

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 SUNDOWN ENERGY, LP, FOR Case 14982
STATUTORY UNITIZATION, LEA COUNTY,
NEW MEXICO

APPLICATION OF SUNDOWN ENERGY, LP, FOR Case 14983
AUTHORIZATION TO INJECT FOR WATERFLOOD
PROJECT OPERATIONS, LEA COUNTY, NEW MEXICO

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID K. BROOKS, Presiding Examiner
PHILLIP GOETZE, Technical Examiner
RICHARD EZEANYIM, Technical Examiner

May 16, 2013

Santa Fe, New Mexico

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This matter came on for hearing before the
New Mexico Oil Conservation Division, DAVID K. BROOKS,
Presiding Examiner, and PHILLIP GOETZE, Technical
Examiner, RICHARD EZEANYIM, Technical Examiner, on
Thursday, May 16, 2013, at the New Mexico Energy,
Minerals and Natural Resources Department, 1220 South St.
Francis Drive, Room 102, Santa Fe, New Mexico.

REPORTED BY: Jacqueline R. Lujan, CCR #91
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A P P E A R A N C E S

FOR THE APPLICANT:

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WITNESSES:

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1 EXAMINER BROOKS: I'll call Case Number
2 14982, application of Sundown Energy for statutory
3 unitization. I assume we need to call 14983 at the same
4 time?

5 MR. HALL: Yes, sir. We've consolidated
6 those.

7 EXAMINER BROOKS: I'll call also Case
8 14983, application of Sundown Energy, LP, for
9 authorization to inject for the waterflood project
10 operations, Lea County, New Mexico.

11 Call for appearances on those two cases.

12 MR. HALL: Mr. Examiner, Scott Hall,
13 Montgomery & Andrews Law Firm, Santa Fe, appearing on
14 behalf of the applicant, Sundown Energy, LP. I have two
15 witnesses this morning.

16 EXAMINER BOOKS: Any other appearances?
17 Very good.

18 Have your witnesses stand and identify
19 themselves.

20 MR. PAXTON: Kyle Paxton, landman with
21 Sundown.

22 MR. PEARSON: Ross Pearson, area production
23 manager for Sundown Energy.

24 (Two witnesses were sworn.)

25 MR. HALL: At this time, Mr. Examiner, we

1 call Kyle Paxton to the witness stand.

2 KYLE PAXTON

3 Having been first duly sworn, testified as follows:

4 DIRECT EXAMINATION

5 BY MR. HALL:

6 Q. Again, state your name for the record.

7 A. Kyle Paxton.

8 Q. Mr. Paxton, where do you live, and by whom are
9 you employed?

10 A. Dallas, Texas. Sundown Energy is my employer.

11 Q. Could you explain the relationship between
12 Sundown Energy and Fortune Natural Resources?

13 A. It's the same ownership. They're kind of
14 sister companies. They fall under the same umbrella.
15 Fortune Natural Resources has the working interest, the
16 operating rights, and Sundown is the operator for
17 Fortune.

18 Q. And you're authorized to speak on behalf of
19 both entities?

20 A. Yes.

21 Q. You've not testified before the OCD before.
22 Would you give the Hearing Examiner a brief summary of
23 your educational background and work experience?

24 A. Yes. I graduated from the University of
25 Oklahoma with a Petroleum Land Management degree in 2008.

1 I've worked the Permian Basin the last few years, and
2 I've been a landman for the past five years. And I am a
3 Registered Professional Landman with the AAPO.

4 Q. You're familiar with the lands and the
5 applications in these two cases?

6 A. Yes.

7 MR. HALL: At this point, Mr. Examiner, we
8 offer Mr. Paxton as a qualified expert petroleum landman.

9 EXAMINER BOOKS: So qualified.

10 Q. If you would, Mr. Paxton, explain briefly what
11 Sundown Energy is seeking by the two applications.

12 A. We want to unitize the San Andres formation in
13 the West Arkansas Junction Pool. It's Section 20 -- or
14 it's 18 South, 36 East, in Lea County, New Mexico. All
15 of Section 20, the north half of 29, and the northwest
16 quarter of Section 28.

17 Q. Are you also seeking authorization to inject
18 through two wells for a waterflood operation?

19 A. Yes.

20 Q. Is the unit comprised of state lands?

21 A. All state lands.

22 Q. Let's look at the exhibits you've prepared.
23 If you could refer to Exhibit Number 1 and identify that
24 and explain that to the Examiner.

25 A. It's the Unit Agreement that we provided to

1 all the working interest owners.

2 Q. If we turn to Exhibit A in the Unit Agreement,
3 does that show the unit area?

4 A. Yes.

5 Q. And where can the Examiner refer to in the
6 Unit Agreement to find the definition of the unitized
7 formation?

8 A. That's in Section 2D, and it's page 3 of the
9 Unit Agreement.

10 EXAMINER EZEANYIM: Page --

11 MR. HALL: Page 4.

12 THE WITNESS: I'm sorry.

13 MR. HALL: At the top of page 4.

14 EXAMINER EZEANYIM: What is that unitized
15 interval? Do you have it there?

16 MR. HALL: Is it not in your copy,
17 Mr. Examiner?

18 EXAMINER BOOKS: The definition of the
19 unitized formation is here, but I don't see the name of
20 the formation.

21 MR. HALL: We'll present a well log to
22 show that.

23 EXAMINER BOOKS: It says 100 feet above
24 and 100 below the correlative interval.

25 THE WITNESS: That was added. I don't

1 know. In this copy, I guess it didn't print.

