying to apply penalties to producing wells in Dagger Draw. We have an alternative, and I suggest we take it.

Q. Are you aware of any other locations in North Dagger Draw where there is an encroaching well, encroaching upon offsetting operators, where the interests are different, that's been approved by this Division?

A. I am aware of an instance where there is an unorthodox Cisco well location, and I know that both -- the well itself and the encroaching acreage is operated by Texaco. That would be on the far --

Q. Let's look at Exhibit 1 --

A. -- left-hand side of the map.

Q. -- I think it shows on one of your displays, doesn't it?

A. Yes, it does.

Q. Let's look at Exhibit 1.

A. On Exhibit 1, I'm not familiar enough with townships to know which section this is, but it's on the far right-hand side of the map, just west of Section 30. If you'll look --

Q. Well, you're looking in Section 25.

A. Okay.

Q. All right, if you start in 29 where you are --

A. Yes.

Q. -- for the subject case, the next one to the west is 30 --

A. Right.

Q. -- and then after that is 25?

A. Right, in the --

Q. All right.

A. -- in the adjacent township.

In the northeastern corner of that section, there's a well labeled DD 3. That's the Texaco Dagger Draw Number 3 well, which encroaches to the north on the Texaco DD 1 well.

Q. Is that the single example --

A. That's the only one that I know of --

Q. -- of an unorthodox location?

A. -- and they're both operated by Texaco. I know of no penalty involved with that.

Q. If the Examiner approves Yates' Application with the imposition of a penalty, it will establish a precedent for North Dagger Draw, will it not, sir?

A. Yes, it will.

MR. KELLAHIN: That concludes my examination of Mr. Hardie. We move the introduction of his Exhibits 1 through 5 and then Exhibits 10 and 11.

EXAMINER CATANACH: Exhibits 1 through 5 and 10

and 11 will be admitted as evidence.

Mr. Carroll?

CROSS-EXAMINATION

BY MR. ERNEST CARROLL:

Q. Mr. Hardie, let's first focus on Exhibits 2, 10 and 11, if you might locate those in your stack of papers in front of you.

A. Okay.

Q. Now, let's look at 2. With respect to the positioning of the -- or the location of these wells on this topographic aerial photograph of yours, did you go out on the surface and actually verify the location of these wells?

A. I did not. The other -- The completed wells, I did not verify those locations on this surface.

Q. In fact, at the time of this photograph, none of the completed wells were completed?

A. That is correct.

Q. There was no development in this area?

A. That is correct.

Q. And for purposes of this hearing, you have not gone out and attempted to verify the correctness of the actual location on your overlay, as opposed to this -- the area depicted by the photograph, have you?

A. I have not gone to check to make sure those

depicted well locations that are completed are accurate.

What I did do was select corner section marks on both the topographic overlay and the aerial photograph and use those, make sure those matched exactly.

Now, what often occurs when you enlarge a topographic map is that, even though the end points may match, there may be some slight distortions in between. Those distortions, although real, I think, are slight, and I'm almost certain that's what results in this well symbol appearing to be in the draw when in fact it could be moved, say, 50 or 70 feet over and it would be on the back of that draw.

Q. Well, now, Mr. Hardie, when was the last time you were actually out on this location, in fact, that well that we're talking about in the -- that's shown on your Exhibit 2 as being in the draw?

A. When was the last time I was there?

Q. Yeah.

A. On that location?

Q. On that location.

A. I have not been on that location.

Q. You've never been on that location?

A. I have not.

Q. So you cannot tell this Examiner that that wellbore is adjacent to the cut bank of that draw, can you?

A. I cannot tell him that. I strongly suspect that wellbore is not in the draw. That would be somewhat foolish to drill there.

Q. Okay, and you heard Mr. Beardemphl's testimony that it was not in that draw, and he had been there; is that correct?

A. That is correct.

Q. And wouldn't you also strongly suspect that that well was not right on the edge of that cut bank, because you couldn't locate the rig and all the attendant equipment that would be necessary for drilling a well right on the edge of that draw, would you?

A. You can get within approximately a hundred feet of the edge. Conoco has done it, and I suspect Yates has too.

Q. All right. So if we applied those measurements, those approximate measurements of yours, to the edge of this cut bank, this well is probably, in all likelihood, at least 200 feet misplaced by this diagram, isn't it?

A. If in fact the well is 200 feet away from the bank of the draw, then that is correct.

Q. Well, now --

A. The other possibility that I assumed was that there could have been some cut and fill. This is perfectly conceivable. It's not BLM land, and the BLM would have no

jurisdiction over what was done to build this location.

Q. But Mr. Hardie, you don't know that, and you could have gone out there and looked at that land and known for sure before you appeared here, couldn't you?

A. I could have verified that location.

Let me also add that most of my measurements and precision involved with this overlay were centered about the proposed location. I did not concern myself with deviations farther away from that.

Q. Well now, did you go out and specifically determine -- I see no reference point on the photograph itself for where that proposed unorthodox location would lie.

A. The reference point was there. I plotted it on the photograph and then erased it prior to xeroxing it.

Q. But how did you determine that reference point? Where did it come from?

A. If you'll look -- raise the overlay, if you'll look down at the bottom left-hand corner of that section, there's a little black dot with a white line sticking out of it. Those are placed on the aerial photograph, indicating the corner sections.

What I did on the aerial photograph was to connect up those dots on the aerial photograph, which would indicate a section line. And that is my reference point by

which I enlarged the topographic map and laid it over the aerial photograph.

Q. Again, your testimony is based on your measurements on this, and nothing that was having gone out on the land and done any specific measurements and placing of that unorthodox location with actual reference points on the ground, such as the edge of the bank, this road that we see depicted or as you've testified. You didn't go and measure that, did you?

A. I didn't measure it. I have in fact been out there and, like the Yates representatives, I have walked that Cisco orthodox window in which the proposed well was originally staked.

And I can also point out that if you'll look at the blue dashed line that represents the draw on the topographic map, that that very closely matches the draw of the aerial photograph, which is another indication that they are at least close to being superimposed.

Q. Now, you say you have been out on Yates's lease and walked this area in green; is that correct?

A. Looking at the staked flags and verifying that in fact --

Q. When did you do that?

A. That would have been -- I was out there twice. When Conoco was staking locations I walked out there, and

then the second time approximately two to three weeks ago.

