

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

ORIGINAL

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

APPLICATION OF OGX RESOURCES, LLC, CASE NO. 14531  
FOR THE APPROVAL OF A UNIT  
AGREEMENT, LEA COUNTY, NEW MEXICO.

TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

September 2, 2010, 8:47 a.m.

Santa Fe, New Mexico

BEFORE: TERRY WARNELL, Hearing Examiner  
DAVID K. BROOKS, Legal Advisor

This matter came on for hearing before the New Mexico Oil Conservation Division, TERRY WARNELL, Hearing Examiner, and DAVID K. BROOKS, Legal Advisor, on Thursday, September 2, 2010, at the New Mexico Energy, Minerals and Natural resources Department, 1220 South St. Francis drive, Room 102, Santa Fe, New Mexico.

REPORTED BY: Paul Baca  
Paul Baca Court Reporters  
500 Fourth Street, NW - Suite 105  
Albuquerque, New Mexico 87102

APPEARANCES

For OGX Resources, LLC:

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1 THE EXAMINER: Our third case is Case  
2 No. 14531, Application of OGX Resources, LLC, for  
3 the approval of a Unit Agreement, Lea County, New  
4 Mexico.

5 Call for appearances, please.

6 MR. BRUCE: Mr. Examiner, Jim Bruce, of  
7 Santa Fe, representing the applicant. I have two  
8 witnesses.

9 THE EXAMINER: Any other appearances?  
10 If your two witnesses would stand, state  
11 their names and be sworn.

12 (William Hardie and Garland Lang were duly  
13 sworn by the court reporter.)

14 GARLAND H. LANG,  
15 having been previously duly sworn, testified as  
16 follows:

17 DIRECT EXAMINATION

18 BY MR. BRUCE:

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

21 A. My full name is Garland H. Lang, and  
22 Midland, Texas, is my residence.

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

24 A. OGX Resources, and I'm the land manager.

25 Q. Have you previously testified before the

1 Division?

2 A. I have.

3 Q. And are your credentials as an expert land  
4 man accepted as matter of record?

5 A. Yes.

6 Q. Are you familiar with the land matters  
7 involved in this application?

8 A. Yes.

9 MR. BRUCE: Mr. Examiner, I tender  
10 Mr. Lang as an expert in petroleum land management.

11 THE EXAMINER: So recognized.

12 Q. (By Mr. Bruce) Mr. Lang, what is  
13 Exhibit 1?

14 A. Exhibit 1 is the State Exploratory Unit  
15 for the NLA state unit that we have a fully executed  
16 copy that we've submitted to the State of New Mexico  
17 for preliminary approval.

18 Q. And referring to Exhibit A of the Unit  
19 Agreement, what lands do you seek to unitize?

20 A. It would be all of Section 6, and the  
21 north half of the southwest quarter of Section 7,  
22 and all of Section 18 of Township 9 South, 33 East,  
23 Lea County, New Mexico.

24 Q. And Exhibit B lists the leases and the  
25 interest owners. Is the State of New Mexico the

1 only lessor in this matter?

2 A. Yes.

3 Q. And have all of the working interest  
4 owners executed the Unit Agreement?

5 A. Yes.

6 Q. Does this Unit Agreement cover all depths?

7 A. Yes.

8 Q. What is Exhibit 2?

9 A. Exhibit 2 is just the preliminary approval  
10 from the State of New Mexico.

11 Q. Okay. Is there a time deadline by which  
12 the unit must be finalized?

13 A. October 1st is our deadline.

14 Q. And why is that?

15 A. We've got a lease expiring. The lease in  
16 Section 7 has an expiration date of October 1st.

17 Q. Okay. So you would like to receive an  
18 order within the next couple of weeks so that the  
19 land office can finalize the Unit Agreement?

20 A. Yes, we do. Yes, sir.

21 Q. Mr. Lang, I'm handing you Exhibit 3. And  
22 could you discuss the initial well for the unit?

23 A. Okay. The initial well is going to be in  
24 Section 18 of 9 South, 33 East, with the surface to  
25 be a horizontal Abo cast, with the surface hole

1 location located 480 feet from the west line and  
2 480 feet from the south line.

3 Q. And the well location will be orthodox;  
4 will it not?

5 A. Yes.

6 Q. Were Exhibits 1, 2 and 3 compiled by you  
7 or prepared from company business records?

8 A. Yes.

9 Q. And in your opinion, is the granting of  
10 this application in the interest of conservation and  
11 the prevention of waste?

12 A. Yes.

13 MR. BRUCE: Mr. Examiner, I would move the  
14 admission of Exhibits 1 through 3.

15 THE EXAMINER: Exhibits 1 through 3 are  
16 admitted.

17 (Exhibits 1, 2 and 3 were admitted.)

