

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 XTO ENERGY, INC., FOR	)	CASE NO. 13,970
SIMULTANEOUS DEDICATION AND AN EXCEPTION	)	
TO THE WELL DENSITY REQUIREMENTS OF THE	)	
SPECIAL RULES AND REGULATIONS FOR THE	)	
BLANCO-MESAVERDE POOL	)	
	)	
APPLICATION OF XTO ENERGY, INC., FOR	)	CASE NO. 13,971
SIMULTANEOUS DEDICATION AND AN EXCEPTION	)	
TO THE WELL DENSITY REQUIREMENTS OF THE	)	
SPECIAL RULES AND REGULATIONS FOR THE	)	
BLANCO-MESAVERDE POOL	)	
	)	(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID K. BROOKS, Jr., Hearing Examiner

August 23rd, 2007

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID K. BROOKS, Jr., Hearing Examiner, on Thursday, August 23rd, 2007, 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

August 23rd, 2007  
Examiner Hearing  
CASE NOS. 13,970 and 13,971 (Consolidated)

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## A P P E A R A N C E S

FOR THE APPLICANT:

KELLAHIN & KELLAHIN

117 N. Guadalupe

P.O. Box 2265

Santa Fe, New Mexico 87504-2265

By: W. THOMAS KELLAHIN

\* \* \*

1           WHEREUPON, the following proceedings were had at  
2   8:22 a.m.:

3           EXAMINER BROOKS: At this time we will call Case  
4   13,970, Application of XTO Energy, Inc., for simultaneous  
5   dedication and an exception to the well density  
6   requirements of the special rules and regulations for the  
7   Blanco-Mesaverde Pool.

8           Call for appearances.

9           MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of  
10   the Santa Fe law firm of Kellahin and Kellahin, appearing  
11   on behalf of the Applicant, and I have three witnesses to  
12   be sworn.

13          EXAMINER BROOKS: Any other appearances?

14          Okay, Mr. Padilla had entered an appearance  
15   previously in this case, but he's not here this morning.

16          Witnesses please stand to be sworn, and identify  
17   yourselves for the record.

18          MR. KLUTSCH: John Klutsch, division geologist.

19          MS. FLYNN: Mary Flynn, senior reservoir  
20   engineer.

21          MR. SPENCER: Christopher Spencer, senior  
22   landman.

23          EXAMINER BROOKS: Okay.

24          (Thereupon, the witnesses were sworn.)

25          EXAMINER BROOKS: Okay, you may proceed, Mr.

1 Kellahin.

2 MR. KELLAHIN: Mr. Examiner, for purposes of the  
3 record we would ask that you call the next case so that  
4 they can both be consolidated and heard with the same  
5 exhibit package.

6 EXAMINER BROOKS: Very good, at this time we will  
7 call Case Number 13,971, Application of XTO Energy, Inc.,  
8 for simultaneous dedication and an exception to the well  
9 density requirements of the special pool rules and  
10 regulations for the Blanco-Mesaverde Pool.

11 Call for appearances.

12 MR. KELLAHIN: Same appearances, Mr. Examiner.

13 EXAMINER BROOKS: Very good. Cases Numbers  
14 13,970 and 13,971 will be consolidated for purposes of  
15 hearing.

16 MR. KELLAHIN: Mr. Examiner, I have a package of  
17 documents for you. One is in a folder. Those are the  
18 technical exhibits for the witnesses. In addition, I have  
19 compiled for reference and marked as Exhibits 2, 3 and 4  
20 the prior orders entered by the Division dealing with the  
21 approval of each of these two nonstandard proration units.

22 EXAMINER BROOKS: Okay.

23 MR. KELLAHIN: In both cases we're dealing with  
24 Mesaverde and Dakota nonstandard units that back in about  
25 '57 were approved by the Commission as nonstandard units of

1 oversized acreage. They're approximately 471, and the  
2 other one is 409.

3 The purpose to be here today is, there's enough  
4 acreage to drill an additional density well for those  
5 spacing units. And when you do the math, our density per  
6 well is approximately 80 acres, which then matches the  
7 conventional density for other spacing units around us that  
8 are on the standard 320 acres. So that's the predicate.

9 Mr. Examiner, to give you a geologic background  
10 of what the geology looks like in these spacing units, I'm  
11 going to call our first witness, Mr. John Klutsch.

12 JOHN KLUTSCH,

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

15 DIRECT EXAMINATION

16 BY MR. KELLAHIN:

17 Q. For the record, sir, would you please state your  
18 name and occupation?

19 A. John Klutsch, division geologist for XTO Energy.

20 Q. And where do you reside, sir?

21 A. Fort Worth, Texas.

22 Q. On prior occasions have you testified before the  
23 Division?

24 A. Not this Division, no, sir.

25 Q. Would you summarize for us your education?

1           A.    I have two degrees in geological engineering from  
2   Colorado School of Mines.

3           Q.    When did you graduate?

4           A.    1975 and again in 1989.

5           Q.    What are your primary responsibilities for XTO?

6           A.    Exploration and development of oil and gas in the  
7   San Juan Basin for XTO.

8           Q.    As part of your duties, are you responsible for  
9   looking at the geology involved within the areas associated  
10   with these two Applications?

