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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:

APPLICATION OF LIME ROCK RESOURCES, LLP
TO INSTITUTE A COOPERATIVE WATERFLOOD
PROJECT IN THE SAN ANDRES FORMATION,
EDDY COUNTY, NEW MEXICO

CASE NO. 14563

TRANSCRIPT OF PROCEEDINGS
Examiner Hearing
October 28, 2010
10:38 a.m.
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

BEFORE: DAVID BROOKS, HEARING EXAMINER
WILL JONES, TECHNICAL EXAMINER

REPORTED BY: CONNIE JURADO, RPR, NM CCR #254
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500 Fourth Street NW, Suite 105
Albuquerque, New Mexico 87102

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1 MR. BROOKS: We will call Case Number
2 14563, the Application of Lime Rock Resources, LLP,
3 to institute a cooperative waterflood project in the
4 San Andres formation, Eddy County, New Mexico. I
5 will give counsel a little bit of time to get to the
6 tables before they have to be called, declare their
7 appearances.

8 Once again, we will call Case Number
9 14554 -- I'm sorry. Call Case Number 14563,
10 Application of Lime Rock Resources to institute a
11 cooperative waterflood project in the San Andres
12 formation, Eddy County, New Mexico. Call for
13 appearances.

14 MR. BRUCE: Mr. Examiner, Jim Bruce
15 representing the applicant. I have two witnesses.

16 MS. MUNDS-DRY: Mr. Examiner, Ocean
17 Munds-Dry with the law firm of Holland & Hart, LLP,
18 representing Alamo Permian Resources, which acquired
19 the interests of Doral.

20 MR. BROOKS: Do you have any
21 witnesses?

22 MS. MUNDS-DRY: I do not have any
23 witnesses.

24 MR. BROOKS: Will the witnesses
25 please stand, individually identify yourselves, and

1 then you will be sworn together.

2 MR. REAGAN: Chuck Reagan.

3 MR. PIPPIN: Mike Pippin.

4 CHUCK REAGAN

5 After having been first duly sworn under oath,
6 was questioned and testified as follows:

7 EXAMINATION

8 BY MR. BRUCE:

9 Q Would you please state your name for the
10 record?

11 A Chuck Reagan.

12 Q And where do you reside?

13 A Houston, Texas..

14 Q Who do you work for and in what capacity?

15 A Limb Rock Resources, and I'm a petroleum
16 landman for Lime Rock.

17 Q Have you previously testified before the
18 division?

19 A No, I have not.

20 Q Would you summarize your educational and
21 employment background for the examiner?

22 A I graduated from the University of Texas
23 in 1982 with a degree in petroleum land management.
24 Worked for a couple of different companies. I joined
25 Lime Rock a couple of years ago.

1 Q And does your area of responsibility at
2 Lime Rock include this portion of Southeast New
3 Mexico?

4 A Yes, it does.

5 Q Are you familiar with the land matters
6 involved in this application?

7 A Yes.

8 Q And have you worked as a petroleum landman
9 since 1982?

10 A Yes.

11 MR. BRUCE: Mr. Examiner, I tender
12 Mr. Reagan as an expert petroleum landman.

13 MS. MUNDS-DRY: No objection.

14 MR. BROOKS: He is so qualified.

15 Q (By Mr. Bruce) Briefly, Mr. Reagan, what
16 does Lime Rock seek in this case?

17 A Lime Rock seeks to convert ten Lime Rock
18 wells that we currently own to injection wells by
19 injection into the Artesia Queen Grayburg San Andres
20 Pool at approximately -- approximate depths of 2400
21 to 3400 feet.

22 Q And, again, these wells will be -- they
23 are existing wells, and they will be converted from
24 production?

25 A Yeah, existing wells. I think they make

1 like a barrel a day or something like that.

2 Q They are strictly marginal?

3 A Yes.

4 MR. BROOKS: Did you say ten?

5 A Ten, yes, sir.

6 Q (By Mr. Bruce) And what is Exhibit 1?

7 A Exhibit 1 is a description of the wells
8 and the location of the wells.

9 MR. BRUCE: And Mr. Examiner, if you
10 could turn to -- open up Exhibit 3 and stuck in the
11 sleeve is a land plat marked Exhibit 2 A.

12 MR. BROOKS: I was going to say it is
13 marked Exhibit 2 A.

14 MR. BRUCE: Yeah.

15 MR. BROOKS: Exhibit 3 is the
16 notebook?

17 MR. BRUCE: That is correct.

18 Q (By Mr. Bruce) What is Exhibit 2 A
19 Mr. Reagan?

20 A Exhibit 2 is a map showing the ten
21 injection wells. Also shows the Lime Rock's
22 leasehold position. The map also has the half-mile
23 circles which are the areas of review.

24 MR. BROOKS: Are the wells that have
25 -- the wells that are shown with the hexagon -- maybe

1 it is an octagon around them, I believe it is an
2 octagon -- are those the injection wells?

3 A Yes, sir.

4 Q (By Mr. Bruce) Okay. And so the ten
5 wells that are the subject of this application are
6 noted on this exhibit, correct?

