

STATE OF NEW MEXICO
ENERGY, MINERAL AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

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

APPLICATION OF KAISER-FRANCIS CASE NOS 15821-15822
OIL COMPANY FOR POOL CREATION
AND SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

September 14, 2017

SANTA FE, NEW MEXICO

BEFORE: WILLIAM V. JONES, CHIEF EXAMINER
 DAVID K. BROOKS, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, William V. Jones, Chief Examiner, and David K. Brooks, Legal Examiner, on Thursday, September 14, 2017, 10:49 a.m., 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

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3.	Bell Lake South, Working Interest Owners, Royalty Owners, ORRI Owners, Non-Participating Royalty Owners, Unleased Mineral Interest Owners and Offset Operators	5
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1 EXAMINER JONES: Let's go back on the
2 record and call Cases 15821 and 15822, which are both
3 the Application of Kaiser-Francis Oil Company for a Pool
4 Creation and Special Rules and Regulations for Lea
5 County, New Mexico.

6 Call for appearances.

7 MR. BRUCE: Mr. Examiner, Jim Bruce, of
8 Santa Fe, representing the applicant. I have three
9 witnesses, who are the same people that testified in the
10 prior cases.

11 EXAMINER JONES: So let the record show the
12 witness have been sworn and also qualified.

13 BARBARA COURTNEY

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

16 DIRECT EXAMINATION

17 BY MR. BRUCE:

18 Q. Ms. Courtney, let's be really brief about this.
19 First of all, what is Exhibit 1?

20 A. Exhibit 1 is a plat depicting the Bell Lake
21 South Unit area.

22 Q. And does it give the legal description on page
23 2?

24 A. Yes, it does.

25 Q. And is Exhibit 2 simply the special pool rules

1 that are being sought for the Bone Spring and Wolfcamp
2 formations in these two cases?

3 A. Yes.

4 Q. And are the setbacks and the allowables being
5 sought the same as in the prior two cases?

6 A. Yes.

7 Q. And who what is Exhibit 3?

8 A. Exhibit 3 is a list of the working interest
9 owners, royalty owners, overriding royalty interest
10 owners, nonparticipating royalty owners, unleased
11 mineral interest owners and offset operators in the Bell
12 Lake South 9 Section area.

13 Q. And what is Exhibit 4?

14 A. Exhibit 4 is a plat showing the offset
15 operators to the Bell Lake South Unit within a one-mile
16 radius.

17 Q. And then again, these offsets are listed in
18 Exhibit 3?

19 A. That's correct.

20 MR. BRUCE: Again Mr. Examiner, Exhibit 5
21 is my Affidavit of Notice. You can see there are even
22 more interest owners in this one than in the prior one.

23 Again, you know, yesterday I got some more
24 green cards. I just again would ask that these two
25 cases be continued, and I will submit the complete

1 notice materials in two weeks' time. I just need to
2 make sure that we published against the right people.

3 Q. (By Mr. Bruce) And again, you did the same
4 examination of the records, Ms. Courtney, to find out
5 the interest owners in the South Unit?

6 A. Yes.

7 Q. And you made a good-faith effort to locate
8 everyone involved who might be affected by these
9 applications?

10 A. Yes.

11 Q. Were Exhibits 1 through 4 prepared by you or
12 under your supervision?

13 A. Yes.

14 Q. And in your opinion, is the granting of these
15 two applications in the interest of conservation and the
16 prevention of waste?

17 A. Yes.

18 MR. BRUCE: Mr. Examiner, I move the
19 admission of Exhibits 1 through 5.

20 EXAMINER JONES: Exhibits 1 through 5 are
21 admitted.

22 MR. BRUCE: Did Mr. Hall make an appearance
23 in these cases?

24 MR. BRUCE: Yes, he did make an appearance
25 in this case. He told me he was leaving, but I would

1 request the record reflect that he made an appearance in
2 these cases also.

3 EXAMINER JONES: So on behalf of Energen,
4 he has made an appearance in Cases 15821 and 15822.

5 MR. BRUCE: I did call him a coward for not
6 sticking around.

7 EXAMINER JONES: It got a little too
8 long-winded for him.

9 MR. BRUCE: I have no further questions of
10 this witness.

11 EXAMINER JONES: Mr. Brooks?

12 MR. BROOKS: This South Unit, you have a
13 depth severance of 9,000 feet, did you say?

14 THE WITNESS: As to the working interest
15 ownership, yes, sir.

16 MR. BROOKS: As to the working interest
17 ownership. I'm not thinking very well today, but does
18 that create any problems?

