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 DEVON ENERGY PRODUCTION COMPANY, L.P., FOR AN UNORTHODOX GAS WELL LOCATION, SAN JUAN COUNTY, NEW MEXICO	)	CASE NO. 13,800

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: RICHARD EZEANYIM, Hearing Examiner

November 30th, 2006

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, RICHARD EZEANYIM, Hearing Examiner, on Thursday, November 30th, 2006, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

November 30th, 2006
Examiner Hearing
CASE NO. 13,800

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E X H I B I T S

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A P P E A R A N C E S

FOR THE DIVISION:

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FOR THE APPLICANT:

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WHEREUPON, the following proceedings were had at 10:41 a.m.:

EXAMINER EZEANYIM: At this point I call -- on page 4, Case Number 13,800. This is the Application of Devon Energy Production Company, L.P., for an unorthodox gas well location, San Juan County, New Mexico.

Call for appearances.

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

EXAMINER EZEANYIM: Any other appearances, please?

May the witnesses please stand to be sworn?

(Thereupon, the witnesses were sworn.)

JANET WOOLDRIDGE,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Janet Wooldridge.

Q. Where do you reside?

A. McLoud, Oklahoma.

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

A. I'm a senior landman for Devon Energy Production Company, L.P.

Q. Have you previously testified before the Division?

A. Yes, I have.

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

A. Yes, they were.

Q. This Application involves a well in the Northeast Blanco Unit up in San Juan County. Does the north -- Are you in charge of land matters concerning the Northeast Blanco Unit?

A. Yes, I am.

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

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I'd tender Ms. Wooldridge as an expert petroleum landman.

EXAMINER EZEANYIM: Ms. Wooldridge is so qualified.

Q. (By Mr. Bruce) Ms. Wooldridge, let's look at Exhibit 1. Could you briefly identify that for the Examiner and describe the surface location of the well we're talking about?

A. This is a portion of the -- a snapshot portion of the Northeast Blanco Unit. The center green square is the spacing unit for the Northeast Blanco Unit Well Number 233

that we're discussing today.

In addition, you'll see the spacing units in red are where wells have been -- Pictured Cliff wells have been drilled, and there are paying well determinations on those wells, and they've -- we are filing for expansions to the existing Pictured Cliffs participating area.

The yellow spacing units depict the existing Pictured Cliffs participating area, and the blue spacing unit that you see depicts a non-paying well determination.

You'll also notice on this plat the -- it shows the federal lease numbers, and below the federal lease number it shows the Northeast Blanco Unit tract number.

EXAMINER EZEANYIM: What does red designate?

THE WITNESS: The red --

EXAMINER EZEANYIM: Yeah.

THE WITNESS: -- the red is for the -- there's a well within each of those spacing units, and there has been a paying well --

Q. (By Mr. Bruce) A Pictured Cliffs well?

A. Pictured Cliffs well, yes. There's a Pictured Cliffs well within each of those 160-acre spacing units, and we have received paying well determinations on those.

Q. From the --

A. From the BLM.

Q. Okay. So those wells would be part of an

expanded -- or should be part of an expanded participating area for the Pictured Cliffs?

A. Yes.

Q. Okay. And again, the green unit is the unit we're here for today; is that correct?

A. Yes, it is.

Q. And what is the approximate surface footage location of the Northeast Blanco Unit Well Number 233?

A. It is 1400 feet from the north line and one foot from the west line of Section 23, Township 31 North, Range 7 West.

Q. And Devon requests approval of that unorthodox location?

A. Yes, they do.

Q. And subsequent witnesses will testify as to how that well was drilled and the technical reasons why it should be approved; is that correct?

A. Yes.

Q. What is Exhibit 2?

A. Exhibit 2 shows the entire Northeast Blanco Unit. It gives you a better idea of the -- These are all the Pictured Cliff wells that have been drilled to date in this unit. You see in the yellow the existing initial Pictured Cliffs participating area and one expansion. What you see -- the red wells are all wells that have received paying

well determinations from the BLM. We have expansions 2 through 9 applied for, and several more that are being prepared.

The blue well is one -- is a well to the west that did receive a paying well determination.

Q. What is Exhibit 3A? And maybe if you'd compare this with your Exhibit 1, so we can see what leases you're talking about.

A. Exhibit 3A shows the interests in the northwest quarter of Section 23, which is where the Well 233 is located. It's also Tract 8B and Federal Lease SF-079010.

Tract 7 -- Unit Tract 7 is the northeast quarter of Section 22 of 31-7, and it also shows the column owner, the interest owners in that section, and if you'll notice they are identical.

Q. Okay, so these are all of the working interest owners in the Well Number 233 and in the offset acreage, the affected offset acreage, to the west?

A. That is correct.

Q. What does Exhibit 3B reflect?

A. Exhibit 3B reflects the overriding royalty interest owners in both Tract 8B where the Well 233 is located, and also in Tract 7, which is in the northeast quarter of Section 22.

Q. And these aren't marked, but all of these working

interest owners but two, the two that have X's by them, own overrides in both the northwest quarter of Section 23 and also in the offsetting Section 22; is that correct?

A. That is correct.

Q. And looking at San Juan 1990-A LP, they own an interest in the 233 well; is that correct?

A. That is correct.

Q. They do not own an interest in the offsetting acreage?

A. That is correct.

Q. And then Barbara Leigh Farah does not own an interest in the 233 well; she only owns in the offsetting section; is that correct?

A. That is correct.

Q. But all of the other people own overriding royalties in both sections?

A. That is correct.

Q. And the only -- therefore -- And one other thing: The lessor of both leases is the United States?

A. That is right.

Q. So the royalty interest in each section is the same?

A. That is right.

Q. As a result, the only person that you are moving toward is Barbara Leigh Farah; is that correct?

A. That is correct.

Q. And she was given notice of the hearing?

A. That is true.

Q. And that affidavit is submitted as Exhibit 4?

A. (No response)

EXAMINER EZEANYIM: Where is Barbara Leigh Farah? What section is she located?