11          A.    Yes.

12          Q.    As a result of that study, have you determined  
13   that you have sufficient data upon which to make  
14   recommendations to the Examiner?

15          A.    Yes.

16          Q.    And at this point are you prepared to make those  
17   recommendations?

18          A.    Yes.

19               MR. KELLAHIN:  We tender Mr. John Klutsch as an  
20   expert petroleum geologist.

21               EXAMINER BROOKS:  He's so qualified.

22          Q.    (By Mr. Kellahin)  Mr. Klutsch, let me ask you to  
23   turn to what we've marked collectively as Applicant Exhibit  
24   Number 1.  After identifying it as Exhibit 1, all other  
25   pages associated with that exhibit refer to a number,



1 right?

2 A. Correct.

3 Q. Focus for us on the topic of investigation that  
4 you made as a geologist.

5 A. The purpose of my studies was to look at the  
6 Mesaverde formation in the area, examine every wellbore log  
7 that I could find, and map both structurally and  
8 stratigraphically the net pay of the most important  
9 sections within the Mesaverde.

10 Q. Would you turn to page 2 of Exhibit 1 and  
11 identify the other individuals that participated with you?

12 A. Yes, Mary Flynn is a reservoir engineer working  
13 with me, and Chris Spencer is the landman.

14 Q. Have you reached a conclusion with the assistance  
15 of the other technical people on what to do about  
16 additionally drilled wells in these two spacing units?

17 A. Yes.

18 Q. And what is your conclusion?

19 A. We feel that there's adequate area within the two  
20 spacing units to allow an additional well.

21 Q. Using page 2 as a guide, describe for us what  
22 your predicate is for this.

23 A. Presently the rules call for four wells on a 320-  
24 acre spacing unit, or 80 acres per well. The Snyder Unit  
25 has 409.25 acres, the Gerk Unit has 407.56 acres. Based on

1 the 80 acres per well, we have an additional acreage to  
2 allow a fifth well within the spacing unit.

3 Q. Let's help the Examiner locate the part of the  
4 San Juan Basin that you're investigating. If you'll turn  
5 to page 3 --

6 A. Yes.

7 Q. -- use that to illustrate where you are.

8 A. This is a somewhat regional map of the San Juan  
9 Basin. It's a structure map on top of the Huerfanito  
10 bentonite. Its contour interval is 50 feet. The beds are  
11 dipping or sloping to the north and east. I have a blue  
12 box indicating the location on Bloomfield, New Mexico, and  
13 our Sections 19 and 30 of Township 29 North, Range 9 West,  
14 are located approximately seven or eight miles east of  
15 Bloomfield.

16 Q. Do you have a map that shows this on a closer  
17 point of view?

18 A. Yes.

19 Q. Let's turn to Exhibit [sic] 4. Identify for us  
20 what we're seeing with this exhibit.

21 A. We're looking at a location map. In the center  
22 of it is the Sections 19 and 30. They're colored yellow,  
23 indicating XTO ownership of the lease.

24 The wells are highlighted with -- let's call them  
25 donuts. The blue donut indicates it's a Mesaverde

1 producer, a pink is a Dakota producer, and the red on  
2 there, that's Chacra production.

3 Q. Can you separate for us the two spacing units  
4 we're dealing with by using this display?

5 A. Yes, I can.

6 Q. Do that, please.

7 A. The black square in the Section 19, that doesn't  
8 take in all of 19, and that's referred to as the Snyder  
9 spacing unit. And another black rectangle to the south of  
10 it that takes in part of Section 19 and the north half of  
11 30, and that's referred to as the Gerk spacing unit.

12 Q. Let's turn to Exhibit [sic] 5 and have you again  
13 help us orient you so the Examiner can see the two spacing  
14 units involved and have you help him identify where the  
15 existing wells are located. You're looking at a  
16 topographic map?

17 A. Correct. This was to give the Commissioner an  
18 idea of what's on the ground, streams, roads, et cetera.  
19 The locations of the wells are again -- are highlighted  
20 with the well names pointing to them, and the donuts once  
21 again are -- blue is Mesaverde and pink is Dakota, and  
22 there's a couple red partial donuts that represent Chacra  
23 production.

24 Q. Let me direct your attention to the northern  
25 spacing unit that's identified as the Snyder spacing unit.

1 Within that area there currently exists four Mesaverde  
2 wells and three Dakota wells?

3 A. Correct.

4 Q. Under the current approved rules, what is the  
5 maximum density if you had a conventional 320-acre spacing  
6 unit?