7 A That's right.

8 Q And what does the yellow indicate?

9 A The yellow is Lime Rock's leasehold
10 position.

11 Q And insofar as this application is
12 concerned, is Lime Rock the only working interest
13 owner?

14 A Yes, 100 percent.

15 Q And these are all state leases involved?

16 A That's right.

17 Q And then another plat, Exhibit 2 B, what
18 does that represent?

19 A 2 B is a plat showing the lands that we
20 would like to include into this Northwest State
21 Waterflood. It is actually a -- it's kind of a
22 Northwest Artesia Unit, which pretty much covers the
23 same lands. In addition to the Northwest Artesia
24 Unit, we would like to add Blocks D and J in Section
25 32 and then Block A in Section 31.

1 Q Okay. So that hatched line is the
2 Northwest Artesia Unit operated by Lime Rock?

3 A That's right. Operated by Lime Rock. We
4 have like 70 percent, and Yates has the remaining
5 portion.

6 Q Okay. And then there are three squares.
7 One is totally surrounded by the unit, but it is not
8 unitized?

9 A That's right.

10 Q And then the northwest, northwest of 32
11 and the northeast, northeast of 31, those are also
12 additional tracts affected by this application?

13 A Right. We would like to add to the
14 waterflood.

15 Q And is the second page a legal description
16 of the leases and units affected by this application?

17 A Yes, sir.

18 Q What is Exhibit 3, Mr. Reagan?

19 A Exhibit 3 is the C-108 application.

20 Q And who prepared this?

21 A I prepared it with help from -- I did most
22 of it, but had some help from field ropers and
23 engineering technologists and engineers in our
24 office.

25 Q Okay. If you would turn to right above

1 where it says Article V Maps, right above that, the
2 last three pages, four pages, does that identify the
3 surface owners where the injection wells are located
4 as well as all offset operators or working interest
5 owners in the affected zone?

6 A What section? Page 19?

7 Q That is correct.

8 A Yes.

9 Q And how is this information determined?

10 A That was determined -- part of -- the
11 field ropers researched that, and also we have some
12 information that we obtained from Johnny Gray that he
13 has provided us in the past that showed his surface
14 ownership.

15 Q And so this was -- this is current
16 information taken from state and federal -- state
17 records, correct?

18 A Yes, like in the last couple of months.

19 Q Will our next witness, Mr. Pippin, also
20 address certain aspects of this application?

21 A Yes, sir.

22 Q Okay. Now, if you would turn back to
23 Section VII under the water analysis portion, just a
24 couple of questions on this. Insofar as operations,
25 what type of water will be injected into the

1 injection wells?

2 A What type of water?

3 Q Or will it be produced or fresh water?

4 A Yeah, produced water. Same water from
5 these water analysis reports.

6 Q Okay. And it is just produced water from
7 the Red Lake area, correct?

8 A Yeah.

9 Q And under Article XIII, proof of notice,
10 does that contain your notice letter to all of the
11 offset operators as well as the surface owners?

12 A Yes, it does. Most of the green cards are
13 coming back except for BP, George Chase, and
14 Chesapeake. Some of those guys from BP actually
15 called me about the application. They were
16 satisfied. They didn't have any issues with it.

17 Q And was the BLM -- did you provide notice
18 of this application to the BLM?

19 A Yes. It is one of the letters.

20 MR. BRUCE: Mr. Examiner, what I have
21 handed you that Mr. Reagan just testified that he had
22 not yet received green cards from BP and George
23 Chase, is it?

24 A BP, George Chase, and Chesapeake.

25 MR. BRUCE: And what I have handed

1 you, Mr. Examiner, is from the post office's website
2 tracking -- confirming that all of these were
3 delivered. The first one, although I didn't mark it,
4 is the BP notice. The second one is the Chase
5 notice. And the third one is the Chesapeake notice.
6 They have received actual notice of this application,
7 and we don't have the green cards. And when we
8 receive them, we will submit the green cards to
9 the --

10 MR. BROOKS: Okay. We can track
11 these numbers by the receipt number's 20 digit or 21
12 digit number, whatever it is.

13 MR. BRUCE: You can compare those
14 against the green cards and the white slips under
15 Article XIII.

16 MR. BROOKS: Okay.

17 Q (By Mr. Bruce) And were Exhibits 1
18 through 3 prepared by you or under your supervision,
19 Mr. Reagan?

20 A Yes.

21 Q And in your opinion, is the granting of
22 this application in the interests of conservation and
23 the prevention of waste?

24 A Yes, it is.

25 MR. BRUCE: Mr. Examiner, I move the

1 admission of Exhibits 1 through 3, plus 3 A, the USPS
2 document.

3 MS. MUNDS-DRY: No objection.

4 MR. BROOKS: Okay. 1 through 3 -- 1,
5 2, and 3 -- 1, 2 A, 2 B, 3 and 3 A are admitted.

6 (Exhibits 1, 2A, 2B, 3 and 3A admitted.)

