STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

COPY

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

APPLICATION OF XTO ENERGY, INCORPORATED FOR SIMULTANEOUS DEDICATION AND AN EXCEPTION TO THE WELL DENSITY/LOCATION REQUIREMENTS OF THE BASIN-FRUITLAND COAL GAS POOL, SAN JUAN COUNTY, NEW MEXICO

CASE NO. 14247

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID K. BROOKS, Legal Examiner
WILLIAM V. JONES, Technical Examiner
TERRY G. WARNELL, Technical Examiner

December 4, 2008

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID K. BROOKS, Legal Examiner, WILLIAM V. JONES, Technical Examiner, and TERRY G. WARNELL, Technical Examiner, on Thursday, December 4, 2008, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico.

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A P P E A R A N C E S

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MR. JONES: Okay. Let's start with the first case of the day. Let's call Case 14247, Application of XTO Energy, Incorporated for Simultaneous Dedication and an Exception to the Well Density/Location Requirements of the Basin-Fruitland Coal Gas Pool, San Juan County, New Mexico.

Call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin from the law firm of Kellahin and Kellahin, appearing this morning on behalf of the applicant. And I have two witnesses to be sworn.

MR. JONES: Are there any other appearances?

MR. CARR: May it please the Examiners, my name is William F. Carr, with the Santa Fe offices of Holland and Hart, LLP. We represent BP America Production Company in this matter. BP operates a tract to the north, and we're monitoring the case because of concerns about correlative rights.

XTO has been kind enough to share exhibits with us. And other than receiving the exhibits, I do not intend to participate in the case.

MR. JONES: Any other appearances?

With that, will the witnesses please stand to be sworn and state your names?

MR. O'KELLEY: Ryan O'Kelley.

MS. FLYNN: Mary Flynn.

RYAN O'KELLEY

after having been first duly sworn under oath,

was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. O'Kelley, would you please state your name and occupation?

A. Ryan O'Kelley, landman.

Q. And where do you reside, sir?

A. Fort Worth, Texas.

Q. And by whom are you employed?

A. XTO Energy.

Q. And what is it that you do?

A. I supervise the land records for the southern San Juan Basin and also areas in Utah.

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

A. No, I have not.

Q. Summarize for us your education.

A. I graduated in December of 2005 from the University of Oklahoma.

Q. And did you obtain a degree and in what field?

A. Yes, petroleum land management and, like I said, December of 2005.

Q. As part of your duties, are you responsible for

the land issues involved in Section 6 that's the subject of this application?

A. Yes, sir, I am.

Q. As part of your preparation, have you reviewed the well files for these two wells?

A. I have.

Q. And are you familiar and knowledgeable about the offsetting operators?

A. Yes, sir.

MR. KELLAHIN: We tender Mr. O' Kelley has an expert in petroleum land matters.

MR. JONES: Where in Utah do you guys operate?

THE WITNESS: In Carbon County, the Drunkard's Wash.

MR. JONES: Okay. Mr. O'Kelley is qualified as an expert in petroleum land management.

Q. (By Mr. Kellahin): Mr. O'Kelley, if you'll turn to the exhibit book and look at Exhibit Tab No. 1 and turn past the exhibit tab and identify for us this first display; if you'll look at the display?

A. Okay.

Q. What are we looking at?

A. This is a nine-section map, and the subject section being Section 6, and the two wells, subject wells, are located there in the W/2.

Q. Section 6 is what type of property? Is it State,

federal or fee?

A. No, it's a BLM lease.

Q. So this is federal property?

A. Yes, sir.

Q. And within the federal lease, does XTO own 100 percent of the working interest?

A. Yes, in the Fruitland Coal formation.

Q. The two wells indicated in Section 6, those are Fruitland Coal gas wells?

A. Yes, sir.

Q. What's the spacing unit orientation for the wells?

A. In this case, it's the W/2 being 314.7 acres.

Q. When you look at the plat, there are various companies associated with names adjacent to Section 6. What does that represent?

A. These are offset operators.

Q. And in each of these instances for the offset operators, have you caused notice of this hearing to be sent to those parties?

A. Yes, sir.

Q. Behind that plat is a portion of the rules for the Basin Dakota -- for the Basin Dakota and the Fruitland Coal gas?

A. Yes, sir.

Q. What is it that's the issue with this Section 6 concerning these rules?

A. Well, the Basin Fruitland Coal gas pool is governed by special rules and regulations which provide for the 320-acre spacing on which two wells may be drilled and produced. These special rules and regulations as noted in here provide, among other things, that an optional infill well may be drilled, but not located in that same quarter section being 160 acres as the original well.

Q. So that's a problem. You've got two Fruitland Coal gas wells in the same quarter section?

A. Yes, sir.

Q. What's the current status of those wells?

A. Currently the Mudge A No. 12 is -- let's see. We are still producing the Mudge A No. 12, and XTO has since shut in the Mudge A No. 8R.