2 MR. HALL: We will present a well log
3 exhibit showing the correlation to that definition.

4 EXAMINER BOOKS: I don't know what
5 formation you're talking about.

6 MR. HALL: San Andres.

7 EXAMINER BOOKS: Okay. I appreciate that.

8 MR. HALL: It's an important point,
9 though.

10 Q. (By Mr. Hall) Mr. Paxton, has the San Andres
11 reservoir in the unit area been recently defined?

12 A. Yes.

13 Q. All right. Let's look at Exhibit 2. What
14 does that show us?

15 A. That's our preliminary approval from the State
16 Land Office, New Mexico State Land Office.

17 Q. In your opinion, Mr. Paxton, does the
18 participation formula for the unit allocate production to
19 the separately-owned tracts within the unit on a fair,
20 reasonable and equitable basis?

21 A. Yes. It's very old state leases, and they're
22 very chopped up in different 40-acre tracts. So we felt
23 like this is the most fair way to give past production a
24 large percentage.

25 But we also include some of the acreage in

1 that to -- because the working interest owners are
2 different. So people that own the wells might not
3 necessarily own some of the acreage.

4 We also used this formula in a Crockett County
5 waterflood, and it went well in another project.

6 Q. If we refer back to the Unit Agreement, will
7 Exhibit B in there show a sketch of all the oil and gas
8 leases and the tracts within the unit?

9 A. Yes.

10 Q. Just behind that, Exhibit C, does that set out
11 the unit tract participation formula you're talking
12 about?

13 A. Yes.

14 Q. Just explain briefly how that works, how the
15 percentage are allocated.

16 A. Yeah. It's -- each tract is allocated by
17 cumulative production, 40 percent; if there's a wellbore
18 on it, 30 percent. And that's production within the last
19 year, 5 percent, and 25 percent acreage.

20 Q. Let's turn to Exhibit Number 3. Would you
21 identify and explain that?

22 A. Exhibit 3, it's the letter we sent out --
23 proposal letter we sent out to all the working interest
24 owners in the proposed unit.

25 Q. What was included with the letter proposal?

1 A. Included was the Unit Agreement, Unit
2 Operating Agreement, and a place to sign to ratify the
3 unit and a plan of operations.

4 Q. Let's look at Exhibit Number 4. Would you
5 identify that, please?

6 A. That would be the owner schedule, listing
7 exactly what everyone -- all the ownership of the working
8 interest owners.

9 Q. And it sets out their proportionate shares?

10 A. Yes.

11 Q. Tell the Hearing Examiner how many working
12 interest owners there are within the unit.

13 A. Thirty working interest owners, one royalty
14 owner and 14 override owners.

15 Q. Of the cost-bearing owners and owners of the
16 non-cost-bearing interest, what percentages have provided
17 ratifications to you?

18 A. It was -- approximately nine of the 30 working
19 interest owners are participating; and nine of the 30
20 interest owners did not respond or bad address; and the
21 rest we have acquired, purchasing their interests.

22 Q. As of today, what percentage of the working
23 interest does Sundown control?

24 A. Well, as of today, finalized, we have over --
25 it's around 85 percent. We have 81 without any of the

1 working interest owners that we acquired. But we've
2 acquired around 85.

3 And we're also in talks -- we made agreements
4 with two of the large working interest owners, so we'll
5 have around 95 percent that we've agreed to and have
6 letter agreements.

7 EXAMINER BOOKS: So you do not have 85 as
8 of now?

9 MR. HALL: Seventy-five is the number,
10 under the statute. But 81 percent now.

11 EXAMINER BOOKS: So you have the 75?

12 MR. HALL: Yes, sir.

13 EXAMINER BOOKS: Okay. Very good.

14 Q. (By Mr. Hall) So you mentioned that there
15 were working interest owners that you were unable to
16 locate for whom you had bad addresses. If we look at
17 separate Exhibit 5, which is the Affidavit of
18 Publication -- it's not part of the folder. It's a
19 separate page right in front of you, Mr. Examiner.

20 So Mr. Paxton, if we look at the Affidavit of
21 Publication, does it identify those interest owners for
22 whom we had bad addresses or were unable to locate?

23 A. Yes.

24 Q. Why don't you read those interest owners for
25 the record, if you can read that?

1 A. I remember I saw it earlier.

2 Q. Let me ask you: Jack Case; Wright Petroleum,
3 Limited; William Goffe; Harold Goldberg; May Energy
4 Partners, Limited; does that sound correct?

5 A. Yes, those are correct.

6 Q. Let's turn to Exhibit 6. Would you identify
7 that, please?

8 A. It's the proposed Unit Operating Agreement for
9 the Bobbi State Waterflood Unit.

10 Q. Does the Unit Operating Agreement govern how
11 the unit will be supervised and managed and how costs
12 will be allocated and paid?

13 A. Yes.

14 Q. Are there provisions in there for credits and
15 charges for wells and other material contributed to the
16 unit?

17 A. Yes, in Exhibit C.

18 Q. Do the Unit Agreement and Unit Operating
19 Agreement provide for carrying certain working interest
20 owners on a limited carry or net-profit basis, payable
21 out of production?

22 A. Yes.

23 Q. Is Sundown designated as operator under those
24 agreements?

25 A. Yes.

1 Q. Is there a procedure for balloting the
2 interest owners?

3 A. Yes. Section 4.3.

4 Q. What's the percentage --

5 A. 75 percent --

6 Q. -- required?

7 A. -- to proceed with operations.

8 Q. In your opinion, will unitization and use of
9 the proposed enhanced recovery operations benefit the
10 working interest owners and the royalty interest owners
11 in the unit?