7 A. It would be four wells per each formation.

8 Q. So your desire to have a fifth Mesaverde well at  
9 this time is in excess of the rule?

10 A. Correct.

11 Q. Show us on this display where you have marked the  
12 approximate location of what will be the fifth Mesaverde  
13 well.

14 A. In the lower left-hand corner of the Snyder  
15 spacing unit is an open circle labeled XTO Snyder Gas Unit  
16 B Number 1N. That location would be a fifth well for that  
17 spacing unit.

18 And to the northeast of the Gerk spacing unit  
19 there's once again an open circle labeled XTO Gerk Gas Com  
20 B Number 2. That would be the fifth well for the Gerk  
21 spacing unit.

22 Q. So the Gerk spacing unit consists -- already has  
23 on it four Mesaverde wells?

24 A. Correct.

25 Q. Based upon your geologic review of this area, are

1 the locations that you have chosen for each of these two  
2 wells appropriate in terms of trying to recover additional  
3 hydrocarbons out of the Mesaverde formation that you would  
4 not otherwise recover?

5 A. Yes.

6 Q. Let's illustrate that to the Examiner. If you'll  
7 turn to page 6, first of all identify for the Examiner what  
8 it is that he's looking at when he looks at page 6.

9 A. Once again, this is a zoom-in of the area showing  
10 the location of all wells, and a structure contour on the  
11 top of the Menefee formation. The contour interval is 50  
12 feet, and once again the beds are dipping to the northeast.

13 Q. When you look at the area shaded in yellow in  
14 Section 19, there are two black-outlined squares --

15 A. Correct.

16 Q. -- with a dot in the -- within those squares?

17 A. Yes.

18 Q. The northern one is the Snyder infill well?

19 A. Correct.

20 Q. And the southern one is the -- which will be the  
21 fifth Gerk well?

22 A. Correct.

23 Q. What's your conclusion about the relationship of  
24 the position of those two wells as we look at the structure  
25 map on the Menefee?

1           A.    Their relationship to the other wells indicate  
2           that they're evenly spaced between existing Mesaverde and  
3           Dakota wells, that we're not crowding one well or the  
4           other.

5           Q.    Is there a structural consequence in the Menefee  
6           that's of importance to you?

7           A.    Not particularly. This was just to give the  
8           Commission an idea of the overall structural style of the  
9           area. There's nothing more significant about one location  
10          or the other, structurally.

11          Q.    As a geologist, what then is the major tool that  
12          you'll use so that you can look at the subsurface and  
13          correlate these formations that you think are productive?

14          A.    Well, I examined the well logs and looked for  
15          productive sands, or in some cases coals, and then I do an  
16          isopach or a summation of pay within the zone and map that.

17          Q.    As part of that process, do you actually  
18          construct a cross-section map?

19          A.    Yes.

20          Q.    Do you have one that we could look at?

21          A.    Yes.

22          Q.    Let's turn to page 7. When we're looking at this  
23          cross-section, do you have a locator map that will give us  
24          a general idea of where these wells are linked?

25          A.    Yes, on page 6, the previous one, there's really

1 two red lines. One comes from the north and heads south,  
2 and that's a north-south cross-section. And the other red  
3 line goes from the west to the east, and that's a west-to-  
4 east cross-section. That goes from well to well, and those  
5 identify the wells that are present on the cross-section.

6 Q. So when we turn to page 7, then, we're looking at  
7 the west-to-east cross-section?

8 A. Correct.

9 Q. What kind of data are we looking at here?

10 A. We're looking at open-hole logs on the wellbores.  
11 This cross-section is hung stratigraphically, where every  
12 well is correlated to the top of the Menefee, which is a  
13 purple horizontal line. Above it is the top of the Cliff  
14 House, and the abbreviations for the various formations are  
15 on the side of each of the cross-sections.

16 Lower in the section is a blue line labeled Point  
17 Lookout, and at the base is a brown line labeled Mancos.

18 Q. As you correlate these wells, is there a marker  
19 point that can readily identify in the area on which to  
20 hang these cross-sections?

21 A. Yes.

22 Q. And what is that?

23 A. The Menefee.

24 Q. Now when we look at the cross-sections, what is  
25 it about this cross-section and the data that tells you

1 that the area can support an additional infill well?

2 A. For one, the -- just a brief look at the data  
3 indicate that the sands are continuous but somewhat  
4 discontinuous across the area. The Cliff House is a strong  
5 sand, the gamma ray is colored yellow. The Menefee is a  
6 little more discontinuous mixture of sands and coals and  
7 shales. Then the Point Lookout, again, is a more  
8 continuous sand, and the productive intervals are shown  
9 with magenta perforations, and they are coincident with a  
10 higher resistivity.