Q. All right. Yates's flags out there the first time that you went out there and walked this area?

A. They were.

Q. And would that have been -- What? In December of last year? Is that -- are we talking about --

A. No, I think it was this year.

Q. This year?

A. Yes.

Q. Now, when you walked that area of those flags, did you have Mr. Hurt with you?

A. Mr. Hurt?

Q. The BLM -- I think it's Hurt.

MR. KELLAHIN: It's Hunt.

MR. ERNEST CARROLL: Hunt, excuse me. I can't read his handwriting.

THE WITNESS: No, I did not. I was with Conoco's field foreman.

Q. (By Mr. Ernest Carroll) Have you ever been to this area with Mr. Hunt?

A. No, I haven't.

Q. Have you talked personally to Mr. Hunt?

A. I have not.

Q. Now, let's talk about Exhibit Number 10. You testified that this was a true and correct instrument. Did

you go to the BLM office and obtain Exhibit 10?

A. Yes, I did.

Q. All right. Now, did you attempt to talk to Mr. Hunt concerning what was on this particular exhibit?

A. Yes, I did.

Q. And Mr. Hunt was available or not available?

A. He was not available, and I had driven from Midland for a field meeting with the Dagger Draw field and stopped by the BLM on my way back, requested to see Mr. Hunt. He was not present, and so I requested to copy the field documents which were used in determining where the location should be.

Q. All right, when was that?

A. I could refer in my briefcase to my --

Q. Has it been several weeks?

A. It's been approximately two to three weeks ago.

Q. Okay.

A. I could give you a precise date.

Q. That's okay. It's been some -- several weeks though?

A. Yes.

Q. Now, Exhibit 11, was that obtained at the same time you obtained Exhibit 10?

A. It was all part of the same file.

Q. Now, I take it, then, with respect to these

penciled or inked-in notations on Exhibit 11, you have not visited with Mr. Hunt concerning those, have you?

A. No, I have not.

Q. Did you try to contact Mr. Hunt after that one attempted visit when you were there present in the BLM office and he was not there?

A. No, I did not.

Q. Now, let's look down here at the bottom notation. It says, "Evaluation: Move 330 feet south or at least 500 feet north."

Now, you testified that the moving of at least 500 feet was north of the orthodox location first proposed, did you not?

A. Since this is a well-site evaluation for that proposed location, that's a safe assumption.

Q. Ah. But it is an assumption on your part, is it not?

A. Certainly, this is all assumptive. We don't have Mr. Hunt here to testify to it.

Q. You did hear Mr. Beardemphl testify that he walked to the 990 location and that he then took pictures a hundred feet north of that and that Mr. Hunt and he discussed the fact that it would be at least an additional 400 feet before they could have an approved location, did you not?

A. I heard him say that, yes.

Q. That testimony is in direct contradiction of what your assumption is from the way you read this, is it not?

A. That is absolutely correct.

Q. And you have done nothing, though, to verify with Mr. Hunt, to correct, to -- to verify or to determine whether or not your assumption is correct before you testified to that fact before this Examiner?

A. Nor has Yates invited Mr. Hunt to come testify that that's exactly what he's --

Q. Are you telling me, Mr. Hardie, that Mr. Beardemphl is misrepresenting what happened out there on the site --

MR. KELLAHIN: Objection, Mr. Examiner.

Q. (By Mr. Ernest Carroll) -- with Mr. Hunt?

MR. KELLAHIN: Counsel is arguing with the witness.

I approached this subject an hour and a half ago when I suggested it was hearsay to proceed the surface issue based upon what Barry Hunt said or didn't say. I was overruled, and you see the problem you get.

MR. ERNEST CARROLL: I don't see --

MR. KELLAHIN: He's arguing with the witness, Mr. Examiner.

EXAMINER CATANACH: Well, I think you -- Can you

just calm down your line of questioning?

MR. ERNEST CARROLL: I'll turn the volume down, Mr. Catanach, and I apologize.

Q. (By Mr. Ernest Carroll) Now, let's examine that assumption of yours a little further by looking at this aerial photograph that you have in Exhibit 2.

Now, the green boxes that you have here on the overlay, they are 330 on a side, are they not?

A. That is correct.

Q. And the distance between the -- and let's just talk about the two green boxes on our right-hand side, or the eastern side of this quarter section. The bottom of the uppermost green and the top of the bottommost green would be 660 feet; isn't that correct?

A. I believe that is correct.

Q. All right. So midpoint between that would be 330 feet, correct?

A. That is correct.

Q. And just by using a little guesstimation here, this dark line, which appears to be part of another channel that runs kind of in a northeasterly direction, that would appear to be at least halfway between the midpoint of that distance, so it would be approximately 165 to 170 feet north of that green window, wouldn't it?

A. That is correct.

Q. So if we were to believe your assumption, we would have to say that by your proposed site that you said would -- you think would be great, would be the 170 feet north, you would have to put that location, which you're recommending to this Commission, within that drainage ditch shown on this aerial photograph, wouldn't you?

A. Absolutely.

Q. And you also heard the testimony of Mr. Beardemphl when he stated that no well site would be approved within either of the drainage sites out there on this location?

A. I don't recall him saying that specifically, but he may well have.

Q. Now, if we assume just the little exercise that we just went through, and assuming that the BLM would not allow a location to be within any of this floodplain area, then that would immediately tell you that apparently Mr. Hunt, in his last notation here, moved 330 feet south, or at least 500 feet, that that -- from 500 feet would not be from the orthodox location? That would make it inconsistent, wouldn't it, if you made those assumptions?

A. If you made those assumptions. I don't make those. It's not at all what one would logically conclude, based on this form.

Q. But the assumptions that you are addressing, you

have never gone out and visited with Mr. Hunt to verify the foundations upon which you start, have you?

A. No, I have not.

Q. Now, let's turn now to focus on some of the geology matters that you testified to.

You made a statement that it would be unfair to Conoco because the locating of this -- of the unorthodox well which Yates is proposing it, would unfairly compete with Conoco's proposed well, I believe the Joyce Federal 2. Is that a fair statement of how you characterize the problem?

A. Yes.

Q. Okay. What is the footage location, first of all, of the Joyce Federal Number 2? I do not find it on any of your --

A. No, it's not. It's 660 from the north line and 1980 from the west line. It's a standard location.

Q. What was the -- from the west line?

A. Yes.

Q. I didn't get the footage.

A. 1980.

Q. 1980. Now, for the well to actually compete and affect the Joyce Federal Number 2 at its -- at this location, the Aspden 2 would have to, in effect, drain or cause some reduction in the amount of oil that the Joyce

Federal would produce; is that correct?