Q. And you voluntarily shut-in the 8R?

A. Yes, sir.

Q. Did XTO drill these wells?

A. No, we did not. Our predecessor did.

Q. Describe for us how this occurred.

A. The first well in 1994, Dominion Oklahoma Texas E&P completed the Mudge A 12 indicated on your map.

Q. That's the first well?

A. Yes, sir.

Q. Okay.

A. And that's located in the SW of the NW. It was a Fruitland Coal well. And then following that, in November of 2004, they completed the 8R, which is located in the NW/NW of Section 6 indicated on your plat there.

The 8R was originally permitted and approved as both a Fruitland Coal and Pictured Cliffs well. However, on the completion report submitted by Dominion, it listed the west Kutz Pictured Cliffs as a pool. Subsequently, XTO, from our understanding, it was indicated that it was a Pictured Cliffs well when, in fact, it was a Fruitland Coal.

Q. Okay. Did subsequent examination of this area cause XTO to realize they had acquired two wells that were, in fact, producing in the Basin Fruitland Coal gas pool?

A. Yes. When we acquired it in July of 2000, that was our interpretation.

Q. And subsequent to that, you've had technical people do a geologic and engineering study and have chosen to file this application?

A. Yes, sir.

Q. Let's turn past Exhibit Tab No. 1 and look at Exhibit No. 2. Have you caused notice of the hearing to be sent to all these parties pursuant to Division rules?

A. Yes, sir, we have.

MR. KELLAHIN: Mr. Examiner, that concludes my

examination of Mr. O'Kelley. We move the introduction of his Exhibits 1, 2 -- 1 and 2.

MR. JONES: Exhibits 1 and 2 will be admitted.

[Applicant's Exhibits 1 and 2 admitted into evidence.]

EXAMINATION

BY MR. JONES:

Q. These PB, M&G and Burlington, where do they own land? Is it surrounding this spacing unit?

A. Right. If you turn back to your nine-section map, you can see BP has got the SE of Section 36, and also the S/2 of 31. And then M&G is right there in Section 32, being in the SW/4.

Q. Okay. Do you have, offhand, the dimensions on that Section 6? Or you said it was 314.7 acres. Is it too tall or too wide?

A. I do not have that with me.

Q. Okay. That's -- I just wondered because I know they got -- there was an NSL approved for the Mudge A No. 12 back in '92. And I thought it was said 2000 from the north line. But here you've got 1900 from the north line, but either one it doesn't seem --

MR. KELLAHIN: We have a subsequent engineer that may be able to help you with that. And if she can't, then we'll look up the data for you.

MR. JONES: Okay.

Q. (By Mr. Jones): And these are -- this right straight north is BP, is that a lay-down spacing unit?

A. I believe so, but I don't know that 100 percent.

Q. But you do know that they control the S/2?

A. Yes.

MR. JONES: You guys have anymore questions?

MR. BROOKS: Well, I'm trying to think through this thing. If you don't -- you haven't researched this in the N/2 of 31, I take it. Who are the owners in the N/2 of 31?

THE WITNESS: Well, BP is the operator.

MR. BROOKS: Okay. For all of Section 31?

THE WITNESS: For the S/2.

MR. BROOKS: Well, I was asking about the N/2. You haven't researched that?

MR. KELLAHIN: We may have another witness that has that information.

MR. BROOKS: Okay. I would be, I guess, concerned about the N/2 of 31 and the W/2 of Section 1 that they would probably be entitled to notice if there aren't existing units laid out as S/2 units of 31 -- S/2 unit of 31 or an E/2 unit in. If there are, I think we're covered. But if there are not existing units laid out, then we'll have to cover potential units.

MR. KELLAHIN: When you get to Exhibit Tab 3, there's

a plat that shows all the wells. Ms. Flynn will have that for you.

MR. BROOKS: Very good. I will reserve that thought until further on.

Q. (By Mr. Jones): Could you say one more time about the timing here? Because it looks like XTO took over this from Dominion and then they took over the other well, too, right?

A. Sure. The first well was drilled in 1994 by Dominion. Subsequently, they drilled a second well -- Dominion did -- in November of 2004.

Q. As a PC?

A. Well, it was permitted and approved as a Fruitland Coal, PC well, but the completion report said that it was a PC. So when XTO acquired it in 2007, in July 2007, our initial reaction was it was a PC and Fruitland Coal well. Later we found out we had two Fruitland Coal wells.

Q. Did any of neighbors alert you to that? Like BP or anybody?

A. No. We found it out on our own.

Q. On your own, okay.

A. Mary can probably get into it. I think there was a pump change or something that triggered the looking at the data.

Q. Okay. That's all the questions I have. Thank

you very much.

A. Thank you.

MARY FLYNN

after having been first duly sworn under oath,

was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Ms. Flynn, would you please state your name and occupation?