19 THE WITNESS: We don't believe so. There's
20 only four working interest owners in the Bell Lake
21 South, and we own 92 percent. So we have an owner that
22 owns about 6, and then two 1 percent owners.

23 The wells that we are planning to drill
24 right now are all basically below that 9,000 foot
25 severance, and it's a hard number. It's not a

1 formation.

2 MR. BROOKS: Yeah, that's what I gathered.
3 Are the interests of the people that own above 9,000,
4 are they unitized under the unit agreement?

5 THE WITNESS: Yes, sir.

6 MR. BROOKS: So as long as everything
7 remains in the unit, that doesn't make any difference?

8 THE WITNESS: That's correct.

9 MR. BROOKS: And if there were any areas
10 that went out of the unit, then they wouldn't get any?

11 THE WITNESS: That's correct.

12 MR. BRUCE: And I will ask the geologist a
13 question, but the area affected by that isn't the entire
14 unit. It's a very small portion of the unit, based on
15 structure.

16 MR. BROOKS: Okay.

17 Go ahead.

18 EXAMINER JONES: I don't have any
19 questions.

20 THE WITNESS: Thank you.

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CHRIS MILLER

having been previously duly sworn under oath,
was questioned and testified as follows:

EXAMINATION

BY MR. BRUCE:

Q. First of all, was Exhibit 6 of nine pages
prepared by you or under your supervision?

A. Yes, it was.

Q. And if you'll look at page 1, really the only
difference, looking at the South Unit, is it does depict
the initial mile-and-a-half well drilled in the subunit,
correct?

A. Correct.

Q. All the geology that the cross-sections, the
zones of interest, the isopachs, they're all more or
less the same?

A. Very similar, yes.

Q. And is both the various zones within the Bone
Spring and the Wolfcamp zones, are they continuous
across the South Unit?

A. Yes, they are.

Q. Let's move on to your page 3 of Exhibit 6.
Could you describe briefly the only horizontal well
drilled to date?

A. Yes. This is just a cross-section representing

1 where the Kaiser-Francis Oil Company T63H was landed in
2 the second Bone Spring sand, pretty much right in the
3 center of the second Bone Spring interval.

4 As I stated earlier, we did drill a
5 vertical pilot hole, which this cross-section does not
6 depict. But if you envision a straight hole going down
7 through the Wolfcamp, that's where our pilot hole would
8 have been. We came up and just drilled this lateral for
9 a mile and a half.

10 This well was completed at the end of last
11 June, and it's been producing for approximately 76 days
12 and has produced approximately 90,000 barrels of oil to
13 date.

14 This is really the only -- this exhibit
15 here is the only one I didn't have for the North Bell
16 Lake because they're going to have a well on North Bell
17 Lake. All the other exhibits, like you said, are very
18 similar.

19 Q. And in the Bone Spring and Wolfcamp, you used
20 an 8 percent cutoff in the isopachs?

21 A. Yes, I did.

22 Q. And there's no faulting that would prevent the
23 drilling of horizontal wells in this area?

24 A. That's correct.

25 Q. Looking at page 4, your cross-section, would

1 **you discuss that 9,000 foot cutoff, which is a depth**
2 **cutoff, not a stratigraphic cutoff, correct?**

3 A. It's a depth cutoff. So basically if you look
4 at page 5, the structure map on top of the upper Avalon,
5 that 9,000 foot -- and I really haven't calculated it
6 exactly. But you see the structure really drops off to
7 the east and the west from the middle, Section 6 and
8 Section 31, so the highest part of that structure right
9 in there is really the only region affected by that
10 9,000 foot depth limitation.

11 Q. And once again, that really has nothing to do
12 with the pool rule because that's all part of the same
13 Bone Spring formation?

14 A. Correct.

15 Q. And it's more -- if I may, it would just mean
16 more work for Ms. Courtney for the four working interest
17 owners to come along on the drilling of the Avalon well?