A. That is correct.

Q. And the way -- As things are proposed right now, the unorthodox location and the proposed Joyce, there would be some 990 feet separating those two wells; is that correct?

A. That is correct.

Q. Do you have any studies in the North Dagger field which show that wells that are separated by 990 feet have in fact affected the other, any studies?

A. Yes.

Q. Where?

A. The reservoir engineer, Bob Beamer, will present a study.

Q. You have not done any studies, then, with respect to that; is that correct?

A. I've worked concurrently with Bob in that study. He is the one who is going to present it.

Q. Well, Mr. Hardie, is it your position that these wells will drain more than 40 acres in the North Dagger Draw area?

A. I'd say that's highly likely.

Q. Highly likely. Do you have any specific examples of that?

A. As I mentioned earlier, I think Mr. Beamer will

provide sufficient examples of standard spaced wells that have interfered with each other.

Q. Now, you will agree with me, though, that if this field were based on 40-acre standard statewide rules of 40-acre proration units, the location picked by Yates would be a standard location?

MR. KELLAHIN: Objection, Mr. Examiner. It's irrelevant.

EXAMINER CATANACH: I agree with Mr. Kellahin, Mr. Carroll.

Q. (By Mr. Ernest Carroll) Well, Mr. Hardie, do you have an opinion as to whether or not the standard statewide field rules for 40-acre spacings are inappropriate because they allow drainage to other offsetting 40-acres?

MR. KELLAHIN: Objection, same question, irrelevant.

Q. (By Mr. Ernest Carroll) Your Honor -- "Your Honor". Mr. Catanach, I think that we do have -- The issue here is what is the effect and what -- As Mr. Hardie so very well said, we are faced with a dilemma. We're having to cut the baby in two, so to speak. There are no hard and fast ways of drawing a decision.

I think the only thing that we can do, then, is look at past precedent.

The State of New Mexico has adopted for many,

many years the 40-acre spacing rule and the location limits. That is one of the precedents that I think this Division and the Commission are ultimately going to have to crank into this decision, because it is not an easy one.

And I think, therefore, it is relevant, this issue is relevant to what you're ultimately going to have to do. I don't think you should arbitrarily throw out any consideration when you're trying to reach a decision on this very ticklish problem that we're faced with.

MR. KELLAHIN: Mr. Carroll proves my objection, Mr. Examiner. He's speaking to the statewide oil spacing rules, and this Division has consciously adopted different rules for this reservoir. To compare statewide rules to what's happening in Dagger Draw is irrelevant.

MR. ERNEST CARROLL: Mr. Catanach, I think Mr. Kellahin has just proved the opposite of what he said.

What we've found was that field rules were first established at 160 and that drilling evidence now shows that that was ill conceived. That's why the field rules were changed, but -- for not only North and South Dagger Draw but also to try to get them in some kind of conjunction, because it is found that this field should have been developed probably on 40 acres.

That's why we allow for four wells on a 160-acre spacing, because -- The problem, why we didn't just go to

it -- and I think this Examiner is well aware -- is that because over time we have problems here with different ownership. We couldn't arbitrarily go to 40-acre spacing and throw away the 160, because we would be destroying correlative rights and would have to go in and then reallocate production among the varying ownerships.

The Division and Commission, when it ultimately changed these rules, recognized that it could not go back and rewrite correlative rights and rewrite the misconceptions of the past. It just therefore adopted a new way.

It was one of those things that I just talked about. The Commission took into account its whole experience to try to adopt a manner of -- a way of dealing with the problem. And that was effectively drilling out here and not wasting oil, because we knew that one well would not produce 160 acres, but we had to take into account all of these other issues.

So it did not throw out any of this information; it considered it all and adopted rules.

And that's all I'm asking this Examiner to do, to look at everything, consider it, and then appropriately make a decision based on all the evidence.

EXAMINER CATANACH: Mr. Carroll, are you trying to ascertain that the setbacks in this pool should be 330

feet?

I mean, is that where you're headed? Is that the point you're trying to make?

MR. ERNEST CARROLL: Mr. Catanach, I am not -- I don't think Yates Petroleum has come here today prepared to say that, or advocate a change in the field rules.

EXAMINER CATANACH: I understand.

MR. ERNEST CARROLL: That may eventually come.

But what we're saying, that -- is, if we're looking at the equities of the situation, which is what we're doing, we should look at how the State has looked at the equities in the past, and that's all I want you to take into consideration here.

And that consideration is very relevant here, because we have not gone beyond accepted norms by the -- New Mexico in the past.

EXAMINER CATANACH: Mr. Carroll, the accepted norms currently, as they stand for the North Dagger Draw, are 660-foot setbacks.

And in my examination of what Yates is trying to do by drilling this location, I have to look at the 660 as opposed to the 330, because those are the rules currently in effect for the pool.

MR. ERNEST CARROLL: I agree with you, Mr. Catanach.

And I am not suggesting that you should say, I'm going to throw away those rules, because that application is not here before you.

EXAMINER CATANACH: I understand.

MR. ERNEST CARROLL: However, you do have to determine -- and it's an arbitrary -- One, the calculations that both sides are going to furnish for a penalty, those are a black art, if you please. I don't think anybody is going to say it's any more exact, because no one can say how much oil is out there and how much oil is going to do it.

But we have some accepted norms of trying to deal with that issue. The Commission has in the past dealt with it in this manner.

What I'm saying is that that's an equitable manner -- a thing of looking at it, and that you should also consider, when you're trying to determine what amount of percentage is appropriate, some of these other accepted norms, and then that would be -- This location, if it had been developed on 40 acres, would not have been an unorthodox location.

And that's as far as I want -- and am suggesting that you consider it, and that's why -- I'm not going to go in depth; I just want his opinion as to those two questions that I asked, and then I'm leaving. I just want you to

have the benefit of that.

EXAMINER CATANACH: Mr. Carroll, again, I can't see how that -- I can see how you wish it would be relevant to this case, but it's not.

The setbacks for this pool are 660 feet, they're not 330. I know the normal setbacks for 40-acre units are 330.

If Yates wants to seek an application to change those setbacks for this pool, they're free to do so. But I don't think that it really has any relevance to this case, and I don't think we should allow this line of questioning to continue.

MR. ERNEST CARROLL: Well, the only other statement -- and then I'll quit, Mr. Catanach -- is that at some point in time, the relevance of 330 and drainage factors and encroachment were considered in arriving at that state rule.

