

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: )

) CASE NO. 13,451

APPLICATION OF THE DIVISION THROUGH THE )  
DIRECTOR OF THE NEW MEXICO UNDERGROUND )  
INJECTION CONTROL PROGRAM TO REVOKE )  
DIVISION ADMINISTRATIVE PERMIT SWD-966, )  
EDDY COUNTY, NEW MEXICO )

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

June 16th, 2005

Santa Fe, New Mexico

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Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, June 16th, 2005, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

\* \* \*

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 Examiner Hearing  
 CASE NO. 13,451

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## A P P E A R A N C E S

## FOR THE DIVISION:

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Assistant General Counsel  
Energy, Minerals and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

## FOR LYNX PETROLEUM CONSULTANTS, INC.:

DOMENICI LAW FIRM, P.C.  
Attorneys at Law  
6100 Seagull St. NE, Suite 205  
Albuquerque, New Mexico 87109  
By: PETER V. DOMENICI, JR.

\* \* \*

1 WHEREUPON, the following proceedings were had at  
2 1:55 p.m.:

3 EXAMINER CATANACH: All right, at this time I'll  
4 call Case 13,451, which is the Application of the Division  
5 through the Director of the New Mexico Underground  
6 Injection Control Program to revoke Division Administrative  
7 Permit SWD-966, Eddy County, New Mexico.

8 At this time I'll call for appearances.

9 MR. BROOKS: Mr. Examiner, I'm David Brooks with  
10 the Energy, Minerals and Natural Resources Department of  
11 the State of New Mexico, appearing for the Oil Conservation  
12 Division. I have two witnesses.

13 EXAMINER CATANACH: Additional appearances?

14 MR. DOMENICI: Mr. Hearing Examiner, Pete  
15 Domenici, Jr., for Lynx Petroleum, and I have one witness.

16 EXAMINER CATANACH: Okay, can I get the witnesses  
17 to stand and be sworn in at this time?

18 (Thereupon, the witnesses were sworn.)

19 MR. BROOKS: Okay, call Will Jones.

20 WILLIAM V. JONES,  
21 the witness herein, after having been first duly sworn upon  
22 his oath, was examined and testified as follows:

23 DIRECT EXAMINATION

24 BY MR. BROOKS:

25 Q. Good afternoon, Mr. Jones. Would you state your

1 name for the record, please?

2 A. William V. Jones.

3 Q. And by whom are you employed?

4 A. I'm employed by the State of New Mexico, Oil  
5 Conservation Division.

6 Q. Okay, and in what office?

7 A. In the Engineering Bureau?

8 Q. In Santa Fe?

9 A. In Santa Fe.

10 Q. And what is your assignment?

11 A. My assignment is to -- pertinent to this case, is  
12 reviewing saltwater disposal permits.

13 Q. Are you generally a Hearing Officer?

14 A. In some cases I am also.

15 Q. And are you a petroleum engineer, Mr. Jones?

16 A. I'm a petroleum engineer -- I'm not a petroleum  
17 engineer; I'm a petroleum engineer by training, but not by  
18 degree.

19 Q. Okay, but that's your expertise, is in that  
20 field; is that correct?

21 A. That's my sum total of experience.

22 Q. Have your qualifications been made a matter of  
23 record before the Oil Conservation Division previously?

24 A. Not that I know of.

25 Q. Could you give us a brief statement of your

1 background in petroleum engineering?

2 A. Okay, I've been working after a degreed engineer,  
3 civil and geological engineer in 1979. I've worked in --  
4 for a major oil company in southeast New Mexico and in the  
5 Rocky Mountains for about 20 years and then for some  
6 smaller companies, four years after that.

7 Q. And have you done a lot of work in reservoir  
8 engineering?

9 A. I've done many years reservoir engineering.

10 MR. BROOKS: Mr. Catanach, this might be strange  
11 for you, but we're going to ask you to accept Mr. Jones as  
12 an expert engineer.

