

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 CAZA PETROLEUM, LLC                      CASE NO. 15962  
FOR A NONSTANDARD OIL SPACING AND  
PRORATION UNIT AND COMPULSORY POOLING  
LEA COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

April 5, 2018

Santa Fe, New Mexico

BEFORE:    WILLIAM V. JONES, CHIEF EXAMINER  
             PHILLIP GOETZE, TECHNICAL EXAMINER  
             LEONARD LOWE, TECHNICAL EXAMINER  
             DAVID K. BROOKS, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, William V. Jones, Chief Examiner, Phillip Goetz and Leonard Lowe, Technical Examiners, and David K. Brooks, Legal Examiner, on Thursday, April 5, 2018, at the New Mexico Energy, Minerals and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

REPORTED BY:    Mary C. Hankins, CCR, RPR  
                         New Mexico CCR #20  
                         Paul Baca Professional Court Reporters  
                         500 4th Street, Northwest, Suite 105  
                         Albuquerque, New Mexico 87102  
                         (505) 843-9241

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

APPEARANCES

FOR APPLICANT CAZA PETROLEUM, LLC:

JAMES G. BRUCE, ESQ.  
Post Office Box 1056  
Santa Fe, New Mexico 87504  
(505) 982-2043  
jamesbruc@aol.com

INDEX

PAGE

|                                      |    |
|--------------------------------------|----|
| Case Number 15962 Called             | 3  |
| Caza Petroleum, LLC's Case-in-Chief: |    |
| Witnesses:                           |    |
| John E. Brown:                       |    |
| Direct Examination by Mr. Bruce      | 3  |
| Cross-Examination by Examiner Jones  | 8  |
| Richard Frank Carroll:               |    |
| Direct Examination by Mr. Bruce      | 14 |
| Cross-Examination by Examiner Goetze | 25 |
| Cross-Examination by Examiner Lowe   | 26 |
| Cross-Examination by Examiner Jones  | 27 |
| Proceedings Conclude                 | 30 |
| Certificate of Court Reporter        | 31 |

EXHIBITS OFFERED AND ADMITTED

|   |    |
|---|----|
| Caza Petroleum, LLC's Exhibit Numbers 1 through 6 | 8  |
| Caza Petroleum, LLC's Exhibit Numbers 7 and 8     | 24 |

1 (2:47 p.m.)

2 EXAMINER JONES: Let's call Case Number  
3 15962, application of Caza Petroleum, LLC for a  
4 nonstandard oil spacing and proration unit and  
5 compulsory pooling, Lea County, New Mexico.

6 Call for appearances.

7 (Examiner Goetze exits the room.)

8 MR. BRUCE: Mr. Examiner, Jim Bruce of  
9 Santa Fe representing the Applicant. I have two  
10 witnesses.

11 EXAMINER JONES: Any other appearances?  
12 Will the witnesses please stand?

13 (Mr. Brown and Mr. Carroll sworn.)

14 JOHN E. BROWN,  
15 after having been first duly sworn under oath, was  
16 questioned and testified as follows:

17 DIRECT EXAMINATION

18 BY MR. BRUCE:

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

21 A. John E. Brown, Woodlands, Texas.

22 Q. And who do you work for and in what capacity?

23 A. I'm the land manager for Caza Petroleum.

24 Q. Previously have you testified before the  
25 Division?

1 A. Yes, I have.

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

4 A. Yes, they were.

5 Q. And does your area of responsibility at Caza  
6 include this area of southeast New Mexico?

7 A. Yes, it does.

8 Q. And are you familiar with the land matters  
9 involved in this case?

10 A. Yes, I am.

11 MR. BRUCE: Mr. Examiner, I tender  
12 Mr. Brown as an expert petroleum landman.

13 EXAMINER JONES: He's qualified as an  
14 expert in petroleum land matters.

15 Q. (BY MR. BRUCE) Mr. Brown, could you identify  
16 Exhibit 1 and describe what Caza seeks in this case?

17 A. Exhibit 1 is a C-102 OCD form. It shows the --  
18 it's for the Desert Rose 17-8 Federal 1H well. It shows  
19 the project area as the west half-west half of Section  
20 17 and the west half-southwest quarter of Section 8 of  
21 Township 20 South, Range 35 East. It shows the  
22 bottom-hole location and the surface location while  
23 drilling from south to north, where Caza seeks an order  
24 approving a 240-acre nonstandard oil spacing unit in the  
25 Bone Spring Formation. We also seek to pool the Bone