That is equitable considerations.

I'm just saying, those same considerations -- You should at least take note that that's been done in the past and the Commission has come down that way, and that's as far as that argument would go.

EXAMINER CATANACH: Okay. Are you going to continue or -- Are you going to discontinue your line of questioning in this?

MR. ERNEST CARROLL: If you direct me to, I certainly will.

EXAMINER CATANACH: Well, again I don't see that it's --

MR. ERNEST CARROLL: Okay.

EXAMINER CATANACH: -- that it's relevant.

MR. ERNEST CARROLL: All I'm establishing is for the record why I think you should, because this case may very well be heard again. And these issues -- I want them fully addressed and fully out in front so that no one can claim that they're being blindsided, but that's where we're going.

EXAMINER CATANACH: I understand, and your request for me to consider that has been taken, so --

MR. ERNEST CARROLL: All right.

Q. (By Mr. Ernest Carroll) The particular case that -- Mr. Hardie, that Mr. Fant referred to, the Diamond case, in fact, you testified in the Diamond case, did you not?

A. Yes, I did.

Q. And in fact, in answer to a question posed by Mr. Kellahin, you made the following statement -- and this is found at page 82 of the transcript.

MR. KELLAHIN: May I approach the witness with a copy of the transcript, Mr. Examiner, so that he can read along with Mr. Carroll?

EXAMINER CATANACH: Yes.

MR. KELLAHIN: You're in transcript 10,519?

MR. ERNEST CARROLL: I think so. Yes.

MR. KELLAHIN: And you're on page 82?

MR. ERNEST CARROLL: Page 82.

Q. (By Mr. Ernest Carroll) Mr. Hardie, are you with us now?

A. Yes, I am.

Q. All right. And at the top of page 82 there is an answer, and the question was, by Mr. Kellahin, "In your opinion as a geologist, what factors should the Examiner consider in determining a penalty to impose upon Yates' well location if he approves that location?"

That was the question addressed to you; is that correct?

A. That is correct.

Q. All right, and your answer was, "In order for the penalty to be meaningful, we feel like it should be based on an initial potential test of the well. Our experiences so far have shown that wells in South Dagger Draw, because of their lower structural position than north Indian Basin wells, cannot produce 14 million cubic feet of gas per day."

A. That's correct.

Q. Is that correct?

A. Yes.

Q. And then you went on to say, "So that a penalty on 14 million cubic feet of gas would be meaningless, and that it should be based on an initial potential test"; is that correct?

A. That is correct.

Q. Part of the reason for your answer here is that the well itself is what you wanted to -- This well was what was encroaching, and you wanted it to directly affect the well itself; is that correct?

A. That is correct.

Q. Are you suggesting to the Examiner today that the Examiner should consider penalizing the actual 700 barrels that are allocated to the entire southwest-quarter proration unit?

A. I'm not necessarily suggesting any method of penalization --

Q. Okay.

A. -- for North Dagger Draw wells.

Q. I was a little confused, but I believe -- what -- I think what you were actually proposing was that determining of a penalty is so hard that the Commission should -- or the Division -- the Examiner should consider just denying the application, period?

A. That's not exactly what I'm -- The determination

of the penalty is one issue.

The implementation of that penalty is what I have a problem with.

Q. Okay, what is your recommendation for implementation?

A. My recommendation is that the location should be denied, because I deem there to be other alternatives which, although unorthodox, admittedly, would better protect the correlative rights of the offset operators.

Q. So basically you have not made or given or rendered an opinion as to how a penalty should be calculated in your testimony today?

A. I cannot think of a way in which a penalty could be implemented, so there's no point in trying to calculate one.

MR. ERNEST CARROLL: Okay. May I have just a moment, Mr. Catanach?

EXAMINER CATANACH: Uh-huh.

(Off the record)

MR. ERNEST CARROLL: I pass the witness, Mr. Catanach.

EXAMINER CATANACH: I have no questions of this witness.

MR. KELLAHIN: I request the witness be excused.

Call at this time Mr. Bob Beamer.

ROBERT BEAMER,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

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

A. My name is Bob Beamer, petroleum engineer, Conoco, Incorporated, Midland, Texas.

Q. On prior occasions, Mr. Beamer, have you testified before the Division and qualified as an expert in the field of petroleum engineering?

A. Yes, I have.

Q. Describe for us what has been your particular involvement concerning this case?

A. I was asked to look for specific instances of well-to-well interference, which I have done so and have prepared testimony in concert with Mr. Hardie.

MR. KELLAHIN: We tender Mr. Beamer as an expert petroleum engineer.

EXAMINER CATANACH: Mr. Beamer is so qualified.

Q. (By Mr. Kellahin) Mr. Beamer, when Conoco became aware of Yates' request to have a well encroaching towards their operated properties in the section to the south -- which is your Section 32, I believe it is -- how were you

made aware of their Application?

A. Through Mr. Hardie. And actually, we function as a reservoir management team, and it came before the team.

Q. And what are the reasons to have a geologist and an engineer working concurrently within your company, within a certain reservoir pool?

A. Well, we think that it provides us with better management of the reserve recovery.

Q. When we talk about your engineering conclusions and calculations, that information has been integrated, then, with Mr. Hardie's geologic conclusions and opinions?

A. Yes, it has.

Q. One of the issues of concern for Conoco was the proximity of the Yates well to Conoco's wells in Section 32 and its proposed Joyce Federal 2 well, was it not?

A. Yes.

Q. How did you as a reservoir engineer go about determining or trying to quantify whether the encroachment to Conoco, in order to solve Yates's topographic problem, was going to be at your expense?

A. Well, we looked at past production histories on existing wells in the North Dagger Draw field, specifically in this immediate area.

Q. What would you be looking for?

A. Examples of interference between standard

locations, which would be defined by a significant change in production decline rates.

Q. Why is that important to you as a reservoir engineer?

A. Well, it indicates to me that the wells are interfering with each other. These wells probably have the capability of draining greater than 40 acres. A well closer to our lease naturally increases the drainage from our property and damages the correlative rights.

Q. Based upon your review and study, how many examples were you initially able to find of instances where wells were at standard locations in this area and yet interfered with each other?

A. Well, I'm prepared to show six examples. There are others, of course, but I selected these because they are more located towards thinning sections of the Cisco reservoir, and we think it certainly applies more to our situation.