12 A. Yeah. We think it will provide a one-to-one
13 secondary to primary recovery.

14 Q. In your opinion, under the Unit Agreement,
15 will unitized substances be allocated to the
16 separately-owned tracts within the unit on a fair,
17 reasonable and equitable basis?

18 A. Yes. As I explained earlier, we think --
19 we've used it in the past. And we feel like, with the
20 split-up tract ownership, that this is the best way.

21 Q. If we turn back to Exhibit 1, the Unit
22 Agreement itself, and look at Exhibit B, does Exhibit B
23 identify the unit?

24 A. Yes.

25 Q. Does that exhibit identify all of the leases

1 within the unit area?

2 A. Yes.

3 Q. Are any of these leases subject to near term
4 expiration?

5 A. Yes. We have one expiring June 1st of this
6 year. So we'd like to get -- that's why we're trying to
7 move quickly on this.

8 Q. Is that Lease VO-8283-1?

9 A. Yes. It's actually -- yes, the east half of
10 Section 20.

11 Q. For this reason, is Sundown requesting
12 expedited approval of the unit and the Unit Agreement?

13 A. Yes.

14 EXAMINER BOOKS: May I interject? Is that
15 a state lease?

16 MR. HALL: Yes.

17 EXAMINER BROOKS: Okay. We have done this
18 procedure once before, where we got the State to go ahead
19 and give approval in a situation where we had a case
20 under advisement. I mention that because from May 16th
21 to June 1st is a very narrow window to get a case of this
22 magnitude approved.

23 MR. HALL: We'll have that conversation
24 with the State Land Office, too, and let you know about
25 that.

1 EXAMINER BOOKS: Okay. If they wanted a
2 letter from us, which we supply, we would be willing to
3 do that.

4 MR. HALL: Okay.

5 Q. (By Mr. Hall) Mr. Paxton, were Exhibits 1
6 through 6 prepared by you or at your direction?

7 A. Yes, they were.

8 Q. In your opinion, will granting Sundown's
9 application promote the interest of conservation, result
10 in the prevention of waste and the protection of
11 correlative rights?

12 A. Yes.

13 MR. HALL: At this point, Mr. Examiner, we
14 move the admission of Exhibits 1 through 6. And that
15 concludes our direct of this witness.

16 EXAMINER BROOKS: Exhibits 1 through 6 are
17 admitted.

18 And I don't have any questions. Do you,
19 Mr. Ezeanyim?

20 (Exhibits 1 through 6 were admitted.)

21 EXAMINER EZEANYIM: A couple.

22 EXAMINATION

23 BY EXAMINER EZEANYIM:

24 Q. What is your unit participation formula?

25 Where can I get it? I have been instructed, so I know

1 where to go. But it's not marked, so it's very difficult
2 to find.

3 Where can I find the participating formula so
4 I can begin to -- you know, because we need to examine it
5 to see whether it's reasonable.

6 Where can I find that?

7 MR. HALL: Mr. Examiner, if you'll refer
8 to Exhibit C under the Unit Agreement, it's the very last
9 page.

10 EXAMINER EZEANYIM: The very last page --

11 MR. HALL: Of Exhibit 1.

12 EXAMINER EZEANYIM: Okay.

13 MR. HALL: So Exhibit C to that.

14 EXAMINER EZEANYIM: I need to look at that
15 participation formula to make sure it's reasonable.

16 The last page?

17 MR. HALL: Yes, sir.

18 EXAMINER EZEANYIM: Okay.

19 Q. (By Examiner Ezeanyim) The committed
20 production is 40 percent?

21 A. Yes.

22 Q. Production in 2012, 5. Okay. Is that what
23 all the participants agreed to?

24 A. Yes.

25 Q. All the participants agreed to this formula?

1 A. The ones that want to participate. If they
2 didn't, we bought them out. We purchased their
3 interests.

4 Q. That gives us 85 percent. Okay, we need to
5 examine that. I'm confused.

6 There was a mention of 81, 85, 95, 75. What
7 is the participation? How many have participated? I
8 wrote down 85, 81, 95. Which one is it?

9 A. We're negotiating to purchase interests from
10 two of the large -- EOG and CBF Company, two of the large
11 interest owners. But without them, we still have 81
12 percent.

13 Q. You are 81 percent now?

14 A. A little over 81. But we're going to be
15 purchasing them. I have a signed letter agreement from
16 CBF Company. So it will be 90 to 95 percent, once we
17 purchase their interest.

18 Q. Then the unitized interval on Exhibit 1 -- I'm
19 talking about that unitized interval. I don't know where
20 that is. Where can I find that?

21 MR. HALL: If you look at the Unit
22 Agreement, page 4. We'll be presenting a cross-section.

23 EXAMINER EZEANYIM: That would be very
24 good.

25 MR. HALL: The next witness can address

1 this for you.

2 EXAMINER EZEANYIM: We can deal with it at
3 that time.

4 EXAMINER BROOKS: I do have one question
5 after all.

6 EXAMINATION

7 BY EXAMINER BROOKS:

8 Q. This is all state leases?

9 A. Yes, sir.

10 Q. Are there any overrides?

11 A. Yes.

12 Q. Have you got the required percentage of --
13 does the State, by itself, give you the required
14 percentage of non-cost-bearing?