1 Spring Formation underlying the nonstandard unit.

2 **Q. What type of land is involved in the unit?**

3 A. It's all federal land.

4 **Q. Are there any depth severances in the Bone**  
5 **Spring?**

6 A. No.

7 **Q. Who do you seek to pool?**

8 A. COG Operating, LLC, Chevron USA, Inc. and Devon  
9 Energy Production Company, LLC.

10 **Q. What is Exhibit 2?**

11 A. Exhibit 2 contains our well-proposal letters to  
12 each of the owners that have a working interest  
13 ownership in the well.

14 **Q. And does page 2 set forth the working interest**  
15 **ownership of the parties you seek to force pool?**

16 A. It does. On page 2 of the proposal letter, the  
17 parties of the working interest is shown.

18 **Q. Besides this proposal letter, have you had**  
19 **additional contacts with the interest owners?**

20 A. Yes. Caza has ongoing conversations about the  
21 JOA for this well with both Chevron and COG. Devon has  
22 given us a verbal election that they do not want to the  
23 participate in the well, and we are conducting ongoing  
24 conversations about purchasing Devon's interest.

25 **Q. In your opinion, has Caza made a good-faith**

1 effort to obtain the voluntary joinder of the interest  
2 owners of the well?

3 A. Yes, sir.

4 Q. Referring to Exhibit 3, can you discuss the  
5 cost of the proposed well?

6 A. The AFE shown on Exhibit 3 shows a dry-hole  
7 cost of \$3,533,176 and a completed well cost of  
8 \$9,896,306.

9 Q. And are these costs in line with the costs of  
10 other horizontal wells of this length and depth?

11 A. Yes, they are.

12 Q. Do you request that Caza Operating, LLC be  
13 appointed operator of the well?

14 A. Yes, I do.

15 Q. And do you have a recommendation for the amount  
16 which Caza Operating should be paid for its supervision  
17 and administrative expenses?

18 A. Yes. We request \$7,500 a month be allowed  
19 during the drilling of the well and \$750 a month be  
20 allowed for a producing well.

21 Q. And are these amounts equivalent to those  
22 normally charged by Caza and other operators in this  
23 area for wells of this depth?

24 A. Yes, they are.

25 Q. Do you request that these rates be adjusted

1     periodically as provided by the COPAS accounting  
2     procedure?

3             A.     Yes, we do.

4             Q.     Does Caza request the maximum cost plus 200  
5     percent risk charge if an interest owner goes nonconsent  
6     in the well?

7             A.     Yes, we do.

8             Q.     Is Exhibit 4 my Affidavit of Notice to the  
9     parties being pooled?

10            A.     Yes, it is.

11                         MR. BRUCE: Mr. Examiner, all of the three  
12     parties did receive actual notice of the hearing.

13            Q.     (BY MR. BRUCE) Mr. Brown, what is Exhibit 5?

14            A.     Exhibit 5 is a list of the offset operators to  
15     the well. And all those owners were given notice. And  
16     the owners that are within the proposed project area  
17     obviously received a direct notice by virtue of a well  
18     proposal.

19            Q.     Okay. So the letter to the offsets only went  
20     to Cimarex and ConocoPhillips, but the other people  
21     listed on Exhibit 5 got their notice letters as shown on  
22     Exhibit 4; is that correct?

23            A.     That's correct. Several owners own in several  
24     different tracts, so it can be kind of redundant. But  
25     we show the ownership by tract -- offsetting tracts.

1           **Q.    Were Exhibits 1 through 6 prepared by you or**  
2 **under your supervision or compiled from company business**  
3 **records?**

4           A.    Yes, they were.

5           **Q.    And is the granting of this application in the**  
6 **interest of conservation and the prevention of waste?**

7           A.    Yes, it is.

8                         MR. BRUCE:  Mr. Examiner, I move the  
9 admission of Exhibits 1 through 6.

10                        EXAMINER JONES:  Exhibits 1 through 6 are  
11 admitted.

12                                 (Caza Petroleum, LLC Exhibit Numbers 1  
13 through 6 are offered and admitted into  
14 evidence.)