Q. Did you apply appropriate reservoir judgments, then, in looking for examples of interference that could be characterized by you and Mr. Hardie as relevant to what may occur if the Aspden Number 2 well is drilled in that part of the reservoir?

A. Yes.

Q. And the difference, then, is one of degree,

insofar as the Aspden well would be at an unorthodox location in relation to the Conoco well?

A. I would say so.

Q. All right, sir. Let's turn to your work, then.

If you'll look at Exhibit Number 6, identify the display and then we'll talk about what you did.

A. Exhibit 6 is a copy of the Cisco/Canyon dolomite isopach map in the immediate area of concern. We have highlighted six well pairs that we have found evidence of direct communication between the two wells.

Q. What kind of information did you look at that caused you to reach that conclusion?

A. We looked at the past production histories on each of the wells in any given well pair.

Q. All right. Let's turn -- Let's leave Exhibit 6 before you and turn to the first display of that information, if you'll look at Exhibit 7 and look at the top half of Exhibit 7. Let's look at the first comparison of paired wells.

A. Okay. First of all, let me just clear the exhibit for you a little bit.

What's plotted here are rate-versus-time plots for two wells. The top one is comparing the Molly QD 1 with the Molly QD 2.

Q. All right. We look at Exhibit 6, then, and

that's over in the southeast quarter of Section 13. It's the upper portion of the display on Exhibit 6?

A. That's right.

Q. The production information from the Molly QD 1, which is the well in the southern portion of the section, how is that plotted on Exhibit 7?

A. It's plotted as the solid line.

Q. And what is the source of that information?

A. Historic production data, taken from *Dwight's*.

Q. Is this all your work product?

A. Yes.

Q. How did you make the engineering judgment about the 20-percent decline in the Molly QD 1 well?

A. That's simply an estimate of mine based on the established trend of production. It's plotted on a logarithmic scale. It's a relatively simple method of determining a decline rate, just by looking at the trend, straight-line trend.

Q. Prior to the production on the Molly QD 2 well, which will be the dashed line on the display, if you'll look at the bottom horizontal scale, that is in months, is it not?

A. Yes.

Q. What did you approximate to be the average decline in a percentage for the Molly QD 1 well for the

period from 1989 through early 1991?

A. Well, my estimate is approximately 20 percent. There are differences in the production rates. I'm not aware of what caused those. The main inference, however, is that the decline rate appears to be steady and fairly uniform.

Q. All right. In 1992, then, the production on that well increases, does it not?

A. Yes.

Q. It steps up slightly on the curve?

A. It steps up significantly.

Q. All right. What -- Do you know what the reason was for that?

A. No, I don't. I assume that there was some remedial work done.

Q. All right. And then the well establishes another decline; is that --

A. In my opinion, it establishes the same 20-percent decline.

Q. All right. And then starting in 1992, continuing through 1993, there is another decline established for production from that well?

A. That's right.

Q. What is that decline?

A. Well, I've estimated it to be about 70 percent

per year.

Q. Did you investigate to determine what, in reasonable engineering probability, was the explanation for having the Molly QD 1 well go from a 20-percent decline rate to a 70-percent decline rate?

A. Well, I looked in the immediate vicinity to see whether any other well was completed or put on production at roughly that time that could have caused that change.

Q. And what did you find?

A. I found that the Molly QD 2 was completed approximately September of 1991, and that that appears to have interfered with and significantly changed the decline rate on the Molly QD 1.

Q. The Molly QD 2 decline production profile is the dashed line?

A. That's right.

Q. Is it of engineering significance to you that in 1992 and 1993, both these wells have established the same percentage of decline at approximately 70 percent?

A. Well, it indicates to me that they're draining essentially the same reservoir.

Q. Does it indicate to you anything concerning their interference with each other?

A. I'd say that the Molly QD 2 has definitely interfered with the performance of the Number 1 well, and

it was fairly quick. I'd estimate about three months.

Q. Let's go to the next example, the bottom half of Exhibit 7, if you'll lead us through the example, going back to Exhibit 6, showing us the well pairs and describing what occurs.

A. We're looking at Lehman 1 versus Lehman 11, and it's just east of the well pair that was previously talked about, southwestern quarter of Section 18.

Again, a long period of established production on the Lehman 1 of about 30-percent decline.

Approximately four months after the Lehman 11 was completed, there's a noticeable change, increase in the average decline rate, which is paralleled by the Lehman Number 11. And again, I attribute that to interference effects.

Q. All right, sir, let's go now to Exhibit 8 and look at the top half of that display and look at the pair, Dagger 4 and Dagger 10.

A. Dagger 4 and Dagger 10 are located in the southwest quarter of Section 19.

We see the same general trend, a stabilized period of established decline by the Dagger 4 well, altered soon after the Dagger Number 10 well was completed.

Q. What's your conclusion?

A. Interference, and it appears to me, again, that

they've established similar decline trends, which to me indicates draining a common reservoir.

Q. All right, the bottom half of Exhibit 8, describe those pairs and what your conclusion is.

A. The Pincushion 1 and the Dagger ZW 3 are located in the southwest quarter of Section 30.

Again, the Pincushion 1 was the initial well on completion and established 30-percent decline, changed significantly as soon as the Dagger ZW 3 was completed. Again, in my opinion, direct result of well-to-well interference.

Q. Sir, if you'll turn to Exhibit 9, again let's look at the top pair on that display sheet and find their location on Exhibit 6.

A. The State 3 and the State 8, which are located in the northwest quarter of Section 36.

The State 3 was the first well completed. It's one of the farthest wells on the western edge of the reservoir.

It looks like it established about a 45-percent decline, beginning in 1991. Rather dramatic effect when State 8 was completed, significant change in decline rate. Again, parallel trends from the two wells.

Q. All right, sir. Then the final pair, the bottom half of Exhibit 9, locate those two wells on Exhibit 6.

A. These are just immediately east of the last pair, State 5 and State 7, located in the northeast quarter of Section 36.

The State 5 well was completed first, established decline. A significant change in decline rate when the Number 7 well was completed.

All of these are essentially standard-location 40-acre wells.

The inference is that interference can occur very quickly, even on a standard well location.

Q. Provide us your engineering conclusions, then, with regards to opinions you may have about approving this unorthodox location that Yates is requesting.

A. Well, we oppose it on the basis that it is encroaching on us, it provides us with less than a full 40-acre drainage area.

We are at risk anyway, being closer to the edge of the dolomite fairway. We're downstructure.