A. Mary Flynn. I'm a reservoir engineer.

Q. And by whom are you employed?

A. XTO Energy.

Q. Were you familiar with the facts of this application?

A. Yes, sir.

Q. On prior occasions, have you testified as a petroleum engineer?

A. I have.

MR. KELLAHIN: We tender Mary Flynn as an expert petroleum engineer.

MR. JONES: Do you also work in Utah, too?

THE WITNESS: No, I don't.

MR. JONES: Are you stationed in Farmington?

THE WITNESS: No. In Fort Worth.

MR. JONES: Okay. Fort Worth.

THE WITNESS: We have our production engineers like field folks in Farmington, and reservoir and geology and land is in Forth Worth.

MR. JONES: And price, too, production engineers?

THE WITNESS: Correct.

MR. JONES: Ms. Flynn is qualified as an expert in reservoir engineering.

Q. (By Mr. Kellahin): Ms. Flynn, let me have you turn to the exhibit book and look at Exhibit Tab 3, and let's look at first the color display. Describe for us what we're seeing here.

A. This map is the nine sections surrounding Section 6, the subject section. And the yellow indicates areas where XTO has a leasehold. So for your preview --

Q. Well, let's look at this Exhibit. If we look at the W/2 of Section 6 in response to Mr. Books' question, we now have the well locations associated with the offsetting operations. In each instance, have we notified the offset operator of an existing spacing unit in the coal gas?

A. Yes.

Q. As part of your preparation for hearing, have you also examined the XTO files on this project?

A. I have.

Q. Describe for us to the best of your understanding how this occurred.

A. Can I refer to the exhibit?

Q. Sure. Let's turn to Exhibit Tab No. 4.

A. Looking at Exhibit 4 on the first page, Dominion had originally asked us for Basin Fruitland Coal Pictured Cliffs well -- and you'll see up at No. 10 it says the Field and Pool Name is the West Kutz Pictured cliff.

Q. And this is for which well?

A. For the Mudge A 8R. The Mudge A 12 seemed to have been filed as expected, as we would expect as a Fruitland Coal well, and this 8R was the well that appears to the misidentified.

Q. Okay.

A. So on the next page is the plat locations. And it shows the 320 W/2 dedication where we would have expected the Mudge A 12 location would be shown on this map since it was an existing well when the 8R was drilled. So it just appears that it must have been overlooked at the time this was applied for.

Q. Having looked at this data at this point, then, it's your understanding that XTO was under the impression that the 8R well was simply a PC well?

A. Correct. Because if we look at the following page, the well completion report, it indicates that the Field and Pool, No. 10, was the West Kutz PC, and the formation was identified at the bottom under 25A as Fruitland Coal/Pictured

Cliffs, and as well as the delivery, Request for Authorization, which would be at two pages following.

Q. If you look at the very last page, then, at Exhibit Tab No. 4, you're looking at Division form C-104? That's the --

A. 104.

Q. -- request for an allowable?

A. That also identifies the pool as the West Kutz Pictured Cliffs. So when XTO took ownership of it, our way of identifying it on a map, you know -- like our quick way of identifying would be to look at the cumulative gas production, and we would plot the well based on where the gas was assigned to, what pool it was assigned to.

So on any of our mapping programs that we would be looking at, we would use purple for PC and green for Fruitland Coal. We would see it as a PC well. And then --

Q. It wasn't until much later then you discovered then you had, in fact, two coal gas wells on the same 160?

A. Correct. It was in July of '07 we took the well over. And then as I recollect, it was when we were going to do a pump change in one of those two wells. I think it was the A 12. And then as part of that, we were doing the well bore diagram. And, you know, looking at it and doing a cross section between the wells, and we realized that the wells were actually both in the Fruitland Coal rather than one in the

Pictured Cliffs.

Q. Based upon your study, what do you propose to the Examiner as a solution for the non-compliance with the density for the pool?

A. We would like to continue operating both of the wells in the NW, with the understanding that we would not drill an additional well in that proration unit.

Q. What has caused you to reach that conclusion?

A. We're not draining beyond our 320-acre boundary, and we're recovering unique reserves in each of those two wells. We did not see a negative effect in surrounding wells to indicate that having both of these wells was causing a problem for either our own wells or adjacent operators.

Q. Let's look at the data that supports your conclusion. If you'll turn to Exhibit Tab 5, let's start with an orientation --

A. Okay.

Q. -- and show us the map that you have imposed the cross section in?

A. Okay. I have a cross section that goes through BP's well to the north of 59, which is their well in question, the Mudge A 8R, the Mudge A 12 and then the Mudge -- I can't read that number -- the Mudge -- let's see the next one. The Mudge A 12 -- yeah. Well, it's below that -- 7R. So if you turn the page --

Q. Lead us through the cross section itself and show us what you're seeing when you compare the Mudge 8 and the No. 12 well.