15                         MR. BRUCE:  I have no further questions.

16                         EXAMINER JONES:  Mr. Lowe?

17                         EXAMINER LOWE:  No questions right now.

18 Thank you.

19                         EXAMINER JONES:  Mr. Brooks?

20                         EXAMINER BROOKS:  No questions.

21   CROSS-EXAMINATION

22 BY EXAMINER JONES:

23           **Q.    So how many tracts did you say you've got here?**

24           A.    Well, there are five tracts.  There are four  
25 leases, because one of the leases covers two

1 noncontiguous tracts. Those are the --

2 Q. That's all right. But they're all federal,  
3 right?

4 A. Yes, four federal leases.

5 Q. You've got fee surface and federal minerals out  
6 here? Looks like fee surface. Did you have to make a  
7 surface agreement with that fee owner?

8 A. Yes, we did.

9 Q. Okay. And everybody got notice.

10 Do you think anybody's going to sign on?  
11 Are you optimistic that they might sign?

12 A. I have -- I am optimistic that Devon may well  
13 accept our offer. We upped that offer just yesterday,  
14 as a matter of fact. We're waiting on Devon management  
15 to comment to that.

16 Our VP of land has been working with  
17 Chevron and COG on the JOA that we're proposing. Both  
18 of them have extensive legal departments who like to  
19 make changes to other people's forms and don't consult  
20 each other when they make those changes to the single  
21 form. We are working very hard to have one single JOA  
22 to cover this area. And, actually, one of the  
23 complications is that we're working with both of these  
24 companies to have a JOA that would be kind of a master  
25 agreement. We're dealing with them in several different

1 locations. And what all three of us would like would be  
2 to have basically one master JOA that would cover every  
3 time we come to them, and we don't have this extended  
4 negotiation period.

5 **Q. Okay.**

6 EXAMINER BROOKS: So revising other  
7 people's forms is what lawyers do best.

8 THE WITNESS: I didn't want to say that.  
9 (Laughter.)

10 EXAMINER JONES: He does it to ours all the  
11 time.

12 THE WITNESS: No. But we're confident --  
13 this has been going on several months, four or five  
14 months, but we're confident that we're going to get  
15 there.

16 **Q. (BY EXAMINER JONES) The locations are all**  
17 **standard for this well; is that correct?**

18 A. Yes.

19 **Q. Okay. So Caza Operating, LLC is to be the**  
20 **operator, and they've got an OGRID -- well, Caza**  
21 **Petroleum was the applicant. Caza Operating is the**  
22 **operator?**

23 A. Yeah. Caza Operating is a no-asset operator,  
24 and the assets in our company are owned by Caza  
25 Petroleum. The leases are owned by Caza Petroleum.

1           **Q. Do you have lease-expiration issues here?**

2           A. Yes, we do.

3           **Q. Okay (laughter).**

4           A. One of the leases -- one of the federal leases  
5 is a very old lease that was put into a unit,  
6 although -- it got segregated because part of that lease  
7 went into a Queen Sand Unit and part of that lease  
8 remained outside of the producing area but had the --  
9 the segregation letter had the stipulation in it that  
10 even though there was no production in this nonproducing  
11 segregated portion of the lease, the production in the  
12 producing segregated portion of the lease would hold the  
13 outside acreage.

14          **Q. Right.**

15          A. So that is coming to term, and we have filed  
16 for suspension of operations, because this falls within  
17 the lesser prairie-chicken booming area.

18          **Q. Okay.**

19          A. So we plan to spud the well on or about July  
20 15th.

21          **Q. Okay. So they will do this extension for you  
22 as long as you do spud the well by that time?**

23          A. We have not gotten -- we have not received the  
24 suspension yet. We have received very positive word  
25 back from the BLM, and we have had letters from Chevron

1 and Devon, who are the other owners in this particular  
2 tract.

3 Q. Okay.

4 A. Both of them have written letters of support  
5 for that suspension. So we've received good feedback  
6 from the BLM, because that's everybody who wants an  
7 interest in that lease.

8 Q. Okay. And they will give you the permit to  
9 drill right away probably? Did they promise that also  
10 (laughter)?

11 A. Sure. Sure (laughter).

12 Q. Sure. A different group but working in  
13 different --

14 A. I'm not sure how --

15 Q. -- a government agency.

16 A. Yeah. Well, I'm sure the permit does not come  
17 out of the department that grants the suspension of  
18 operations. I've had difficulty getting some of those  
19 departments to talk to each other, as a matter of fact,  
20 but we strive to achieve that every day.

