

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

6 APPLICATION OF DEVON ENERGY
7 PRODUCTION COMPANY, L.P. FOR
8 APPROVAL OF A WATER DISPOSAL
9 WELL, LEA COUNTY, NEW MEXICO.

CASE NO. 14943

ORIGINAL

10 REPORTER'S TRANSCRIPT OF PROCEEDINGS

11 EXAMINER HEARING

12
13 BEFORE: WILLIAM V. JONES, Chief Examiner
14 DAVID K. BROOKS, Legal Examiner

15 January 24, 2013

16 Santa Fe, New Mexico

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18 This matter came on for hearing before the
19 New Mexico Oil Conservation Division, William V. Jones,
20 Chief Examiner, and David K. Brooks, Legal Examiner, on
21 Thursday, January 24, 2013, at the New Mexico Energy,
22 Minerals and Natural Resources Department, 1220 South
23 St. Francis Drive, Porter Hall, Room 102,
24 Santa Fe, New Mexico.

25 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

1 APPEARANCES

2 FOR APPLICANT DEVON ENERGY PRODUCTION COMPANY, L.P.:

3 JAMES G. BRUCE, ESQ.
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6

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1 (10:14 a.m.)

2 EXAMINER JONES: Call Case Number 14943
3 application of Devon Energy Production Company, LP for
4 approval of the disposal well in Lea County.

5 Call for appearances.

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

9 EXAMINER JONES: Any other appearances?
10 Will the witnesses please stand?
11 And the court reporter will swear the
12 witnesses.

13 (Mr. Harran and Mr. Rickett sworn.)

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

17 DIRECT EXAMINATION

18 BY MR. BRUCE:

19 Q. Would you please state your name and city of
20 residence, for the record?

21 A. Craig Harran, H-A-R-R-A-N, Oklahoma City,
22 Oklahoma.

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

24 A. Devon Energy Corporation, and I'm a petroleum
25 geologist.

1 Q. Have you previously testified before the
2 Division?

3 A. No.

4 Q. Will you please summarize your educational and
5 employment background for the Examiner?

6 A. I've a Bachelor's of Science in engineering
7 geology from UCLA, a Master's of Engineering in geologic
8 engineering from the Colorado School of Mines. I've
9 been a geologist with Energy Devon for five-and-a-half
10 years, working the Permian Basin for two-and-a-half
11 years and the Rocky Mountain Basins for three years
12 before that.

13 Before working for Devon, I worked for
14 Mobile Oil and Exxon as a hydrogeologist and an
15 environmental engineer in refining.

16 Q. And does your area of responsibility at Devon
17 include this portion of southeast New Mexico?

18 A. Yes.

19 Q. And are you familiar with the geology involved
20 in this application?

21 A. Yes.

22 MR. BRUCE: Mr. Examiner, I'd tender
23 Mr. Harran as an expert in petroleum geology

24 EXAMINER JONES: He is so qualified.

25 Q. (BY MR. BRUCE) Mr. Harran, could you identify

1 Exhibit 1 for the Examiner and maybe discuss a little
2 bit the Devonian Reservoir in this area, which is the
3 zone you'll be injecting into, correct?

4 A. Correct.

5 This is a structure map of 100-foot contour
6 intervals. In the subsea, you can see the labels on the
7 intervals. Here there's also labeled cross section from
8 A to A prime, which you see labeled on Exhibit 1, and
9 that cross section is Exhibit 2.

10 What the map shows is a gentle dip to the
11 northeast of the top of the Devonian section. These
12 Devonian wells, gas wells, were drilled, roughly, on top
13 of a structure that you can see here, the nose of the
14 structure kind of trending to the northeast and going
15 down-dip off of the structure to the northeast.

16 Q. And the well which we're here for today is in
17 Section 33. That was a producing Devonian gas well,
18 correct?

19 A. Correct.

20 Q. And it is no longer economic?

21 A. Correct.

22 Also, just to make a point, that well is
23 labeled, at point A on the cross section, "Rio Blanco 33
24 Fed #2." On the bottom of the cross section, at A
25 prime, is the Rio Blanco 4 Fed Com #3, which there was a

1 hearing for two years ago, I believe.

2 Q. Correct.

3 MR. BRUCE: Mr. Examiner, for the record,
4 that is another Devonian injection well, which was
5 approved in Case 14600.

6 Q. (BY MR. BRUCE) This is a fairly new pool, is it
7 not, Mr. Harran? What time frame were the wells in this
8 pool drilled?