A. Okay. The perforations are shown in this bright pink color on each -- in the center of each diagram. And then, if we have a log for that well, we're also showing the log for the well.

So the heavy green horizontal line shows the top of the Fruitland Coal and the orange line underneath shows the top of the Pictured Cliffs zone. So looking at the Mudge A 8R, which is the second well from the left, it shows that it's completed in the Fruitland Coal.

The following well, the Mudge A 8, was a Pictured Cliffs well that was since -- which was replaced by the A 8R. And as they were replacing that well, they noted it as A 8R. I assume their intention was to complete the Pictured Cliffs at the time when they were replacing that well.

Then the Mudge A 12 is the following well. And you can note that the top of Fruitland Coal and the pink perfs are shown in the Fruitland Coal.

Q. So we look at the cross section then, starting on the far left, the second well over is the Mudge 8R well?

A. Correct.

Q. And the fourth one over is Mudge A 12 well. Those are the two wells we're comparing?

A. Correct.

Q. What is it about the specific perforated intervals in the coal gas that are either correlative or not? Are they identical in each or not?

A. The coal being identical in each?

Q. In their perforated interval.

A. Basically they are. They're both complete from the top to the base of Coal. The Coal you can see on the density log, which was the far right hand log in each, and it's colored a heavy black. And so that would be our standard completion to perforate from the top to the bottom of the coal and fracture the entire interval.

Q. Is this is a cross section that you prepared?

A. It is.

Q. In addition to this work, did you have a geologist with XTO prepare an isopach for you?

A. I did.

Q. Let's turn to that.

A. That's the following page in this same exhibit.

Q. Have you reviewed the data on this isopach?

A. I have.

Q. Are you satisfied to the best of your knowledge it is accurate?

A. Yes, sir.

Q. To what purpose have you put this exhibit?

A. In order to calculate the drainage that we were defining in each well, I calculated the drainage for all of the surrounding Coal wells and adjacent wells that could be affected by this well. And in order to do that, I needed a net thickness.

So Mr. Klutch has prepared this map, and it shows that for the W/2 of Section 6, the average thickness is approximately 19 feet thick. Its thickest is 22 feet, and its thinnest is 16 feet.

Q. As part of your engineering work, did you make a direct comparison of the data between the Mudge 8R well and the 12 well?

A. I did.

Q. Let's turn to Exhibit Tab No. 6. Did you have available to you any pressure data?

A. No. These wells aren't on our -- we normally have all our wells automated where we can get pressure data on a daily and instantaneous basis. These wells when we acquired them were not automated, so we have no historical or current production data. All we have is production data. We have no pressure data.

Q. So what methodology did you apply to see how each well was being affected by the other?

A. Well, one would be to see if we could identify interference between the two wells. For instance, when we

turned on the second well, did the first well go down in production or did the first well decline or accelerate?

Q. At this point, you have one of the wells shut in. That's the --

A. 8R.

Q. -- 8R is shut in. Before you shut it in, what was its daily producing rate?

A. Approximately 45 MCF per day.

Q. And how about the No. 12 well?

A. Usually around 65 MCF a day.

Q. If you turn to the second page of Exhibit 6, have you prepared a production graph that shows the comparison of the production for the two wells?

A. Okay, yes. This one.

Q. You've got a blue line and a black line on this display?

A. Correct, they do. This blue line would be the Mudge A 12, which has been on production for a longer period of time. The black line shows when the Mudge A 8R was put on production in approximately February of '05.

Q. And what is it that you see about this display that causes you to conclude that the wells are not interfering with each other?

A. First of all, when we put on the Mudge 8R, we worked -- it appears that we're continuing similar production

rate and similar decline in A 12. After the A 8R was put on, we didn't see an initial drop in production. The other thing I notice is that the wells generally tend to rise and fall together indicating that they're more affected by other influences by gathering system pipeline pressure than they would be by reservoir conditions.

Q. Can you point to the Examiner -- there's some vertical --

A. Oh, sure.

Q. -- black lines and one of them is a date in which the Mudge 8R well is put on production?

A. Correct.

Q. And then the last one over there is you have the pump change?

A. Right. There was two things that kind of occurred at that point. We did a pump change on the A 12 which caused that production to rise. And in addition, we re-geared the compressor in order to draw down a little further in that area. We saw an immediate impact on the A 8R when that compression was improved. The A 12 didn't respond for another month because it needed a pump change. Once we did the pump change, then it also responded to that.

Q. As you go through the plot, there's a date in July of '07 you see where there's a downward spike. It appears to be both lines merged together in the same pattern.

A. Right.

Q. What has caused that?

A. I don't know for a fact, but I would assume it's a pressure related -- surface pressure related issue.

Q. It looks like it's partially shut in or some reduction in pressure.

A. I would assume it was a compressor that might have been down.

Q. As we go through the time plot on the bottom, find the various points in time on the display that are indicative to you as an engineer that these wells, in fact, are not communicating with each other; that the performance of one is not being affected by the other.