21 Q. Okay. Well, we'll try to hold up our end of  
22 it.

23 A. But they're well aware of the booming-season  
24 issue and the expiration of the lease, which is May  
25 31st, which is within the booming season. So all things

1 being equal, in my small world, I would think that would  
2 be reason to give you a suspension because we can't spud  
3 during booming season.

4 EXAMINER BROOKS: Poor choice of words,  
5 Mr. Examiner. You said, "We'll try to hold up our end."

6 EXAMINER JONES: Yeah. We don't want to be  
7 the ones holding you up here. But we'll try to get this  
8 out for you.

9 EXAMINER BROOKS: We'll try to do our part  
10 to --

11 EXAMINER JONES: "Our part." There you go.

12 THE WITNESS: We sincerely appreciate it.

13 EXAMINER JONES: He saves me all the time  
14 (laughter).

15 THE WITNESS: He's a wordsmith.

16 EXAMINER JONES: Yeah. He is. He is.

17 EXAMINER BROOKS: I told you about lawyers.

18 THE WITNESS: I know. I know.

19 **Q. (BY EXAMINER JONES) And you can get a rig?**

20 **A. Yes, sir. Absolutely.**

21 **Q. Okay. Well, thanks for coming up here.**

22 **A. Thank you.**

23 RICHARD FRANK CARROLL,  
24 after having been previously sworn under oath, was  
25 questioned and testified as follows:

1 DIRECT EXAMINATION

2 BY MR. BRUCE:

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

5 A. My name is Richard Frank Carroll.

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

7 A. I work for Caza Petroleum as the geologist for  
8 the company.

9 Q. And have you previously testified before the  
10 Division?

11 A. Yes, sir, I have.

12 Q. And were your credentials as an expert  
13 petroleum geologist accepted as a matter of record?

14 A. Yes, they were.

15 Q. And are you familiar with the geology involved  
16 in this application?

17 A. Yes, sir, I am.

18 MR. BRUCE: Mr. Examiner, I tender  
19 Mr. Carroll as an expert petroleum geologist.

20 EXAMINER JONES: He is so qualified.

21 Q. (BY MR. BRUCE) Mr. Carroll, let's turn to your  
22 first exhibit, Exhibit 7, which has numbered pages. It  
23 contains a lot of data. But let's run through that as  
24 expeditiously as we can. Why don't you start with page  
25 1 and tell us what it shows?

1           A.     Okay.   Page 1 is a subsea -- TVD subsea map of  
2     the top of the Wolfcamp Formation.   In it, you'll see  
3     that there's -- we actually have the depths and -- total  
4     vertical depth subsea marked out beside each particular  
5     well.   I apologize.   It's a very small map.   I had to  
6     cover a very large area so you could see what's going  
7     on.

8                     The area of interest for the Desert Rose,  
9     the well we're proposing, is in Section 17 going up into  
10    Section 8 on the far west side.   Immediately to the  
11    north of it, in Section 5, coming down to the south in  
12    Section 8 is our Eagle Claw unit, where we have drilled  
13    two wells to date, completed one, drilled two.   Also of  
14    note will be the section immediately to the west of  
15    Section 17, which is Section 18, where COG has actually  
16    drilled two wells through the same formation, that we  
17    have data for you on.

18                    Page 2 is a TVD subsea map of the 3rd Bone  
19    Spring, the top of the 3rd Bone Spring section.   Again,  
20    as I had mentioned before, everything is the same as  
21    before, and you can see on these maps marks from our  
22    well, the Eagle Claw, across to the COG wells, a cross  
23    section marked A to A prime, which I'll show you in a  
24    few minutes or hopefully less than a few minutes.

25                    Going on to Section 3, we took the wells we

1 had in the area and actually did -- we had good, solid,  
2 modern electric and radioactive and gamma ray logs, et  
3 cetera, PE logs, and put those through a program called  
4 GAMLS, which is Geologic Analysis Via Maximum Likelihood  
5 Analysis, to go ahead and calculate certain parameters  
6 that we could then map on to show that we had the same  
7 amount of oil in place and the same possibility for a  
8 commercial completion, as we have made in the well to  
9 north, our Eagle Claw unit, and then the two COG wells  
10 immediately to the west in the next section over.

