

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:

ORIGINAL

APPLICATION OF CAZA OPERATING, LLC CASE NO. 15235
FOR A LEASE PRESSURE MAINTENANCE
PROJECT IN THE DELAWARE FORMATION,
EDDY COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

November 20, 2014

Santa Fe, New Mexico

BEFORE: PHILLIP GOETZE, CHIEF EXAMINER
GABRIEL WADE, LEGAL EXAMINER

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This matter came on for hearing before the
New Mexico Oil Conservation Division, Phillip Goetze,
Chief Examiner, and Gabriel Wade, Legal Examiner, on
Thursday, November 20, 2014, 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
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1 APPEARANCES

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1 (8:19 a.m.)

2 EXAMINER GOETZE: As a result of my
3 co-examiner's previous position, I have been asked to
4 hear Case 15235, which is the application of Caza
5 Operating, LLC for a lease pressure maintenance project
6 in the Delaware Formation, Eddy County, New Mexico.

7 Call for appearances.

8 MR. BRUCE: Mr. Examiner, Jim Bruce
9 representing the Applicant, and I have two witnesses.

10 EXAMINER JONES: Any other appearances?

11 MS. SMITH: Kelly Brooks Smith with the
12 State Land Office. We filed an objection, but we have
13 worked through a stipulation.

14 EXAMINER GOETZE: Oh, this is a recent
15 event. Do you want to enlighten us?

16 MR. BRUCE: Yes, Mr. Examiner.

17 EXAMINER GOETZE: Very good. If that's the
18 case, then would the witnesses please stand, state your
19 name and be sworn in?

20 MR. BROWN: Jay Brown.

21 MR. SAM: Anthony Sam.

22 (Mr. Brown and Mr. Sam sworn.)

23 EXAMINER JONES: If you wish, you may come
24 up, since you had filed an appearance, and please have a
25 seat.

1 MS. SMITH: Thank you.

2 EXAMINER GOETZE: Proceed, Mr. Bruce.

3 MR. BRUCE: Okay, Mr. Examiner. First I'd
4 call Mr. Brown just briefly to the witness stand.

5 JAY BROWN,

6 after having been previously sworn under oath, was
7 questioned and testified as follows:

8 DIRECT EXAMINATION

9 BY MR. BRUCE:

10 Q. Mr. Brown, where do you reside?

11 A. In the Woodlands, Texas.

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

13 A. Caza Petroleum, Incorporated. I'm the land
14 manager.

15 Q. And is Caza Operating, LLC the operating arm of
16 Caza Petroleum?

17 A. It is.

18 Q. In this case we're seeking a pressure
19 maintenance project. With respect to the C-108 that was
20 prepared, did you examine or cause to be examined the
21 appropriate state, federal and county records to
22 determine who the surface owner was and the offset
23 operators --

24 A. I did.

25 Q. And what is Exhibit 5?

1 A. It's a list of those owners.

2 Q. And was notice given to all of those interest
3 owners?

4 A. It was.

5 Q. And is that reflected in Exhibit 6, my
6 Affidavit of Notice?

7 A. Yes, it is.

8 Q. And all of these interest owners did receive
9 actual notice of this hearing; did they not?

10 A. That's correct.

11 Q. Were Exhibits 5 and 6 compiled by you or under
12 your direction?

13 A. They were.

14 MR. BRUCE: Mr. Examiner, I'd move the
15 admission of Exhibits 5 and 6.

16 EXAMINER ~~JONES~~: Exhibits 5 and 6 are so
17 entered. *GOETZE*

18 (Caza Operating, LLC Exhibit Numbers 5 and
19 6 were offered and admitted into evidence.)

20 MR. BRUCE: I have no further questions for
21 the witness.

22 CROSS-EXAMINATION

23 BY EXAMINER GOETZE:

24 Q. Well, let's start off with a simple question.
25 What exactly are the lands that we're looking to be

1 incorporated into this pressure maintenance project?

2 A. It's two state leases.

3 Q. Comprising how much acreage?

4 A. Well, the lease in Section 27 is 480 acres, and
5 that's the west half in the northeast quarter, and
6 Section 22, the south half.