A. Well, by March of '05 to July of '05, both wells are slightly rising. And then at the end of -- beginning of '06, both wells are falling. And then there's, you know, some periods of time where they worked opposite of one another in '06. But then starting in '07, you see both of them dropping together, both rise together, both drop together, both rise together after the compression was improved.

Q. If you had two well bores producing the same gas, what would you see in terms of these type of curves?

A. I would expect that when one well had lower production, then the other one would build up -- its production would improve, because they're both draining that same thing.

One is sucking and the other one doesn't have so much gas to suck. If they're withdrawing the same amount, they're both able to rise and fall at the same -- they're kind of working as an entire system primarily based on the compression at the surface.

Q. As additional information for the Examiner beyond this display, have you prepared and included production decline curves for each of these two wells?

A. I did. The first one shows the Mudge A 12. You can see it had a very steady production decline going from like '97 to 2001. Then there's some type of disturbance there in the beginning of 2003, which since we weren't the operator, I could not say exactly what caused that drop in production. I would think it would be a very good guess that it's compression related.

And it was very steady again, steady decline, following the previous decline that we had in 2004 and 2005. So when that other well came on in March 2005, right after that in April, May, June, July, August, you can see production had picked back up and was following the decline that had previously been established. So that indicates to me that we did not accelerate the decline in the A 12 when we produced the A 8R.

Q. And then following this decline curve, you do have one for the 8R well?

A. Correct. And that I have that same approximately 10 percent decline that we see on the A 12 and we see on the A 8R. That's a pretty typical decline you might see in the Fruitland Coal.

Q. Let's turn now to the other topic that you have given us an opinion on, and that is whether the two Mudge wells together are adversely affecting offset operations either by Burlington or by BP.

A. Okay.

Q. Have you got a section in the exhibit book that addresses that topic?

A. I do. The graph in Section 7.

Q. It's the first page?

A. The first page, the colorful graph.

Q. Take a moment. Because we're first-time lookers at some of this.

The color codes now are unique to well bore information?

A. Correct. I looked at all the Fruitland Coal wells that were immediately adjacent to the A 8R and A 12. And those are the two heaviest lines, the blue and the black line.

And then all of the other wells, I put them in the same time period so that we can see, you know, when we put on that A 8R, we didn't see a particular drop in A 12, but maybe BP might have seen that drop. But in looking at the data of

BP's two adjacent wells, the 59 is our closest well, which is the purply-pink-red line near the top of that graph. And their other well that is close by would be the Gallegos Canyon Unit 244, which is the brighter red line.

Both of those wells were continuing in general -- I mean, there's a lot of noise and disturbance in between. And generally, continuing the rate and decline had already previously been established for those wells. In fact, I see that and it appears to be true for each of the wells that are shown in this graph. There's a lot of noise and a lot of other variables going on, but I don't see anything that would alarm me to think that we were draining these wells.

Q. Go back and walk me through this. There's a vertical black line in about March of '05 on your display.

A. Correct. And that line shows at which point we turn on A 12. And you'll see the heavy black line that begins after that point.

Q. So I'm going to go vertical up on the black line, and then I see a horizontal heavy blue line --

A. Uh-huh.

Q. -- just below that is the start of the heavy black line.

A. Right.

Q. That's the point in time where we have both Mudge wells on production?

A. Correct.

Q. As I go above the blue line, there's a red line that represents which well?

A. The Gallegos Canyon Unit 59. That is the nearest well to the north.

Q. So that's --

A. It's not an operated well.

Q. And then below that is -- I would call it purple. What is that? Just below the red line. Is that the Gallegos 59?

A. By the blue line? That would be the Mudge A9, which is an XTO operated well.

Q. That's an XTO well.

A. For the most -- you know, as shown in that first map that we're looking at -- was it 5, 4? It was 3 -- Exhibit 3 -- for the most part, XTO has operations offsetting -- we offset ourselves in this area. The BP to our north would be the next --

Q. Well, let's use Exhibit No. 3 because it's awful hard to read that. If I'm looking in the SW/4 of Section 31, what well is that?

A. That's the Gallegos Canyon 59.

Q. That's the 59 operated by BP?

A. Correct.

Q. If I go over into the SE of 36, what is the

corresponding Coal gas well --

A. Gallegos Canyon Unit 244.

Q. 244.

A. Which are the two reddish colors on the map in Exhibit 7.

Q. Then when we go back to the composite of the decline curves on Exhibit 7, let's look first of all at BP's 59 well. Find that one for me again.

A. It is the second line from the top being that purply-red color, pinky-red.

Q. It appears that there is -- that well bore has experienced some downward decline before the two wells would come on together.

A. That well has been on production, if I recall correctly, and I might have that number exactly -- I think it's 1955, approximately. Prior to 1960, it's been on production. It's cumed over 1.5 -- it's over 1 BCF. It's in the 1.5 range, if I recall correctly. But I know it's over 1 BCF of cumulative production. So it's a very mature well. It would have certainly been in decline at the time that we put this well in production.