11           The first map is a 3rd Bone Spring pore  
12 volume sand map. Basically, what it does is it takes  
13 the logs throughout that section and on a foot-by-foot  
14 and a piece-by-piece basis, it analyzes them and goes  
15 ahead and comes out with total pore volume within the  
16 top of the 3rd Bone Spring down to the top of the  
17 Wolfcamp section. So that actually tells us the total  
18 number of pore feet. If we took all the rock and  
19 smashed it together so there is no porosity and just  
20 left pore space out there, it would give us an empty  
21 space of that thickness. So that's our total pore  
22 volume.

23           (Examiner Goetze re-enters the room.)

24           **Q. And is that kind of assisted by looking at**  
25           **Exhibit 7?**

1           A.    Yes, sir.  Actually, Exhibit 7 is a cross  
2 section --

3           **Q.    Page 7.**

4           A.    -- going from B to B prime, which goes from  
5 another COG well to the north, the Prickly Pear Federal,  
6 to over across to our Eagle Claw Federal, and then down  
7 to the south to what are the Blue Jay Federal wells that  
8 I mentioned before.  And you can see on this all of the  
9 different parameters that are calculated by GAMLS in  
10 through here, including a neutron porosity, density  
11 porosity, cross-plot porosity, pore differential --  
12 that's a hard word to say -- the pore differentiation  
13 and then the cross plot of porosity.

14                       Also, we've got resistivity plotted in the  
15 center course, and then we've got Delta T, which is  
16 sonic porosity or sonic time, microseconds per foot.  We  
17 have -- from the gamma ray -- we're using spectral gamma  
18 rays.  We've got both uranium and thorium concentrations  
19 there, which can tell us different types of things about  
20 the types of clays that are in the formation.

21                       And then we have the PE factor, which is  
22 the photo-electric factor.  The photo-electric factor is  
23 also used to go ahead and differentiate different types  
24 of formations or different minerals within formations.

25                       Using all of those, we come up with,

1 basically, the picture you see on the far right of each  
2 of those wells on page 7, where you can see, actually,  
3 the bright yellow is really sand. The slightly lighter  
4 yellow is going to more of a silt or a very, very fine  
5 grain sand. You go to the dark blues. Those are  
6 limestones. The grays are primarily shales, et cetera.  
7 And it actually breaks these formations out into -- I  
8 think we ended up putting out into eight or ten  
9 different minerals when we were doing this.

10           And using that data to calculate -- and it  
11 calculates, like I said, on more than a foot-by-foot  
12 basis as you go down through the entire section of  
13 interest -- we were able to come up with a pore volume  
14 sand map, which I showed you on three.

15           Also, using that, we're able to go ahead  
16 and calculate the sand thickness. In other words, we  
17 break out all of the shale, all the limestone, anything  
18 else through that section. We break it all out and only  
19 count the number of feet within the top of the 3rd Bone  
20 Spring down to the top of the Wolfcamp as sand  
21 thickness. Using that, the pore volume before, water  
22 saturations that we know from produced wells, et cetera  
23 throughout the area, we can, with the thickness and with  
24 the pore volumes, then calculate a water saturation on a  
25 foot-by-foot basis.

1                   Using the water saturation, the pore  
2 volumes and the thickness, then, you use all of those to  
3 calculate what's on page 6 as the hydrocarbon pore  
4 volume. And the hydrocarbon pore volume is what the  
5 others has also has been mapped.

6                   What that tells you is -- again, just like  
7 with pore volume, it tells you the total number of feet.  
8 If you took out all the rest of the rock and just took  
9 the amount of space that's filled with oil, that amount  
10 of space is going to equate to X number of feet. For  
11 instance, to the north, in our Eagle Claw #1H, we had 11  
12 pore volume -- or hydrocarbon pore volume of feet. In  
13 other words, an empty space basically from the floor to  
14 the ceiling or a little bit higher that is completely  
15 empty and completely filled with just hydrocarbon.

16                   We go ahead and map that. And as you can  
17 see from Section 17, our Desert -- our proposed Desert  
18 Rose well, going from the southwest corner of 17 up to  
19 the northeast corner -- or the south half of the  
20 northeast corner of Section 8, we are in, roughly, the  
21 same overall thickness as -- a little bit thinner, but  
22 roughly within the same overall thickness as our Eagle  
23 Claw well to the north and the two wells directly to the  
24 west of us where the A prime is in red.