11 Q. What is it about the Mesaverde that causes you to  
12 believe that this area can support an additional infill  
13 well for each of the spacing units?

14 A. The wells are -- or these formations are  
15 generally of low porosity and not great permeability, and  
16 the current wells are not draining the appropriate -- or  
17 not draining the entire section, areal. So there's  
18 additional acreage within these two sections that would  
19 allow us to put in an additional well.

20 Q. When you look at these logs, Mesaverde is a sand  
21 reservoir, is it not?

22 A. It's a mix of sand and coal. There's coals in  
23 the Menefee that are productive as well.

24 Q. When you analyze the geology and look from  
25 wellbore to wellbore, are there points of possible



1 production that are discontinuous from one well to the  
2 next?

3 A. Yes. For example, the second well on the cross-  
4 section west to east has a strong sand about two-thirds of  
5 the way down in the Menefee that produced -- it's  
6 perforated. And the wells immediately to left and right of  
7 it, that sand does not appear to be existing.

8 Q. Would the introduction of an additional well in  
9 the spacing unit afford the opportunity to encounter those  
10 stringers that have not been fully developed or drilled in  
11 the offsetting wells?

12 A. Yes.

13 Q. That's the concept, right?

14 A. Uh-huh.

15 Q. Let's turn to page 7 and look at the north-south  
16 cross-section, and see if you see anything materially  
17 different when you look at the Mesaverde in that  
18 orientation.

19 EXAMINER BROOKS: That would be page 8, correct?

20 MR. KELLAHIN: I'm sorry, page 8.

21 THE WITNESS: Once again, page 8 or the north-to-  
22 south cross-section depicts a similar picture that the  
23 previous cross-section, and it shows that the sands within  
24 the Menefee portion of the Mesaverde are discontinuous, the  
25 Cliff House is somewhat variable, and the Point Lookout,

1 again, is somewhat variable across the area.

2 Q. (By Mr. Kellahin) Is there anything about  
3 Exhibit [sic] 8 that causes you to change your conclusions  
4 that you've previously described?

5 A. No.

6 Q. Let's turn to exhibit page 9, and identify this  
7 for us.

8 A. This is a -- Page 9 is a net pay isopach of the  
9 Cliff House sand. It shows a bar-shaped deposit crossing  
10 Sections 19 and 30, and you can -- by examining this you  
11 can see where the net pay of the Cliff House is continuous  
12 across the area, but there's sufficient variability in it  
13 to allow differences in the hydrocarbon content of each of  
14 the new wells.

15 Q. Have you prepared a similar exhibit and analysis  
16 for the Menefee?

17 A. Yes.

18 Q. Let's turn to that. That should be page 10?

19 A. Yes.

20 Q. What do you see when you look at the isopach of  
21 the Menefee?

22 A. Quite variability. Strong changes from thicks to  
23 thins over the section. This is a result of the type of  
24 deposit it is. It's made up of channel sands, shales and  
25 coals, and so it's discontinuous. As a result, the isopach

1 becomes highly variable.

2 Q. Are the conclusions you reach about the Menefee  
3 similar to those you reached about the Cliff House?

4 A. Yes.

5 Q. And the last major area of isopach is looking at  
6 the Point Lookout?

7 A. Correct.

8 Q. Let's look at that as exhibit page 11.

9 A. Page 11 again shows the net pay isopach of the  
10 Point Lookout. And it is, like the Cliff House, continuous  
11 over the area but has some fairly good variability to  
12 indicate the areas where additional hydrocarbons can be  
13 extracted.

14 Q. Have you used your geologic skills to aid the  
15 reservoir engineer so that she could do some volumetric  
16 calculations and make estimates of drainage areas  
17 associated with these wells?

18 A. Yes.

19 Q. Do you have a recollection of the approximate  
20 thickness that would be appropriate for her to apply to a  
21 volumetric calculation?

22 A. Yes, I do.

23 Q. And what is that?

24 A. We used a conservative summation of the net pay,  
25 kind of an average between these two locations, of 117 feet

1 of net pay at these locations for her calculations.

2 Q. In determining a net-pay cutoff, what value were  
3 you using for a cutoff?

4 A. We're using a resistivity of greater than 20  
5 ohms, had to have gamma-ray of less than 65 API units, and  
6 a porosity of 9 percent.

7 Q. In your opinion, are those reasonable parameters  
8 to use in such calculations?

9 A. Yes.

10 Q. In summary, then, Mr. Klutsch, is it your opinion  
11 that the Division should approve the drilling of these two  
12 additional infill wells for these spacing units to provide  
13 the opportunity to recovery hydrocarbons that otherwise  
14 might not be recovered?