Q. To aid the Examiner in following this composite display, do you have individual decline curves for each of the key wells?

A. I do. On the following pages is each of the

decline curves.

Q. Let's turn to the first one I have in my book, which is the Gallegos Canyon 53 well. Do you have that?

A. Correct.

Q. And then we can flip over the next pages, the 244.

A. Right. And I put a little arrow on those to indicate at what point we turned on the A 8R well.

Q. Let's look at the 244 now, because this is one of the offsetting wells from BP. Do you see any change in the character of the decline curve for this production from this well --

A. I don't.

Q. -- in association with the combined production from the Mudge wells?

A. I put a line there where I would place the decline, and both in looking at the decline line that I put on and the actual production data for that well, the well that did not seem to be at all aware that there was another withdrawal.

Q. Let's have you make that comparison for the other BP well, which is 59 well. It's about three pages beyond.

A. Okay.

Q. Do you see the decline curve for the Gallegos Canyon 59 well?

A. Okay. Actually, it has the year of that. That

was drilled in 1992, apparently, according to this first production, 1992.

Q. Find for us the point on the decline curve for the 59 well that you now have combined production from the two Mudge wells. I'm on the Gallegos Canyon 59 curve.

A. Okay.

Q. Now find the date in which --

A. It was in approximately March of '05, and you can see that the well had been on a very steady decline really since from 1994 all the way through the present. It's a pretty steady decline all the way through there.

Q. As you examined the production decline for that well, do you find any change in the curve that you would attribute to having to compete against the two Mudge wells?

A. No, I don't.

Q. Let's turn to one of the other conclusions that you gave the Examiner earlier, and that was you were calculating the drainage effects of these wells?

A. Correct.

Q. Let's turn to Exhibit Tab No. 8, and have you identify what you've done here.

A. What I did is I used the cumulative gas production from each of those adjacent wells and applied a 10 percent decline to all of those -- each of those wells because that would be the typical decline that we've seen in all of

those, calculated the remaining recoverable gas and the estimated ultimate recovery, and then I divided by the -- we've calculated approximately 180 standard cubic per ton of gas content divided by the gas content and the thickness and multiplied by constant to determine the drainage area.

And so I sorted these drainage areas from smallest to largest and highlighted in yellow the Mudge A 8R and the Mudge A 12 well. So the drainage areas range from eight acres to 254 acres with the Gallegos Canyon Unit well being the one that would drain 254 acres. Our wells were draining 25 and 127 for a total of 152 -- 153.

Q. In doing this calculation, was your method the same for each of the wells?

A. It was. I used the actual coal thickness for each well obtained from the isopach map that used constant decline and gas content for each well.

Q. So all the assumptions and evaluations in here are consistent for each of the wells?

A. Correct.

Q. And what have you concluded from this work?

A. Well in slide nine -- Exhibit 9 -- it shows kind of a summary that the cumulative production, the data on the Mudge A 12 is 635 million cubic feet. For the 8R it's 53. They have the same coal thickness of 19 feet being in the same quarter section. I used the same gas content of 180. We have

some core data in that area that we used to determine the gas content. So from that I calculated the drainage areas would be 128 acres and 25 acres for the A 12 and 8R, which would be a total area drained of 153, which would be less than the 160 acres in that quarter section. It's also less than the 320-acre proration unit.

Q. In your opinion, is it fair and reasonable to allow XTO to produce both wells concurrently?

A. It is. I feel that it is. You know, it came about as an error, but it does not seem that we're causing a detriment to these wells. In fact, we need the additional well to properly drain that quarter section, so we'd like to continue operating this.

Q. Let's turn to Exhibit 10 where you have again summarized your conclusions and have you give the Examiner your conclusions again.

A. Okay. The first conclusion was on the production plots: The production did not accelerate when the A 12 and 8R was completed, indicating the wells are not interfering with one another.

The second conclusion is they're not noticeably affected -- they are noticeably affected by gathering system pressure as the wells tend to rise and fall together rather than inversely.

Third, as seen on the production plots, there's no

apparent impact to adjacent well production decline due to the production from the Mudge A 8R.

And that's conclusion part two, as no interference is seen. Production from the Mudge 8R appears to be recovering unique reserves that would not otherwise be recovered. And these wells together are capable of draining 153 acres.

And in this low productivity area, two Basin Fruitland Coal wells are allowed per 320 acres. The two exiting wells are draining only half of this area.

MR. KELLAHIN: Mr. Examiner, that concludes my examination of Ms. Flynn. We move the introduction of her Exhibits 3 through 10.

MR. JONES: Exhibits 3 through 10 will be admitted.

[Applicant's Exhibits 3 through 10 admitted into evidence.]