25                   So that gives us the idea that we're going

1 to be able to come up with completions that are roughly  
2 equivalent, maybe not quite as good, but roughly  
3 equivalent to the completions in those three wells.

4 Now, I've already shown you page 7.

5 Page 8 is a cross section just to show  
6 where we break out things across there as the top of the  
7 3rd Bone Spring down to the top of the Wolfcamp.

8 On page 8, I've actually shown you the  
9 entire Wolfcamp section. The green line at the top is  
10 the top of the Bone Spring section. Then coming down,  
11 showing the 1st Bone Spring, is the light green to dark  
12 green; the 2nd Bone Spring, kind of the pinkish down to  
13 the dark blue. The 3rd Bone Spring is the orange down  
14 to the top of the Wolfcamp, which, unfortunately, in  
15 this display also looks orange, and then on down into  
16 the Wolfcamp.

17 On page 9, I've actually come in and this  
18 is stratigraphic cross section, which I have flattened  
19 on top of the Wolfcamp Formation. It's going through  
20 the four closest wells. The wells that will be most  
21 associated with the way the 3rd Bone Spring Sand will  
22 look in the proposed well, the Desert Claw -- Desert  
23 Rose well. And as you can see, that's more -- the  
24 orange line at top and the gold line at bottom, that's  
25 our 3rd Bone Spring in orange down to the gold line,

1 which is the Wolfcamp. And there is a little, dashed  
2 red line between it. That's our proposed horizontal --  
3 exactly where we're proposing to put the horizontal  
4 within the section.

5 Q. Before we move on, do these exhibits show that  
6 the 3rd Bone Spring is continuous across the well unit?

7 A. Yes, sir.

8 Q. And from a geologic perspective, will each  
9 quarter-quarter section contribute more or less equally  
10 to production?

11 A. Yes, sir, it will.

12 Q. And then you mentioned some wells before the  
13 last three pages of this exhibit. What does it show?

14 A. The last three wells are the wells I mentioned  
15 before that are on the GAMLS plot or that I marked in  
16 blue on that map. Those are three wells where we have  
17 good, very modern logs that we can actually show on our  
18 GAMLS applications here, and we can then go in and look  
19 at them, because all three of those wells have produced  
20 for enough time to be able to get a good decline curve  
21 analysis on them.

22 The first of those wells is a  
23 mile-and-a-half lateral, our Eagle Claw Federal #1H,  
24 where we have estimated that the total cumulative  
25 reserves from that well will be about 1.7 to 1.8 million

1 barrels of oil and 1.5 billion cubic feet of natural  
2 gas. It's a good well. I don't have -- I've got it on  
3 my phone. I can show you if you'd like. But as of  
4 today, we were producing over 1,000 barrels of oil a day  
5 at the Eagle Claw well, over 900 Mcf of gas per day and  
6 a little over 200 barrels of water per day.

7 The next well -- these two wells -- I'm  
8 sorry. Going back to page 10 --

9 The Eagle Claw Federal, by the way, just to  
10 mention it again, is the well immediately north of our  
11 proposed Desert Rose, and those two wells would end up  
12 being toe to toe, both of them one-and-a-half-mile  
13 laterals, so very similar in length in the formation,  
14 we're looking at.

15 The next two wells are going to be the Blue  
16 Jay Federal #1H and 2H. Those are the two wells that  
17 are located immediately on the west side of our proposed  
18 Desert Rose, in -- I believe that's Section -- Section  
19 18. We've done the decline curve analysis on both of  
20 those and on the 1H, Blue Jay Federal 1H. We're looking  
21 at an estimated ultimate recovery of 1.139 million  
22 barrels of oil and 1.365 billion cubic feet of natural  
23 gas.

24 The Blue Jay Federal 2H, again we've done  
25 the same decline curve analysis. We're looking at an

1 estimated total of 1.2 million barrels of oil and 1.8  
2 billion cubic feet of natural gas.

3 **Q. And finally, what is Exhibit 8?**

4 A. Exhibit 8 is the wellbore diagrams and  
5 information that we have turned in to both the federal  
6 government and -- well, to the BLM and the State of New  
7 Mexico in order to go ahead and get our permits. This  
8 shows what we will be doing, where we'll be setting  
9 casing, et cetera. We plan on spudding this well -- I  
10 think what Mr. Brown said -- as soon as booming season  
11 is over. We have the Bison Rig 17 lined up. We are  
12 presently drilling wells with it now, and as soon as we  
13 get to that point, we'll be moving that rig directly  
14 over to the Desert Rose Federal.