THE WITNESS: She's in Section 22.

EXAMINER EZEANYIM: Okay, the offsetting quarter quarter section?

THE WITNESS: Yes, she has a very small overriding royalty interest in that section.

EXAMINER EZEANYIM: Is she the only person to be notified in that section?

THE WITNESS: I'm sorry?

EXAMINER EZEANYIM: Is that the only person to be notified in --

THE WITNESS: Yes, yes.

EXAMINER EZEANYIM: Why is that?

THE WITNESS: Because all the other owners also have an interest in Section 23, identical ownership.

EXAMINER EZEANYIM: Okay.

Q. (By Mr. Bruce) Were Exhibits 1 through 4 prepared by you or under your supervision?

A. Yes, sir.

Q. And in your opinion is the granting of this Application in the interest of conservation and the prevention of waste?

A. Yes, sir.

MR. BRUCE: Mr. Examiner, I'd move the admission of Devon Exhibits 1 through 4.

EXAMINER EZEANYIM: Exhibits 1 through 4 will be admitted into evidence.

EXAMINATION

BY EXAMINER EZEANYIM:

Q. Where is the bottomhole location of this well? I know you might talk about --

A. I do know, and I know that our engineer is going to speak to that. It's 1365 feet from the north line and 33 feet from the west line.

Q. 1365 feet from the --

A. 1365 from the north and 33 feet from the west.

EXAMINER EZEANYIM: Do you have any questions?

EXAMINATION

BY MR. BROOKS:

Q. Yeah, the ownerships that are shown on Exhibit 3A of the working interest, are those the tract ownerships?

A. Yes.

Q. And the -- does the -- What does the unit operating agreement provide with regard to the allocation

of production if it's -- when it's included in the participating area? Do the working interests participate by tract or by --

A. By tract.

Q. Okay. But the royalty interests would participate -- in the participating area, they would participate in accordance with their ownership in the PA, right?

A. Well, in the PA but by tract, by their tract allocation to the PA.

Q. Yeah. Their participating in the well, though, however, would be their PA interest, would it not? If it's put in the PA?

A. Yes, yes.

Q. But the working interest owners, you're telling me, in this case are -- they participate by tract?

A. In this case they're participating by the spacing unit, which is by tract --

Q. Right.

A. -- because the well is not in the PA yet.

Q. Yeah, but what I was asking you, the first question, is, what does the operating agreement provide with regard to the allocation of the working interest owners once they're put in the participating area?

A. They'll be paid on a tract basis as that tract

allocation factor appears under the participating area.

Q. So they will be -- in effect, working interest will be allocated by the same formula as the royalty interest?

A. Absolutely, absolutely.

Q. Now would that change the working interest of these parties in the well?

A. Yes, undoubtedly, once it goes into a PA.

Q. Yeah.

A. Once it goes into a PA. It will also allow them to share in the production of all those wells within those PA's.

MR. BROOKS: I understand that. Okay, I understand the facts, I think. Thank you.

MR. BRUCE: One question, just to clarify.

FURTHER EXAMINATION

BY MR. BRUCE:

Q. This well is not in a PA?

A. No, it is not yet.

Q. Has it been applied for?

A. Not, it has not been applied for yet.

MR. BRUCE: Okay.

EXAMINER EZEANYIM: Applied for what?

THE WITNESS: For a paying well determination.

EXAMINER EZEANYIM: Okay.

JEFF WILLIFORD,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Jeff Williford, I live in Oklahoma City.

EXAMINER EZEANYIM: Jeff -- ?

THE WITNESS: Williford, W-i-l-l-i-f-o-r-d.

EXAMINER EZEANYIM: Okay, Williford.

Q. (By Mr. Bruce) Mr. Williford, who do you work for and in what capacity?

A. I work for Devon Energy as an operations engineer.

Q. Have you previously testified before the Division?

A. No, I have not.

Q. And would you just summarize for the Examiner your educational and employment background?

A. Certainly. I graduated from Mississippi State in 1975 with a bachelor of science in petroleum engineering. Upon graduation I went to work for Atlantic Richfield, where I worked for over three years. Went to work for Mitchell Energy, who was subsequently bought by Devon. So

between Devon and Mitchell Energy, I've been there for about 28 years in various capacities in both reservoir production engineering and operations.

Q. Does your area of responsibility at Devon include the Northeast Blanco Unit?

A. Yes, it does.

Q. And are you familiar with matters involved in the drilling of this well?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Williford as an expert operations engineer.

EXAMINER EZEANYIM: Mr. Williford is so qualified.

Q. (By Mr. Bruce) Just a few questions, Mr. Williford. First, could you identify Exhibit 5A and describe the final bottomhole location of the well?

A. Exhibit 5A is a graphical representation in plane view of the surface and bottomhole location of the 233 well. It shows that the wellbore -- it shows the path of the wellbore as it was drilled, and it shows the final bottomhole location drifted about 47 feet off to the northeast.

Q. And what is Exhibit 5A -- 5B, excuse me?

A. 5B, is just -- it's the tabulated data for the wellbore path, from a gyro directional survey that was run.

And it -- as previous testimony stated, it shows that the bottomhole location is about 32 feet east and 35 feet north of -- on the surface location.

Q. Well, my final question is, how did this well get drilled so close to the section line?

A. Well, that's a good question. It's probably a little bit embarrassing that it did, but the bottom line, it was a lack of communication from the field office and Oklahoma City office, but the -- We wanted to drill a well in the northwest quarter of Section 23.

As you may or may not be aware, the Navajo reservoir is -- most of the Navajo reservoir is within the confines of the Northeast Blanco Unit, and as such, the terrain within the Northeast Blanco Unit is very challenging, and we're dependent upon the BLM as far as being able to select surface locations. And what we were doing here, we knew we wanted to drill a well in the northwest quarter. We wanted to find a surface location where we could drill it from, and we did that at this location, had on-sites and everything.