We require a 40-acre drainage in order to develop a commercial location. Their encroachment is going to deny us that full 40-acre drainage.

Q. Have you, in conjunction with Mr. Hardie, examined the parameters by which a production penalty might be hypothetically imposed upon the Yates location?

Q. Well, we've discussed it, and Mr. Hardie has

expressed Conoco's opinion and that it would be very difficult to implement.

Q. And do you concur in that opinion?

A. I do.

Q. And in fact, you were part of the technical team that ended up in that conclusion, that you could not craft a practical, appropriate penalty for this particular case?

A. That's true.

MR. KELLAHIN: That concludes my examination of Mr. Beamer.

We move the introduction of his Exhibits 6 through 9.

EXAMINER CATANACH: Exhibits 6 through 9 will be admitted as evidence.

Mr. Carroll?

MR. ERNEST CARROLL: Thank you, Mr. Catanach.

CROSS-EXAMINATION

BY MR. ERNEST CARROLL:

Q. Mr. Beamer, in looking at Exhibit 6 you have not chosen to analyze any wells in Section 29, have you?

A. In Section 29? That's to the north -- or that's -- That's the section of discussion; is that correct?

Q. That's correct.

A. I don't believe the data was available to us,

production data. We don't own an interest. Binger Number 1, perhaps, but I don't recall looking at that particular well.

Q. All of your examples are at least one mile distance, and some of them go as high as two, two and a half miles?

A. That's right.

Q. In looking at your Exhibits 7, 8 -- 7, 8 and 9, you say -- you're measuring here decline of something; is that correct?

A. Apparent decline rate on oil production, yes, sir.

Q. All right. This decline rate is the oil only; is that correct?

A. Yes, sir.

Q. The wells in both North and South Dagger Draw are high-volume fluid producers, are they not?

A. Typically.

Q. And so these wells and all of the wells which you analyzed, the six pairs, are producers of high volumes of oil, water and gas?

A. They can be.

Q. Well, are any of the six pairs that you have analyzed fall outside of that category where they do not produce high volumes of water and oil?

A. Initially they had produced high rates, yes.

Q. All right. Now, your charts in all three exhibits do not measure the total amount of fluid production, do they?

A. No, they don't.

Q. So quite frankly, the total amount of fluid that is being produced by each of these wells, in all likelihood, they haven't changed throughout this period of production for either of the wells?

A. I'm not sure that I would agree with that.

Q. Well, have you done a study where you have shown that the actual fluid rates producing by each of these pairs have declined, the same way that the oil has declined?

A. Not for my particular instance. This was prepared simply for simplicity.

Q. In fact, it is so simple that, really, what you're measuring here may be merely the physical limitations of the pumps that are downhole in these wells, aren't you?

A. I don't think so. I suspect that most operators out there are trying to pump these wells off.

Q. Well, what I'm talking about is your exhibits, not the experience of the operators out there. I think -- Isn't it true that all this -- that these exhibits just

show a very small part of the picture, don't they?

A. They show the part of oil that is sold.

Q. Oil that is sold.

All right, let's look at first Exhibit Number 7. Can you tell me that in the are to the right of this -- on the Molly QD 1 and QD 2, where we have an established 70-percent decline, did the liquids decline at the same 70-percent rate?

A. I cannot answer that right now.

Q. All right. Now, let's go back into about the middle part of this -- Okay.

Now, let's look about, starting the middle of 1991 --

A. Uh-huh.

Q. -- on the Molly QD 1 and QD 2.

A. Yes.

Q. All right. We see in about March or April a dramatic jump in production, the amount of production, do we not?

A. Yes, sir.

Q. Can you tell me why that happened?

A. I think I testified that I could not.

Q. Isn't it true that some remedial action, such as changing the size of the downhole pump or installing a downhole pump, could have caused that?

A. That's very possible.

Q. Very possible.

All right, now, let's move just slightly further, and you draw a line, and this would be for the bottom well, which would -- Well it's the Molly QD 1. And you show -- You've drawn a straight line to show your 70-percent decline, have you not?

A. Yes.

Q. Actually, the point where the decline starts is not in December of 1991, but is actually more like July or August of 1991, isn't it?

A. The point that falls on that line, yes. I'm simply trying to select trends.

Q. All right. So -- But then let's look. If the decline starts in about August of 1991, the Molly QD 2 didn't come on till about that same period of time, did it?

A. Let's go back. I must have missed something. Start your time reference again, please.

Q. All right, 1991 --

A. All right.

Q. -- we look at where the true decline begins, the 70-percent decline. It actually begins somewhere in the area of about August of 1991?

A. That's subject to interpretation.

Q. You'll agree with me some engineers would say

that's when it started?

A. Absolutely.

Q. Okay. Now, we look at the beginning point or the point that the Molly QD 2 -- Now, was this beginning point, was that when it was actually put on production?

A. If you believe the state production records, that would be the time it's put on production.

Q. Now, the Molly QD 1 and QD 2 are not Conoco-operated wells, then?

A. That's right.

Q. Okay. So you just went to the records to get your information?

A. Absolutely, public records.

Q. And you're telling me that there was no public record available for Section 29?

A. We've tried to get *Dwight's* data for the past year and a quarter, roughly, and it's not available.

Q. Okay. So -- But looking at your graph here --

A. Excuse me, it also requires a certain amount of time to establish trends.

Q. Uh-huh.

A. I'm not sure when these wells in 29 were put on production, but you -- It is required to have some time of production to establish a trend.

Q. But you didn't investigate when the Boyd 1, the

3, the Binger, the Boyd 2 were drilled, did you?

A. I believe I stated that these six well pairs were not the only well pairs that I had identified interference with. I selected these because they more fit our needs.

Q. Your needs, all right.

Let's look back at the beginning point of -- The Molly 2 goes on production in about August, and the Molly 1 immediately begins to decline.

Are you implying to the Examiner that these wells have an immediate influence upon the offsetting pair?

A. Well, if you look at trends, it would appear to be.

Q. Well, Mr. Beamer, you know that in the real world that doesn't happen, don't you?

A. I won't say it doesn't.

Q. You won't say that. You've never encountered it, have you?

A. I see evidence of it.

Q. Well, what you see is this evidence on this chart?

A. Well, that's right.

Q. But you're not talking about, on this chart, total fluid production, are you?

A. Total fluid production is not plotted.

Q. All right. Can you tell me and explain -- to all

of us in this room, because I think we'd all be interested in -- how do you determine in the North and South Dagger Draw fields the relationship between the water and the oil that is in that reservoir? How do you explain that?