15 A. Most of the overriding royalty owners have
16 ratified the unit. Is that your question?

17 EXAMINER BROOKS: Let's go one at a time
18 here, please.

19 Q. (By Examiner Brooks) Do you have the required
20 percentage of the non-cost-bearing interests?

21 A. Yes.

22 EXAMINER BROOKS: Phillip?

23 EXAMINER GOETZE: No, I don't have any
24 questions.

25 EXAMINER BROOKS: Okay. Richard?

1 EXAMINER EZEANYIM: No.

2 EXAMINER BOOKS: Very good. The witness
3 may stand down, unless you have follow-up.

4 MR. HALL: I do not. Thank you.

5 So at this time we would call Ross Pearson to
6 the stand.

7 EXAMINER BOOKS: Mr. Pearson.

8 ROSS PEARSON

9 Having been first duly sworn, testified as follows:

10 DIRECT EXAMINATION

11 BY MR. HALL:

12 Q. Again, for the record, state your name.

13 A. Ross Pearson.

14 Q. And Mr. Pearson, where do you live, and by
15 whom are you employed?

16 A. I live in Dallas, Texas, and I'm the area
17 production manager for Sundown Energy.

18 Q. And have you previously testified before the
19 New Mexico Division?

20 A. No, I have not.

21 Q. Why don't you give the Hearing Examiner a
22 brief summary of your educational background and work
23 experience?

24 A. I graduated in 1984 from the New Mexico
25 Institute of Mining Technology. I have a Bachelor of

1 Science Degree in Petroleum Engineering. I've
2 extensively worked, probably 15 to 20 years, in the
3 Permian Basin for several waterflood units actually in
4 New Mexico for Union Texas Petroleum.

5 I've also worked several numerous wells in
6 Farmington, the San Juan Basin. And I'm currently
7 working on -- we've got probably about 35, 40 active
8 wells we have in the State of New Mexico right now, and
9 this will be one of our smaller floods we're putting in.

10 Q. You're familiar with the applications that
11 have been filed in these two cases?

12 A. Yes, I am.

13 Q. And the lands that are the subject of the
14 applications?

15 A. Yes, I am

16 MR. HALL: At this point, Mr. Examiner, we
17 offer Mr. Pearson as a qualified expert in petroleum
18 engineering.

19 THE WITNESS: I'm also a Registered
20 Petroleum Engineer in the State of Texas.

21 EXAMINER BOOKS: Congratulations.

22 Q. (By Mr. Hall) Let's look at the exhibits you
23 prepared. I'll ask you, has Sundown previously submitted
24 a C-108 for the two injection wells to the Division?

25 A. Yes.

1 Q. Now, let's look at Exhibit 7. What does that
2 show us?

3 A. That shows the requirements as far as the
4 radius on the two injectors. It also has the actual --
5 all the wells, the actual wells that are involved in the
6 unit, and the C-102.

7 Q. Let's turn to Exhibit 8. Is Exhibit 8 a
8 compilation of the C-102 plats for all of the wells you
9 just identified within the unit?

10 A. Yes, that's correct.

11 Q. For your injection project, what is the source
12 of the injection fluids?

13 A. I worked with a geologist. We determined
14 that, looking at offset wells, that the Delaware looks
15 like it has the best potential as far as there's fairly
16 good-looking sands full of water.

17 And we went to one of our working interest
18 owners -- we don't operate the well -- and acquired a
19 sample of that water. And we also ran compatibilities
20 with the San Andres water from the Bobbi producers, and
21 it appeared to be fairly compatible. We feel that's the
22 best water we could find in the area without using fresh
23 water.

24 Q. Mr. Pearson, would you address for the Hearing
25 Examiners how you selected the injection interval in the

1 San Andres and also identify the unitized formation?

2 If you'd like to refer to --

3 A. The San Andres section is approximately -- the
4 San Andres section in this field is about 600 feet of
5 gross interval. However, we feel that the unitized
6 section needs to be basically about 100 feet from this
7 correlated section.

8 This is the actual main pay in this West
9 Arkansas Junction Field.

10 EXAMINER BROOKS: Because we have a court
11 reporter making a record of this, rather than saying,
12 "this," if you could say, "the area marked in yellow."

13 THE WITNESS: Okay. The area marked in
14 yellow, from 5,483 to 5,501.

15 EXAMINER EZEANYIM: Do you have a couple
16 of these maps, so we can look at it?

17 THE WITNESS: Yes.

18 EXAMINER EZEANYIM: Can you give us one so
19 we can look at it?

20 THE WITNESS: I can leave this one right
21 here.

22 EXAMINER BOOKS: Is this marked as an
23 exhibit, Mr. Hall?

24 MR. HALL: It's not. We can do that.
25 Let's call that Exhibit 15.

1 (Exhibit 15 marked for identification.)

2 EXAMINER BROOKS: I've marked the one I
3 have up here. Do you have two more copies you can get
4 for us? Or at least --

5 MR. HALL: We don't have them today. We
6 can supply them.

7 EXAMINER BOOKS: We actually only need one
8 more, because this one will come back with the record

9 MR. HALL: Do you have something to refer
10 to?

11 THE WITNESS: Yes, I do.

12 EXAMINER BOOKS: I'll let you use that,
13 Mr. Ezeanyim, to question the witness, and then we'll
14 give it to court reporter.