15 A. Yes.

16 MR. KELLAHIN: That concludes my examination of  
17 Mr. Klutsch.

18 We move the introduction of his Exhibit 1, pages  
19 1 through 11.

20 EXAMINER BROOKS: Okay, Exhibit 1, pages 1  
21 through 11, will be admitted.

22 EXAMINATION

23 BY EXAMINER BROOKS:

24 Q. If I understand your testimony correctly, the  
25 locations of these particular wells are selected for

1 spacing from the other wells, and your geologic  
2 presentation doesn't really tell us anything specific about  
3 why the locations are selected at the particular points  
4 where they are?

5 A. That would be a correct conclusion, yes, sir.

6 Q. Okay. These are both at standard locations?

7 A. I believe they are.

8 EXAMINER BROOKS: Okay, I think that's all I  
9 have.

10 MR. KELLAHIN: Thank you.

11 Mr. Examiner, we'd next call Mary Flynn. Ms.  
12 Flynn is a petroleum engineer and has prepared the  
13 engineering exhibits that we're about to discuss, contained  
14 within Exhibit Number 1.

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

18 DIRECT EXAMINATION

19 BY MR. KELLAHIN:

20 Q. Ms. Flynn, for the record, ma'am, would you  
21 please state your name and occupation?

22 A. Mary Flynn, I'm a reservoir engineer at XTO  
23 Energy.

24 Q. Ms. Flynn, on prior occasions have you testified  
25 before the Division?

1 A. No, sir, I haven't.

2 Q. Summarize for us your education.

3 A. I have a bachelor's from Texas A&M University,  
4 graduated in 1984. I also have a professional engineering  
5 certification.

6 Q. What is your current responsibilities for XTO?

7 A. I'm a reservoir engineer in the San Juan Basin.

8 Q. As part of your duties, were you asked to examine  
9 the reservoir components concerning the two Applications  
10 that your company has before Examiner Brooks this morning?

11 A. Yes, sir.

12 Q. As part of that study, did you investigate the  
13 available data to you?

14 A. I did.

15 Q. As a result of that study, do you now have  
16 conclusions and recommendations to the Examiner?

17 A. Yes, sir.

18 MR. KELLAHIN: Mr. Brooks, we tender Ms. Flynn as  
19 an expert petroleum engineer.

20 EXAMINER BROOKS: So qualified.

21 Q. (By Mr. Kellahin) Ms. Flynn, let me turn you to  
22 Exhibit 1, and let's start at page 12. This again is the  
23 locator map we showed Mr. Brooks earlier. Are you familiar  
24 with this map?

25 A. Yes, I am.

1           Q.    When we look at -- Let's start with the Snyder  
2 location.  You see the spacing unit for Snyder, and you see  
3 the proposed additional density well?

4           A.    Yes.

5           Q.    From an engineering point of view, is there a  
6 choice being made by you as to where this well is located?

7           A.    Yes.  You know, we wanted to be, you know, evenly  
8 spaced so we weren't crowding one well or another.  In  
9 addition, we had to consider the topography.  There's  
10 creeks, rivers, running through that section, so that was  
11 somewhat of a consideration.  But we were able to place the  
12 well, you know, almost exactly where we would want to, to  
13 keep even space between the wells.

14          Q.    And then as you look south and you pick up the  
15 spacing unit associated with the Gerk well, the proposed  
16 new Gerk well, how is it located?

17          A.    Very similarly to the last.  There is more of a  
18 cliff structure, and so we needed to stay on top of that  
19 cliff structure in order to have a location for the well.  
20 But it turns out to be, you know, very equally spaced, and  
21 it is a standard location within that spacing unit.

22          Q.    And the focus of this study at this point is to  
23 examine the Mesaverde?

24          A.    Yes, sir.

25          Q.    Is it your plan that you will probably drill

1 these wells to the base of the Dakota?

2 A. Yes, we will.

3 Q. And it may be at some point in the future that  
4 you would seek approval to modify this order to add the  
5 Dakota formations?

6 A. That is correct.

7 Q. In studying the Mesaverde itself, have you  
8 studied the production of the Mesaverde wells in the  
9 immediate area?

10 A. I have.

11 Q. Can you conclude for us that these locations are  
12 going to be at a point such that you have the opportunity  
13 to recover Mesaverde gas that would not be recovered by  
14 existing wells?

15 A. Yes.

16 Q. And how did you satisfy yourself of that  
17 conclusion?

18 A. Well, for each well I calculated the net feet of  
19 perforated pay, perforated and fractured pay, and then the  
20 cumulative gas that we expected to get from that well.

21 And then using the porosity, the net pay and the  
22 gas saturation from Mr. Klutsch, I was able to calculate  
23 the drainage radius that we expected from each well.

24 And when I averaged the drainage radius from all  
25 the wells, it -- like for the Snyder unit, it's 57 acres --



1 or actually, that's the average of the Gerk and the Snyder  
2 wells.

3 So 57 acres are being drained, which is  
4 significantly less than the approximately 90 acres or 80  
5 acres we need to get to drain the unit properly.