7 Q. And you folks are -- Caza is the sole operator
8 we're dealing with in these leases?

9 A. Both tracts, yes, sir.

10 Q. Very good. I have no further questions.

11 MS. SMITH: I have no questions.

12 ANTHONY SAM,

13 after having been previously sworn under oath, was
14 questioned and testified as follows:

15 DIRECT EXAMINATION

16 BY MR. BRUCE:

17 Q. Mr. Sam, where do you reside?

18 A. Midland, Texas.

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

20 A. I work for Caza Petroleum, Inc. as the VP of
21 Operations.

22 Q. Have you previously testified before the
23 Division?

24 A. I have not.

25 Q. Would you please summarize your educational and

1 employment background for the Examiner?

2 A. Yes. I received a B.S. in petroleum
3 engineering technology from Oklahoma State University in
4 1982. In May of '82, I went on to work for Chevron in
5 Midland, Texas for six years, became a consultant
6 independent after that for six years and have formed
7 three different entities, Caza being the latest
8 operating company, all associated in Midland, Texas with
9 the Permian Basin, drilling and completion operations.

10 Q. And are you familiar with the application filed
11 in this matter?

12 A. Yes, sir.

13 Q. And have you prepared several exhibits for
14 submission to the Examiner?

15 A. I have. Yes, I have.

16 MR. BRUCE: Mr. Examiner, I tender Mr. Sam
17 as an expert petroleum engineer.

18 EXAMINER GOETZE: Do you have any
19 objections?

20 MS. SMITH: I have no objections.

21 EXAMINER GOETZE: He is so qualified.

22 Q. (BY MR. BRUCE) Mr. Sam, could you identify
23 Exhibit 1 for the Examiner -- and it's a multipage
24 geologic exhibit -- and run through that?

25 A. Yes.

1 Q. And what Caza is attempting to do with respect
2 to the Forehand Ranch Number 4 well?

3 A. Absolutely. The 27-4 well is in the southeast
4 quarter of the northeast quarter of Section 27. That
5 well's been drilled. We fracture treated, stimulated
6 the Delaware interval from 3,315 to 57, I believe is the
7 footage, and swabbed it back. There were little or no
8 hydrocarbons. I think we produced six barrels with 300
9 percent load recovered, so very little -- we contend
10 that we're at or near the oil-water contact within the
11 Delaware section.

12 We previously had drilled and completed the
13 27-5, which is just northwest within the same quarter
14 section. That well is completed in the Delaware section
15 and has produced in economic quantities over 3,200
16 barrels to date.

17 Our next well that we drilled was the 22-1,
18 which you can see there, and that particular well is on
19 what we are contending is a channel system, and there is
20 a permeability barrier. That well was completely wet in
21 the same Delaware section that the 27-5 is producing
22 from and that the 27-4 is also perforated in.

23 We have shown, through control, that there
24 is a structural high here with a stratigraphic element.
25 And it's our proposal that we maintain pressure with

1 continued injection into the 27-4 well -- we have three
2 permitted locations updip structurally -- and to
3 maintain that particular pressure within the reservoir
4 and to recover the ultimate reserves that we contend are
5 here.

6 We've met with the SLO yesterday, and we
7 have also -- which is not shown on this particular map,
8 but we're in the process of staking and permitting a
9 well in the northeast of the northeast of 27, which that
10 well will be called the Forehand Ranch 27 Number 6. And
11 it will also be a Delaware well, TD at 4,000 feet, and
12 perforated and treated in the same interval that we're
13 injecting into.

14 We have several cross sections here you can
15 see running through -- more important on page 3 -- where
16 we show the channel cut image from the logs that we took
17 through the 27-4 and the image log that came from the
18 27-1.

19 I need to back up just a second. The
20 initial well drilled in this particular area was our
21 horizontal Forehand 27-1, which is a 2nd Bone Spring
22 producer. It runs from the north to the south on the
23 east half of the section. It is a -- it is a 14 to
24 15 barrel-a-day well. It produces approximately 100,
25 150 barrels of water. It varies from 6 to 8 percent cut

1 on it.

2 The wells that -- the producing well, the
3 27-5 has about a 5 percent oil cut on it, and you can
4 see the interval there, that we're 3,350 to 70 that was
5 represented there within the well.

6 And the last exhibit I'm showing here, you
7 can see just north of us, in Section 13, Endurance
8 Operating has a similar situation. They have a
9 saltwater disposal well in the east half that's
10 injecting into the Delaware section, and they have a
11 producer updip that I have shown under what we call the
12 Endurance binder. That particular well that they
13 converted to saltwater disposal, it's been through three
14 different operators, but you can see when it started
15 injection, that the offset well was making less than a
16 half barrel per day.

17 (Mr. Wade exited the room.)