15 You may continue, Mr. Hall. You're not
16 through; right?

17 MR. HALL: Not yet.

18 EXAMINER BOOKS: Unless you need to
19 interrupt.

20 EXAMINER EZEANYIM: Yes, please. We want
21 to establish this unitized interval. And you were
22 talking about this before we were interrupted. I see
23 your target zone here. You said 100 feet from where to
24 where? I just want to establish --

25 THE WITNESS: 100 feet from the zone

1 marked in yellow, from 5,483 to 5,501. 100 feet above
2 and 100 feet below

3 EXAMINER EZEANYIM: Okay.

4 MR. HALL: Let's turn to Exhibit 9 for the
5 time being.

6 We'll come back with some additional geologic
7 testimony, Mr. Ezeanyim.

8 Q. (By Mr. Hall) Is Exhibit 9 a copy of the
9 C-108 application that was filed with the Division?

10 A. Yes, that's correct.

11 Q. Let's go through some of the components of
12 that. Can the Examiner find a compilation of the
13 wellbore schematics for the two injectors in the C-108?

14 A. Yes.

15 Q. If you would, discuss the casing and cement
16 for the two injectors.

17 A. The wells were -- basically, they all have --
18 the two injectors have got surface pipe set to about
19 1,900 feet, with cement circulated to surface. And then
20 obviously, cement is typically on the two injectors --
21 the top of cement on the State of New Mexico W2 is at
22 4,670. And with the San Andres perforations, from 5,320
23 to 5,584.

24 Q. Will it be necessary to inject the liquids
25 under pressure?

1 A. Yes.

2 Q. Will the wellheads for the injectors be
3 equipped a check valve?

4 A. Yes.

5 Q. What materials will be used for the tubing?

6 A. Plastic coated 2 3/8.

7 Q. What are the average and maximum daily
8 injection rates that you're requesting?

9 A. The average is 500, with a max of 1,000
10 barrels of water per day.

11 Q. All right. And how did you determine these
12 rates?

13 A. That's what we found typically is used in
14 other fields.

15 Q. And what are the anticipated average and
16 maximum injection pressures?

17 A. We're assuming an average pressure of 1,200
18 pounds and a maximum of 2,500.

19 Q. Would you briefly discuss from within the
20 C-108 the chemical analysis of the injection fluids? Is
21 that covered by the C-108?

22 A. Yes. We have samples here from Cardinal Labs
23 reflecting the actual samples of the Delaware and also
24 the produced water. Is that what you were asking?

25 Q. Yes.

1 A. We also have samples of all the fresh water
2 wells, too.

3 Q. Let's turn to your additional geology
4 exhibits. We have several that together comprise Exhibit
5 Number 10. Could you identify the top exhibit and then
6 just explain what geologic criteria was utilized to
7 evaluate the information?

8 A. Exhibit 10 is basically a -- it's just a
9 structure map on the top of the Capitan, which is an easy
10 marker for everyone to see. As you can see, we've got --
11 the two injectors are actually in the down structure of
12 the saddle of the San Andres field.

13 And as you move on, you can see the next
14 exhibit is actually the top of the San Andres. And of
15 course it's color shaded, with darker colors reflecting
16 the down structure of the field, and the higher points of
17 the field in light green.

18 That's why we've identified that. We feel it
19 makes sense to inject down structure into the reservoir
20 using the State W2 and the Bobbi Number 4.

21 Q. All right.

22 A. And then we also have a cross-section here,
23 which I have a larger copy which we can submit, which
24 reflects the zone in question, that it correlates across
25 the whole field. It's the San Andres.

1 Q. And the last page?

2 A. The last page is actually the net pay of the
3 San Andres, the actual yellow San Andres that we were
4 using as the main pay marker.

5 As you can see, the two injectors also make
6 sense because they're at the edges of the field, as far
7 as starting this off as a peripheral waterflood unit.

8 MR. HALL: Mr. Examiner, would it be
9 helpful for you to see the larger cross-section?

10 EXAMINER EZEANYIM: No. Go ahead.

11 Q. (By Mr. Hall) Mr. Pearson, is it prudent and
12 feasible to apply enhanced recovery techniques to
13 maximize the ultimate recovery of crude oil from the unit
14 area?

15 A. Yes. There's been so many San Andres
16 waterflood units in the past that we feel pretty
17 comfortable we're going to get typically a one-to-one
18 primary and secondary ratio.

19 When this field came down, initial production
20 was a little over 100 barrels a day. Most of the wells
21 have fairly low IPs, 25 to 50 barrels a day. It's fairly
22 low perm. And we feel the secondary recovery could
23 actually be better than the primary, based on that.

24 Q. Will the additional cost of the enhanced
25 recovery operations exceed the value of the additional

1 oil to be recovered from the unit?

2 A. Yes.

3 Q. Let me ask you that again.

4 A. I'm sorry. We are going to definitely --
5 there'll be more recovery of secondary reserves than the
6 cost to put the flood in.

7 Q. All right. Are you satisfied that the
8 injection fluids will remain contained within the
9 unitized formation?

10 A. Yes.

11 Q. How did you reach that conclusion?

12 A. The San Andres, as you can see, is almost 600
13 feet of gross section. It's extremely tight low perm
14 above and below. And then there's this short 25, 30-foot
15 string where the actual pay zone is. It's actually
16 off -- the rest of the field is delineated by several dry
17 holes. There's probably two or three dry holes around
18 the field.

19 Q. Is there currently any non-San Andres
20 production above the area of review, above the injection
21 interval?

22 A. No.

23 Q. Any below?

24 A. No, there's not.

25 Q. Let's look at Exhibit 11. What does Exhibit

1 11 show us?

2 A. Exhibit 11 is actually all the penetrations
3 through the San Andres section, and some of them will be
4 involved in the waterflood unit. And we have the
5 locations and footages and also the actual lat logs.