13 EXAMINER CATANACH: Mr. Jones didn't reference  
14 where he obtained his degree. Would you please state that?

15 THE WITNESS: My degrees are from New Mexico  
16 State in 1979, geological engineering and civil  
17 engineering.

18 EXAMINER CATANACH: And you referenced that you  
19 worked for a major company. Who was that company?

20 THE WITNESS: They're no longer in existence at  
21 this time, but they were Texaco.

22 EXAMINER CATANACH: Any objection to qualifying  
23 the witness?

24 MR. DOMENICI: No objection.

25 EXAMINER CATANACH: Mr. Jones is so qualified.

1 Q. (By Mr. Brooks) Very good. Mr. Jones, are you  
2 familiar with the case, the application for conversion of  
3 the Jones Federal "B" Well Number 3 in Eddy County, New  
4 Mexico, to saltwater injection?

5 A. Yes, sir, I am.

6 Q. And is this Application Number SWD-966?

7 A. Yes.

8 Q. Were you the Examiner who reviewed that  
9 application?

10 A. Yes, I was the engineer that reviewed the  
11 application.

12 Q. I ask you to look at what's been marked as  
13 Exhibit Number 1, and is that a copy of the injection  
14 permit that was issued for that well?

15 A. Yes, that's a copy of the permit.

16 Q. I notice the initials "WJ" by the signature. Was  
17 it you who caused that to be signed and initialed?

18 A. Yes, that was during the -- we had delegation of  
19 authority to sign Mark Fesmire's name to these during the  
20 legislative session this year, so...

21 Q. Okay, so you signed the -- you were the one who  
22 actually signed this order --

23 A. Yes.

24 Q. -- although it bears Mr. Fesmire's name?

25 And for the record, we're not contending that



1 there's any invalidity in the order, we're attempting to  
2 set it aside -- we're attempting to have it revoked, but  
3 we're not disputing the validity of the order in any way.

4 I will next call your attention -- Well, first of  
5 all, looking at Exhibit Number 1, where is the Jones  
6 Federal "B" Well Number 3 located?

7 A. It's located 660 from the south, 660 from the  
8 east of Section 23, Township 19 South, Range 31 East in  
9 Eddy County, New Mexico.

10 Q. Okay. Then calling your attention to OCD Exhibit  
11 Number 2 -- and I grant that the writing on that exhibit is  
12 fairly illegible, but is the -- is this a map?

13 A. This is a map with -- overlaying the Capitan Reef  
14 outline.

15 Q. And one thing that is legible on it, if you look  
16 down at the bottom, about the first tier of sections up,  
17 there's a line and below that line it says Texas and above  
18 that line it says New Mexico, right?

19 A. Right.

20 Q. So that will get you oriented to where this is a  
21 map of. Now, each of these squares on here is a township  
22 rather than a section, right?

23 A. Yes.

24 Q. So this is a pretty small-scale map, actually.  
25 And someone has drawn in the -- what purports to be the

1 approximate location of the Jones Federal Number 3. Now,  
2 can you confirm that that is -- the way the map is  
3 calibrated, that that is the approximate location?

4 A. That would be the approximate location. That's  
5 in 19-31.

6 Q. And this is in Section 23, so it would be about  
7 -- a little less than a third of the way from the south to  
8 the north, and a little less than a third of the way from  
9 the west to the east.

10 EXAMINER CATANACH: Actually, it would be on the  
11 other side of that township.

12 MR. BROOKS: Pardon me?

13 EXAMINER CATANACH: Section 23 would be toward  
14 the eastern side of that township.

15 THE WITNESS: I would have to agree with the  
16 Examiner on that.

17 Q. (By Mr. Brooks) Yeah, you're right, and it would  
18 be a little farther north, because -- I was thinking it was  
19 in the south tier, which goes left to right, but it's in  
20 the third tier up which goes left to right. I was thinking  
21 it was the second tier, which goes right to left. So the  
22 section is correctly identified, but the location probably  
23 is not accurate. Okay.

24 Is the shaded area on Exhibit 2, is that the  
25 Capitan Reef?

1 A. That's what I understand to be the Capitan Reef.

2 Q. Okay. When you reviewed this Application and  
3 approved it, were you aware that this was in the area that  
4 is underlain by the Capitan Reef?