9 A. The wells were drilled here in the 2003-2004
10 time frame. The permeability is through fractures in
11 the Devonian lime and underlying dolomite. High
12 permeability due to fracture flow, so they tend to drop
13 off rather quickly.

14 Q. Is this pool quite depleted at this point?

15 A. Correct.

16 And also you can see -- I don't want to
17 skip ahead to Exhibit 2, but the water-producing volumes
18 are listed -- are shown below the wells, relatively high
19 volumes, which are an indication of high permeability
20 through the fractures.

21 Q. And is it your understanding that normally a
22 saltwater disposal well could be approved
23 administratively, but because there is some -- still
24 some production in the area, the matter had to be set
25 for hearing?

1 A. Correct.

2 Q. Before you move on to the next exhibit, you
3 mentioned water for the injection well. Where will the
4 water come from for the injection well?

5 A. The water will come from -- there is a Delaware
6 development that we have to the north, what we refer to
7 as our Gaucho unit, and then to the southwest, out of
8 our Thistle area. There are lower Brushy Canyon oil
9 wells. The Delaware section does introduce a high
10 volume of water, so this will aid in the development of
11 those pools.

12 In the other areas in the basin, we have
13 injected Delaware-producing waters out of the lower
14 Brushy Canyon, into the Devonian, and there has not
15 appeared to be any compatibility issues.

16 Q. So you wouldn't anticipate any compatibility
17 issues between the injection water and the formation
18 water in this case?

19 A. Correct, I would not.

20 Q. Are there any open faults in this area that
21 would connect the injection zone to any underground
22 drinking water zone?

23 A. Not that I'm aware of, no.

24 Q. Why don't you move on to Exhibit 2; identify
25 that and discuss that for the Examiners?

1 A. So Exhibit 2 is a cross section going from
2 north to south. I have it labeled on the bottom, A to A
3 prime. So on the top of the Devonian interval, in red,
4 and I'm going from the bottom of the cross section, up,
5 overlain by the Woodford, which is a shalier interval,
6 which is overlain by the lower Mississippi, which is
7 kind of a limy interval.

8 You see at the bottom of the Devonian
9 interval here, the logs over this interval -- there are
10 penetrations just about 150 -- 100 to 150 feet into the
11 top of the Devonian, and there's where the production is
12 from. The logs are a little sporadic as far as
13 operators running logs over just certain intervals. So
14 what is shown here is what's available through his
15 database.

16 Q. Now, there were -- there were quite a few
17 Devonian wells in this pool; were there not?

18 A. On my map here, in Section 33 and 4, I've got
19 four shown right here, two in Section 33 and two in
20 Section 4 that were producing out of the Devonian.

21 Q. Does Devon have plans in the future -- does it
22 anticipate or plan on converting additional
23 noncommercial wells to inject?

24 A. In the future, I believe we have plans to
25 convert the 33 #1, which is the next well to the right,

1 shown on the cross section from the 33 2. So, again,
2 the 33 2 is the well on the far left, and the 33 1 is
3 the next well over to the right. And we do anticipate
4 plans of converting that to SWD.

5 Q. And from a geologic standpoint, do you see
6 any -- the reservoir is depleted, as you stated?

7 A. Correct.

8 Q. From a geologic standpoint, do you see any
9 damage to the reservoir from injecting water into the
10 Devonian?

11 A. No.

12 Q. And I think you said, at the bottom of the
13 cross section, is well data?

14 A. Correct, cumulative production lines.

15 Q. And these wells, they, themselves, produce
16 quite a bit of water?

17 A. Correct.

18 And in this area and in other areas, which
19 has led us to identify this as a suitable injection
20 zone, they've produced a lot of high permeability. And
21 other areas of the basin, they have been able to take a
22 lot of water.

23 Q. Were Exhibits 1 and 2 prepared by you?

24 A. Yes.

25 Q. And in your opinion, is the granting of this

1 application in the interest of conservation and the
2 prevention of waste?

3 A. Yes.

4 MR. BRUCE: Mr. Examiner, I'd move the
5 admission of Exhibits 1 and 2.

6 EXAMINER JONES: Exhibits 1 and 2 will be
7 admitted.

8 (Devon Energy Exhibits Numbers 1 and 2 were
9 offered and admitted into evidence.)

10 CROSS-EXAMINATION

11 BY EXAMINER JONES:

12 Q. Okay. So are you proposing the Mississippi
13 production --

14 A. Not in this basin.

15 Q. Have you tried it, or does it look bad on the
16 logs or --

17 A. I have not tried it. In other parts of the
18 country, northern Oklahoma, southern Kansas, it is an
19 active play. That's not to say that people may not look
20 at this in the future. So, for example, Woodford is
21 prospective in Oklahoma, and ourselves and other
22 operators have looked at it in this basin, but, also,
23 that formation has not been prospective. So I can't
24 speak to future plans, but right now we are not
25 targeting the lower Mississippi.