6 Q. If you turn to the second page of Exhibit 11,
7 what is that?

8 A. That is actually our intention of re-naming
9 the wells to the Bobbi State Waterflood Unit, once we get
10 permission to put the units together.

11 Q. If we turn to Exhibit 12, is Exhibit 12 a
12 compilation of the wellbore schematics for all the wells
13 shown on the previous exhibits?

14 A. Yes.

15 Q. What was the source of this data?

16 A. From the well files that we got from
17 Chesapeake when we purchased the interest and also from
18 the records from the NMOCD.

19 Q. And were the available data sufficient to
20 permit you to determine the casing depths and to
21 accurately calculate cement tops and bottoms?

22 A. Yes, it was.

23 Q. Was there any evidence of casing leaks in any
24 of these wells?

25 A. I didn't find one casing leak repair in any of

1 the well files or State records.

2 Q. Are you satisfied that the conditions of the
3 wells in the AOR are such that none of them will act as a
4 conduit of fluids from the injection interval to fresh
5 water aquifers?

6 A. Yes, I am.

7 Q. Would you identify all the fresh water
8 aquifers within the AOR? Is that shown in the C-108?

9 A. Yes, it is. It's the Ogallala, and it's --
10 the depth is 100 -- it starts at 54 feet, and maximum
11 depth is typically 160 feet.

12 Q. Are there any known sources of fresh water
13 below the injection interval?

14 A. No.

15 Q. Have you examined the available geologic and
16 engineering data for evidence of open faults or any other
17 hydrologic connection between the waterflood zone and any
18 source of underground drinking water?

19 A. Yes, I have. We don't see any, as far as open
20 faults, because the cross-section is pretty well -- we
21 don't see any shifts along the pay section. So we're
22 pretty sure there's no open faults in the field or
23 faults, period, that we can see with the well logs.

24 Q. If we refer back to the C-108, does it also
25 include a list of interest owners and offset operators to

1 whom Sundown sent notice of its injection application?

2 A. Yes.

3 Q. Did Sundown receive any objections pursuant to
4 that?

5 A. We had no objections through the whole
6 process.

7 Q. Do you foresee any need to request a higher
8 injection pressure from the Division in the future?

9 A. Yes, we will need a higher injection pressure.

10 Q. How will you determine that?

11 A. We'll run a step rate test.

12 Q. You'll provide the results of that to the
13 Division?

14 A. Pressure rate. Pressure rate, until we see a
15 partial break back.

16 Q. In your opinion, can this project be operated
17 so that the injection fluid will remain contained within
18 the unitized formation?

19 A. Yes, it can.

20 Q. In your opinion, will injection operations
21 pose any threat of impairment of correlative rights or
22 waste of hydrocarbon resources?

23 A. No.

24 Q. In your opinion, can the project be operated
25 so that public health and safety and the environment can

1 be protected?

2 A. Yes, it can.

3 Q. In your opinion, under the Unit Agreement,
4 will unitized substances be allocated to the
5 separately-owned tracts within the unit on a fair,
6 reasonable and equitable basis?

7 A. Yes, it will.

8 Q. Were Exhibits 7 through 12 and 15, the
9 wellbore schematic, prepared by you or at your direction?

10 A. Yes, it was.

11 Q. In your opinion, Mr. Pearson, will granting
12 Sundown Energy's application promote the interest of
13 conservation, result in the prevention of waste and the
14 protection of correlative rights?

15 A. Yes, it will.

16 MR. HALL: At this point, Mr. Examiner, we
17 would offer Exhibits 7 through 12 and 15. Also before
18 you are our Notice Affidavits, Exhibits 13 and 14. We
19 move the admission of all of those. And that concludes
20 our direct of this witness.

21 EXAMINER BROOKS: Which exhibits was it
22 that you're currently offering?

23 MR. HALL: It would be 7 through 12 and
24 15, sponsored by this witness. And Exhibits 13 and 14
25 are my Notice Affidavits for both cases.

1 EXAMINER BROOKS: Okay. I kind of think
2 we already admitted 7. But I'm not sure, so I will say
3 we will admit 7 through 12 and 15 at this time.

4 MR. HALL: And 13 and 14?

5 EXAMINER BROOKS: And 13 and 14 are?

6 MR. HALL: The Notice Affidavits.

7 EXAMINER BROOKS: You're submitting those
8 also?

9 MR. HALL: Yes, sir.

10 EXAMINER BROOKS: 13 and 14 are also
11 admitted.

12 (Exhibits 7 through 15 were admitted.)

13 MR. HALL: That concludes our direct of
14 this witness.

15 EXAMINER BROOKS: Mr. Ezeanyim, do you
16 want to question the witness?

17 EXAMINATION

18 BY EXAMINER EZEANYIM:

19 Q. First of all, let's start with the depth of
20 fresh water in this area. What is the deepest well of
21 fresh water in that area?

22 A. 160 feet, with a top coming in at around 54
23 feet.

24 Q. With what?

25 A. The top of Ogallala is at 54, down to 160

1 feet.

2 Q. Now, how many producers do we have there for
3 this project?

4 A. Seven.

5 Q. And you have -- is this a line drive?

6 A. Peripheral waterflood. We've also -- I ran
7 the economics considering converting the State K&N Number
8 1 to injection later in the project, but we're not
9 applying for that right now.