7 MR. BRUCE: I have no further
8 questions of the witness.

9 MR. BROOKS: Ms. Munds-Dry?

10 MS. MUNDS-DRY: I have no questions
11 for Mr. Reagan.

12 MR. BROOKS: You said this was all
13 state land, correct?

14 A Yes, sir.

15 MR. BROOKS: And Exhibit 2 B is where
16 we would go to see the boundaries in the proposed
17 unit, correct?

18 A That's right.

19 MR. BROOKS: Now, this is going to be
20 a voluntary unit?

21 A Uh-huh.

22 MR. BROOKS: And has the unit already
23 been formed?

24 A Well, let me back up. I don't think -- it
25 is going to be more like on a leasehold basis. Jim,

1 you might help me out.

2 MR. BRUCE: Mr. Examiner, looking at
3 Exhibit 2 B, the hatched area is the existing
4 Northwest Artesia Unit.

5 MR. BROOKS: Oh, okay. It is an
6 existing unit?

7 MR. BRUCE: It is an existing unit
8 formed --

9 A It produces out of the Grayburg. We're
10 going to be injecting to the San Andres. This
11 happens to be in the same spot, but it is out of the
12 shallower formation.

13 MR. BROOKS: Well, I am trying to
14 establish is the land ownership as to the formation
15 that you're going to be -- and you're going to be
16 producing -- your project is in what formation again?

17 A San Andres.

18 MR. BROOKS: And is the San Andres
19 covered in the unit agreement? Is it unitized?

20 MR. BRUCE: Yes, it is.

21 MR. BROOKS: Now, what about these
22 other two tracts that are being added? Are they
23 being added to the unit?

24 MR. BRUCE: Mr. Examiner, the
25 effective date of the unit was February 1, 1974.

1 MR. BROOKS: Right.

2 MR. BRUCE: Northwest Artesia Unit.

3 Actually, it is just being developed cooperatively.

4 In other words, we're not seeking to expand the unit.

5 It is just that they are our producing wells, our

6 injecting wells on this additional land, which we

7 hope we will benefit by it. So it is being done on a

8 cooperative basis. They will not be unitized.

9 MR. BROOKS: Does Lime Rock own 100
10 percent of the working interest in all involved land?

11 A Out of the Northwest Artesia Unit?

12 MR. BROOKS: Yeah.

13 A No. We have 74 percent and Yates has the
14 remaining portion of it.

15 MR. BROOKS: Okay. But that is
16 uniform ownership throughout the unit?

17 A That's right.

18 MR. BROOKS: Okay. What about these
19 tracts that are being added, who has the working
20 interest on those tracts?

21 A We own 100 percent of those as to the San
22 Andres formation.

23 MR. BROOKS: Okay. And it is all
24 state land?

25 A It is all state land.

1 MR. BROOKS: So there is no royalty
2 ownership issues. What about overriding royalties?

3 A There are some overriding royalty interest
4 owners.

5 MR. BROOKS: Do you have that
6 identified anywhere in the evidence?

7 MR. BRUCE: I don't. We could
8 supplement the record.

9 A I would have to get that for you.

10 MR. BROOKS: This is my concern,
11 because if we're doing a lease waterflood, we don't
12 have this issue. If we're doing a unit waterflood,
13 we don't have this issue. But if it's partly a lease
14 waterflood and partly a unit waterflood, don't we
15 have a question that waterflood can move -- can cause
16 hydrocarbons to move around, and could it -- if there
17 are people that own -- have differential ownership,
18 doesn't that raise correlative rights issues?

19 MR. BRUCE: I don't think it does,
20 Mr. Examiner, for the following reasons: If you will
21 look at Exhibit 2 A, the big land plat you have in
22 front of you --

23 MR. BROOKS: Yeah.

24 MR. BRUCE: -- we are seeking to as
25 part of the project -- and it would be there

1 regardless, if you look at the nonunitized tract, the
2 northwest, southeast of Section 32 within the unit --

3 MR. BROOKS: Yeah.

4 MR. BRUCE: -- it has no injectors on
5 it. Now, water -- there might be some movement of
6 fluids from the -- you know, due to the injectors to
7 the north of there, but that's going to happen
8 regardless.

9 MR. BROOKS: Well, injectors to the
10 north -- the unit doesn't -- the proposed project
11 area doesn't proceed to the north of there, does it?
12 You're talking about the northwest of the northwest
13 of 32, correct?

14 MR. BRUCE: Well, I was talking about
15 the northwest, southeast of 32 first and foremost.

16 MR. BROOKS: Oh, okay.

17 MR. BRUCE: If you're looking at
18 Exhibit 2 B --

19 MR. BROOKS: Yeah.

20 MR. BRUCE: -- that northwest,
21 southeast is not unitized.

22 MR. BROOKS: Okay. The northwest,
23 southeast is not unitized.

24 MR. BRUCE: And let me ask,
25 Mr. Reagan, are there already injectors on some of

1 this in the --

2 A Yeah, there is an injector -- it is in the
3 east half of the southwest quarter. I think it is
4 like 5 and 8 maybe.

5 MR. BRUCE: Yeah. So Mr. Examiner,
6 what you're looking at is for whatever reason when
7 the Northwest Artesia Unit was approved and a
8 waterflood project was approved for that unit by
9 Order R-4727, that 40 acres was left out of the unit,
10 and there are currently injectors in the east half,
11 southwest of Section 32.