5 A. No, I was not. I actually thought it was  
6 somewhere else besides in the vicinity of the Reef.

7 Q. Looking at Exhibit Number 3, it's captioned  
8 "Administrative Application Checklist". Is that a document  
9 that you use in the reviewing process on this type of  
10 Application?

11 A. Yes, that's the cover document for most of our  
12 applications, and --

13 Q. Now, the writing on there, is that your writing?

14 A. Yes, that's my scribbling on the top there and  
15 just some notes as I was reviewing the Application and to  
16 check whether there was -- logs were turned in and -- I  
17 usually write the API number on there. And I checked to  
18 see whether it was near the Reef, but I must have checked  
19 the wrong township and range, because I checked off that it  
20 was not near the Reef there.

21 Q. Yes, the notation, the next to the bottom  
22 notation right above the API number, says "not near reef".  
23 Was that your handwriting?

24 A. That was my handwriting.

25 Q. And it appears to have been X'd out. Was that

1 after you granted the application that you X'd that out?

2 A. The checkmark was during the application, the  
3 X-out was after I got a couple of phone calls from the  
4 Artesia OCD District.

5 Q. And it was after you signed and delivered this  
6 order that you discovered that this actually was over the  
7 Reef, correct?

8 A. Correct. I didn't discover it, it was discovered  
9 in Artesia, and they made me aware of it.

10 Q. Now, you were aware, were you -- Well, let's put  
11 it this way. Were you aware that the Division policy in  
12 that area that injection well applications needed to be  
13 reviewed by the District Geologist if they impacted that  
14 area?

15 A. Yes, I am aware of that.

16 Q. And you did not get that information in this  
17 case?

18 A. No, I was negligent in getting a feedback from  
19 the District Geologist.

20 Q. You were not aware that it impacted the Reef  
21 area?

22 A. I was not aware.

23 Q. Okay. If you had known that this was in the Reef  
24 area, would you have checked with Mr. Arrant and gotten his  
25 assessment before you ruled on this application?

1 A. That's exactly what I would have done.

2 Q. Thank you. Now, I don't think I'm going to ask  
3 you -- I'll call your attention to Exhibit Number 5 there.  
4 I don't think I'll probably ask you any questions about  
5 that, because I think -- but is that a wellbore diagram of  
6 this Jones Number 3 well?

7 A. Yes, that was part of the application, I think,  
8 in this case.

9 Q. Okay. I don't believe we have any questions on  
10 that at this time.

11 Now to -- Exhibit Number 6, is that a map of the  
12 -- a closer-in map of the area?

13 A. Yes, that's --

14 Q. That shows the exact -- exactly where this  
15 location is within Section 23, right?

16 A. Yeah, the third tier up from the bottom of the  
17 township, second tier over from the east side, and in the  
18 extreme south -- southeast-southeast of the section.

19 Q. Now, Exhibits 1, 3 and 5 -- Exhibit 1 being the  
20 order, the administrative order, Exhibit 3 being the  
21 application checklist, and Exhibit 5 being the wellbore  
22 diagram -- were all of these copies of documents that are a  
23 part of the records of the Division?

24 A. Yes, they're on our website and imaged.

25 Q. Okay. Now, Exhibit Number 2 was a map that you

1 copied from what?

2 A. Exhibit Number 2, the Capitan Reef outline, was  
3 supplied to me, I think, by the -- I think I got it from  
4 one of the other engineers in the office, actually.

5 Q. So this is a -- this also is a document that's in  
6 the files of the Division?

7 A. It's -- it's been -- it's -- Well, I don't know  
8 if it is or not, actually. It's available around here, so  
9 we use this all the time.

10 MR. BROOKS: Okay. I think that's all the  
11 questions I have of Mr. Jones. I will tender Exhibits 1,  
12 2, 3 and 4 -- 1, 2, 3 and 5 into evidence.