6 Q. All right, let me direct your attention to  
7 Exhibit 1, page 13. Does this represent a summary of your  
8 work product?

9 A. It does.

10 Q. Let's go back through the details of that.

11 A. The average gas saturation is 40 percent. I  
12 determined that from the log analysis, using the porosity  
13 and resistivity logs, was able to calculate that  
14 saturation. Our porosity average is 90 percent.

15 There was an average of 117 feet of net  
16 perforated pay in the adjacent wells. Using that with  
17 formation volume factor, it calculated a drainage area of  
18 existing wells of 57 acres.

19 Q. You're using a conventional volumetric  
20 calculation?

21 A. I am.

22 Q. You've identified for us the major components of  
23 that calculation, the numbers of which would be significant  
24 in terms of how they affect the ultimate number?

25 A. Yes, sir.

1 Q. Are there other components to the volumetric  
2 calculation that you have assumed a value for?

3 A. Yes, sir, the estimated ultimate recovery, I  
4 refer to as the EUR, would be from decline analysis on each  
5 of the wells, the cumulative production and decline  
6 analysis to go further, so that we'd know ultimately how  
7 much we would drain from each well, not just the current  
8 drainage.

9 In addition, there's the formation volume factor,  
10 which is dependent upon the initial and the abandonment  
11 pressure in the reservoir.

12 Q. Are you satisfied that you used appropriate  
13 initial and abandonment pressures for these wells?

14 A. Yes, sir.

15 Q. And that all the variables that you've chosen for  
16 the calculations are fair and reasonable?

17 A. Yes, they are.

18 Q. The ultimate conclusion, then, from the  
19 calculation is that you have computed a drainage area  
20 that's associated with each well?

21 A. Yes, sir.

22 Q. And on average that's what number?

23 A. 57 acres.

24 Q. When you turn to page 14 of your display, what am  
25 I seeing here?

1           A.   Well, in addition to knowing that there would be  
2 remaining gas left, we wanted to make sure that if we  
3 drilled an additional well that it would be an economic  
4 well.

5                   And so based on the average of the wells that  
6 we've drilled, like post-2000 -- we've predominantly  
7 drilled wells like 2003 and 2004 -- those wells have  
8 averaged 460 million cubic foot ultimate recovery, is what  
9 we anticipate to get from those wells.

10                   So if we assume our fifth well would do the same,  
11 the rate of return is 43 percent, and we'd have a two-year  
12 payout, and that is favorable economics for XTO to drill a  
13 well.

14           Q.   So in addition to having recoverable gas, you can  
15 now do it economically?

16           A.   Correct.

17           Q.   And what is your recommendation to the Examiner?

18           A.   I recommend that we would be able to drill a  
19 fifth well in each of these two units.

20                   MR. KELLAHIN: That concludes my examination of  
21 Ms. Flynn.

22                   We move the introduction of her portions of  
23 Exhibit 1, which would be pages 12 through 14.

24                   EXAMINER BROOKS: Exhibit 1, pages 12 through 14  
25 will be admitted.

## EXAMINATION

BY EXAMINER BROOKS:

Q. I'm going to ask you some very basic questions here, because I'm not an engineer.

First of all, this 117 feet of net pay, I heard Mr. Klutsch say that that was an average. Now is that from the existing wells?

A. Yes, sir, it's from the existing wells, from their logs, and then the intervals that we perforated. So we would only perforate intervals that we expected would release hydrocarbons. So the range on those is 66 feet to 157, with the average being 117 feet.

Q. Right. Okay, so then the next step in your calculation is to determine the volume of the reservoir, correct?

A. Right.

Q. And you do that by assuming that -- You've got a 9-percent porosity, so take the 117 feet. Nine percent of that is going to be pore space?

A. Correct.

Q. And then 40 percent of that pore space is gas?

A. Exactly.

Q. So that's a fairly simple mathematical --

A. It is, it is. It's very simple, correct.

Q. But the wells, even for their entire life, will

1 not produce all of that gas out of the reservoir because of  
2 the abandonment pressures, correct?

3 A. Correct.

4 Q. The pressure decline.

5 A. Normally, we would expect to get somewhere over  
6 80 percent recovery --

7 Q. Yeah.

8 A. -- of the gas in place.

9 Q. Okay, do you have -- you have the recovery  
10 percentage factor in this EUR calculation then?

11 A. Well, where that comes into place would be, the  
12 EUR was calculated based on the cumulative production to  
13 date and then the current production, so I'm looking at a  
14 graph of the production doing decline curve analysis from  
15 where --

16 Q. Right.

17 A. -- it currently is, and then calculating that  
18 area underneath that curve. So the recovery would be built  
19 into that calculation of the EUR.