12 Water is going to move regardless,
13 and probably -- we believe it will benefit the unit,
14 but it might also benefit that tract, but obviously,
15 the nonunitized interest owners shouldn't be
16 adversely affected. They would benefit -- and maybe
17 Mr. Pippin could answer this question better, our
18 next witness, but they would benefit from the
19 injection, not be adversely affected.

20 MR. BROOKS: You're talking about the
21 owners in the northwest of the southeast --

22 MR. BRUCE: Correct.

23 MR. BROOKS: -- of 32? Okay.

24 MR. BRUCE: And if you go to the
25 northwest, northwest of 32, there is the -- there

1 would be the injection well to the west.

2 MR. BROOKS: Right.

3 MR. BRUCE: And they may benefit from
4 that, but they wouldn't be adversely affected.

5 MR. BROOKS: Okay. What about the
6 owners in the northeast, northeast of 31 where there
7 is an injection well?

8 MR. BRUCE: There will be an
9 injection well there, but I believe there is also a
10 producing well, and they hope to benefit that
11 producing well with that injection.

12 MR. BROOKS: Right. Okay. We may
13 need to go over this some more with the engineer
14 witness because it does seem to be an area of concern
15 since you're not unitizing the project area is my
16 understanding.

17 MR. BRUCE: No, we're not
18 unitizing -- we're not expanding the Northwest
19 Artesia Unit.

20 MR. BROOKS: Okay. Go ahead.

21 MR. BRUCE: That's all the questions
22 I have.

23 MR. BROOKS: Mr. Jones?

24 MR. JONES: I'm probably totally
25 confused so I'd better not ask any questions here.

1 MR. BROOKS: Well, I'm pretty
2 confused myself, too.

3 MR. BRUCE: And it is permissible
4 under both State Land Office regulations, and there
5 is no federal land involved, federal regulations to
6 have cooperative projects like this where we do not
7 unitize, and you just pay people on a lease. In this
8 case, there is a lease basis or a partly unit, partly
9 lease basis, and I think part of the thing is the
10 working interest owner or owners are responsible for
11 looking after the interests of their overriding
12 royalty owners.

13 MR. BROOKS: Well, and you know, I
14 don't know what state leases provide on that subject.
15 There, again, we're back to -- can easily ascertain
16 them because the state lease forms are statutory, so
17 they are readily available. Anyway, we will look
18 into this further later.

19 MR. BRUCE: Mr. Examiner, if you
20 don't mind, subsequent to this hearing, I believe
21 there are some Land Office regulations on this that I
22 will --

23 MR. BROOKS: Yeah, if you could
24 provide us -- provide me with a memorandum of
25 anything I need to look at, I would greatly

1 appreciate it.

2 MR. BRUCE: Will do.

3 MR. BROOKS: Did you have any other
4 questions, Mr. Jones --

5 MR. JONES: No, sir.

6 MR. BROOKS: -- for this witness?
7 Very's good. The witness may stand down. You may
8 call your next witness.

9 MR. BRUCE: I call Mr. Pippin to the
10 stand.

11 MR. BROOKS: And Mr. Bruce, in terms
12 of examining this, because I haven't been presented
13 with it before, if you could find out if there is
14 anything that -- from the OCD's perspective, if this
15 is something that we have done in the past.

16 MR. BRUCE: I think there is an
17 order, I will have to dig it up, from -- there are
18 cooperative waterflood projects approved by division
19 orders.

20 MR. BROOKS: Well, I have heard some
21 that have that name on them, but I haven't been
22 involved --

23 MR. BRUCE: I know of one that I can
24 pick up pretty quickly. I will look that up.

25 MR. BROOKS: I would appreciate it.

1 MR. BRUCE: Mr. Examiner, Mr. Pippin
2 will testify about several exhibits, and we are -- if
3 I may, he will testify on Exhibits 4 through 9.
4 Unfortunately, we ended up having only a couple of
5 copies of Exhibits 4 through 7. We will make
6 additional copies and --