18 Q. Hold on a minute.

19 A. All right. I'm sorry. You don't have that
20 one?

21 MR. BRUCE: What he's referring to is
22 marked Exhibit 2, Mr. Examiner.

23 EXAMINER GOETZE: All right. Very good.
24 Thank you.

25 (Mr. Wade enters the room.)

1 THE WITNESS: And Endurance has been
2 injecting into that well in a downdip position. The
3 Forehand 2 well, which is west of the injector, is
4 updip. Previous production was at or about a half
5 barrel per day, shown from records. Once they saw the
6 response from the downdip injection, they produced
7 nearly six barrels a day. So there was a five to six
8 barrel-a-day incremental increase due to the downdip.
9 My prediction is a 5 percent exponential decline based
10 on the well history from 2002 through 2014. You can see
11 that indication.

12 I have support data just showing where they
13 perforated. It's also shown on the exhibit, the last
14 page of the exhibit, the geology showing the cross
15 section. I also just submitted the OCD information
16 showing when they converted that to a saltwater disposal
17 well and then the change of operatorship from
18 individuals, Tritex back into Endurance.

19 Our modeling, within what we're discussing
20 for economics --

21 MR. BRUCE: And that is marked Exhibit 3,
22 Mr. Examiner, which Mr. Sam is speaking about.

23 THE WITNESS: Exhibit 3. The first curve
24 is what we have actually produced to date in the
25 Forehand 27-5. It's been completed as a Cass Draw

1 Delaware producer. There's my estimated hyperbolic
2 decline going off at an exponential if there were no
3 pressure maintenance core associated with that
4 particular well.

5 And the second page just represents an
6 economic value to us, along with the estimated reserves
7 of near 40,000 barrels without pressure maintenance.

8 The third page shows that -- my prediction
9 that we're going to have a five barrel-a-day incremental
10 increase after approximately six months of injection,
11 and includes [sic] the downdip well of 27-4. After
12 that, we'll go on a 5 percent exponential decline.

13 And that present worth value has more than
14 doubled from what we would get from the well without
15 pressure maintenance, and we're looking at a two to one
16 recovery, an 80,000 barrel potential recovery versus
17 40,000 barrels.

18 And taking into account the other three
19 wells we have updip and now there will be a fourth
20 potentially, my predicted performance is shown on the
21 next page for the first well, and basically 30 barrels a
22 day for the peak month, hyperbolic off and get a
23 response of injection within a six-month period of being
24 drilled and starting at 15 barrels a day, going off of a
25 5 percent exponential.

1 The next exhibit just shows, with a
2 six-month continuous drilling program, how we propose
3 developing the pressure maintenance area, and you can
4 see the gross reserves. There will be another -- a
5 potential fourth well involved in this project, after
6 our discussions with the SLO yesterday.

7 It is our contention that we would start
8 injection into the pressure maintenance well and monitor
9 closely, obviously, the 27-5. If we see response within
10 six, eight months, we've actually talked about coming
11 back and discussing it at a year point to continue
12 development of the project area. And so that's our plan
13 to date.

14 Q. (BY MR. BRUCE) Mr. Sam, based on the Endurance
15 well just a mile and a half, two miles to the north, do
16 you believe that instituting a pressure maintenance
17 project on these state leases will enhance the recovery
18 from the leases?

19 A. Yes, I do.

20 Q. And this well -- the injection well will also
21 serve another purpose; will it not? It will dispose
22 of -- there is quite bit of produced water out there?

23 A. Yes, sir. We have over 500 barrels of total
24 produced water off the lease from the three producing
25 wells now that we have on the lease, and it will help

1 economic development on the property.

2 Q. So if you had to dispose off-site or you have
3 to continue disposing off-site, that would be much more
4 expensive and increase operating costs?

5 A. Absolutely, anywhere from 3 to \$5 per barrel in
6 disposal fees.

7 Q. There are a couple of other exhibits I've given
8 to the Examiner, Exhibits 7 and 8. What are those?

9 A. Exhibits 7 and 8 represent after-frack
10 post-stimulation reports for the 27-4 and the 27-5 well
11 that were calculated from the digits of the actual frack
12 treatment in the Delaware system. And with the
13 calculations that are associated with rock mechanic
14 stress rates and calculated conductivities with frack
15 lengths and heights, we feel like we performed, as
16 designed, treatments for each particular well over the
17 proposed interval production and should be able to
18 maintain injection within those intervals.