It turned out we've got -- we ended up with a plat with the surface location, without a bottomhole location. That plat was filed, and subsequently it was drilled at that location.

Q. Was it originally thought that it would be a

directional well?

A. Yes. Yes, it was intended to drill from the surface location to an orthodox location within that northwest quarter of Section 23.

Q. Okay, and due to --

EXAMINER EZEANYIM: Section 22?

THE WITNESS: 23.

EXAMINER EZEANYIM: 23.

Q. (By Mr. Bruce) And due to the miscommunication, somehow the bottomhole location got dropped off of some drilling document?

A. Right.

Q. Have the -- the initial permitting agent for this well, or agency for this well, is the Bureau of Land Management, is it not?

A. Correct.

Q. And they did approve the APD for the well?

A. Correct.

Q. And it was drilled, and here we are?

A. Correct.

Q. Will the next two witnesses discuss some technical reasons as to why the well should be allowed to produce?

A. Yes, they will.

Q. Were Exhibits 5A and 5B prepared by you or under

your supervision?

A. Yes, sir.

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

A. Yes, it is.

MR. BRUCE: Mr. Examiner, I'd move the admission of Exhibits 5A and 5B.

EXAMINER EZEANYIM: Exhibits 5A and 5B will be admitted into evidence.

Do you have any questions?

MR. BROOKS: Not for this witness, no.

EXAMINATION

BY EXAMINER EZEANYIM:

Q. Okay, while we are looking at the directional survey, do you have some sort of wellbore schematic I can look at? Do you have a wellbore schematic for this well?

A. Yes, I do.

MR. BRUCE: Mr. Examiner, I'm going to mark this as Exhibit 5C.

EXAMINER EZEANYIM: Okay, that will also be admitted. Thank you.

Q. (By Examiner Ezeanyim) Did you initially plan this well to be a directional well?

A. Yes, it was originally intended to be a

directional well.

Q. Not a vertical well?

A. Right.

Q. When was this well drilled? I know -- I'm sorry I'm asking all these questions because I have all these questions in my mind. When was this well -- When did you drill this well?

A. It was drilled in 2005 --

Q. What date?

A. -- and it has -- it has the spud date on the wellbore diagram.

Q. Okay, maybe here, okay. Spud date is 5-20-2005. Well, I guess at this point I reserve some of my questions, but you'll be here in case --

A. Yes, sir.

Q. Okay, you may be excused now.

JASON CURRY,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Jason Curry.

Q. Where do you reside?

A. Oklahoma City.

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

A. Devon Energy, as a geologist.

Q. Have you previously testified before the Division?

A. No, I haven't.

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

A. I received a bachelor's of science in geology at the Texas Tech University in 1998, and I received a master's in geology from the University of Oklahoma in 2003.

And I worked for Mewbourne Oil Company for four and a half years after I graduated, and I've been with Devon since July of '06.

Q. Does your area of responsibility at Devon include this part of San Juan County?

A. Yes, it does.

Q. And are you familiar with the geology involved in the well at issue today and in the surrounding wells?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Curry as an expert petroleum geologist.

EXAMINER EZEANYIM: Mr. Curry is qualified.

Q. (By Mr. Bruce) Mr. Curry, could you look at Exhibit 6, identify that for the Examiner and describe what

you're trying to depict on this plat.

A. This map shows -- is contouring the subsea structure at the top of the main Pictured Cliffs sand, and I'm just trying to show that there's not too much structural relief differences in the area. The regional structural relief of the Pictured Cliff is -- gradually decreases, or it goes updip toward the west of this area. So downdip is more toward the east.

Q. In looking at this, it's color-coded. What do the different colors indicate?

A. The light greens are the highs and the blues are the lows, and the well in review right now, the 233, is highlighted in yellow in the center, on Section 23.

Q. Is there any difference, moving updip or downdip, as to whether or not the reservoir is tighter one way or the other?

A. It is tighter toward the west.

Q. Okay. Let's move on to -- maybe look at them together, Exhibit 7 and 8. Could you identify those for the Examiner and discuss the productivity and the other factors involved in these two wells. And maybe, if you could, Mr. Curry, on -- maybe keep Exhibit in front of you so you can point out where these two wells are located.

A. Yes. Exhibit Number 7 shows the wellbore, focused on the Pictured Cliff zones of Well 220, which is

in the southwest quarter of Section 24.

Q. So it is southeast of the 233 well?

A. Yes, southeast of the 233. And I've labeled here the upper Pictured Cliffs. This is marked by the top of the sand. I've also marked the main Pictured Cliff as the zone of interest that we're talking. And then the base of the main Pictured Cliff is marked by a shale, and these are picked by gamma-ray and also resistivity curves.

And then in Section -- or in Exhibit 8, a similar cross-section, shows the main -- upper Pictured Cliffs, main Pictured Cliffs and the Lewis Shale. This is in Well 214, and this is southwest of 233, and this is in Section 22, in the southeast quarter -- southeast quarter of Section 22.

Q. Now the well 220 is a commercial well, is it not?

A. Yes, it's a commercial well.

Q. And the Well 214 is a poor well?

A. Yes, it's a poor well.

Q. To the best of what you've seen at this point, would it be uneconomic?

A. Yes.

Q. And looking at the log, is -- which log do you mainly use to determine the productivity of these wells?

A. I use a log, 220, which is Exhibit 7. These are open-hole logs showing resistivity on the left-hand side

and gamma-ray, and on the right side are porosity logs showing the neutron -- or showing density logs, which are the dark, solid curve.

Q. And does the log for the Well 214 show a lower resistivity than in the 220 well?

A. Yes, I've highlighted on the scale what is 20 ohms on the 214, and just showing on the right -- on the left-hand curve, the resistivity is lower compared -- in the main Pictured Cliffs, which is the zone of interest, versus 220, which has a higher resistivity.