18 A. Yes, that's exactly right.

19 Q. And do you request that your geologic testimony
20 from the prior cases be incorporated in the record of
21 this case?

22 A. I would, yes.

23 Q. And in your opinion, is the granting of these
24 applications in the interest of conservation and the
25 prevention of waste?

1 A. Yes.

2 MR. BRUCE: Mr. Examiner, I move the
3 admission of Exhibit 6.

4 EXAMINER JONES: Exhibit 6 is admitted.

5 MR. BRUCE: I have no further questions of
6 the witness.

7 EXAMINER JONES: Mr. Miller, the exhibit --
8 oh, okay. I just saw that Exhibit 6, page 3, shows the
9 subsea depths. But if you add the elevation as what,
10 4,500 feet or --

11 THE WITNESS: 4,000-ish, give or take, 35-
12 to 4,000.

13 EXAMINER JONES: So it's way up in the
14 upper Avalon?

15 THE WITNESS: It would be in the upper
16 Avalon only, yes.

17 EXAMINER JONES: All your previous geologic
18 testimony in the previous two cases apply to this?

19 THE WITNESS: Yes, they do.

20 EXAMINER JONES: That well that you
21 drilled, you drilled it starting over in Section 6, and
22 you angled it over into 5 and 32, it looks like.

23 Then you drilled a pilot hole directly
24 below in Section 6; is that correct?

25 THE WITNESS: Well actually, the pilot hole

1 -- you noticed yourself how the surface location is in
2 6, and then the well path for the lateral kind of curves
3 out and reaches into Section 5. So that distance going
4 into 5 for our lateral, we were going to have to do that
5 for sure.

6 So what they did was they maintained --
7 like they were going to drill the lateral. They just
8 kind of kept going at a slight angle, so it's deviated
9 slightly. So the bottom local is in Section 5, the
10 pilot.

11 EXAMINER JONES: How deep did you drill it?

12 THE WITNESS: 12,000 feet.

13 EXAMINER JONES: Was that through the
14 Wolfcamp?

15 THE WITNESS: Yes.

16 EXAMINER JONES: On into the Strawn a
17 little bit?

18 THE WITNESS: Very close to the Strawn.

19 EXAMINER JONES: You said you cored it and
20 logged it. You did sidewalls?

21 THE WITNESS: Yep.

22 EXAMINER JONES: You logged it and then
23 picked your sidewall depths to take --

24 THE WITNESS: Correct. We pretty much
25 picked the sidewall cores off the triple combo log

1 because --

2 EXAMINER JONES: And the DFIT --

3 THE WITNESS: -- most of the other logs
4 nowadays, I'm sure you're aware, are computed logs that
5 take a few weeks to get back.

6 EXAMINER JONES: Oh, yeah. Okay.

7 THE WITNESS: But you get your gamma ray
8 density neutron right there on location and resistivity,
9 obviously.

10 EXAMINER JONES: What was your prime
11 purpose of doing the sidewalls?

12 THE WITNESS: Mainly for reservoir
13 evaluation.

14 EXAMINER JONES: Is that to tune your logs
15 with your core porosity -- your porosity from your logs
16 with the core porosity?

17 THE WITNESS: Yes, and you know, use that
18 permeability and all that for reservoir simulation, like
19 Mike talked about.

20 EXAMINER JONES: Is there a relationship
21 between your porosity and permeability out here?

22 THE WITNESS: I don't know yet.

23 EXAMINER JONES: Okay. It's not like a
24 sandstone, where you can almost draw it out?

25 THE WITNESS: Yeah. It's very tight rock,

1 very low perm. So the fracs really make the biggest
2 difference, so that kind of messes your relationship up.
3 The bigger the frac, the better your production. So
4 artificially increasing your perm helps.

5 EXAMINER JONES: Okay. So pretty much you
6 can say it's dominated the flows. Fracture-dominated
7 flow and your matrix contributes, but it's -- well,
8 you're on a structural high here, though, so you should
9 have some sort of concentration.

10 Does that mean that when you're off of this
11 high, that you're into water, or does that mean that --

12 THE WITNESS: No.

13 EXAMINER JONES: -- saturation gets higher
14 in water or anything?

15 THE WITNESS: The water saturation, as I
16 have mapped it, increases off structure. But you know,
17 all of this production is down-dipped to us in the same
18 horizon.