1 Q. Are you proposing open-hole intervals, 14570 to
2 14660?

3 A. Correct.

4 Q. And it's all Devonian --

5 A. Correct.

6 Q. -- through the whole interval?

7 A. Correct.

8 Q. And that wouldn't endanger any -- anything
9 up-hole on the Woodford, Mississippi and whatever --

10 A. Correct.

11 Q. -- be isolated?

12 A. Correct. And, again, that Woodford is a
13 low-permeability shale, which is likely a trap for the
14 gas that has been produced out of the Devonian itself.
15 So --

16 Q. Okay. A source to the gas that's been
17 produced?

18 A. Possibility.

19 Q. The Devonian that did produce here through the
20 fractures, was it -- this well, what would it have
21 produced?

22 A. So, again, our penetrations went roughly 150
23 feet into the top of the Devonian. There have been a
24 few wells in the basin completed through the -- drilled
25 through Devonian to basin granite. The Devonian

1 thickness is roughly 800 to 1000 feet, and relying on
2 the fracture permeability contributing gas throughout
3 this interval up to the producing zones where these
4 wells were drilled. So in my experience, wells drilled
5 in the Devonian have only gone 100, 150 feet into the
6 Devonian. I don't know of any that have drilled deeper
7 through the Devonian. People have relied on the
8 fracture permeability bringing the gas up to the
9 wellbore.

10 Q. This well that we're proposing today for
11 disposal, where does it sit as far as the structure of
12 the --

13 A. This cross section is a structural cross
14 section, so you can see that it's slightly lower
15 structurally than the other three wells -- or the other
16 two wells to the right of it. So as the structure dips
17 gently to the north, we are a little bit lower on the
18 structure.

19 Q. Okay. But the entire structure is depleted; is
20 that correct?

21 A. Correct. Correct.

22 So, for example, further to the south,
23 higher up on the structure, the Rio Blanco 4 Fed Com #3,
24 that we had a hearing for two years ago, that was an
25 economic well at the time, and still is, as the other

1 Devonian wells in this area are all uneconomic. So
2 these wells have been marginal for sometime now. And
3 it's been our experience and observations, again, due to
4 the high permeability of the fractures, these wells come
5 on strong in the beginning and drop off. And our
6 reservoir engineer can probably comment on that a little
7 more than I can.

8 Q. He's going to testify later?

9 A. Correct.

10 Q. So geologically, do you see an oil-water
11 contact there?

12 A. I do not.

13 Q. What kind of logs did you have available to you
14 to look for that? Pretty good suite of logs?

15 A. Well, again, you can see. As far as in the Rio
16 Blanco 33 Fed #2, our penetrations -- the sonic logs,
17 you can usually -- as you go from the shales of the
18 Woodford, into the Devonian, you see a real decrease in
19 travel time on the sonic log. And then we have our mud
20 log going into that interval as well. But the sonic
21 really stands out, slow travel time, dense limestone,
22 and then below that is the dolomite. But it really
23 stands out on the logs.

24 Q. Well, you guys will show a production curve of
25 the history of the reservoir, probably.

1 So as far as the water production, that
2 would be in blue?

3 A. Correct. Water is in blue. Gas is in red, and
4 liquids are in green, which I assume are liquids --
5 associated liquids with the gas.

6 Q. So it was a gas reservoir?

7 A. Right. All of these are gas wells.

8 Q. The fractures orientation, do you know --

9 A. I don't know offhand.

10 Q. But is it like gigantic fractures, or are these
11 little microfractures?

12 A. I'm not certain. I have seen a core from some
13 Devonian wells, not from this area. So it would be
14 speculative to guess the aperture of those fractures.

15 Q. Okay. Well, thank you very much.

16 A. Okay.

17 EXAMINER BROOKS: No questions.

18 RYAN RICKETT,

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

21 DIRECT EXAMINATION

22 BY MR. BRUCE:

23 Q. Could you state your name and city of
24 residence?

25 A. Ryan Rickett, Oklahoma City, Oklahoma.

1 Q. And who do you work for?

2 A. Devon Energy.

3 Q. What's your job with Devon?

4 A. I'm a reservoir engineer.

5 Q. Have you previously testified before the
6 Division?

7 A. I have not.

8 Q. Would you please summarize your educational and
9 employment background?

10 A. I received my Bachelor of Science in petroleum
11 engineering from Montana Tech in 2008, and I've been
12 employed with Devon since then. I work several regions
13 pertinent to this case, and I've been the regional
14 engineer for Lea County for the past 12 months.