Again, the resistivity is marked in blue, of 20 ohms, so --

Q. And what is the resistivity, approximately, in the 220 well, the productive well?

A. 220 is about 35. I'm averaging about the whole interval, so that's where that number is coming.

Q. So in looking at this and your other exhibits, as you're moving westward, the wells -- the Pictured Cliffs wells in the unit seem to become less productive; is that correct?

A. Yes, they do become -- It's less productive. Also is, if you move further east, you see that the porosity quality increases, so that's another main difference between the two wells.

Q. Okay. Finally, what does Exhibit 9 reflect?

A. Exhibit 9 shows a representation graphically, or spatially, of the resistivities of the main Pictured Cliffs. Again, I have 22 ohms for Well 214 in Section 22, and I have 35 ohms for Well 220 in Section 24.

The good wells are in -- that show high resistivity, indicating more hydrocarbons, are in the pink, and lower resistivities are in the blues.

Q. Okay, if you had to give a cutoff on the resistivity as to making a well economic, what -- could you give a ballpark figure on that?

A. That would be 28 ohms.

Q. Okay. And the 233 well falls below that level, does it not?

A. Yes, it does.

Q. Okay.

A. I also want to make note, the pink dots on each of the -- Exhibit 8 and 7, represent perforations.

The 214 has two perforation zones, and that was drilled in 1985, when the initial -- when they were going after the Pictured Cliffs, and from testing and production the upper Pictured Cliffs was not a very big contributor, sometimes not at all contributing, so subsequently if you see in the 220 and later well drilling that we have -- Devon has decided not to perf into those, the upper Pictured Cliffs zone.

Q. Were Exhibits 6 through 9 prepared by you or under your supervision?

A. Yes, they were.

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

A. Yes.

MR. BRUCE: Mr. Examiner, I'd move the admission of Exhibits 6 through 9.

EXAMINER EZEANYIM: Exhibits 6 through 9 will be admitted into evidence.

EXAMINATION

BY EXAMINER EZEANYIM:

Q. Go to 214, Mr. Curry. What happened with that well? I mean, what are you doing with that well now?

A. It's inactive.

Q. Inactive. It's shut in now, or just inactive?

A. It's just inactive.

Q. And the same for the 220?

A. It's active.

Q. It's inactive too?

A. It's active.

EXAMINER EZEANYIM: It's active, okay.

Okay, you may be excused now.

THE WITNESS: Thank you.

GARY KUMP,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Gary Kump, K-u-m-p, Edmond, Oklahoma.

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

A. I work for Devon Energy as a reservoir engineer.

Q. Have you previously testified before the Division?

A. Yes, I have.

Q. And were your credentials as an expert reservoir engineer accepted as a matter of record?

A. Yes.

Q. And are you familiar with the engineering matters involved in this Application?

A. Yes, I am.

Q. And does your area of responsibility at Devon include the Northeast Blanco Unit?

A. It does.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Kump as an expert reservoir engineer.

EXAMINER EZEANYIM: Mr. Kump is so qualified.

Q. (By Mr. Bruce) Mr. Kump, you're going to go through a few exhibits, but let's summarize what your basic position is. In your opinion, is the -- well, whether the northeast quarter of Section 2 [*sic*] or all of Section 22 commercially productive of hydrocarbons in the Pictured Cliffs formation?

A. I'm sorry?

Q. In Section 22, the offsetting section?

A. Yes.

Q. Is it commercially productive of hydrocarbons --

A. No.

Q. -- in the Pictured Cliffs formation?

A. No, it is not.

Q. And could you justify to your management drilling a Pictured Cliffs well in the northeast quarter of Section 22?

A. No, I could not.

Q. Let's move on to you first exhibit, Exhibit 10, and --

EXAMINER EZEANYIM: And why is that? Why is that? Why wouldn't you recommend that northeast quarter of 22?

THE WITNESS: I'll show you with the following exhibits.

EXAMINER EZEANYIM: Okay.

THE WITNESS: It'll explain.

Q. (By Mr. Bruce) Start off with Exhibit 10, Mr. Kump.

A. Okay, Exhibit 10 is a table showing various production parameters for the NEBU 233, the well in question, and for 14 other Pictured Cliffs wells in the general area. Data from this table was used to generate two other exhibits, two map exhibits I will be discussing.

If we start on the left-hand column of this table, I'm showing first of all the well number -- all of these wells are within the NEBU unit -- and I show the location of each well by quarter section and section, township, and range. I show whether the well is active or inactive.

And the next three columns deal with cumulative production. I first show cumulative water production in barrels of water for each well, and cumulative gas production for each well, and a water -- cumulative water-gas ratio for each well in barrels per million cubic feet. And you can see there's quite a variance between the water-gas ratio. It varies from zero to about 516 barrels per million cubic feet. Those particular water-gas ratios are plotted on another exhibit I will show you, show the relationship of the high-water-cut wells to the low-water-cut wells in a plan view.

The next --

Q. Go ahead, Mr. Kump.

A. The next two columns show current production from each well, barrels of water per day and MCF per day. And then the last column shows my estimated ultimate recovery of gas for each of these wells, based on decline-curve analyses, and they're expressed in millions of cubic feet of gas per day. Those values, as well as other EUR values I've calculated, will be shown on a later exhibit, on a map exhibit.

Q. Okay --

EXAMINER EZEANYIM: Do you use a decline curve, or what do you use to calculate the EUR?

THE WITNESS: It's a type curve that I've developed for Pictured Cliffs.

EXAMINER EZEANYIM: Type curve?

THE WITNESS: Yes, in this area.

Q. (By Mr. Bruce) If you take this data and then put it in graphical form, how would that look -- and I refer to your Exhibit 11 -- insofar as productivity?