20 Q. Okay, so you developed the EUR from the decline  
21 curve analysis, the actual decline of the production of the  
22 well as it has produced --

23 A. Right.

24 Q. -- to date?

25 A. Right, as opposed to calculating the entire

1 volume --

2 Q. Yeah.

3 A. -- of that reservoir and applying a recovery  
4 factor by going off the actual production from the wells,  
5 it gives us a more realistic --

6 Q. Yeah, that would seem to be a more accurate  
7 method where you have the data available -- where you have  
8 a considerable number of wells available --

9 A. Right --

10 Q. -- you use the other --

11 A. -- -- if we didn't have them --

12 Q. -- I noticed --

13 A. -- we would --

14 Q. -- they used the other method, the --

15 A. Right.

16 Q. Okay. And then when you apply the estimated  
17 ultimate recovery of each well, that will give you the  
18 amount that they will recover out of what you've determined  
19 to be the total reservoir volume?

20 A. Exactly.

21 Q. Assuming, of course, what you know is not true;  
22 but you nevertheless have to assume something, so you  
23 assume that, that the amount of net pay is uniform  
24 throughout the --

25 A. Well, the way I came up with the 117 was, I

1 calculated the net pay in each individual well, the EUR in  
2 each well, and the drainage radius in each well, and then  
3 did an average of each of those --

4 Q. Right --

5 A. -- so --

6 Q. -- so that's --

7 A. -- so it isn't exactly --

8 Q. It's the best data you've got, which with --

9 A. Which actually is a lot of data --

10 Q. Yeah, it's --

11 A. -- you know, we've got a lot of data here, much  
12 more than I often have to make these --

13 Q. Exactly. Okay, I think I understand the  
14 calculations. Thank you, that's all the questions I have.

15 Oh, I guess one other. I asked Mr. Klutsch this,  
16 and he -- maybe Mr. Kellahin should answer this question  
17 because I have not seen the footages anywhere in this  
18 record. Are these all standard -- Are these both standard  
19 locations?

20 MR. KELLAHIN: It's my belief that they are.

21 THE WITNESS: Yes.

22 MR. KELLAHIN: In the Application is an inventory  
23 for each of the spacing units of all the existing wells,  
24 and it will show the footage of the additional infill well.  
25 So they're contained within the body of the Application.

1 EXAMINER BROOKS: Oh, okay.

2 MR. KELLAHIN: But the answer to your question  
3 is, it's standard.

4 EXAMINER BROOKS: Thank you.

5 MR. KELLAHIN: Mr. Brooks, our last witness is  
6 Mr. Chris Spencer. Mr. Spencer is a petroleum landman, and  
7 he was responsible for determining the offset operators to  
8 notify and to aid me in the presentation of the affidavit.

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

12 DIRECT EXAMINATION

13 BY MR. KELLAHIN:

14 Q. For the record, sir, would you please state your  
15 name and occupation?

16 A. My name is Christopher Spencer, senior landman  
17 for XTO Energy, Inc.

18 Q. And where do you reside, sir?

19 A. Forth Worth, Texas.

20 Q. As part of your responsibilities for XTO, have  
21 you studied the land ownership involved in the two spacing  
22 units?

23 A. Yes.

24 Q. Have you testified before the Division on prior  
25 occasions?



1 A. Yes, I have.

2 Q. As part of the study of the area, how did you go  
3 about deciding that you had an accurate tabulation of the  
4 interest owners? What's the source?

5 A. We searched oil and gas commission records, we  
6 also searched *PI Dwight's* production data to determine the  
7 offset operators from the sections surrounding both Section  
8 19 and Section 30 of Township 29 North, Range 9 West. We  
9 acquired the addresses of the offset operators, and they  
10 were notified by certified mail.

11 Q. Attached to the exhibit package is, Mr. Examiner,  
12 in addition to the various orders, there's an Exhibit 5,  
13 which is a certificate of notification. I've handed that  
14 to Mr. Spencer.

15 When you examine the parties notified contained  
16 within that Exhibit Number 5, Mr. Spencer, have you  
17 satisfied yourself that we have notified or at least had a  
18 list by which we could notify all the affected parties?

19 A. Yes.

20 Q. Can you aid the Examiner and describe for him  
21 where these offset parties are located, when you walk  
22 around the spacing unit? You have a locator map?

23 A. Yes.

24 Q. Which page are you looking at?

25 A. I don't have my page number, but it's the

1 ownership map that we've provided. I think it's page 4.

2 Q. Let's turn to page 4 of Exhibit Number 1.  
3 Starting wherever you'd like to start on that exhibit,  
4 would you describe for us, for the Examiner, where those  
5 parties are located?