A. The relationship --

Q. How do we know what the oil column is going to be at any given area? What are the parameters, what are the physical properties or rules that govern that?

A. Well, I would say initial well tests. Certainly logs are not very much of an influence, because they're very difficult to evaluate. Production tests, whatever.

Q. Well, Mr. Beamer, what I'm interested in is, what rules tell you how much of the total volume is going to be oil at any given time, as opposed to water?

A. I believe both Yates and Conoco have estimated that an oil-water contact in this reservoir is about minus 4300 feet.

Q. I'm not talking about oil-water contact. I'm talking about when that stream is proposed, it's composed of three constituents: gas, oil and water.

How can you determine -- What are the rules that tell you that you can specifically know, one, that each of these two wells in each of these pairs are going to produce at the same proportion as the other well?

And, two, how do you determine those proportions?

A. You can't.

Q. That's what I thought.

Now, Mr. -- You've told me that Conoco doesn't operate the Molly 1 and the Molly 2; that's correct, isn't it?

A. That's right.

Q. Now -- So you've not done any studies to determine, with respect to this decline of oil and the fact they are going at the same rate -- you don't know, then, if they are using the same size pump and whether or not those pumps are producing at their maximum, do you?

A. No, I don't.

Q. And you don't know that if they put in a larger pump in one of these wells, that you could actually produce more fluid, do you?

A. I would assume you would, if you put in a bigger pump.

Q. And if you did that, the oil rate would go up, wouldn't it?

A. Very possible.

Q. And it could skew, then, this fact that these two decline rates track each other, couldn't it?

A. I think it's -- has to be a little bit more than coincidence that almost all of these well pairs established parallel trends of decline once the second well is put on

production.

Q. Well, Mr. Beamer, maybe it's because of the methodology you used.

As I look at what you've predicted here on Exhibit 6, you have picked wells within the same proration units. You have never crossed proration-unit lines.

Now, if your -- and let's take the top example, the Molly 1 and the 2. If your analysis between the Molly 1 and the 2 are the same, then you should be able to say that the Molly 1 and the Lehman Federal should likewise be the same, shouldn't you?

A. All I'm saying is that 40-acre standard locations will exhibit interference effects.

Q. And if we look at your Exhibit Number 7, we see that your Molly 1 has a 70-percent decline, but the Lehman 1 has a 52-percent decline. Frankly, these decline rates may be just subject to the different operators' procedures, isn't it?

A. I don't think so. Lehman 1 and the Lehman 11 are both in a thicker reservoir. The Molly wells are at the western edge of the reservoir.

Q. Well, Mr. Beamer, you will agree with me that when a well -- if a well interferes with another well, the interference will be concentric in all directions, not just in a north-and-south direction; is that right?

A. I'm not saying that this is the only interference effect. I'm showing interference effects between two standard locations.

Q. Okay, and the Lehman 1 -- Well, the Lehman Two [*sic*], you don't see the same effect, though, from the Molly 2 to the Lehman Two, do you?

A. From the Lehman -- What?

Q. The Lehman Two and the Molly 2?

A. The Lehman 1, the Lehman 11?

MR. FANT: That's the 11.

MR. ERNEST CARROLL: Is it the 11? I'm sorry, I thought that was a Roman numeral.

THE WITNESS: So you're comparing it to what?

Q. (By Mr. Ernest Carroll) I'm just saying that you've compared the wells north and south. What if we compare east-west, you don't show -- The drainage effect is not the same because your decline rates on Exhibit 7 are a significant difference?

A. Well, I guess four of my six well pairs are oriented north-south. We might infer, then, that we have a dramatic interference effect to expect between Aspden 2 and the Joyce Federal 2.

Q. Or we might infer that there are substantial differences in the way operators produce their wells?

A. You could infer that.

Q. Now, let's drop down to the Lehman 1 and the Lehman Two, and let's look -- It looks to me like the -- excuse me, Lehman 11, I apologize -- the Lehman 11 began producing in about June, July of 1991; is that correct?

A. Yes.

Q. And the actual decline -- and we see a very significant decline actually started a couple of months prior to that on the Lehman Number 1; isn't that true?

A. On the Lehman 1?

Q. Yes.

A. I would suggest that the established 30-percent decline on the Lehman 1 carried through, oh, probably October of 1991.

Q. Yeah, but let's look at just a few months prior to that. We see a dramatic increase.

It's quite possible that that operator went out there and put a larger pump or changed some of the pumping procedures or something, which, one, reflected in a very large increase in production, and then accounts for the decline of the production of oil; isn't that true?

A. Yes.

Q. And anyway, just looking at the -- just from visually looking at this diagram, one could at least draw the conclusion that the Lehman 11 began having an effect on the Lehman 1 prior to it even going on production. That's

what this diagram says?

A. Subject to interpretation. I contend that my examples show interference between standard 40-acre well locations.

Q. And in every case, when you look at Exhibit 8 and 9, that when you do the analysis of when the second well came on, the decline had already started prior to the second well being put on production? That's shown in every one of your exhibits?

A. No, I disagree.

Q. Well, which one doesn't it show?

A. Well, let's look at State 5 and 7, for instance.

Q. All right. Again, what the point here is where you show a difference from a 30-percent -- where you choose to place the line between a 30-percent decline and a 75-percent decline; isn't that why you see that?

A. Yes.

Q. But the well, first of all, was in a decline throughout that entire period, wasn't it?

A. I don't think there's any disagreement over that.

Q. All right. And in fact, it might be -- some engineers might say the true decline should be measured up through February of 1992, rather than beginning in July of 1992; isn't that true?

A. Some could.

Q. Yes.

Well, let me ask your opinion as to this question. If we were to go and find out that there was no drop in fluid production, would you agree with me that you could not -- if total fluid production -- the decline in total fluid production stayed the same -- Well, excuse me. Let me -- I'm getting my question messed up.

If the total fluid production is not affected, then you cannot say that these wells actually interfered, can you?

A. I don't believe that's the situation. Reservoir pressure is declining constantly.

Q. Well, just to account for constant -- Well, I guess what the question really is, Mr. Beamer, shouldn't you really be measuring total fluid production rather than oil production?

A. I see a problem in that, in that we don't sell water, so what records do you take for water production?

Q. Well, then, I guess you can automatically predict how much water that your lease is going to produce, as opposed to oil?