18 MR. BRUCE: I have no further questions of  
19 this witness.

20 MR. BROOKS: No questions.

21 THE EXAMINER: You've mentioned, Mr. Lang,  
22 "all depths." So could you define that for me? Are  
23 we going from the surface to --

24 THE WITNESS: Well, the unit won't be  
25 limited in depth the way we've applied for it.

1 THE EXAMINER: You say your main target is  
2 Abo?

3 THE WITNESS: Yes, sir.

4 THE EXAMINER: And the approximate depth  
5 of the Abo is?

6 THE WITNESS: Well, it will be about  
7 8,500 feet, I believe.

8 THE EXAMINER: Okay.

9 THE WITNESS: We plan to drill a pilot  
10 hole with this initial well and log it, see if the  
11 Abo is productive. And then we'll drill sideways in  
12 it. So we could get down as far as 10,000 feet with  
13 the initial well.

14 THE EXAMINER: So you'll drill a vertical  
15 well down maybe 10,000 feet, log everything, and  
16 then --

17 THE WITNESS: And then go sideways.

18 THE EXAMINER: And your lateral is going  
19 to be approximately?

20 THE WITNESS: About 4,000 feet. The  
21 bottom hole is 480 feet from the west line and  
22 330 feet from the north line.

23 THE EXAMINER: Okay. I see it there. All  
24 right, thank you. I have no further questions.

25 MR. BRUCE: I call Mr. Hardie to the

1 stand.

2 WILLIAM HARDIE,  
3 having been previously duly sworn, testified as  
4 follows:

5 DIRECT EXAMINATION

6 BY MR. BRUCE:

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

9 A. My name is William Hardie.

10 Q. And where do you reside?

11 A. I reside in Midland, Texas.

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

13 A. I'm the exploration manager for  
14 OGX Resources.

15 Q. Have you previously testified before the  
16 Division?

17 A. I have.

18 Q. And are your credentials as an expert  
19 petroleum geologist accepted as a matter of record?

20 A. They were.

21 Q. And are you familiar with the geology  
22 involved in this application?

23 A. I am.

24 MR. BRUCE: Mr. Examiner, I tender  
25 Mr. Hardie as an expert petroleum geologist.



1 THE EXAMINER: So recognized.

2 MR. BRUCE: Mr. Examiner, there's a gap in  
3 the exhibits. There is no Exhibit 4. This is  
4 Exhibit 5. It's the only exhibit of the geologist.

5 Q. (By Mr. Bruce) Mr. Hardie, could you refer  
6 to Exhibit 5 and discuss the geology and what you  
7 hope to achieve with this unit?

8 A. Exhibit 5 consists of a geological writeup  
9 and five other figures that are referred to in the  
10 writeup.

11 If I could have you look at Figure 1,  
12 Figure 1 is a structural contour map on the base of  
13 the Abo formation. This stratigraphic marker  
14 immediately underlies our primary target for the  
15 development of this unit.

16 This map shows a gentle southeastward dip  
17 on the formation of about 2 degrees or about  
18 100 feet per mile. That's a pretty standard  
19 regional dip for Southeast New Mexico.

20 There are some structures shown on the  
21 map. Particularly in the bottom left-hand corner,  
22 there's a closed structure. But other than that,  
23 most of it is just regional dip.

24 The green circles indicate wells that have  
25 been completed vertically in the same Basal Abo Unit

1 that we intend to pursue with our development of the  
2 unit.

3 And as you can see with those circles,  
4 they trend in a dipward direction. The production  
5 of those particular wells does not appear to be  
6 related in any way to structural. This is in fact a  
7 stratigraphic tract.

8 If I could have you look at Figure 2, this  
9 is merely a zoomed-in map of the same structural  
10 horizon that we were looking at before. And you see  
11 the green circles on there, indicating the Abo  
12 producers.

13 These are vertical wells. Above each well  
14 is the cumulative production in oil in thousands of  
15 barrels for each well.

16 And as you can see, there are some very  
17 good vertical Abo producing wells on either side of  
18 our proposed unit. In Section 16 to the east,  
19 there's a well that cumulatively produced  
20 488,000 barrels of oil. And then on the western  
21 plank of the unit, in Section 13, you can see a well  
22 that produced 422,000 barrels of oil.

23 So the unit straddles those two good  
24 producers, although there are a number of dry holes  
25 in between.

1           And if we can take a look at Figure 3,  
2     Figure 3 depicts two different things. First of  
3     all, the critical aspect of this reservoir is that  
4     it be dolomitized.

5           So the lighter green shading on this map  
6     indicates areas where this Basal Abo unit has been  
7     dolomitized. Dolomite has a much higher  
8     permeability than limestone and is critical for  
9     being able to deliver hydrocarbons to the wellbore.

10          We consider the dolomitized interval to be  
11     prospective, regardless of porosity, particularly if  
12     one is considering drilling horizontally in the  
13     unit.

14          The next part of the map is the darker  
15     shaded green, and that represents a porosity cutoff  
16     of approximately 10 percent. And we feel like that  
17     is necessary for vertical production to be  
18     commercial in the Abo unit.

19          And as you can see, the darker green shade  
20     represents a big portion of the proposed state unit  
21     that we would like to develop.

22          Unfortunately, this map is not depicting  
23     the true nature of the reservoir. It is much more  
24     lenticular and much more heterogeneous than is  
25     depicted here. And that's evidenced by the number

1 of dry holes that have been drilled within that  
2 darker green shaded area.

