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:

COPY

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

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

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

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.

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A P P E A R A N C E S

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

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

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

Call for appearances on those two cases.

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

EXAMINER BOOKS: Any other appearances? Very good.

Have your witnesses stand and identify themselves.

MR. PAXTON: Kyle Paxton, landman with Sundown.

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

(Two witnesses were sworn.)

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

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call Kyle Paxton to the witness stand.

KYLE PAXTON

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. HALL:

Q. Again, state your name for the record.

A. Kyle Paxton.

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

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

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

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

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

A. Yes.

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

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

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

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

A. Yes.

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

EXAMINER BOOKS: So qualified.

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

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

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

A. Yes.

Q. Is the unit comprised of state lands?

A. All state lands.

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

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

all the working interest owners.

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

A. Yes.

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

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

EXAMINER EZEANYIM: Page --

MR. HALL: Page 4.

THE WITNESS: I'm sorry.

MR. HALL: At the top of page 4.

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

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

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

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

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

THE WITNESS: That was added. I don't

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

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

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

MR. HALL: San Andres.

EXAMINER BOOKS: Okay. I appreciate that.

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

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

A. Yes.

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

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

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

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

But we also include some of the acreage in

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

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

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

A. Yes.

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

A. Yes.

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

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

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

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

Q. What was included with the letter proposal?

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

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

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

Q. And it sets out their proportionate shares?

A. Yes.

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

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

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

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

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

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

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

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

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

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

EXAMINER BOOKS: So you have the 75?

MR. HALL: Yes, sir.

EXAMINER BOOKS: Okay. Very good.

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

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

A. Yes.

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

A. I remember I saw it earlier.

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

A. Yes, those are correct.

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

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

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

A. Yes.

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

A. Yes, in Exhibit C.

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

A. Yes.

Q. Is Sundown designated as operator under those agreements?

A. Yes.

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

A. Yes. Section 4.3.

Q. What's the percentage --

A. 75 percent --

Q. -- required?

A. -- to proceed with operations.

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

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

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

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

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

A. Yes.

Q. Does that exhibit identify all of the leases

within the unit area?

A. Yes.

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

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

Q. Is that Lease VO-8283-1?

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

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

A. Yes.

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

MR. HALL: Yes.

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

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

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

MR. HALL: Okay.

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

A. Yes, they were.

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

A. Yes.

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

EXAMINER BROOKS: Exhibits 1 through 6 are admitted.

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

(Exhibits 1 through 6 were admitted.)

EXAMINER EZEANYIM: A couple.

EXAMINATION

BY EXAMINER EZEANYIM:

Q. What is your unit participation formula? Where can I get it? I have been instructed, so I know

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

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

Where can I find that?

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

EXAMINER EZEANYIM: The very last page --

MR. HALL: Of Exhibit 1.

EXAMINER EZEANYIM: Okay.

MR. HALL: So Exhibit C to that.

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

The last page?

MR. HALL: Yes, sir.

EXAMINER EZEANYIM: Okay.

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

A. Yes.

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

A. Yes.

Q. All the participants agreed to this formula?

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

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

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

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

Q. You are 81 percent now?

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

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

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

EXAMINER EZEANYIM: That would be very good.

MR. HALL: The next witness can address

this for you.

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

EXAMINER BROOKS: I do have one question after all.

EXAMINATION

BY EXAMINER BROOKS:

Q. This is all state leases?

A. Yes, sir.

Q. Are there any overrides?

A. Yes.

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

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

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

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

A. Yes.

EXAMINER BROOKS: Phillip?

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

EXAMINER BROOKS: Okay. Richard?

EXAMINER EZEANYIM: No.

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

MR. HALL: I do not. Thank you.

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

EXAMINER BOOKS: Mr. Pearson.

ROSS PEARSON

Having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. HALL:

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

A. Ross Pearson.

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

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

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

A. No, I have not.

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

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

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

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

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

A. Yes, I am.

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

A. Yes, I am

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

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

EXAMINER BOOKS: Congratulations.

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

A. Yes.

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

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

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

A. Yes, that's correct.

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

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

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

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

San Andres and also identify the unitized formation?

If you'd like to refer to --

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

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

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

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

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

THE WITNESS: Yes.

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

THE WITNESS: I can leave this one right here.

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

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

(Exhibit 15 marked for identification.)

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

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

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

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

THE WITNESS: Yes, I do.

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

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

MR. HALL: Not yet.

EXAMINER BOOKS: Unless you need to interrupt.