EXAMINATION

BY MR. JONES:

Q. How long did it take you to prepare all this?

A. I don't know. A day or two, a couple of days.

Q. You did good. This was amazing, yes.

A. It's kind --

Q. Did Mr. Kellahin call you up and torture you until you --

MR. KELLAHIN: You're confusing me with Mr. Carr.

MR. JONES: Oh, okay.

MR. CARR: I did not call her up.

Q. (By Mr. Jones): Did you talk to Bill Hawkins or any other BP people?

A. I spoke to -- I can't remember the name of the first person -- but I spoke to Tim Perkins or a geologist with Mr. Perkins and discussed with him what we were trying to do and any concerns he had.

Q. Is it your opinion that increased density is actually needed in this low productivity area? From looking at this and other --

A. Well, you know, we can always find errors where we could say yes, in individual areas, increased density could recover additional gas. Whether it could be recovered economically, I don't know, because these are both pretty low volume wells at 45 and 65 MCF a day. So increasing density would probably not be something that we would request.

Q. The economics would be another step. Do you have to do that for your company also?

A. I do.

Q. So --

A. The -- you know, as you can see, the drainage areas range all the way up to 254 acres. The initial wells that were drilled there in the earlier days did a very good job of draining a pretty large area and reduced the pressures. You know, it was a pretty wide swatch for which we see often for

Oklahoma and Pictured Cliffs.

So infill wells have a tougher time meeting economic hurdles.

Q. So what kind of pressure do you think is out there right now, reservoir pressure?

A. Less than 120, probably.

Q. That well that you shut in, did you talk to our district office before you shut it in voluntarily without talking to anybody else?

A. We didn't, no. It was a decision made within XTO.

Q. You don't think there's any damage done to that well because you shut it in?

A. No.

Q. It's dry or something?

A. It's not completely dry. It probably makes less than a barrel of water a day, half a barrel, maybe. If we turned it back on, I think it would probably take two or three months to fill it back up. To get it pumped down, we'll probably swab it a few times and put it back on pump.

Q. On pump?

A. We had these at about 4 to 5 PSI line pressure, so we've got them pretty low.

Q. Is it your own compression?

A. It is.

Q. Wellhead compression?

A. I'm not certain, but I think so, yes.

Q. What CO2 is it making?

A. I don't think that -- I think it's negligible.

Q. Really? This 180 standard cubic feet per ton, is that an old number, or are you satisfied that's a good number?

A. It is. It's an average of two coal wells that were within a couple of townships of that area.

Q. Whole cores?

A. Correct. It would have been isotherm data.

Q. And your recovery factor?

A. 86 percent.

Q. 85? Are you comfortable with that?

A. We are, yes. It's well after well after well confirms that.

Q. Your best well out here, 1 BCF cum -- you say you would never want to drill a well in the SW/4. I know your geology map is kind of drawn that way, but they can draw those maps, you know, depending on their -- what they see, your coal is pretty good here. It's pretty thick.

A. I think, based on the recoveries we've gotten, there's very little geologic separation between the Fruitland Coal and the Pictured Cliffs, and that the Pictured Cliffs well has probably at least robbed pressure, if not gas, from the Fruitland Coal. Having the Pictured Cliffs well that we

currently operate in the SW/4 is probably doing a good job of draining both zones.

Q. That 8R well, was that drilled directionally?

A. I don't think so. Not intentionally, no.

Q. I thought I saw a line there on the plot.

A. If there were any meandering in the well bore, that would be reflected on the map. But I don't -- there's probably some, but at these depths, it wouldn't be far.

Q. Is it your lower Fruitland that's the only contributor here? You fraced the upper portion of it?

A. If there is an upper portion, we would go back and add that. And when we took over these wells, you know, last year, it takes us a while before we get all the data in our systems and understand what we have and so forth.

But looking at the log, I have not seen the upper coal that we would probably go after. But if there is one, that would be another step we'd go back through and hit all these at 3-foot, 2-foot, 4-foots.

Q. No sands that are storing gas around there around the coal?

A. Those are real hit-and-miss. Usually, they're not mappable, but if we see it on a log, then we would request permission to complete that as a Fruitland Sand.

Q. And frac it through the coals?

A. Right. Well, we would frac through the coals in

a separate procedure than in sand because the sand would preferentially take the whole frac. So if we could isolate the sand to be able to frac that alone, we would frac that. But normally we only go through and hit the coals and frac those.

Q. Okay. That's -- but the coals are pretty continuous out here, aren't they?

A. They are.

Q. So you would think that more density of the wells would drain an area faster if one area was more densely drilled than another area. But you've done a lot of work on decline curve analysis, but logically wouldn't you assume that the area would be drained -- it would have to be drained faster if the coals are continuous.