A. We make every reasonable effort to keep track of water production. But again, the records would not be very clear.

Q. In other words, you can't tell this Division

Examiner that underlying your southwest -- or your northwest quarter of Section 32, that you've got X amount of oil and X amount of water, and you cannot tell that Division Examiner that really what might be affected would be the production of water rather than the production of oil?

You have no science available to you to predict the differences?

A. Well, I would submit that they were both declining.

Q. They were both declining. But you cannot tell this Examiner that they will decline at the same rate or in the same proportion?

A. Not without plotting the data.

Q. And you've never attempted to do that, have you?

A. I have not.

Q. As I understand your testimony, you have -- Basically, you're of the opinion that the Commission has two alternatives available to it here.

The first alternative is just deny the Application to allow that well to be drilled at that location, the unorthodox location?

A. Yes.

Q. And that is, in your estimation, what you would recommend?

A. From Conoco's point of view, absolutely.

Q. And as I understood it, you didn't recommend a penalty -- If the Commission decides that it won't do that, but does decide to grant the permit to drill at this location, you did not recommend a penalty; is that correct?

A. That's correct.

MR. ERNEST CARROLL: I would pass the witness, Mr. Catanach.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Beamer, how does the water cut in these wells, how does that typically occur? Does that occur in uniform fashion? The water cut increases as production goes on?

A. Much of the water-cut performance is related to how the well is completed, where is the lowest perforation? So it can vary significantly.

Q. Can the water cut in a well abruptly change at any point in time?

A. I would say an abrupt change would be caused by some mechanical occurrence, rather than reservoir -- I don't really anticipate an abrupt change in the reservoir fluid production.

Q. Okay. Again, it's my understanding, as it is Yates', that Conoco firstly recommends that this location

be denied?

A. Yes.

Q. Conoco is unwilling to submit a proposed penalty for this well?

A. We have not considered a penalty for the reasons stated, that we -- it's difficult for us to see how it would be enforced.

Q. Is it your opinion that it cannot be enforced?

A. I don't think there are -- with the State accounting system, I'm not sure how it can be enforced. I don't know how you would track and apply a penalty to a single well in this four-well proration unit.

Q. If you were to keep track -- an accurate track of what the particular well was capable of producing, could you then institute a penalty against that well, and would it be effective?

A. That's possible. We haven't discussed the penalty situation.

EXAMINER CATANACH: I have no further questions of Mr. Beamer.

Anything further?

MR. KELLAHIN: Not with this witness, Mr. Examiner.

Mr. Examiner, we at this time would move the introduction of what I've marked as Conoco Exhibit Number

12. This is the sworn testimony, including direct and cross-examination, of Dr. Boneau before this agency and a certified court reporter.

It includes in the back of the proposed exhibit all of Dr. Boneau's exhibits, with the addition of Yates Exhibit 1, which was a locator map.

The testimony here is by Yates' engineer concerning the implementation and construction of a penalty in the northwest quarter of Section 31, which we've described earlier in the presentation.

The reason it is submitted to you are for the various admissions that Dr. Boneau has made that are binding upon the Applicant today.

It is contrary to and inconsistent with the presentation made by Mr. Fant. It includes a number of reasons why, despite his best efforts, Dr. Boneau was unable to craft an appropriate penalty, at the conclusion of which, on page 174, I asked Dr. Boneau, "I think I misunderstand the question. That penalty is not your recommendation, is it, Dr. Boneau?"

His answer is, "No, no, my recommendation was that the thing be denied because of the problems of implementing such a penalty."

We think it's relevant, and we would request that this portion of the transcript that directly relates to the

topic of the construction of the penalty and its implementation and enforcement be introduced into the record of this case.

MR. ERNEST CARROLL: Mr. Catanach, I'm going to object to the consideration of this hearing, because Mr. Kellahin is taking these opinions addressed by Mr. Boneau totally out of context.

If you -- I believe -- You were the Hearing Examiner. The issue here was the fact that there were orthodox locations that were available. That's why Yates took the position that there should be no penalty proposed under those circumstances, because they did have -- and I think that's what they ended up drilling this well on an orthodox location.

This is not applicable here. It's totally irrelevant. This stuff is taken out of context and has no relevance today, and I would object to any consideration because of that.

MR. KELLAHIN: Mr. Carroll misstates the issue.

Dr. Boneau's testimony was with regards to constructing a penalty formula, and it had nothing to do with the other topic in that case about the alternative surface location, and it is directly relevant.

I have included his entire presentation, both the direct and the cross.

MR. ERNEST CARROLL: Again, Mr. Examiner, I disagree with Mr. Kellahin.

You were there. He doesn't present all of the testimony. And the only way -- This is just an excerpt that is taken out of context, it's inappropriate.

The only way that anything should be considered from that hearing would be the entire transcript, which then explains the position of Yates with respect to that Application.

EXAMINER CATANACH: Mr. Carroll, what I will do is, I will review the entire transcript, and I will see for myself if it's relevant to this case, and I will make that determination on my own.

I will admit this into evidence in this case, and I -- as stated, I will review the whole transcript.

MR. ERNEST CARROLL: Thank you.

MR. KELLAHIN: That concludes our presentation of evidence, Mr. Examiner.

It's already 12:20. Mr. Carroll and I can probably talk the rest of the day about what we think you ought to do.

If you prefer, I will waive closing arguments and simply submit a proposed order in the case and let you consider handling it in that manner.

If you prefer to have argument of counsel, I'm

prepared to go forward.

It's certainly your decision, Mr. Examiner.

EXAMINER CATANACH: Mr. Carroll, are you to waive --

MR. ERNEST CARROLL: I would concur in Mr. --

EXAMINER CATANACH: -- closing statements?

MR. ERNEST CARROLL: -- Kellahin's statements.

EXAMINER CATANACH: Thank you.

MR. ERNEST CARROLL: I would like -- if -- the Examiner to please tell us if he wishes a proposed order to be submitted.

EXAMINER CATANACH: I do, from both parties, if I could.

MR. ERNEST CARROLL: What kind of time frame would you like that to be submitted?

EXAMINER CATANACH: Within two weeks.

MR. ERNEST CARROLL: Two weeks.

EXAMINER CATANACH: Is there anything further?

MR. KELLAHIN: No, sir. Thank you.

EXAMINER CATANACH: There being nothing further, Case 11,235 will be taken under advisement.

Thereupon, these proceedings were concluded at 12:25 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11235, heard by me on April 6 1995.

David R. Catanach, 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 22nd, 1995.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998