A. Exhibit 11 is a contour map. I constructed it to show how the performance of the Pictured Cliffs varies in the northeast portion of NEBU. And the red outline you see is the northern portion of NEBU. It doesn't show the whole unit, this is just the northern area where the Pictured

Cliffs is productive.

The map is contoured on estimated ultimate recoveries that I projected for each of the wells on this map. For an example, the northernmost well, Number 204, has shown an estimated recovery of 680 million cubic feet of gas.

Q. And that's in Section 1 to the north?

A. Yes. Now the wells in the north central and northeast portion of this map, you can see the estimated ultimate recoveries vary from approximately 500 million cubic feet to 900 million cubic feet. The south central and southeastern portion of this map, you can see that the wells, the Pictured Cliffs wells' ultimate recovery is projected between 1 BCF and 1.6 BCF.

As you move to the west, the productivity of the Pictured Cliffs dissipates, and the western boundary of the productive area of the Pictured Cliffs is defined by those wells shown with dark circles around them. There are nine wells that are uneconomic. Again, they define the western edge of the productivity of the Pictured Cliffs, as far as being economically productive. And you can see that Well 233 falls amongst those wells, and I consider it to be right on the boundary of the edge of the productive limits of the Pictured Cliffs in this area.

Q. If you look at -- in the middle of the plat, the

two wells that Mr. Curry talked about, the Well 220 over in Section 24, that's definitely a commercial well, is it not?

A. Yes, it's going to make over 700 million cubic feet of gas.

Q. And then the other well, the 214, barely productive at all?

A. It's inactive. It only made 34 million cubic feet.

Q. So as you move further toward the west, and there's already one well in Section 22 that's not commercial?

A. That's correct.

Q. And the other wells to the west are also noncommercial Pictured Cliffs wells?

A. That's correct.

Q. In comparing Exhibit 11 to your Exhibit 10, some of these wells like the -- to the north, the 231 and the 231J produce quite a bit of water, just like the 233 well; is that correct?

A. That's correct.

Q. And that apparently has some adverse effect on the commerciality of the wells?

A. Correct.

Q. Other wells don't seem to produce much water at all, but they're also commercial. What is your opinion of

that?

A. I believe as you move to the west -- and our geologist testified -- you're getting -- also getting tighter, lower porosity.

Q. Okay.

A. So you're either getting high water saturations, produced water, or just too tight, to where you produce little water or gas.

Q. So as you move to the west, you are not only generally getting more water, but you're also getting a tighter reservoir?

A. Correct.

Q. And is this, then -- well, let's talk about the water a little bit more. Could you move on to your Exhibit 12?

A. Exhibit 12 is a map that shows all 15 wells that were in the table of Exhibit 10.

EXAMINER EZEANYIM: Before you go to 12, let me -- before I forget this question, on your 11, on 11, on that west side, who operators all those nine wells that -- one, two, three, four --

THE WITNESS: They're all within the unit, so it doesn't --

EXAMINER EZEANYIM: Yeah, they are within the unit. Who operates them, do you know?

THE WITNESS: Devon operates all of those.

EXAMINER EZEANYIM: And you knew they're not productive before you drilled the 233?

THE WITNESS: Six of these wells were drilled in two thousand and -- I mean -- yeah, in the 1980s --

EXAMINER EZEANYIM: Uh-huh.

THE WITNESS: -- and those six wells are all the wells that are shown as being inactive.

EXAMINER EZEANYIM: Yeah.

THE WITNESS: In 2005 Devon drilled the 231 in the northwest of 14, 231J in the southwest of 14, and the 233J, which is in the southwest of 23. Those three wells were drilled more recently.

EXAMINER EZEANYIM: Okay.

THE WITNESS: As I said, Exhibit 12 shows all 15 wells that were on the table I showed earlier, Exhibit 10. From that table I've taken the water-gas ratios that we talked about and put them on this map. They're shown as the dark blue large numbers above each well spot. An example in the southeast of 10, Well Number 205, that had a cumulative gas-water ratio of 16.

You'll note that there are four wells that have high water-gas ratios relative to the other wells on this map, and I've drawn a box around those four wells and designated that as a high-water-cut area. The water cuts

within that box for those four wells range from 85 barrels per million cubic feet of gas to 516 barrels per million cubic feet of gas. Outside that box, you'll see that water cuts vary from zero to a maximum of only 16 barrels per million cubic feet.

And as I stated, one of the wells that has the high water cut, you can see, is Well 233, highlighted in yellow.

As our geologist pointed out in his Exhibit 9, resistivity is decreasing to the west, even farther west than this line of four wells with the high water cut. So I think any well drilled in Section 22 or Section 15 would be tight and most likely productive of water. In fact, I think the Well 233, the well in question -- it's my engineering opinion that the gas is migrating from the east, from the northwest quarter of 23, and the water is migrating from the northeast quarter section of 22.

Q. (By Mr. Bruce) And as a result, it's difficult for your to attribute any commercial reservoir to Section 22?

A. Yes, it is.

Q. And that's pretty much confirmed by the 214 well, is it not?

A. Yes, it is.

Q. And if the gas is migrating from the east to your

233 wellbore, there is little if any production coming from Section 22?

A. That's correct.

Q. As a result, you could not justify to your management drilling an offset well in Section 22; is that correct?

A. That's correct.

Q. And in your opinion should the unorthodox location be approved so that Devon can produce this well?

A. Yes.

Q. Were Exhibits 10, 11 and 12 prepared by you or under your supervision?

A. Yes, they were.

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

A. Yes.

MR. BRUCE: Mr. Examiner, I'd move the admission of Exhibits 10 through 12.

EXAMINER EZEANYIM: Exhibits 10 through 12 will be admitted into evidence.