13 EXAMINER CATANACH: Any objection?

14 MR. DOMENICI: No objection.

15 MR. BROOKS: Pass the witness.

16 EXAMINER CATANACH: Exhibits 1, 3 and 5; is that  
17 right?

18 MR. BROOKS: Yes -- 1, 2, 3 and 5.

19 EXAMINER CATANACH: Exhibits 1, 2, 3 and 5 will  
20 be admitted.

21 Mr. Domenici?

22 CROSS-EXAMINATION

23 BY MR. DOMENICI:

24 Q. You mentioned a policy to refer certain questions  
25 or issues back to the District Geologist?

1 A. Yes, sir.

2 Q. What is the name of that policy?

3 A. It doesn't -- doesn't have a name. It's kind of  
4 -- It's become apparent that I need to run all these  
5 injection-well recommendations by the geologist in the  
6 pertinent -- in the respective districts to at least look  
7 at them before we -- and see if they have concerns about  
8 them. But there is no name of the policy, actually, or no  
9 directive from our Division manager -- Director.

10 Q. Is there a policy?

11 A. No, not an official policy.

12 Q. Is there an unofficial policy?

13 A. I think that would be unofficial.

14 Q. When was the unofficial policy established?

15 A. It was -- I've only been in this job about three  
16 and a half years and have been checking with the District  
17 Geologists for about the last year. As far as when I  
18 started checking with Artesia District Geologist, it's been  
19 about six or eight months ago.

20 Q. And when do you check with the District  
21 Geologist?

22 A. Whenever an application comes in. Our Rules say  
23 the applicant submits a copy to the districts at the same  
24 time they submit it to the Division, so I call them and  
25 find out if they looked at it and if there's anything

1 geologically that I should be aware of.

2 Q. So the notation on Exhibit 3 that's X'd out,  
3 where it says not near the Reef, that actually doesn't have  
4 anything to do with the policy, right?

5 A. No official policy. The -- Yeah, the marks on  
6 there are strictly my marks. And I had a checkmark that it  
7 was not near the Reef, and that was based on looking up the  
8 township and range with this -- on this map, this Capitan  
9 Reef-outline map, and I must have looked down, grabbed the  
10 wrong township, and looked back up and came to the wrong  
11 place on this map.

12 Q. So you made a mistake looking on --

13 A. I --

14 Q. -- on the reference map?

15 A. This is all my mistake here. That's why we're  
16 all here today.

17 Q. But what I'm trying to say, that doesn't have  
18 anything to do with you following or not following the  
19 unofficial policy. As you explain the policy, it applies  
20 to every application?

21 A. Yes.

22 Q. So there's actually two mistakes. One is the way  
23 you looked at the map, and the other is, you didn't follow  
24 the policy at all; is that correct?

25 A. I didn't have feedback from him, that's right, I



1 didn't --

2 Q. Okay.

3 A. -- in that case.

4 Q. I thought your testimony was, the reason you  
5 didn't get feedback was because you made a mistake in  
6 looking on the map?

7 A. It was, exactly, right. That is my testimony,  
8 that I -- I didn't get anything back from Bryan, and -- and  
9 I had checked to see if it was near the Reef. And my  
10 concern on this well was the salt, the proximity to the  
11 salt, because it's about -- I want to say 50 to 100 feet,  
12 or maybe -- 50 to 200 feet below the base of the salt, so I  
13 was looking at the area-of-review wells and the salt, and I  
14 never looked at the Reef beyond this one time when checking  
15 to see if it was near it.

16 Q. Okay, I just -- I still want the record to be  
17 clear. But regardless of what -- how you determine whether  
18 a well is near the Reef or not, the unofficial policy for  
19 the last six to eight months in Artesia is that every  
20 application is sent to the District Geologist, or is  
21 reviewed by them for input to you?

22 A. Reviewed by them, and I'm supposed to get input  
23 from them, at least a yes, no, is this, you know, something  
24 that they should be aware of?

25 Q. Okay, and explain why that didn't occur in this

1 case?