19 EXAMINER JONES: Okay.

20 THE WITNESS: So they might -- even though
21 they might have slightly higher water saturation, but
22 it's not apparent really.

23 EXAMINER JONES: Yeah.

24 THE WITNESS: We were hoping actually,
25 since we are on structure, to get more natural

1 fracturing, but we didn't see any natural fracturing on
2 the structure.

3 EXAMINER JONES: Oh, you didn't?

4 THE WITNESS: No, we did not.

5 EXAMINER JONES: On your mud log or --

6 THE WITNESS: We ran an FMI imaging tool.

7 EXAMINER JONES: On your pilot hole?

8 THE WITNESS: Yes.

9 EXAMINER JONES: So you didn't see -- what
10 about on your lateral; did you notice any big breaks or
11 anything?

12 THE WITNESS: No, we didn't.

13 EXAMINER JONES: It sounds like the well is
14 a pretty good well?

15 THE WITNESS: We're happy with the well,
16 yes, we are. As Mike said, we could have gotten more
17 aggressive with the frac size, but it's our first well.
18 We wanted to be as safe as possible, so we're happy with
19 it.

20 EXAMINER JONES: Okay. Then that DFIT that
21 you ran, you got the little pressure points up the hole
22 in that?

23 THE WITNESS: Yeah. I wish I could talk
24 more about that, but I can't.

25 EXAMINER JONES: Somebody's eyes lit up

1 back in the back here.

2 Thank you very much.

3 THE WITNESS: You're welcome.

4 MR. BROOKS: Could you say again what you
5 said about the 9,000 foot depth severance?

6 THE WITNESS: Yeah. It only comes into
7 play in the -- I think really the north half of 6, maybe
8 in Section 31 where the upper Avalon interval -- if
9 you'll look at page 2, it would only affect the upper
10 Avalon interval in that small area.

11 MR. BROOKS: So the reason it --

12 THE WITNESS: Everything else drops
13 structurally away.

14 MR. BROOKS: Everything else that you're
15 interested -- all your other target areas are below the
16 9,000-foot-depth severance except in that small area?

17 THE WITNESS: Right.

18 MR. BROOKS: But the definition of the pool
19 will be broader than that, right? It will go from the
20 top of the Bone Spring?

21 THE WITNESS: That's correct.

22 MR. BROOKS: It doesn't -- well, first of
23 all, the unit operating -- and maybe the land witness is
24 the appropriate person to ask. All of these working
25 interest owners above and below that level are parties

1 to the Unit Operating Agreement?

2 MS. COURTNEY: Yes, sir.

3 MR. BROOKS: And the Unit Operating
4 Agreement covers all depths within the Bone Spring?

5 MS. COURTNEY: It covers all depths.

6 MR. BROOKS: And of course, does the
7 unit -- what happens to the Unit Operating Agreement if
8 any acreage is contracted out of the unit?

9 MS. COURTNEY: Well, the whole 18 sections
10 is a Devonian participating area, and it's held.

11 MR. BROOKS: So the leases are held?

12 MS. COURTNEY: Yes, sir, all of them.

13 MR. BROOKS: So are you telling me then
14 that the operating agreement continues to control the
15 division of interest between the working interest
16 owners, regardless of what pool it's in?

17 MS. COURTNEY: Yes.

18 MR. BROOKS: Okay, thank you.

19 MIKE RAINES

20 having been previously sworn under oath,
21 was questioned and testified as follows:

22 EXAMINATION

23 BY MR. BRUCE:

24 Q. Mr. Raines, is your Exhibit 7 in these two
25 cases, other than the South Bell Lake versus North Bell

1 Lake, identical to the Exhibit 7 that was presented in
2 the prior cases?

3 A. Yes, it is.

4 Q. And would you ask that your testimony from the
5 prior cases be incorporated in these two cases?

6 A. Yes, I would.

7 Q. And was Exhibit 7 prepared by you or under your
8 supervision?

9 A. Yes, it was.

10 Q. And in your opinion, is the granting of these
11 two applications in the interest of conservation and the
12 prevention of waste?

13 A. Yes.

14 MR. BRUCE: Mr. Examiner, I'd move the
15 admission of Exhibit 7.

16 EXAMINER JONES: Exhibit 7 is admitted, and
17 we'll incorporate the engineering testimony and geologic
18 testimony of Cases 15823 and 15824 into these two cases.