10 Q. Right. Now you're doing peripheral? Because
11 I can see your injectors.

12 A. Right. It's just the Bobbi 4 and the State
13 W2.

14 Q. You talked about the water source. You're
15 injecting in the Bone Springs. Where is the water coming
16 from?

17 A. The Delaware.

18 Q. Delaware. How compatible are they?

19 A. We actually had Champion Labs -- the well was
20 referred to as the Torro Number 20. It's probably about
21 two and a half miles away. And we requested from the
22 operator to get a sample and went and got a sample from
23 our Bobbi lease and took it to Champion Labs. And they
24 said it's minor scaling, but they felt it was compatible.

25 Q. Is it in here --

1 A. Yes.

2 Q. -- so I can look at it?

3 A. Yes.

4 Q. You prepared the Form C-108. I haven't looked
5 at it, but I was glancing through it.

6 Let's go back to your two injection wells.

7 These wells are existing wells you want to convert to
8 injection wells; right?

9 A. Yes.

10 Q. They're currently producers, but you want to
11 convert them?

12 A. Right.

13 Q. Did you do the diagram?

14 A. Yes.

15 Q. Let's go back to that the first one. Here we
16 go.

17 A. The State of New Mexico W2, is that the first
18 one?

19 Q. Yeah, the first one. Then I see the
20 configuration when it's producing. I have no problem
21 with that. But now you want to apply for an injector,
22 and there you have a diagram. Okay.

23 A. The Bobbi 2 is pretty simple. We just have to
24 basically run a Baker packer and plastic-coated tubing.

25 Q. And you are using the same perms that you use

1 when you are producing?

2 A. Excuse me?

3 Q. The same perforations?

4 A. Yes. We're going to use existing
5 perforations.

6 Q. Then in this injection well, did you do the
7 calculation and to come up with that upper cement?

8 A. That calculation came from the original
9 records from the NMOCD.

10 Q. What do you mean by, "NMOCD"?

11 A. When they turned in their completion papers,
12 that was the top that the original operator that drilled
13 the well came up with. I was just referring to the
14 completion papers.

15 Q. Very good. Thank you.

16 Your surface casing is set at 1,900, 1,876?

17 A. Yes.

18 Q. The other one is -- let's go to the next one.

19 A. The Bobbi 4 is going to require a lot more
20 work because it's a plugged well.

21 Q. Yeah, because you have a lot of perfs. I
22 don't know whether I'm looking at the same well. Okay.
23 Yeah, Bobbi Number 4. It was drilled in 1981 and has
24 been plugged; right?

25 A. Yes.

1 Q. Has it been converted?

2 A. It's currently in the current state you're
3 seeing. It's still plugged.

4 Q. Where is the schematic for when you convert
5 it?

6 A. It's the second page.

7 Q. Okay.

8 A. We have to drill out all the plugs. We have
9 to run a cement bond log and determine the top of the
10 cement. And then we're going to go ahead and perforate
11 above the top of the cement that we see from the cement
12 bond log, and we are estimated to pump about 300 sacks of
13 50/50 and get the cement up into the -- complete the
14 concrete all the way up to and below the surface shoe.

15 Q. That's what you want to do?

16 A. Yeah. I want to make sure that we have
17 concrete from top to bottom. Then obviously, we've got
18 to test those original squeezed zones and make sure they
19 hold. And we may have to re-squeeze those in the
20 process.

21 Q. Okay.

22 A. The whole thing is it's got to pass a
23 mechanical integrity test.

24 Q. But you have to do this before you can pass
25 the MIT?

1 A. Exactly.

2 Q. Go back to the area of review. These are the
3 two things we look at: The injection wells, is it okay?
4 The area of review, are you going to be contaminating the
5 USDWs? Once we do that, the application is approved.

6 But let's go to the area of review. I think
7 you have -- okay. Yeah. I have a spreadsheet that says,
8 "Area of review." Most of them are plugged and
9 abandoned. I haven't looked at it.

10 Are you confident with the plugged and
11 abandoned status of those wells? I didn't have time to
12 look at it.

13 A. Yes. They were plugged fairly late in life.
14 The issue that we had at hand was we actually had a
15 working interest in this field. Chesapeake was the
16 operator on the Bobbi lease. They came to us and they
17 tried to plug the field out.

18 And we were like, "No. We want to take over
19 operations." Because when we saw the State W2 lease, we
20 said, "This is -- we have a nice, small structure field,
21 270,000 barrels on primary. It would be terrible to
22 waste it."

23 So we were able to take over Chesapeake's
24 interest in lieu of them getting out of the plugging
25 liability. I just don't think this field is big enough

1 for someone like Chesapeake to want to worry about.

2 That's how we ended up with the field.

3 Q. On that spreadsheet again, when we determine
4 the top of cement, there are methods for that. Either
5 you run a temperature survey, a cement bond log,
6 circulate it to the surface or whatever, how you
7 calculate it.

8 But when you tell me, "well file," what do you
9 want me to do with that information? I see here some of
10 them say, "Well file." Which well file, an OCD well
11 file?

12 A. You're talking Bobbi State Number 5?

13 Q. Bobbi State Number 1. The method of
14 determining the top of cement is well file. I don't know
15 what that means. We have methods for determining top of
16 cement, calculations, circulation, cement bond log.

17 A. Probably calculation.

18 Q. But when you say, "well file," I don't know
19 what that means.

20 A. It came out of the original well file, where
21 someone else has done the calculations.

22 Q. But which calculations? Because I don't trust
23 calculations. Which calculations? But if you say, "well
24 file," it's not a method of determination.

25 A. I understand.

1 Q. I know what you're trying to do. You're
2 saying, "Oh, I got it from well file. Therefore, it
3 should be okay." Not everything in well file is okay.