A. Right.

Q. Right?

A. I would assume that, yes.

Q. Okay.

A. I mean, the fact that when we drill a well in 2004, and it had a cum production of 400, 300 to 400 versus the earlier wells that had over BCF would tell you that those first wells had a lot more pressure and had been depleted. You know, if I sorted this by completion date, I think it would look just about the same as this, so --

Q. Okay. Thank you. You've been real thorough, and I appreciate it. I don't have any other questions.

EXAMINATION

BY MR. BROOKS:

Q. Yeah. Looking at Exhibit 3, you said the green indicated Fruitland Coal wells?

A. Correct.

Q. So looking over into Section 1, there are two wells shown in the NE/4. One of them has a dotted line, so I assume it's a directional well; is that correct?

A. I think that those dotted lines are just so the labels could possibly be legible. I made them too small for them to truly be legible, but that's just to move the label away from the wells so that they're not --

Q. Those are XTO wells, are they not?

A. They are both XTO wells, the 32 and the 32R.

Q. Now, are they, then, completed in the same quarter section?

A. Well, they are, except the one has been abandoned. The initial well, the 1-32 to the west, has been abandoned.

Q. So they're not simultaneously producing?

A. No, they aren't.

Q. Okay. Now, down in the SE/4, that well doesn't show any green that I could see, so I'm assuming it's not completed in the Fruitland Coal?

A. Correct.

Q. But you've got one in the Fruitland Coal over in the SW/4?

A. Correct.

Q. And that's also an XTO well?

A. It is.

Q. Now, is the ownership -- does XTO have 100 percent working interest ownership in Section 1?

A. We do in that -- Ryan indicated that we do in the E/2. I'm not certain on the W/2, but often if we have 100 percent in one half a section, we would -- there's a big chance we would have that in the west half.

Q. Well, that's a concern to me. Let me see: Do you know if that's set up -- your previous witness indicated he didn't know. Do you know if that is set up -- those wells there are set up in the E/2 unit in Section 1 or whether they're a N/2 unit?

A. Think it's an E/2, W/2 unit.

Q. Okay. It it's an E/2 unit, then I think we're okay. But --

A. We could certainly get that information.

MR. BROOKS: Could you supplement the record with that information, Mr. Kellahin?

MR. KELLAHIN: We'll double-check. It's my understanding it was an E/2 spacing unit, but we'll check it.

Q. (By Mr. Brooks): Okay. Then up in the -- well,

in Section 31 we're okay, because I'm sure the way the operatorship is denoted, that's going to be a S/2 unit. BP is the operator of that well, correct?

A. Correct.

Q. And they would put their own acreage in the well. Now, up in Section 36, is that -- there's a well that's shown that look like it's very close to the center line to the east/west center line of Section 36. It looks like a Fruitland Coal well. Do you know if that one is in the SE/4 -- or the SW/4?

A. I'm quite sure it's in the SE/4.

Q. Okay.

A. And I'm sure that must be a laydown since that is so close to the center line.

Q. And that's a BP well.

A. Yes, it is.

Q. Okay. I guess my only concern, then, is about Section 1, to be sure that that is in the E/2 unit.

MR. KELLAHIN: We'll double-check.

MR. BROOKS: Okay. Thank you.

EXAMINATION

BY MR. WARNELL:

Q. Yes. I have a question. If we could go to Tab 5, second page, on your cross section.

A. Okay.

Q. The first well there in your cross section, No. 58 is it?

A. Yes. The 59, yes.

Q. Oh, 59, okay. That little blue-dashed line goes right through there. Two zones are perforated here?

A. Yes. That well is a Fruitland Coal and Pictured Cliffs completion.

Q. Okay.

A. And they would have -- I'm sure they must have proper permission to have both of those wells.

Q. I'll check on that just as an exercise.

MR. WARNELL: That's all the questions I have. Thank you.

MR. JONES: Okay. That was very informative. Thank you very much.

THE WITNESS: Thank you.

MR. JONES: Okay. With that, we'll take Case 14247 under advisement.

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____, heard by me on _____.

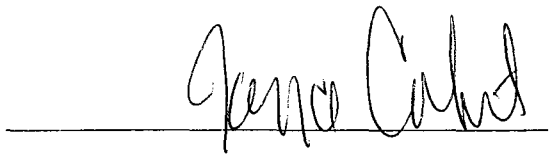
_____, Examiner
Oil Conservation Division

REPORTER'S CERTIFICATE

I, JOYCE D. CALVERT, Provisional Court Reporter for the State of New Mexico, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings and was reduced to printed form under my direct supervision.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this proceeding.

DATED this 4th day of December, 2008.



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STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO)

I, JOYCE D. CALVERT, a New Mexico Provisional Reporter, working under the direction and direct supervision of Paul Baca, New Mexico CCR License Number 112, hereby certify that I reported the attached proceedings; that pages numbered 1-42, inclusive, are a true and correct transcript of my stenographic notes. On the date I reported these proceedings, I was the holder of Provisional License Number P-03.

Dated at Albuquerque, New Mexico, 4th day of December, 2008.

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