EXAMINATION

BY EXAMINER EZEANYIM:

Q. Mr. Kump, the 233 well is drilled on that boundary line. What restricted you -- before you drilled

the well, why couldn't you drill it before that into the 23? Why didn't you put it at a standard location? What made you -- put it in a standard location? Was any survey done? And if a survey was done, what were the restrictions that the well wasn't spotted at the standard location, since we're here, is one of the questions I have, but maybe -- I don't know whether you are the person to answer it or the land person or whoever.

A. Well, the well was originally picked there because it was the -- as our operations engineer testified, very hard to find surface locations out here.

Q. Because?

A. Because the terrain is very rugged. The reservoir extends throughout the NEBU unit. There are a lot of recreational areas, there are a lot of other -- eagle flyways, big-game areas and so forth, that really restrict us on where we can find surface locations.

So this surface location was picked in a relatively flat spot where we could -- not on a steep terrain, where we could get a surface location.

We were then going to pick a bottomhole location and drill a deviated well from this flat-spot area where we have a good location. Again, before that was done, you know, there was some confusion some mixup between our office and the field office, and the well was drilled at

this location.

Q. So if you go out there and look at that location of the 233, if you move further east, all those -- further east is rugged?

A. It gets steeper, yes.

Q. And there's no other place to put a wellpad -- rig --

A. Yes.

Q. -- to drill the well?

A. Our people and the BLM people go out there together, and they look, you know, Where can we drill a well? When we want to drill a well in a certain quarter section, they go out there together and look where we can drill a well.

Q. Is it my understanding that before BLM approves your APD they go out there and look at the physical location of the well?

A. Yes.

Q. They look at where you want to spud the --

A. Yes.

Q. Was it done here?

A. Yes.

Q. You did know that it's on the boundary line?

A. Surface location, yes.

Q. I mean, you showed them the survey showing that

it's on the boundary line?

A. Yes.

I'd like to go back to Exhibit 11 also and show that that boundary line where the PC becomes uneconomic is very sharp.

Q. Which exhibit are you talking about?

A. Exhibit 11.

Q. Okay.

A. If you look in the north half of Section 11 --

Q. Uh-huh.

A. -- you'll see the Well Number 202. It's projected to make 850 million cubic feet of gas.

Q. 202?

A. Yes.

Q. Okay.

A. You go one location to the west, Well Number 203 --

Q. Uh-huh.

A. -- it only made 24 million cubic feet of gas. You go straight down from those wells, in Section 14 you see Well 232 --

Q. Yes.

A. -- it's going to make 510 million cubic feet of gas. One location slightly to the northwest, it only made 20 million cubic feet of gas.

And another example is down in Section 27, you see Well 217. It's going to make about 580 million cubic feet of gas. To the northwest, Well 211 only made 7 million cubic feet of gas. So that boundary is very sharp.

Q. Okay.

A. And we think the 233 is right on the edge of the productive boundary.

Q. Okay. You're the engineer, right?

A. Yes.

Q. Okay, let me see if I have any --

A. Reservoir engineer.

Q. Okay, what is the current status of this well?

A. It's currently producing. It's making about 183 MCF per day and 77 barrels of water per day.

Q. 187 MCF?

A. 183 MCF per day and 77 barrels of water per day. It's on the table of Exhibit 10.

Q. Yeah. Okay, yeah, that's right. Okay. So it's not shut in?

A. No.

EXAMINER EZEANYIM: Okay. How many -- Mr. Bruce, do you still have any witnesses?

MR. BRUCE: No, this is my final witness.

EXAMINER EZEANYIM: Okay, now -- then I can go ahead and ask more questions, and if the question doesn't

relate to what you do, then maybe somebody --

Q. (By Examiner Ezeanyim) My first question, why was the well drilled without obtaining an NSL? Both the surface location and the subsurface location, as you see, I -- understand that, so why was the well drilled before -- I mean, before coming in to get an NSL?

A. Okay, as our operations engineer said, it's embarrassing, but it was a miscommunication between our Oklahoma City office and our field people who actually go out and drill the well. We were in the process of picking a bottomhole location, which would have been orthodox, and we were going to drill a deviated well. And the field people picked up the plat and just drilled the well where the surface location was located.

Q. Yeah, I mean -- You talk about miscommunication. I mean, what do you mean by miscommunication? People don't know where they're drilling the well? I mean, Devon has been operating in New Mexico for a long time, and they know before you drill a well, if it's nonstandard, you get a non- -- I mean, we've issued some -- you know, many nonstandard locations. I believe if we saw it, we're going to get that. I mean, what is the miscommunication here?

A. I honestly can't tell you. I mean, it was just -- that well was moved up on the schedule and drilled before, you know, we in the Oklahoma City office knew it

was going to be. We drill 40 -- 35 to 45 wells a year in NEBU, and with all the paperwork, you know, it was just a miscommunication somehow. It's very difficult to explain. It is very embarrassing, but it just happened. It's the only time it's happened to us, but it happened.

EXAMINER EZEANYIM: I'm sorry, I thought you -- Do you have anything further?

MR. BRUCE: Oh, no, no, I'm through.

EXAMINER EZEANYIM: Okay.

MR. BROOKS: Well, I have a question for Mr. Bruce, actually, but I'd -- there was one question I could ask the witness.

EXAMINATION

BY MR. BROOKS:

Q. You had not picked the target bottomhole location at the time the well was drilled? Is that the way I understand it?

A. We had not picked it, yeah, we were in the process.

Q. Okay, so when you filed your APD with BLM, did it show it as having a bottomhole location -- Did it show a separate bottomhole location, or did it just --

A. I believe the plat was drafted up that showed the bottomhole location being the same as the surface location.

MR. BROOKS: Okay. Okay, so BLM knew that it was

right on the line when they approved it.

Okay, I have questions of Mr. Bruce, but that's all I really think I have of the witness.

EXAMINER EZEANYIM: Yeah, it says that your bottomhole is the same as your surface location on your APD.

Okay, go ahead with -- Do you have a question?