19 What did you find out on that DFIT testing;
20 do the tools work?

21 THE WITNESS: Well, in our DFIT test it was
22 a surface-measured pressure test, and the DFIT was run
23 on the initial injection for the very first stage frac.
24 And we ran this about a month before we actually moved
25 in to do the big frac job so that we could get an

1 initial permeability measurement, an initial fracture
2 closure pressure and an initial injection pressure and a
3 breakdown pressure so that we could then take those back
4 and do a more detailed and final fracture design for the
5 well.

6 EXAMINER JONES: Okay. Do you get in on
7 the fracture design, or is --

8 THE WITNESS: Yes, I do.

9 EXAMINER JONES: Well, you Kaiser-Francis
10 people are kind of well-rounded. You seem to do --

11 THE WITNESS: We try to. But we have a
12 completion engineering team who's primarily responsible
13 for putting that frac together, the horse power, the
14 field operations.

15 EXAMINER JONES: They bid it out?

16 THE WITNESS: They do. But since a lot of
17 the fracturing design has to do with the reservoir
18 component, then we share responsibilities. We come
19 together as a team and do a design that everyone is
20 happy with.

21 EXAMINER JONES: Okay, wow. So you've got
22 to look at some of the sidewall core conventional
23 analysis?

24 THE WITNESS: Yes, the analysis is still
25 underway.

1 EXAMINER JONES: Okay.

2 THE WITNESS: But Chris and I worked
3 together to pick the points, and then we had 50 points
4 that we selected. We recovered 46 in total and sent
5 those to the Schlumberger core lab. They're still
6 cranking, through, and testing work should be completed
7 in November sometime. But we do have a lot of the
8 results back.

9 EXAMINER JONES: Okay. So did you use
10 standard relative permeability curves out here, or you
11 actually got them from --

12 THE WITNESS: For the reservoir simulation
13 work?

14 EXAMINER JONES: Yeah, the simulation.

15 THE WITNESS: No, not standard. What we
16 did is we developed our own relative permeability curves
17 that allowed us to match the production for offset
18 wells.

19 EXAMINER JONES: Okay.

20 THE WITNESS: The first stage in that
21 reservoir simulation process was to attempt to calibrate
22 the simulator. Since we only have 90 days of production
23 data available, we can't do a long-term calibration. So
24 we took several groupings of offset wells and actually
25 simulated those from initial to current production to

1 try to dial in the calibration. In that process, we
2 arrived at a series of relative permeability curves that
3 allowed us to match the oil, gas and water production
4 evolution.

5 EXAMINER JONES: Okay. As far as running
6 your economics, you use Aries or Roger or one of the
7 in-house models that you guys use?

8 THE WITNESS: We use two different things.
9 One package that we use is an IHS package, and that
10 allows us to develop economics quickly for wells that
11 have decline curves already.

12 EXAMINER JONES: Okay.

13 THE WITNESS: You can pick a decline curve,
14 set your economic parameters and calculate the
15 economics. We also use Excel because it's not a
16 complicated calculation. Once you have the oil and gas
17 production and your estimate of oil and gas prices
18 versus time and your lease operating expenses, then it's
19 just a discounted cash flow calculation. It's simple to
20 do.

21 EXAMINER JONES: Okay. I wish I could ask
22 you more questions, but we better keep rolling here.
23 Thank you very much. Thank all of you for coming.

24 We'll take Cases 15821 and 822 and continue
25 them to September the 28th.

[The proceedings concluded at 11:14 a.m.]

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1 STATE OF NEW MEXICO.

2 COUNTY OF BERNALILLO

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5 CERTIFICATE OF COURT REPORTER

6

7 I, DEBRA ANN FRIETZE, Certified Court
8 Reporter, New Mexico Certified Court Reporter No. 251,
9 do hereby certify that I reported the foregoing
10 proceedings in stenographic shorthand and that the
11 foregoing pages are a true and correct transcript of
12 those proceedings that were reduced to printed form by
13 me to the best of my ability.

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

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

21

22

23 DEBRA ANN FRIETZE.
24 Certified Court Reporter
25 New Mexico CCR No. 251
Date of CCR Expiration: 12/31/2017