15 Q. Have you testified before any other state
16 agencies and been qualified as an expert?

17 A. I have, the state of Montana.

18 Q. You said this has been your area now, in Lea
19 County, for the past year?

20 A. That's correct.

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

23 A. I am.

24 MR. BRUCE: Mr. Examiner, I tender
25 Mr. Rickett as an expert engineer.

1 EXAMINER JONES: In Montana, was that
2 eastern Montana?

3 THE WITNESS: The Board is in Billings.

4 EXAMINER JONES: The matter you testified
5 about, was that --

6 THE WITNESS: No. It was actually northern
7 Montana. It was not Bakken. It was the Sawtooth and
8 the Sandstone.

9 EXAMINER JONES: Can you spell your last
10 name?

11 THE WITNESS: It's Rickett, R-I-C-K-E-T-T.

12 So qualified. Thank you.

13 Q. (BY MR. BRUCE) Mr. Rickett, first, we don't
14 have a decline curve, but can you provide one to the
15 Examiner, after the hearing, of the production?

16 A. I certainly can.

17 Q. Can you discuss the production from wells in
18 this pool?

19 A. Sir, these wells come on a very high gas rate,
20 upwards of 20 million a day initially, and they decline
21 very quickly, something to the order of probably 95 to
22 99 percent hyperbolic decline initially.

23 Q. And so most of the gas is produced within the
24 first couple, three years of the well?

25 A. That's correct.

1 Q. And, again, is this -- the well we're here for
2 today, the 33 #2, is this well uneconomic at this time?

3 A. It is.

4 Q. You've got Exhibit 3, I see, already in front
5 of, Mr. Rickett.

6 A. Yes.

7 Q. Let's go through it. If you turn to page 3 of
8 the exhibit, could you discuss the injection well and
9 give a little info on it and how you plan to convert it
10 to --

11 A. Sure. We are planning on recovering the
12 existing tubing and packer, and we'll replace it with
13 higher-quality tubing and a new packer, and set
14 approximately 34 -- packer 3400 feet above the existing
15 Devonian perch, and we'll inject into the existing
16 Devonian.

17 Q. And, again, the injection will all be into just
18 the Devonian Formation?

19 A. Correct.

20 Q. What will be the approximate injection volumes?

21 A. We've permitted on an average rate of 3,000
22 barrels per day, up to a maximum of 5,000 barrels per
23 day.

24 Q. And the Division sets a .2 psi per foot of
25 depth limit on the injection pressure. Is this adequate

1 for injection into this well at this time?

2 A. Yes, it is.

3 Q. Now, if you turn to page 8 of Exhibit 3, which
4 shows the half-mile area review and the Rio Blanco 33
5 Fed #2. It shows two other wells. What is the status
6 of those wells, and what depths are they producing from,
7 if they are producing?

8 A. The Rio Blanco 33 Fed 3, the closer well, is
9 actually a Bone Spring producer. I'm not certain of the
10 current -- I don't know if it's producing, but it's out
11 of the Bone Spring.

12 Q. It doesn't penetrate the Devonian?

13 A. That's correct. The Rio Blanco 33 Fed 1 is
14 productive out of the Devonian, and it is currently --
15 it's producing intermittently. They have to have a
16 lease operator go out there to shut in the well, so the
17 pressure builds up and then can unload very quickly.

18 Q. And is that well properly drilled and completed
19 so as to prevent movement of the fluid between zones?

20 A. Yes, it is.

21 Q. And will the injection well be completed to
22 prevent movement of fluid between zones?

23 A. Yes.

24 Q. And does Exhibit -- is Exhibit 17 [sic] a
25 spreadsheet of completion data on those three wells, the

1 injection well and the other two wells, within the area
2 of review?

3 A. That's correct.

4 Q. And water analyses reports are contained in the
5 C-108; are they not?

6 A. They are.

7 Q. And based on what you reviewed, would there be
8 any compatibility problem between the injection water
9 and the formation water?

10 A. I do not see any compatibility issues.

11 Q. What are Devon's plans for the well? When
12 would you like to commence injection into this well?

13 A. As soon as possible. We have some Bone Spring
14 tests within five miles of this well, which, if
15 successful, would increase our development of the area
16 significantly. We would be bringing on a lot of water
17 pretty quickly.