19 Q. And if you could turn to Exhibit 4 of the
20 C-108 --

21 A. Yes.

22 Q. -- and I've numbered some of the pages. If you
23 could first go to pages 4 and 5 which I've numbered and
24 describe the status of the well and how you plan to
25 convert it to injection.

1 A. The current status of the well is -- it was
2 originally drilled to 4,710 feet. The well was
3 perforated at 3,315 to 37, and the fracture stimulated,
4 as referred to within the model, was submitted.

5 We currently have a plastic-lined packer
6 set at 3,275, well within 100 feet of the top perf, and
7 we have two seven-eighths J-55 plastic-covered tubing in
8 place. And after stimulation, we -- as submitted within
9 the exhibit, I have shown a step-rate test that was
10 performed by our field operator on that particular well.

11 Q. Is the well completed such that it will prevent
12 the movement of any injected fluids into another zone?

13 A. Yes, sir.

14 Q. And the injection water will simply be
15 formation water, correct?

16 A. That is correct.

17 Q. And I believe at pages --

18 A. 32?

19 Q. -- 20 through 24, there are some water
20 analyses, correct?

21 A. Correct.

22 Q. And so the water should obviously be
23 compatible?

24 A. They are compatible. Yes, sir.

25 Q. Were there any plugged-and-abandoned wells

1 within the half-mile radius of the injection well?

2 A. No, sir, there were not.

3 Q. And the only other wells that are shown out
4 here are Caza-drilled and -operated wells, correct?

5 A. That's correct.

6 Q. And is there any faulting or any other issue
7 like that that would lead to disapproval of this
8 application?

9 A. No, sir, not to my knowledge.

10 Q. And you don't see any connectivity between the
11 proposed injection interval and any existing sources of
12 drinking water?

13 A. No, sir, we do not.

14 Q. And based on the cross sections that you've
15 submitted, will the injected water be contained into the
16 producing zones that you're talking about?

17 A. Yes, sir. It should be contained within the
18 Delaware system that is perforating the -- the cross
19 section.

20 Q. And were Exhibits 1 through 4 and 7 and 8
21 either prepared by you or under your supervision or
22 compiled from company business records?

23 A. Yes, they were.

24 MR. BRUCE: Mr. Examiner, I'd move the
25 admission of Exhibits 1 through 4 and 7 and 8.

1 MS. SMITH: No objection.

2 EXAMINER GOETZE: Exhibits 1 through 4 and
3 Exhibits 7 and 8 are so entered.

4 (Caza Operating, LLC Exhibit Numbers 1
5 through 4 and 7 and 8 were offered and
6 admitted into evidence.)

7 Q. (BY MR. BRUCE) And, Mr. Sam, in your opinion,
8 is the granting of this application in the interest of
9 conservation and the prevention of waste?

10 A. Yes, sir, it is.

11 MR. BRUCE: I pass the witness.

12 MS. SMITH: I have no questions.

13 EXAMINER GOETZE: Very good.

14 Mr. Bruce, the 108 that was submitted, is
15 that similar to the one that was put in in the
16 application?

17 MR. BRUCE: It is identical.

18 EXAMINER GOETZE: Identical. No changes.
19 Very good.

20 CROSS-EXAMINATION

21 BY EXAMINER GOETZE:

22 Q. Then let's do a bit of geology. Basically
23 you're in the Cherry Canyon Formation. You're up
24 against a Capitan Reef. Has any consideration been
25 given to its proximity and any correlation of this unit

1 into the reef? Are we below? Above? Next to?

2 A. We are below the Capitan, I believe, in this
3 area. From a geological standpoint -- our geologist
4 wasn't able to attend, so I'm going --

5 Q. You're going to wing it? Okay (laughter).

6 A. (Laughter.)

7 Q. Okay. We'd ask you to give that consideration.

8 A. Okay.

9 Q. It looks initially as if there is not a
10 situation of communication where you are in the section.

11 So we have -- formation water is going to
12 be reinjected. Do we have a situation where we're going
13 to have any makeup water requirements?

14 A. No, we should not. I anticipate one to
15 one-and-a-half barrels maximum rate, somewhere at or
16 around 1,000 barrels a day max. We're currently at 500.
17 But within -- the distance within the two wells we're
18 talking about, the initial producers and the pressure
19 maintenance well, I anticipate -- it's very similar to
20 what we've seen just one mile north of 15. With
21 those -- at or around those volumes, we should see some
22 sort of response within six to eight months.

23 Q. Okay. So you do not anticipate adding any
24 water to the system?

25 A. No, sir.

1 Q. Very good.

2 We're currently looking at a perf interval
3 in your injector, State 4, of 3,315 to 3,337, so we're
4 looking at about 20 feet of interval that you're going
5 to be perfining into?