6 A. Yes, the parties -- I guess we could start by  
7 Township 29 North, Range 9 West. This is Section 29. D.J.  
8 Simmons Company --

9 EXAMINER BROOKS: You're starting with 29, that's  
10 the southeast corner of the map?

11 THE WITNESS: Of the map, correct.

12 EXAMINER BROOKS: Okay, go ahead.

13 THE WITNESS: Okay, D.J. Simmons Company and  
14 ConocoPhillips Company.

15 Going north to Section 20, also ConocoPhillips  
16 Company, Burlington Resources Oil and Gas Company, LP.

17 North to Section 17, BP America Production  
18 Company.

19 Section 18, moving west, also BP America  
20 Production Company.

21 In Section 13 -- this is Township 29 North, this  
22 is Range 10 West -- Burlington Resources Oil and Gas  
23 Company, LP.

24 South to Section 24 is XTO Energy. We notified  
25 our working interest parties. These consist of various

1 parties on this list, San Juan 1984 partnership, William G.  
2 Webb Estate, Bill L. Bledsoe Trustee, J. Glenn Turner, Jr.,  
3 John L. Turner, Fred E. Turner, Mary Francis Turner, Jr.,  
4 Trust, Betty Turner Calloway, Candace L. Kelton Cox,  
5 Georgia Lee Kelton.

6 South in Section 25, that is XTO-owned, 100  
7 percent.

8 In Section 19, Township 29 North, Range 9 West,  
9 we notified our working interest partners. That is  
10 Burlington Resources and another company, Production  
11 Gathering Company.

12 South in Section 30, that is also XTO Energy,  
13 Inc., and Burlington Resources.

14 And those are the parties that we were notified.

15 Q. (By Mr. Kellahin) As a result of those  
16 notifications, Mr. Spencer, have you received any objection  
17 to having the Division approve the Applications by your  
18 company?

19 A. No.

20 MR. KELLAHIN: Mr. Examiner, that completes my  
21 questions for Mr. Spencer.

22 At this point we move the introduction of the  
23 Applicant's Exhibit 1, 2, 3, 4 and 5.

24 EXAMINER BROOKS: Okay, 1 has already been  
25 admitted. 2, 3, and 4 are the orders, correct?

1 MR. KELLAHIN: Right.

2 EXAMINER BROOKS: And --

3 MR. KELLAHIN: -- 5 is the notice.

4 EXAMINER BROOKS: Okay, 2 through 5 are admitted.

5 EXAMINATION

6 BY EXAMINER BROOKS:

7 Q. Mr. Spencer, you went a little fast for me here.  
8 We got down to Section 24, and my understanding was that  
9 that's XTO, et al., and the et al.'s are the people  
10 beginning with San Juan 1984 partnership, continuing down  
11 your list on Exhibit B to -- through Georgia Lee Kelton,  
12 correct?

13 A. Correct.

14 Q. And then in Section 25 that's also XTO, et al.,  
15 correct?

16 A. That's XTO only, that's XTO 100 percent.

17 Q. Okay. Now where does the Production Gathering --  
18 where is their ownership?

19 A. Their ownership is in the north half of Section  
20 19 of 29 North, 9 West.

21 Q. Okay --

22 A. They are within the --

23 Q. -- where's 19 on this map?

24 A. It's in the center.

25 Q. Oh, that's -- they're in the -- they're in the

1 unit itself?

2 A. Correct, correct.

3 Q. Okay. And then you mentioned somebody else that  
4 was in that status.

5 A. Burlington Resources.

6 Q. Okay, Burlington, yeah. And Burlington is also  
7 the operator up in Section 13, correct?

8 A. Correct.

9 Q. Now in the white sections where XTO -- and  
10 Burlington is also the operator in the south half of  
11 Section 30?

12 A. Yes.

13 Q. Okay. Now in the white sections, the people you  
14 identified, are those -- because I noticed you identified a  
15 couple of -- or two different companies in 20 and 29. Did  
16 you identify all the working interest owners in the white  
17 sections as well as in the yellow sections or --

18 A. In the white sections we notified the operators  
19 of record. We did not notify any other working interest  
20 parties, we did not --

21 Q. Okay, so where -- So in Sections 29 and 20, both  
22 of the two identified parties operate wells in those  
23 sections?

24 A. Correct.

25 EXAMINER BROOKS: Okay, I believe you did it

1 correctly. Thank you.

2 MR. KELLAHIN: That concludes our presentation,  
3 Mr. Brooks.

4 EXAMINER BROOKS: Very good. If there's nothing  
5 further, Cases 13,970 and 13,971 will be taken under  
6 advisement.

7 (Thereupon, these proceedings were concluded at  
8 9:06 a.m.)

9 \* \* \*

10  
11  
12  
13  
14 I do hereby certify that the foregoing is  
15 a complete record of the proceedings in  
16 the Examiner hearing of Case No. 13970/71  
17 heard by me on Aug 23 2007  
18 David K. Porter Examiner  
19 Oil Conservation Division  
20  
21  
22  
23  
24  
25

## 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 August 25th, 2007.



STEVEN T. BRENNER  
CCR No. 7

My commission expires: October 16th, 2010