2 A. It could have been because Bryan was busy and he  
3 never got back with me. I don't -- I don't -- I didn't go  
4 and look and see if I had sent him an e-mail on this --

5 Q. Okay.

6 A. -- to see if -- and it -- I think I would just  
7 say for the record that it was my fault, and I looked on  
8 the map and I didn't see it anywhere near the Reef, so I  
9 wasn't worried about the Reef. And I checked to see if  
10 there was logs. There was logs in our files on it, so I  
11 didn't ask about those. But I was more concerned about  
12 that area-of-review well, I was a little concerned about  
13 that, and I decided that I could live with that and just  
14 require an injection profile, and that's all I wrote in as  
15 conditions on this permit.

16 Q. Okay. For other injection wells in the Artesia  
17 area that you've been involved in, is there a policy, kind  
18 of like this unofficial policy, as to whether -- as to how  
19 they have to be separated from the Capitan Reef?

20 A. That was the question I thought you'd hit me with  
21 right off the bat.

22 Q. Took me a while.

23 A. Yeah. That has been the -- kind of a collective  
24 decision based on each permit that comes in, depending on  
25 where it's at in relation to a geologic event like the WIPP

1 site or the Reef or the salt, for instance. And we look at  
2 them, we talk -- the policy -- or the practice, I should  
3 say, is to talk to the geologist and see -- Now, you're  
4 asking me about the other wells, other permits that we've  
5 looked at?

6 Q. If there's an unofficial policy so you treat  
7 other permits the same with respect to issues involving the  
8 Capitan Reef?

9 A. Yes, that's -- I don't -- We're not trying to  
10 single out any individual company on these. It's just  
11 anybody that sends one in, we check to see if it's near the  
12 Reef.

13 Q. And if it's near the Reef, what do you do as the  
14 reviewer?

15 A. Well, it depends. If -- I only review saltwater  
16 disposal permits, so if -- and honestly, this is the first  
17 one that I've seen, that I can remember seeing, that  
18 injects above the Reef itself. I've never seen one that  
19 actually had an application like that, but -- I'm sure the  
20 other engineers have seen them, but I haven't.

21 And as far as injecting below the Reef, they  
22 would have to be a distance below the Reef or talk to Bryan  
23 about it and see -- you know, it would have to be cased off  
24 really well.

25 And to tell you the truth, I've only seen another

1 one of those recently that I know about, and they didn't  
2 end up pursuing the Application. It was going to be below  
3 the Reef in the Delaware, so it would be cased off, but it  
4 was laterally away from the Reef but then below the Reef,  
5 so it was -- and that one has been discontinued, they quit  
6 pursuing that one.

7 Q. So as far as saltwater injection wells, disposal  
8 wells above the Reef, you're not aware of how any other  
9 situations like that have been treated by OCD?

10 A. I'm not. That would be the Yates and the Seven  
11 Rivers injection, and I'm not, actually.

12 Q. Okay.

13 A. I didn't go look at those.

14 Q. Do you know if those permits have been revoked or  
15 proposed to be revoked?

16 A. No, I don't.

17 Q. Do you know if there's any ongoing inquiry or  
18 open investigation in those?

19 A. No, I don't, but I don't think there is.

20 Q. Do you know any difference between those and the  
21 Lynx that would allow one to be revoked and the others to  
22 continue?

23 A. I don't know of the differences why one would be  
24 allowed and one would not, and the truth -- since I don't  
25 -- I'm not -- I haven't gone back and looked at the ones

1 that were approved, if they were approved in the past. I  
2 know there's producing wells out of the Yates-Seven Rivers,  
3 actually in this -- there's producing wells in this area of  
4 review, actually, or not area of review, but pretty close  
5 here.

6 But injection wells, it's -- I'm not aware of  
7 them, I haven't gone back and done the statistics on them  
8 to see. I think the BLM geologist in Roswell keeps up with  
9 it, and I think Bryan knows a little more about that than I  
10 would, or one of the other engineers. But the truth is, I  
11 haven't done that.

12 Q. You weren't asked any questions about -- Well,  
13 strike that.

14 Are you aware of the letter that went out to Lynx  
15 proposing to revoke --

16 A. Yes. In fact, probably the guy that wrote it.

17 Q. It seems to indicate two concerns. One is this  
18 Capitan Reef issue, and the other is the proximity of the  
19 injection interval in this well to the Salado formation and  
20 whether the Jones 3-23, located within the area of review,  
21 is plugged well enough to prevent vertical movement of  
22 injected fluids.