6 A. Yes, sir.

7 Q. We are anticipating an injection pressure based
8 on an administrative gradient of .2?

9 A. .2, yes, sir. Much less than that. Under our
10 step-rate test that we performed, at the one barrel per
11 minute, we were injecting at approximately 190 psi on
12 the surface.

13 Q. And the results of the SRT are not quite clear.
14 Did we get a formation parting pressure for --

15 A. We did get a formation parting pressure, and it
16 was a frack gradient of .73.

17 Q. Okay. So you're very far up on the scale?

18 A. Yes.

19 Q. Now, would you discuss a little bit --

20 EXAMINER GOETZE: Now I'll ask counsel for
21 the state to clarify. We have an additional well being
22 proposed.

23 MS. SMITH: Yes.

24 EXAMINER GOETZE: And that is to the
25 northeast-northeast?

1 THE WITNESS: Yes, sir.

2 MS. SMITH: Yes.

3 Q. (BY EXAMINER GOETZE) And that will be a relief
4 well for production and capture off the structure?

5 A. Yes. That well will represent -- once response
6 is seen within the existing 27-5 well or thereabouts, we
7 will drill in the northeast-northeast to protect the
8 trust interest within our leasehold.

9 Q. And Section 26, we have an open operator on
10 that side?

11 A. We do. That is Allar Operating.

12 Q. And have they completed in the same interval?

13 A. They do not currently have any production on
14 that leasehold.

15 EXAMINER GOETZE: Well, the Division has a
16 little disadvantage here. So is it the State's intent
17 that we include the proposed well in the
18 northeast-northeast as a condition of agreement and
19 retraction of your protest?

20 MS. SMITH: Yes.

21 EXAMINER GOETZE: No other conditions that
22 you feel are necessary?

23 MS. SMITH: The only other condition would
24 be consultation with the State Land Office within a year
25 and continued consultation to analyze how much is being

1 produced. And that's only in case we need to do a water
2 pledge [sic] unit in order to incorporate other acreage.
3 So I guess consultation with the State Land Office, at a
4 minimum, within a year.

5 EXAMINER GOETZE: They should be following
6 a plan of operation, correct, so --

7 MS. SMITH: Yes.

8 EXAMINER GOETZE: Well, I have no further
9 questions for this witness.

10 MR. BRUCE: I have nothing further,
11 Mr. Goetze.

12 EXAMINER GOETZE: Well, I have one
13 question, Mr. Bruce. In my anxiousness, did we qualify
14 your first witness as an --

15 MR. BRUCE: Oh, I forgot. I'm a little
16 scattered today.

17 EXAMINER GOETZE: Let's bring the gentleman
18 back up and get him his paycheck.

19 (Laughter.)

20 MR. BROWN: I'm for that.

21 JAY BROWN,
22 after having been previously sworn under oath, was
23 recalled, questioned and testified as follows:
24
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REDIRECT EXAMINATION

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BY MR. BRUCE:

Q. Mr. Brown, have you previously testified before the Division?

A. I have.

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

A. They were.

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

A. I am.

MR. BRUCE: That's it.

MS. SMITH: No objection.

EXAMINER GOETZE: Very well. You are so qualified.

And you may go. Thank you.

THE WITNESS: Thank you.

EXAMINER GOETZE: Very well. Case 15235 is taken under advisement.

And we will take a ten-minute break here.

(Case Number 15235 concludes, 8:45 a.m.; break taken, 8:45 a.m. to 9:00 a.m.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 15235 heard by me on November 20 2014

[Signature], Examiner
Oil Conservation Division

1 STATE OF NEW MEXICO
2 COUNTY OF BERNALILLO

3

4 CERTIFICATE OF COURT REPORTER

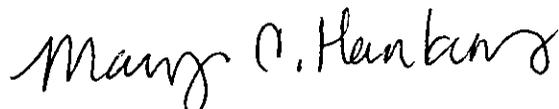
5 I, MARY C. HANKINS, New Mexico Certified
6 Court Reporter No. 20, and Registered Professional
7 Reporter, do hereby certify that I reported the
8 foregoing proceedings in stenographic shorthand and that
9 the foregoing pages are a true and correct transcript of
10 those proceedings that were reduced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

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

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

19

20



21

MARY C. HANKINS, CCR, RPR
Paul Baca Court Reporters, Inc.
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2014

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