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

THE WITNESS: 100 feet from the zone

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

EXAMINER EZEANYIM: Okay.

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

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

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

A. Yes, that's correct.

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

A. Yes.

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

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

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

A. Yes.

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

A. Yes.

Q. What materials will be used for the tubing?

A. Plastic coated 2 3/8.

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

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

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

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

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

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

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

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

Q. Yes.

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

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

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

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

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

Q. All right.

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

Q. And the last page?

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

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

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

EXAMINER EZEANYIM: No. Go ahead.

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

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

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

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

oil to be recovered from the unit?

A. Yes.

Q. Let me ask you that again.

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

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

A. Yes.

Q. How did you reach that conclusion?

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

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

A. No.

Q. Any below?

A. No, there's not.

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

11 show us?

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

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

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

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

A. Yes.

Q. What was the source of this data?

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

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

A. Yes, it was.

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

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

the well files or State records.

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

A. Yes, I am.

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

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

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

A. No.

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

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

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

whom Sundown sent notice of its injection application?

A. Yes.

Q. Did Sundown receive any objections pursuant to that?

A. We had no objections through the whole process.

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

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

Q. How will you determine that?

A. We'll run a step rate test.

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

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

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

A. Yes, it can.

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

A. No.

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

be protected?

A. Yes, it can.

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

A. Yes, it will.

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

A. Yes, it was.

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

A. Yes, it will.

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

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

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

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

MR. HALL: And 13 and 14?

EXAMINER BROOKS: And 13 and 14 are?

MR. HALL: The Notice Affidavits.

EXAMINER BROOKS: You're submitting those also?

MR. HALL: Yes, sir.

EXAMINER BROOKS: 13 and 14 are also admitted.

(Exhibits 7 through 15 were admitted.)

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

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

EXAMINATION

BY EXAMINER EZEANYIM:

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

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

Q. With what?

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

feet.

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

A. Seven.

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

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

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

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

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

A. The Delaware.

Q. Delaware. How compatible are they?

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

Q. Is it in here --

A. Yes.
Q. -- so I can look at it?
A. Yes.
Q. You prepared the Form C-108. I haven't looked at it, but I was glancing through it.
Let's go back to your two injection wells. These wells are existing wells you want to convert to injection wells; right?
A. Yes.
Q. They're currently producers, but you want to convert them?
A. Right.
Q. Did you do the diagram?
A. Yes.
Q. Let's go back to that the first one. Here we go.
A. The State of New Mexico W2, is that the first one?
Q. Yeah, the first one. Then I see the configuration when it's producing. I have no problem with that. But now you want to apply for an injector, and there you have a diagram. Okay.
A. The Bobbi 2 is pretty simple. We just have to basically run a Baker packer and plastic-coated tubing.
Q. And you are using the same perfs that you use

when you are producing?

A. Excuse me?

Q. The same perforations?

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

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

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

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

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

Q. Very good. Thank you.

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

A. Yes.

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

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

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

A. Yes.

Q. Has it been converted?

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

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

A. It's the second page.

Q. Okay.

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

Q. That's what you want to do?

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

Q. Okay.

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

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

A. Exactly.

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

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

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

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

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

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

for someone like Chesapeake to want to worry about. That's how we ended up with the field.

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

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

A. You're talking Bobbi State Number 5?

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

A. Probably calculation.

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

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

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

A. I understand.

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

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

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

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

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

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

A. Yes, calculation.

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

calculation," so I will know what to do.

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

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

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

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

EXAMINER EZEANYIM: Okay. Thank you very much.

EXAMINER BOOKS: Phillip?

EXAMINER GOETZE: Yes.

EXAMINATION

BY EXAMINER GOETZE:

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

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

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

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

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

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

Q. They are cemented to the bottom?

A. Yes, yes.

Q. That's for both wells?

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

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

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

THE WITNESS: Yes. It's a mistake.

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

THE WITNESS: Yes, I will.

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

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

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

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

A. (Witness nods.)

Q. So --

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

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

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

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

* * *

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

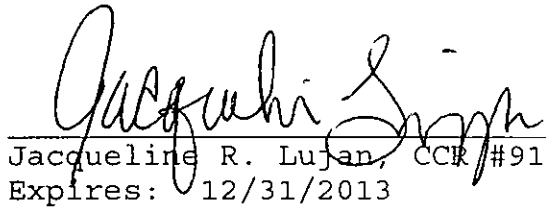
David K. Brooks, Examiner
Oil Conservation Division

REPORTER'S CERTIFICATE

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