7 MR. BROOKS: Well, we have copies for
8 each of the examiners. We can give the set to the
9 court reporter when we --

10 MR. BRUCE: And I had promised Ms.
11 Munds-Dry a full set of copies.

12 MS. MUNDS-DRY: That's okay. I can
13 get that. I can peek over Mr. Bruce's shoulder.

14 MR. BRUCE: You and I don't have
15 copies.

16 MS. MUNDS-DRY: Well, then, there's
17 that.

18 PAUL MICHAEL PIPPIN

19 After having been first duly sworn under oath,
20 was questioned and testified as follows:

21 EXAMINATION

22 BY MR. BRUCE:

23 Q Would you please state your full name for
24 the record?

25 A Paul Michael Pippin.

1 Q And where do you reside?

2 A Farmington, New Mexico.

3 Q What is your occupation?

4 A I am a consulting petroleum engineer.

5 Q And what is your relationship to Lime Rock
6 in this case?

7 A On this issue, I am working with Lime
8 Rock, and I have worked for them for the last two
9 years.

10 Q Have you previously testified before the
11 division?

12 A Yes, sir.

13 Q I will take a step back. You are a
14 petroleum engineer?

15 A Yes.

16 Q When you testified, were your credentials
17 as an expert petroleum engineer accepted as a matter
18 of record?

19 A Yes.

20 Q Have you studied the engineering in this
21 application?

22 A Yes.

23 Q And have you also reviewed Exhibit 3,
24 which was previously admitted into the record, the
25 C-108?

1 A Yes.

2 MR. BRUCE: Mr. Examiner, I would
3 tender Mr. Pippin as an expert petroleum engineer.

4 MS. MUNDS-DRY: No objection.

5 MR. BROOKS: So qualified.

6 Q (By Mr. Bruce) Mr. Pippin, could you
7 identify Exhibit 4 for the examiner and maybe discuss
8 the geology of the injection zone?

9 A Exhibit 4 is a type log. Predominantly,
10 the San Andres formation within the Artesia Queen
11 Grayburg San Andres Pool. It shows top of the San
12 Andres, the middle, the lower, with several different
13 log characteristics.

14 Q And what is Exhibit 5?

15 A Exhibit 5 shows most of the project area
16 including the cross-sections A, A prime, and B, B
17 prime.

18 Q And that is just simply a map to identify
19 the location of the wells in the cross-section, it is
20 not?

21 A That's correct. It also shows the
22 structure.

23 Q What is the structure in this area?

24 A Looks like it slowly dips to the
25 southeast.

1 Q And that should not be a big factor in
2 recovery in this area?

3 A We don't believe that is a factor at all,
4 no, sir.

5 Q Why don't you move on to your
6 cross-sections, Exhibits 6 and 7, and discuss them
7 and the continuity of the reservoir in this area.

8 A Exhibit 6 the cross-section depicted in
9 Exhibit 5. It is A, A prime from the southwest to
10 the northeast. Exhibit 7 is B, B prime from the
11 northwest to the southeast. These cross-sections are
12 presented to show continuity of the reservoir.

13 Q And these are continuous north to south
14 and east to west across this area?

15 A Yes, it is.

16 Q And what pool is involved in this
17 application, Mr. Pippin?

18 A It is the Artesia Queen Grayburg San
19 Andres Pool.

20 Q And this pool covers quite a large extent,
21 does it not?

22 A Yes, sir.

23 Q I mean, it covers acreage outside of what
24 we're interested in today; is that correct?

25 A Yes, it does.

1 Q And as to the basic geology in the area,
2 is this a lenticular reservoir or --

3 A The formation in the project area consists
4 of lenticular porosity lenses. These lenses are made
5 up of fine to very course crystal and dolomites.

6 Q Let's move on to anticipated recoveries.
7 First of all, you're converting ten injection wells.
8 What is the current status roughly of those wells?

9 A Currently, they are all producing out of
10 the subject pool. They average a little over one
11 barrel of oil per day. They average a little under
12 ten MCF a day. They are all marginal wells.

13 Q Okay. What is Exhibit 8?

14 A Exhibit 8 shows what Lime Rock's Reservoir
15 Engineering Department believes will be the decline
16 of the wells in question if it is not waterflooded.
17 This is a summary of all of the wells that Lime Rock
18 believes will be affected by these injection wells.

19 Q And how were those were affected -- how
20 were the injection wells chosen? Maybe that is a
21 good time to ask this question.

22 A The ten injection wells were chosen to
23 create a pattern to best recover additional reserves
24 in the most efficient manner given the shape of Lime
25 Rock's leasehold acreage.

1 Q And does Lime Rock believe that these
2 wells will beneficially affect offsetting wells up
3 to, you know, 1,000 feet a quarter mile away?

4 A Less than a quarter mile, yes.

5 Q Okay. Now, Exhibit 8 is the current or
6 what would occur without injection. What is Exhibit
7 9?

8 A Exhibit 9 shows the Reservoir Engineering
9 Department's example of what this waterflood will
10 create in the wells around it. You can see in
11 Exhibit 9 production will increase for both oil and
12 gas with an EUR increase estimated at 258,000 barrels
13 of oil.

14 Q Since these are existing wells, the costs
15 to convert these wells and put them on injection will
16 be relatively low, will it not?

17 A That is correct.

18 Q And you will be able to dispose of
19 produced water, which might also further minimize
20 operating costs, would that be correct?

21 A That's correct.

22 Q Because of the additional 258,000 barrels
23 recovered, in your opinion, is the project
24 economically and technically feasible at this time?

25 A Yes, it is.

1 Q Without converting these ten wells to
2 injection, it looks like they would become uneconomic
3 at some fairly recent date; is that correct?

4 A Yes.

5 Q Let's go back to Exhibit 3, the C-108.
6 Will all of the injection wells be recompleted so as
7 to prevent movement of fluids to another pool or into
8 a water zone?

9 A Yes, they will.

10 Q And speaking of water, are there any fresh
11 water wells in this area?

12 A No, there are not. We checked with the
13 State Engineer's Office, and there were none. We
14 also did an on-site search for water wells, and the
15 man -- superintendent could not find any there
16 either.