15 As of a couple of weeks ago, we did get  
16 notice that our permits have all been approved by the  
17 BLM, so as of right now, my understanding is that we do  
18 have a valid permit to drill the Desert Rose.

19 Farther back, you can actually see our  
20 horizontal depiction of what we'll be going through and  
21 where we'll be setting casing and the formations, tops  
22 and bottoms.

23 **Q. And the first and last take points will be at**  
24 **orthodox locations?**

25 A. Yes, sir. We will be at a little over 330 feet

1 from both the north line and south lines of the unit.

2 Q. Was Exhibit 7 prepared by you?

3 A. Yes, sir.

4 Q. And was Exhibit 8 compiled from company  
5 business records?

6 A. Yes, sir, it is.

7 Q. In your opinion, is the granting of this  
8 application in the interest of conservation and the  
9 prevention of waste?

10 A. Yes, sir, it is.

11 MR. BRUCE: Mr. Examiner, I'd move the  
12 admission of Exhibits 7 and 8.

13 EXAMINER JONES: Exhibits 7 and 8 are  
14 admitted.

15 (Caza Petroleum, LLC Exhibit Numbers 7 and  
16 8 are offered and admitted into evidence.)

17 EXAMINER JONES: Phil?

18 EXAMINER GOETZE: I have no questions for  
19 the witness.

20 EXAMINER JONES: You weren't able to see  
21 all this stuff.

22 EXAMINER GOETZE: That's fine. It seems to  
23 be a very thorough job.

24 THE WITNESS: Thank you. We try.

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CROSS-EXAMINATION

BY EXAMINER GOETZE:

**Q. What was the proprietary program?**

A. It's GAMLS. There is a gentleman out of -- I believe he lives in Maine, that developed it almost 20 years ago and has continued to tweak it. It's basically kind of an AI-type computer program. So the other geoscientist in our office, who is also our chief operating officer, he and I have worked on the system off and on with multiple different companies, and it's a very, very powerful system. We go ahead and break everything out into multiple layers. So we have found it very useful in evaluating tracks [sic].

**Q. So you're confident in its abilities? It gives you a better picture?**

A. Oh, yes, sir. We've been using it -- between Randy and I, we've been using it for over 15 years.

EXAMINER GOETZE: That's all the questions I have for this witness.

Thank you.

THE WITNESS: And I'm sorry. That was Randy Nickerson, our chief operating officer.

EXAMINER JONES: Thank you.

Mr. Lowe?

CROSS-EXAMINATION

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

BY EXAMINER LOWE:

**Q. I didn't quite get what you were referencing.**

**That Eagle Claw Federal Com --**

A. Yes.

**Q. -- did you say it was north of the Desert Rose?**

A. It's immediately north. In fact, it is -- the surface location is in the far northeast corner of Section 5. The bottom-hole location is in the southeast of the north -- I'm sorry. It's in the far northwest corner of Section 5 going down to the bottom-hole location, is in the southwest quarter of the northwest quarter.

**Q. Okay.**

A. Our Desert Rose surface location will be in the southwest quarter of Section 17 -- far southwest quarter of Section 17 going to a bottom-hole location in the northwest quarter of the southwest quarter of Section 8. So they will end up being toe to toe.

**Q. Okay. And then the Blue Jay one, you said was the west side. In what section?**

A. Yes, sir. And, again, I apologize. If I had blown the maps up better -- I do have PDFs I could send you where you could blow them up.

But if you look on section -- on here

1 you'll see A prime. There are two horizontal wells  
2 going from the south side of Section 18 up to the north.  
3 They're going to be in the east half of Section 18, very  
4 small blue lines. Again, I apologize. One of those is  
5 the Blue Jay Federal #1H. The other is Blue Jay Federal  
6 #2H. So they are immediately offsetting our proposed  
7 Desert Rose.