4 What I'm trying to see here is that before we
5 approve this injection well, whether you have your cement
6 properly done so that you can inject into it.

7 Most of these are under pressure. We don't
8 want to blow up everything. So when you tell me, "well
9 file," I don't know whether you want me to go to the well
10 file to start looking for -- I don't have time to do
11 that.

12 A. Generally, the volumes of concrete that they
13 pump on the production strings have been more than
14 adequate because of when this field was -- I mean 300
15 sacks, 400 sacks, 500 sacks. I mean we're going to have
16 at least 1,000 feet to 1,500 feet of cement above the
17 injection interval.

18 Unfortunately, it's just, you know, the nature
19 of the beast. Some of these folks that drilled these
20 wells were very small independent operators, and they
21 didn't want to spend the money running a cement bond log.

22 Q. When you say, "well file," I put here,
23 "calculation."

24 A. Yes, calculation.

25 Q. So I will appreciate it if you say, "by

1 calculation," so I will know what to do.

2 If it's by temperature survey or cement bond
3 log, I have more confidence in those. But when it's,
4 "well file," I don't know. But if it's calculated, I
5 know what to do. That information is very relevant to us
6 to determine how high it is.

7 I'm not going to start going through all of
8 this. I'm not going to look at your plugged and
9 abandoned wells, because most of them there are plugged
10 and abandoned, and we need to make sure they are
11 correctly done. And then we determine whether there will
12 be remedial work to do to make sure you don't contaminate
13 the drinking water, which might be at 160 feet.

14 Did you say that your geologist might answer
15 this question about faults in this area, any faults that
16 might act as a conduit?

17 A. We didn't see any faults because of the
18 cross-section. It completely correlates across the main
19 part of the San Andres section.

20 EXAMINER EZEANYIM: Okay. Thank you very
21 much.

22 EXAMINER BOOKS: Phillip?

23 EXAMINER GOETZE: Yes.

24

25

1 EXAMINATION

2 BY EXAMINER GOETZE:

3 Q. You were bringing up the shallow aquifer.
4 Have you reviewed the logs for those or any type of State
5 logs?

6 A. We pulled up from the State END and pulled up
7 all the wells.

8 Q. Do you know if they made it to the red beds?

9 A. I don't know that. What I was very
10 comfortable with with almost all the wells, they took the
11 surface pipe down to 1,900 feet and they surveyed to
12 surface. I think they didn't do that because there must
13 have been some issues with red beds or whatever, and
14 that's why the surface pipe is set as deep as it is in
15 that area.

16 Q. In your C-108 application, I just want to make
17 sure I'm seeing this right. In your wellbore
18 construction diagrams, you don't have any bottom plugs.
19 These are all open hole?

20 A. Oh, no. There should be -- they're cemented
21 in the bottom.

22 Q. They are cemented to the bottom?

23 A. Yes, yes.

24 Q. That's for both wells?

25 A. Yes. They're all -- there still is --

1 probably the float collar and the float shoe are still
2 there.

3 EXAMINER EZEANYIM: They're not shown on
4 the diagram?

5 THE WITNESS: Yes. It's a mistake.

6 EXAMINER EZEANYIM: But you're going to do
7 it?

8 THE WITNESS: Yes, I will.

9 Q. (By Examiner Goetze) Then Exhibit 10, we have
10 a very nice interpretation. But the first item and the
11 second item, I have no problems with.

12 The isopach in Section 28, we draw a circle
13 pretty tight, based upon what information in Section 28?

14 A. Well, I would believe that would be a geologic
15 interpretation.

16 Q. But the other Yates well is a mile away?
17 We're confident in that?

18 A. (Witness nods.)

19 Q. So --

20 A. You know, the hardest thing with this -- I
21 want to say with the field is that with only working with
22 270,000 barrels on primary, and these wells typically
23 only cumed 30- to 40,000 barrels on primary, generally
24 the operators in this area would drill until they had an
25 uneconomic well, and then they would stop.

1 EXAMINER GOETZE: I'm just seeing how
2 you're closing off your isopachs. That's all. No more
3 questions.

4 MR. HALL: That's all we have. We'd ask
5 that the case be taken under advisement.

6 EXAMINER BROOKS: Very good. If there's
7 nothing further from either of the Examiners, then the
8 witness will be dismissed, and Case Numbers 14982 and
9 14983 be taken under advisement.

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I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 14982/14983
heard by me on 5-16-13

David K. Brooks, Examiner
Oil Conservation Division

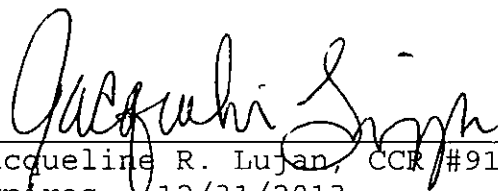
REPORTER'S CERTIFICATE

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I, JACQUELINE R. LUJAN, New Mexico CCR #91, DO
HEREBY CERTIFY that on May 16, 2013, proceedings in the
above captioned case were taken before me and that I did
report in stenographic shorthand the proceedings set
forth herein, and the foregoing pages are a true and
correct transcription to the best of my ability.

I FURTHER CERTIFY that I am neither employed by
nor related to nor contracted with any of the parties or
attorneys in this case and that I have no interest
whatsoever in the final disposition of this case in any
court.

WITNESS MY HAND this 29th day of May, 2013.


Jacqueline R. Lujan, CCR #91
Expires: 12/31/2013