17 Q Looking at Exhibit 3, go to Tab VI, the
18 tabulation of data. And how many wells are there
19 within the area of review which penetrate the
20 injection zone?

21 A I believe there is 113.

22 Q And how many plugged or abandoned wells?

23 A I believe there is 32 P and A'd wells.

24 Q Okay. Behind that page there is a
25 spreadsheet. Does that contain data on all of the

1 wells within the area of review?

2 A That is correct.

3 Q And behind that, there is data on the
4 plugged wells; is that correct?

5 A Yes.

6 Q Ignore the first page, Mr. Pippin. Other
7 than that first page, are all of the wells which have
8 been plugged and abandoned, were they properly
9 plugged and abandoned in your opinion?

10 A I believe they were, yes.

11 Q Let's turn back to that very first page to
12 the well named the Tigner State Well #1. Did you
13 review division records regarding that well?

14 A Yes, I did.

15 Q Such as they are perhaps?

16 A The state website shows the API number, it
17 shows a location, and it shows a well name, and it
18 shows very little else. I think there is five pages
19 on the state website, and most of them are totally
20 illegible.

21 Q Apparently, this well was drilled, but you
22 do not know that from reviewing the state data?

23 A We cannot tell if the well was even
24 drilled.

25 Q And if it was drilled, you can't tell what

1 depth it was drilled to?

2 A Correct.

3 Q There is a page in there that says,
4 "Notice of intent to plug," I believe, correct?

5 A That's right.

6 Q But you can't read any data on what was
7 done with the well?

8 A Correct.

9 Q Is Lime Rock willing to go out and try to
10 locate this well to see what the current status of
11 that is?

12 A Yes, we can do that.

13 Q And will Lime Rock report back to the
14 division on the status of that search?

15 A We will.

16 Q And so this plugging sketch is -- you
17 can't complete a plugging sketch on this well?

18 A The plugging sketch is accurate. There is
19 absolutely nothing there in the records. We don't
20 know if the well was even drilled.

21 Q Okay. Turning to Tab VII, the very first
22 page of that discussing the proposed operations. Can
23 you discuss the proposed injection rates and the
24 pressures? And I will ask you a follow-up question
25 on that, Mr. Pippin.

1 A Lime Rock would like to inject an average
2 of 150 barrels of water per day per well, the maximum
3 of 600 barrels of water per day per well with an
4 average injection pressure of 500 PSI and a maximum
5 injection pressure of 810 PSI.

6 Q Okay. So most of -- the 500 PSI is right
7 at about the .2 PSI per foot level in the division's
8 regulations, correct, Mr. Pippin?

9 A Yes.

10 Q Now, you mentioned 800 -- what was the
11 number?

12 A 810.

13 Q Where does that come from?

14 A There is two existing injection wells in
15 the project area. One is the Northwest State #8, API
16 #15-30815. It is located in Nancy, Section 32. And
17 in April of 2008, the Commission approved IPI-295,
18 which gave the operator a maximum injection pressure
19 of 908 PSI. The other injection well in the project
20 area is Northwest State #5, API #15-30781. It is
21 located near the center of the project area in K of
22 Section 32. And, also, in April of 2008, the
23 Commission granted a maximum injection pressure of
24 810 PSI for this well with Order IPI-294.

25 Lime Rock really does not want to go to

1 the large expense of conducting separate tests on the
2 proposed ten new injection wells. It is Lime Rock's
3 request that the OCD grant a maximum injection
4 pressure of 810 pounds for the proposed ten new
5 injection wells, using the maximum injection pressure
6 granted for the Northwest State #5 of 810 PSI.

7 Q One final question, Mr. Pippin. Since
8 this -- you've reviewed the data in Exhibit 3. Do
9 you see any compatibility between the injection water
10 and the formation water in this case?

11 A No.

12 MR. BROOKS: Now, you weren't real
13 clear on -- I want to make sure it is right. Did you
14 say did you see any compatibility or did you see any
15 incompatibility?

16 MR. BRUCE: Well, any compatibility
17 problems.

18 MR. BROOKS: Okay. You left out a
19 word.

20 Q (By Mr. Bruce) Just to be clear,
21 Mr. Pippin, do you foresee any compatibility problems
22 between the water being injected and the current
23 water in the injection zone?

24 A No.

25 Q Mr. Pippin, who prepared Exhibits 4

1 through 9?

2 A They were prepared at my request.

3 Q Okay. And you oversaw their preparation?

4 A Yes, sir.

5 Q In your opinion, would the granting of
6 this application be in the interests of conservation
7 and the prevention of waste?

8 A Yes.

9 MR. BRUCE: Mr. Examiner, I move the
10 admission of Exhibits 4 through 9.

11 MS. MUNDS-DRY: No objection.

12 MR. BROOKS: 4 through 9 are
13 admitted.

14 (Exhibits 4 through 9 admitted.)