MR. BROOKS: Yeah. Well, I have been through this business about wells on the edge of the participating area in one of the spacing proceedings. I forget whether it was Dakota or the Fruitland, but I remember it was one of Frank Chavez's pet issues.

Because the Section 23 presumably will be in the participating area -- You've already got a commercial well, right? This is commercial?

MR. BRUCE: I think Ms. Wooldridge could answer that better than I, but I mean it does appear to produce quite a bit. I do not know if it will receive --

MR. BROOKS: Yeah.

MR. BRUCE: -- BLM approval as a commercial well determination or not.

MR. BROOKS: But that's going to change the interests. That's what I established in my questions to Ms. Wooldridge, which I was initially concerned about, because I know that it's not necessarily always true that

the working interests are allocated on the same ratios as the participating area. But apparently from her testimony it is in this instance. So it's not going to be the same as the interests that are shown -- If it goes into the PA, it's not going to be the same as the interests that are on Exhibit -- what was it? 3B? Or no, 3A --

MR. BRUCE: 3A, 3A, I believe.

MR. BROOKS: 3A. So that would be correct, would it not?

MR. BRUCE: I believe that's correct, Mr. Brooks.

MR. BROOKS: Okay. So then why did you determine it was not necessary to notify the other working interest owners of this proceeding? I gather you have not notified them?

MR. BRUCE: I have not notified them. I certainly can if that's your desire. My thought was that at this point the 233 -- the interests are the same, and when you go onto these federal units, the wells are drilled on a well-unit basis, so that the people --

MR. BROOKS: Right.

MR. BRUCE: -- who drilled this well paid their share according to Exhibit 3A, which would be the same as in offsetting Section 22.

MR. BROOKS: Right, yeah.

MR. BRUCE: I can certainly notify them, yes.

MR. BROOKS: Well, I will consult with the Examiner about this after the hearing, and we'll advise you. It seems to me that arguably, at least, they need to be notified, because this well could be -- since it's on the edge of the participating area, if it goes into the participating area it could be draining the other section.

MR. BRUCE: If that's the case, maybe we should continue the well -- the hearing for two weeks, so that if you make that determination then I could continue -- or maybe --

MR. BROOKS: Yeah, we'd have to continue it --

MR. BRUCE: -- January 4th.

MR. BROOKS: -- for four weeks.

MR. BRUCE: That's fine. And if notice is necessary, then I can...

(Off the record)

EXAMINER EZEANYIM: I think we are going to do that, because we are very particular about due process --

MR. BRUCE: Okay.

EXAMINER EZEANYIM: -- and I'm glad my attorney brought it up. Of course -- question for the witness, and it's one of the things I'm supposed to have asked you. But since he brought it up, I think we are going to make sure we notify everybody in this case.

MR. BRUCE: That's fine.

EXAMINER EZEANYIM: Okay. Do you have anything else?

MR. BROOKS: No, that's all.

EXAMINER EZEANYIM: Okay. Now, going further on your questions -- most of them you have answered. I've gotten your directional survey and your --

MR. BRUCE: One thing I would want to point out, Mr. Examiner, is that it was Devon itself that caught this location problem.

EXAMINER EZEANYIM: What do you say?

MR. BRUCE: It was Devon Energy itself that caught this location problem earlier in the year, and they had been working with Mr. Stogner on getting approval, but he basically set it for hearing.

But they have been -- It was through their own review of their internal data, it wasn't -- that they caught it and brought it to the Division's attention.

MR. BROOKS: It wasn't the Division who caught it.

EXAMINER EZEANYIM: Okay, yeah, I understand that.

Okay, now we talk about the notification to offset operators, like we discussed now. I don't know. Is this person we're talking about locatable or unlocatable? You know, the --

MR. BROOKS: No. The people I was suggesting we notify were the working interests.

EXAMINER EZEANYIM: Okay, the working interests.

MR. BROOKS: We've got this one royalty owner who apparently has already been notified.

MR. BRUCE: That is correct.

EXAMINER EZEANYIM: So if everybody is aware of the Application, we are not supposed to do newspaper --

MR. BRUCE: That's correct.

EXAMINER EZEANYIM: -- advertisement; is that correct? Are we supposed to -- Are you supposed to do any --

MR. BRUCE: I will take care of the -- yes.

MR. BROOKS: Yeah.

EXAMINER EZEANYIM: Okay, so you're going to do that.

And did you -- do you -- they don't own any interest in the -- I think it's the northeast quarter of Section 22. Is that --

MR. BRUCE: That's the offset, yeah. That would be the only affected offset, although the interest ownership is the same in all of Section 22, right.

EXAMINER EZEANYIM: Okay. I don't know. Since you have a land person here, have you ever obtained an NSL application from this Division? Have you ever done that?

THE WITNESS: For Northeast Blanco Unit?

EXAMINER EZEANYIM: Yeah, I mean --

THE WITNESS: I'm not sure.

EXAMINER EZEANYIM: Okay, let me ask your attorney. Have you ever obtained an -- I mean, I know you don't know when they drilled the well, but have you applied for Devon Energy to get an NSL?

MR. BRUCE: Not on this well, but there are --

EXAMINER EZEANYIM: No, not on this well --

MR. BRUCE: Yeah --

EXAMINER EZEANYIM: -- I mean others.

MR. BRUCE: -- but a couple of others, yes.

EXAMINER EZEANYIM: Yes, okay. So it's apparent that they know that you get an NSL before you drill a well. So it's not something that is new to them?

MR. BRUCE: No, no, no, this caught them -- This caught the people in Oklahoma by surprise after the field people drilled the well. But yeah, it wasn't intended to be this way.

EXAMINER EZEANYIM: Okay, because even -- it's very, very unorthodox here, as you can see, and that --

MR. BROOKS: Yes, I suppose that's why Mr. Stogner wanted to get a hearing --

EXAMINER EZEANYIM: Yeah --

MR. BROOKS: -- was because it's --

EXAMINER EZEANYIM: Yeah.