8 **Q. Okay. That's all I've got. Thank you.**

9 A. Thank you.

10 EXAMINER JONES: Mr. Brooks?

11 EXAMINER BROOKS: No questions.

12 CROSS-EXAMINATION

13 BY EXAMINER JONES:

14 **Q. But the production -- the projected product, I**  
15 **take it, on those offset wells, is it sort of confirming**  
16 **your movable oil calculation here?**

17 A. Oh, yes, sir. In fact, after we start getting  
18 water production back, we can go ahead and then get the  
19 water analyzed, and also look at the oil-water ratio on  
20 a produced oil-water basis, once we're sure we've got  
21 most of the frac water out of it. We can then compare  
22 that back to our RWs we use in order to calculate the  
23 water saturation, which then goes into the hydrocarbon  
24 saturation, which then goes into the pore blog [sic] to  
25 make the hydrocarbon pore water [sic].

1 Q. Oh, that's nice.

2 A. Because these are tweaked all the time while  
3 we're working through it.

4 Q. Oh, wow.

5 So did you have -- well, first of all,  
6 before I forget, one of the API numbers on the wells had  
7 a -- you used 0100 at the end of the API number -- the  
8 14-digit API number.

9 A. Did I actually put the full API numbers on  
10 those?

11 Q. You did on one of them.

12 A. Okay.

13 Q. It's not a big deal. I just wondered if it  
14 was --

15 A. Oh. I put the full API on each of those, on  
16 the two cross sections, on the GAMLS. The GAMLS one  
17 does not have API numbers across the top of it, but --

18 Q. It was on the decline curves.

19 A. Yes, sir. On the decline curves -- all three  
20 of these wells have the entire API number. The 01 [sic]  
21 in many of these cases actually, the producing well with  
22 the four zeros at the end of it, is actually the pilot  
23 hole.

24 Q. So you had pilot holes on --

25 A. Yes, sir. That's how we ended up going ahead

1 and getting the --

2 **Q. Spectral gamma ray.**

3 A. -- the logs -- the wireline logs that went  
4 across the section, because we can't really get those --  
5 that full suite of logs that we need to do the analysis  
6 into the horizontal section. So in order to actually do  
7 it, we try to find wells that run a consistent set of  
8 logs through a vertical wellbore so that we're looking  
9 at apples to apples every time we go ahead and do the  
10 analysis.

11 **Q. Okay. So you have three porosities and the**  
12 **spectral gamma ray, and you just feed it into this thing**  
13 **and fine-tune it with --**

14 A. A lot of fine-tuning goes on. Yes, sir.

15 **Q. Okay. And Petra can't do any of this stuff?**

16 A. All of the maps you saw and the other two cross  
17 sections are all done with Petra, but it does not have  
18 the power or sophistication to do anything that GAMLS  
19 does. And GAMLS is really just a geologic analysis of  
20 well logs. So then we can take that data and then put  
21 it into Petra and then map those different outcomes from  
22 Petra.

23 **Q. Did you do any sidewall cores or coring on**  
24 **pilots?**

25 A. We have -- on our well, the Eagle Claw, we did

1 not. And to my knowledge, on the Prickly Pear and the  
2 other one, the Blue Jay Federal, we don't have any data  
3 on that. Those are both COG wells.

4 **Q. Okay. That is very impressive. Thank you very**  
5 **much.**

6 A. You're welcome.

7 **Q. Good luck with your well.**

8 A. Thank you.

9 MR. BRUCE: Ask that the matter be taken  
10 under advisement, Mr. Examiner.

11 EXAMINER JONES: Case Number 15962 is taken  
12 under advisement.

13 (Case Number 15962 concludes, 3:21 p.m.)

14

15

16

17

18

19

20

21

22

23

24

25

1 STATE OF NEW MEXICO  
2 COUNTY OF BERNALILLO

3

4 CERTIFICATE OF COURT REPORTER

5 I, MARY C. HANKINS, Certified Court  
6 Reporter, New Mexico Certified Court Reporter No. 20,  
7 and Registered Professional Reporter, do hereby certify  
8 that I reported the foregoing proceedings in  
9 stenographic shorthand and that the foregoing pages are  
10 a true and correct transcript of those proceedings that  
11 were reduced to printed form by me to the best of my  
12 ability.

13 I FURTHER CERTIFY that the Reporter's  
14 Record of the proceedings truly and accurately reflects  
15 the exhibits, if any, offered by the respective parties.

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

20 DATED THIS 22nd day of April 2018.

21

22

23 MARY C. HANKINS, CCR, RPR  
24 Certified Court Reporter  
New Mexico CCR No. 20  
Date of CCR Expiration: 12/31/2018  
Paul Baca Professional Court Reporters

25