15 MR. BRUCE: I have no further
16 questions.

17 MR. BROOKS: Ms. Munds-Dry?

18 MS. MUNDS-DRY: I have no questions
19 of Mr. Pippin.

20 MR. BROOKS: Okay. You're not going
21 to have a geologic witness, right?

22 MR. BRUCE: No, I am not.

23 MR. BROOKS: And you may have asked
24 this question. We always ask, but -- and I'm sure it
25 is in the C-108, but just for the record I have to

1 ask, have you studied the geologic data to determine
2 if there are any faults that would provide
3 communication from the target zone and injection zone
4 to any fresh water zone?

5 A The geology department actually did that,
6 yes, sir, and there are none.

7 MR. BROOKS: Thank you. I don't
8 believe I have any further questions. I will defer
9 to Mr. Jones and his expertise in these matters.

10 MR. JONES: Well, shall we start with
11 the first well of 300 wells -- no, no, no problem.
12 On the first page, though, I notice that -- just so I
13 know how to interpret the spreadsheet. Can you
14 supply us that spreadsheet in electronic format?

15 MR. BRUCE: I can do that today.

16 MR. JONES: Okay. Just probably
17 unfortunately to me, in order of David here, and Ms.
18 Munds-Dry.

19 MR. BRUCE: I have it on my computer.

20 MR. JONES: Okay. The fourth well
21 down, Mr. Pippin, it says the production top of
22 cement is 6660 feet by temperature log, and then over
23 on the right, it says original TOC was 2500. Can you
24 say again what depths we're looking at here?

25 A Approximately 2400 to 3400.

1 MR. JONES: Okay. So what's up with
2 that 6660 feet? On the column close to the
3 right-hand side, it says production TOC.

4 A Where it says temperature log.

5 MR. JONES: It is measured by a
6 temperature log?

7 A Okay. We will have to look into that.

8 MR. JONES: Okay. I guess the big
9 question I should ask is do you see any wells that
10 are not cemented in order to contain injected fluids
11 at 800 pounds of pressure out here?

12 A We did not.

13 MR. JONES: You didn't see any of
14 these wells that could do that. Now, that well that
15 was drilled in the '20s, what kind of formation would
16 they have gone for back in those days? It looks like
17 it is the earliest well in this whole spreadsheet
18 that I saw, so it would have been a wildcat. Did
19 you -- can you relate the target --

20 A Which well is that?

21 MR. BRUCE: It's the Tigner State #1.

22 MR. JONES: It's the Tigner State.

23 A That's the one we have discussed
24 previously that has -- that we don't know if it was
25 actually drilled. Therefore, we don't know if it was

1 actually P and A'd. The state records are
2 nonexistent.

3 MR. JONES: Okay.

4 A We didn't want to just say nothing about
5 it because it is in the state records. It has a
6 location, it has a name, and it has an API number,
7 and that's about it.

8 MR. JONES: And the status has
9 plugged on the spreadsheet?

10 MR. BRUCE: I think, Mr. Examiner,
11 and I have looked at the state website, there is a --
12 one of the only legible things is a heading on a
13 document that says, "Notice of intent to plug."

14 MR. JONES: Intent to plug. So it
15 was probably drilled?

16 MR. BRUCE: That's all it says.

17 MR. JONES: Okay.

18 MR. BRUCE: And that's why they put
19 on here plugged.

20 MR. JONES: Okay. Well, there's a
21 well that was drilled in 1941 down to 3500 feet,
22 which would make it -- through your target zone. So
23 if they were drilling a couple of decades earlier
24 than that, they may or may not have drilled that
25 deep, I guess. We just don't know.

1 A There is no way to tell as per the state
2 website.

3 MR. JONES: Where is that well in
4 relation to any -- it's southwest of 28?

5 MR. BRUCE: Mr. Examiner, if you look
6 at the yellow map, it is up on the northeast corner.

7 MR. JONES: Oh, there it is. I see
8 it.

9 MR. BRUCE: Right on the outer
10 boundary of two intersecting half-mile circles.

11 MR. JONES: Okay. Well, it may have
12 been a dry hole.

13 A They could have had mechanical problems
14 and plugged it from 100 feet. There is no record of
15 surface pipe being set.

16 MR. JONES: Yeah. It's unfortunate,
17 though. Okay. Is this 2400 to 3400 feet, is that
18 Grayburg and San Andres?

19 A It is mostly San Andres.

20 MR. JONES: Mostly San Andres. Now,
21 this Artesia Unit, it was a Grayburg Unit though; is
22 that correct?

23 A That is my understanding.

24 MR. JONES: So what we're doing here
25 is forming a new cooperative unit or just ignoring

1 this Artesia unit and forming a new cooperative unit
2 for the San Andres?

3 MR. BROOKS: Well, I think that's the
4 point of my question. My understanding of the
5 answers that have been given to it is that they are
6 not forming a new unit. They are simply forming a --

7 MR. JONES: A cooperative project.

8 MR. BROOKS: -- a cooperative
9 project.

10 A Let's call it a project.

11 MR. JONES: With 300 wells, it looks
12 like a project.

13 A We're forming a project. Lime Rock is
14 hoping to increase production and they are offsetting
15 producers and they are the producers very close to
16 these injection wells.