MR. BROOKS: -- that's correct --

EXAMINER EZEANYIM: Yeah.

MR. BROOKS: -- so close to the line.

EXAMINER EZEANYIM: I mean, it's right on the line. And I can see your -- I think this is the APD that was issued by BLM, and normally the way it's done is, they issue that APD, and then notify the district, you know, to be able to approve it. Here it says --

MR. BRUCE: Usually they -- you know, they should have copied the Division's Aztec office with a copy of that approved APD, and apparently --

EXAMINER EZEANYIM: They did --

MR. BRUCE: -- and --

EXAMINER EZEANYIM: -- they did, they did --

MR. BRUCE: -- yeah, somebody --

EXAMINER EZEANYIM: -- I mean --

MR. BRUCE: -- didn't look at it.

EXAMINER EZEANYIM: I don't know who did. Maybe BLM did or the company did, but here I'm looking at an APD, and there's an action on it taken on it by OCD. Here they say -- you are not going to be issued 104 until you get your NSL approval and then get your directional survey, which I just got now. Those are the two contingencies before you can produce a well.

Of course, you can drill a well -- if you apply for -- you can drill a well at your own risk, but you can't produce the well for NSL.

MR. BRUCE: And this well got on production, Mr. Examiner, and as Mr. Kump testified, it is still producing, although Mr. Stogner was looking at this for a number of months, and --

EXAMINER EZEANYIM: Yeah.

MR. BRUCE: -- and he did allow Devon to continue producing.

EXAMINER EZEANYIM: But the point I'm trying to make, Mr. Bruce, is that the well is being produced without a Form C-104, there is no approved Form C-104. I searched all the well files, I can't get that.

And you can't just submit Form C-104, if you actually did, and continue to produce the well. It has to be approved by the appropriate districts before you can produce the well.

MR. BRUCE: And -- Okay.

EXAMINER EZEANYIM: So you know that by producing that well without Form C-104 you have violated that Rule, and you are -- yeah, I think you're going to -- there's no way -- can leave you alone on that issue, they are going to issue an NOV. I want to warn you that that will happen, because you are producing the well without an approved Form

C-104.

And as far as I can tell from looking at the well file, I couldn't find any approved Form C-104, even though here on the BLM approval they say -- they stamp -- they say, Yeah, you can drill the well, but please get your NSL and get your directional survey and -- you know.

But I don't know how you started producing the well without getting all those. You didn't get an NSL, you didn't -- that they are producing. You are -- in violation of the NSL, because you could drill and shut in and then get an NSL when you connect. But you can't produce it before the NSL is issued. You can drill, but you can't produce.

So there are two violations I am looking at here. One, producing the well without Form C-104, and then producing the well without an NSL.

Is there anything that you might say about these things and -- that I'm mentioning now?

MR. BRUCE: Perhaps Mr. Williford could address that.

MR. WILLIFORD: When we realized that it was an NSL and we were talking to the Aztec office and we asked them if they wanted us to shut it in until this was resolved, and they told us that we didn't need to, as long as they knew we were working on it.

So we knew that we didn't have an approved 104 in the Aztec -- We were talking with the Aztec office, and they told us to go on and keep producing it, because they knew we were working on it.

EXAMINER EZEANYIM: Who told you that? The District Supervisor or one of the -- or the Geologist --

MR. WILLIFORD: I can't recall --

EXAMINER EZEANYIM: Very few people who can tell you that, either the Supervisor or the Geologist.

MR. WILLIFORD: It was -- I'm trying to think of his name now, and I can't think of it.

EXAMINER EZEANYIM: Steve Hayden?

MR. WILLIFORD: Yeah, I think it was Steve Hayden.

EXAMINER EZEANYIM: Okay. And then Steve Hayden knew that you don't have a Form C-104?

MR. WILLIFORD: Uh-huh.

EXAMINER EZEANYIM: And did you ever file a Form C-104 at all?

MR. WILLIFORD: Yes.

EXAMINER EZEANYIM: If you filed it, why --

MR. WILLIFORD: It wasn't going to be approved, because it was an NSL. We filed a C-104, but it wasn't going to be approved because of the NSL.

EXAMINER EZEANYIM: But you went ahead and

continued to produce the well?

MR. WILLIFORD: But we talked -- Like I said, we talked to the Aztec office and asked them if they wanted us to shut it in, and --

EXAMINER EZEANYIM: When did you talk to him?

MR. WILLIFORD: It was some time ago.

EXAMINER EZEANYIM: Okay. But anyway, I don't know what they are going to there in the District. They can do whatever -- Since you are talking with them, maybe you could, you know, talk to them more about it.

But when they know that you are producing that well without an approved Form C-104, I don't think they are going to take it lightly, I think -- if you are producing that well without a Form C-104.

And you're producing that, and then they say, This NSL is not yet approved.

MR. WILLIFORD: Right.

EXAMINER EZEANYIM: And we still have some people who are going to -- we don't know whether they are going to object, are going to do any further publication, we don't know what is going to come out yet.

So at this point I think what we're going to do is, instead of taking it under advisement I'm going to continue the case to four weeks, which is -- which would be January 4th.

MR. BROOKS: January 4th.

EXAMINER EZEANYIM: January -- continue it to January 4th, so that we can complete the due process that we've talked about and see what happens then.

MR. BRUCE: Thank you, Mr. Examiner.

EXAMINER EZEANYIM: Okay.

(Thereupon, these proceedings were concluded at 11:43 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 13890 heard by me on [illegible].

[signature], Examiner
Oil Conservation Division

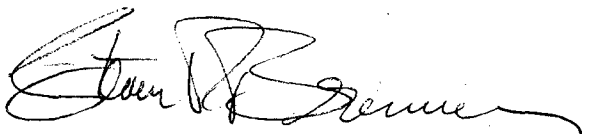
CERTIFICATE OF REPORTER

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 December 4th, 2006.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2010