3 Although those wells -- the dry holes have  
4 porosity, they don't have the necessary  
5 permeability. The bugs and fractures are not  
6 necessarily well connected to provide commercial  
7 reserves in vertical wellbores.

8 With the lenticular nature of this  
9 reservoir, we feel it's imperative that it be  
10 developed horizontally to increase the odds of  
11 encountering productive reservoir pockets.

12 Q. Does this map support the outline of the  
13 unit?

14 A. It does, in that the unit itself is  
15 believed to lie within an area that could be  
16 productive from the Abo in every section of the  
17 unit.

18 Q. And are there cross-sections indicated on  
19 this figure?

20 A. Yes, there are. And I would like to start  
21 with -- if you keep that Figure 3 map out, you can  
22 refer to the next cross-section. It is the  
23 east/west cross-section. It starts in Section 13  
24 and traverses to the west and to Section 16.

25 The cross-section depicts the portion of

1 the Abo reservoir that we are intending to target,  
2 and it is shaded in yellow on your cross-section.  
3 Also shown are red streaks that indicate good  
4 porosity within each of those logs.

5 THE EXAMINER: Good porosity being greater  
6 than 10?

7 THE WITNESS: Or greater than 6 or even  
8 less than that. A Dolomite can actually produce at  
9 porosities around 2 percent because of the good  
10 permeability that's associated with that lithology.

11 The well on the far left is the well in 13  
12 that cumulatively produced 422,000 barrels of oil.  
13 And that well was perforated and acidized and had an  
14 initial flowing rate of 240 barrels of oil per day  
15 in 1985.

16 So it took a long time to achieve that  
17 cumulative production, and it is still producing to  
18 this day. And that low-rate long-life production is  
19 indicative of a very tight reservoir. Again,  
20 another indication that horizontal drilling might  
21 speed up the recovery of those hydrocarbons.

22 The next well over is essentially a show  
23 well. The Basal Abo unit was perforated, acidized.  
24 And they never recovered their full load, but they  
25 did recover one barrel of oil and 55 barrels of load

1 water. It was essentially a tight test.

2 The next well over, the one in 18, which  
3 is closest to the initial drill site, for this unit,  
4 the operator ran a drill stem test across the Basal  
5 Abo unit. And he recovered 35 feet of mud in  
6 another tight test, which is more common than a  
7 producer in this area.

8 The next well over was simply no test at  
9 all. Probably no shows; obviously a tight well.

10 And then the final well on the western  
11 flank is another good producer. It was drilled by  
12 Southern Minerals in 1963, and it had an initial  
13 flowing rate of 264 barrels of oil per day after a  
14 small acid job.

15 And that well is still producing today and  
16 again exhibiting a very low rate of production, with  
17 a very long life.

18 The final figure in the exhibit is a  
19 north-to-south cross-section. But it just shows a  
20 series of very tight wells, very similar to the  
21 nonproducing wells in the previous cross-section.

22 So encountering dolomitized rock,  
23 encountering porosity within that dolomitized, is  
24 critical for vertical development. By going  
25 horizontally, we think we can greatly increase the

1 odds of encountering reservoir rock and effectively  
2 develop this entire unit.

3 And it is our goal to do that.

4 Q. (By Mr. Bruce) Mr. Hardie, will approval  
5 of this application help in the orderly development  
6 of this acreage?

7 A. It will.

8 Q. Was Exhibit 5 prepared by you?

9 A. The exhibits shown here were prepared by a  
10 geologist by the name of Mike Petraitis, with  
11 EGL Resources. This is a joint venture project  
12 between EGL and OGX, and Mike prepared these  
13 exhibits under my direction.

14 Q. And have you reviewed all of the data  
15 therein, and do you agree with it?

16 A. Yes. I have reviewed it and I agree with  
17 it.

18 MR. BRUCE: Mr. Examiner, I move the  
19 admission of Exhibit 5.

20 THE EXAMINER: Exhibit 5 will be admitted.  
21 (Exhibit 5 was admitted.)

22 MR. BRUCE: I have no further questions of  
23 the witness.

24 THE EXAMINER: Mr. Brooks.

25 MR. BROOKS: No questions.

1 THE EXAMINER: I appreciate you giving us  
2 something that we can read. I don't think I've got  
3 any further questions, either. Thank you.

4 With that, we'll take case No. 14531 under  
5 advisement.

6 (The hearing concluded at 8:55 a.m.)

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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



1 STATE OF NEW MEXICO

2 COUNTY OF SANTA FE

3

4

5 REPORTER'S CERTIFICATE

6 I, Paul Baca, New Mexico Certified Court  
 7 Reporter No. 112, do hereby certify that I reported  
 8 the foregoing proceedings in stenographic shorthand,  
 9 that I did administer the oath to the witness, and  
 10 that the foregoing pages are a true and correct  
 11 transcript of those proceedings and was reduced to  
 12 printed form under my direct supervision.

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

17

18

19

*Paul Baca*

20

PAUL BACA  
 Certified Court Reporter No. 112  
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