17 MR. JONES: Okay. That south half of
18 the northwest quarter of 32 has a big, white spot in
19 the middle. If you were operating that, which I
20 guess Lime Rock does not operate that --

21 A That's correct.

22 MR. JONES: -- what would you do in
23 that 80 acres? Would you drill any wells? Would you
24 just ignore it or what?

25 A If I operated it is your question?

1 MR. JONES: Yes.

2 A I would be as happy as I could be. I
3 would wait to see if the new injection well,
4 Northwest State #6 affects me. That is the well
5 directly to the south in L of 32.

6 MR. JONES: So there is some wells
7 already there in that 80 acres?

8 A Yes. On Exhibit 2 A, I see the State BV
9 #1 directly north and Northwest State #6.

10 MR. JONES: Okay. So it already has
11 producers in the Grayburg, but you don't know if they
12 are in the San Andres yet or not?

13 A I don't -- it is not designated which
14 formation it is in.

15 MR. JONES: But that tract chose not
16 to cooperate in the formation of this waterflood; is
17 that correct?

18 A No. They are offsetting this project.
19 Simple as that. They are just offsetting. They
20 would benefit.

21 MR. BROOKS: Were the working
22 interest owners of these tracts, were they notified
23 -- noticed of this application?

24 A Yes, they would have been. They are
25 within the half-mile circles.

1 MR. BROOKS: Okay.

2 MR. BRUCE: Mr. Reagan can answer
3 that if you need to, Mr. Examiner, but the answer is
4 yes.

5 MR. BROOKS: Okay. Very good. Thank
6 you.

7 MR. JONES: But this Northwest State
8 #5, was that IPI, was that well producing in this
9 whole 2400 to 3400 foot interval when you -- I mean,
10 injecting in that interval when the step rate test
11 was run on that well?

12 A I believe so.

13 MR. JONES: But that well is being
14 used as the analogous well for granting 800 pounds
15 injection pressure --

16 A Yes.

17 MR. JONES: -- for the whole -- for
18 every one of these new wells? Okay. I guess that's
19 part of our due diligence. We will check into that.
20 Do you need the 800 pounds for -- tell us about the
21 reservoir reasons, why you need the 800 pounds. In
22 other words, is it fill up time, or is it -- did you
23 calculate a voidage out here?

24 A Lime Rock is simply looking ahead and
25 trying to have a maximum injection pressure so we

1 won't have to bother the Commission with an IPI
2 request in the future.

3 MR. JONES: But I understand
4 sometimes it is necessarily to get water in the
5 ground as soon as possible on these waterfloods so
6 you can enhance your economics of it, but I'm just --
7 maybe you can go into that a little bit.

8 A Other than what I have said, obviously if
9 we have to come back to the Commission with an IPI
10 application on each of these ten wells, it is going
11 to take a lot more time before we get to inject. We
12 have not injected in any of the new wells. We're not
13 sure what pressures we're going to see. We're trying
14 to look ahead and eliminate what could be a lot of
15 time and extra money on both Lime Rock and the state.

16 MR. JONES: Have you talked to Chuck
17 Morgan any about this -- the potential for this? SDX
18 obviously sold this to Lime Rock; is that correct?

19 A Yes.

20 MR. JONES: So he was the engineer
21 out there for years and years.

22 A I am sure members of the Reservoir
23 Department have talked to him. I did not.

24 MR. JONES: So Lime Rock does have a
25 Reservoir Department?

1 A Yes.

2 MR. JONES: Okay. I don't think I
3 have any more questions.

4 MR. BROOKS: Okay. Anything further
5 from the attorneys?

6 MR. BRUCE: Not me.

7 MS. MUNDS-DRY: No, sir.

8 MR. BROOKS: Very good. The witness
9 may step down.

10 MR. BRUCE: And Mr. Examiner, we will
11 supplement the record.

12 MR. BROOKS: Okay. Ms. Munds-Dry,
13 what is your client's position in this matter?

14 MS. MUNDS-DRY: We are simply here to
15 listen and learn.

16 MR. BROOKS: So you take no position
17 on whether or not the application should be granted?

18 MS. MUNDS-DRY: No.

19 MR. BROOKS: For the record, I have
20 advised Mr. Bruce of this, but the BLM had sent a
21 comment to us indicating that they had not completed
22 their review of this, and I furnished a copy of that
23 e-mail to Mr. Bruce. In the event that we receive
24 any further comments from the BLM, we will notify
25 counsel and give them an opportunity to respond to

1 the BLM. There have been other cases in which the
2 BLM has acted similarly. So with that, we will take
3 Case Number 14563 under advisement, and we will take
4 a luncheon recess until 1:15.

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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. 14563
heard by me on 10-28-10

David K. Burm, Examiner
Oil Conservation Division

REPORTER'S CERTIFICATE

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I, CONNIE JURADO, do hereby certify that I reported the foregoing case in stenographic shorthand and transcribed, or had the same transcribed under my supervision and direction, the foregoing matter and that the same is a true and correct record of the proceedings had at the time and place.

I FURTHER CERTIFY that I am neither employed by nor related to 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 28th day of October, 2010.



Connie Jurado, CCR, RPR
New Mexico CCR No. 254
Expires: December 31, 2010