18 Q. The Bone Spring wells in this area, at least in
19 the zones completed, do produce quite a bit of water?

20 A. Yes.

21 Q. And insofar as Bone Spring water, would that be
22 compatible with the formation water, also?

23 A. I believe so.

24 MR. BRUCE: Mr. Examiner, pages 12 through
25 16 of the C-108 do contain information on offset

1 ownership.

2 And Exhibit 4 is simply my affidavit giving
3 notice to all of those parties. They all did receive
4 notice. The final page of Exhibit 4, there is a notice
5 to Scott Tanberg of Midland, Texas. He has not picked
6 up the delivery, or the mail, so I haven't gotten a
7 green card, but I believe that is a correct address.

8 Q. (BY MR. BRUCE) Mr. Rickett, have you reviewed
9 all the data in the C-108 and the technical data, and do
10 you agree with it?

11 A. I have, and I agree.

12 Q. And in your opinion, is the granting of this
13 application in the interest of conservation and
14 prevention of waste?

15 A. Yes.

16 MR. BRUCE: Mr. Examiner, I move the
17 admission of Exhibits 3 and 4.

18 EXAMINER JONES: Exhibits 3 and 4 will be
19 admitted.

20 (Devon Energy Exhibits Numbers 3 and 4 were
21 offered and admitted into evidence.)

22 CROSS-EXAMINATION

23 BY EXAMINER JONES:

24 Q. Okay. Thanks for coming up here for this,
25 because, you know, we want to be careful about injecting

1 into a gas reservoir without talking to experts first.

2 A. Sure.

3 Q. But you're going for a saltwater disposal well.

4 You're not going for a lease pressure maintenance

5 project or anything like that?

6 A. That is correct.

7 Q. You didn't bring the landman.

8 So if you can send a production curve of

9 the whole -- of the whole reservoir and a production

10 curve of this well, that would be cool. If you could do

11 that --

12 A. Okay.

13 Q. -- through your attorney; send it to him.

14 A. No problem.

15 Q. You can set the packer within 100 feet, right,

16 of the --

17 A. We can.

18 Q. Okay. I mean, you could ask for an exception

19 for that if you wanted to, but --

20 A. (Indicating.)

21 Q. Do you have an idea about the gas recovery

22 factor out here? How much gas did you leave in place

23 once you abandoned this reservoir?

24 A. I have not done an evaluation on the original

25 gas in place, but I believe it's reasonable that if we

1 were to continue to produce the rate at an operational
2 loss, I believe the additional gas that we would capture
3 would be less than one percent of the total EUR.

4 Q. And it would be uneconomic to continue; is that
5 correct?

6 A. I'm sorry?

7 Q. It's uneconomic to continue the production of
8 this well?

9 A. That's correct.

10 Q. Does it condensate -- is it condensate, that it
11 makes along with the -- or oil, or what gravity do you
12 see?

13 A. I believe it does make a little, but it is not
14 very rich. It's pretty dry gas.

15 Q. And the liquids that come with the gas, is that
16 50 gravity stuff or --

17 A. I could find out. I don't know.

18 Q. Well, on the production curve, if you can put
19 oil along -- or liquids along with the gas, that would
20 show that?

21 A. Certainly.

22 Q. Do you expect any boost in production from the
23 well to the south by producing this well -- or injecting
24 into this well?

25 A. Are you referring to the Rio Blanco 33 Fed 1?

1 Q. Yes.

2 A. We do not -- as Mr. Harran indicated, the
3 Rio -- in this Rio Blanco region, the Devonian wells
4 here -- there are four that we've discussed today, and
5 we are currently looking at all of them to be SWD
6 conversion. I do not anticipate to see any
7 interference, though, with this SWB conversion in that
8 well.

9 Q. These are federal wells, so you'll be
10 talking -- the BLM will be talking to you about the
11 economics of continuing versus disposing of the wells,
12 anyway?

13 A. Yes.

14 Q. Okay. I don't have any other questions. Thank
15 you.

16 EXAMINER BROOKS: No questions. I looked
17 over Mr. Bruce's notices, and everything appears to be
18 in order.

19 EXAMINER JONES: Looks like it. Okay.
20 With that, if there is nothing further in this case,
21 we'll take Case 14943 under advisement.

22 Let's take a five-minute break here.

23 (Case 14943 concludes; break taken, 10:43

24 I do hereby certify that the foregoing is
a.m. to 10:55 a.m.) a complete record of the proceedings in
the Examiner hearing of Case No. _____
25 heard by me on _____

, Examiner

Oil Conservation Division

PAUL BACA PROFESSIONAL COURT REPORTERS

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
22 Paul Baca Court Reporters
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2013

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