23 Do you -- Have you provided any input on that  
24 issue?

25 A. That -- Those last two issues about the proximity

1 of that well and how well it's plugged, I had already  
2 looked at that pretty thoroughly during the administrative  
3 application, and that was not -- that would not be, I don't  
4 think, grounds for, in my opinion -- the Examiner has to  
5 make his own decision here, but I don't think that would be  
6 grounds for not allowing this permit.

7 I just -- I was concerned about those, and the  
8 only -- the thing I put in there is, I asked Lynx to supply  
9 a temperature survey, and they did that within a week after  
10 this went out. It was amazing how fast. That's one of the  
11 fastest times we've ever gotten anything back from  
12 operators on requested information, and that was -- came  
13 back almost immediately, so...

14 And the only other condition I put in there was  
15 about the -- to run an injection survey tracer and  
16 temperature log to see -- within six months, to see if  
17 there's movement up. I was concerned about movement up, I  
18 wasn't even looking down. But that letter -- that was  
19 mentioned in that letter, but I think we've decided that is  
20 not -- would not be grounds for any action here today.

21 Q. Okay. So as far as you know, the Division is not  
22 pursuing that as a grounds for revocation?

23 A. I'm sure we're not -- we didn't even decide to  
24 put on testimony about that at all.

25 Q. Okay, I didn't know if there would be another

1 witness or -- Okay.

2 As far as the proposal to actually revoke the  
3 permit because of the Capitan Reef, concerns for the  
4 Capitan Reef, are you the witness who would testify as to  
5 why the permit should be revoked?

6 A. No.

7 Q. So you're just here as the -- to indicate why  
8 that didn't come up earlier; is that --

9 A. Yes.

10 Q. -- sort of correct?

11 A. Yeah.

12 Q. Have you ever been involved in revoking a  
13 saltwater disposal well permit?

14 A. We issued one on the 15th day, about six months  
15 ago, and then we got a -- we became aware of a faxed  
16 protest letter on the 16th day, but the fax had come in on  
17 the 15th day and it was routing around the office, and so I  
18 had to do that then. But that's the only one I can  
19 remember.

20 Now, you know, we have had an emergency order  
21 last year to shut in an operator from injection because of  
22 not -- because of injecting repeatedly over the pressure  
23 limit, but not -- but I wasn't directly involved in that.

24 Q. Okay. And if you know, how did concerns  
25 regarding the impact of this well on Capitan Reef -- how

1 did those reach the District Geologist?

2 A. They obviously had a copy of the application,  
3 they must -- and then when the permit got to them -- they  
4 get a copy of all these permits, and from what I understand  
5 -- this is second-hand, but I understand that they got  
6 together and talked about that down there, and then I got a  
7 lot of calls on it right away, so...

8 Q. From OCD?

9 A. From the District Manager and the District  
10 Geologist.

11 Q. Did you consider anything short of a revocation  
12 with respect to the issues involving the Capitan Reef?

13 A. That would be up to the -- I didn't. That would  
14 be up to the applicant to maybe change the injection  
15 interval. They have already noticed an interval from 2370  
16 to 2720, and if they wanted to change that interval I'm  
17 sure that they could do that, but I wouldn't -- I can't  
18 decide for them what they want to do.

19 Q. What is the exact concern about the bottom  
20 interval with respect to the Capitan Reef, or the bottom  
21 part of the interval?

22 MR. BROOKS: I believe that the next witness will  
23 specifically address that issue.

24 Q. (By Mr. Domenici) Okay. What, if you know as  
25 the reviewer, what interval is acceptable relative to the



1 -- say the top of the Capitan Reef?

2 A. I haven't seen -- I know that the original  
3 perforated interval was fractured with, I think, 24,000  
4 pounds of sand, and that's in the top part of this interval  
5 that was approved for injection. It actually is about 200  
6 or more feet up the hole from the bottom part of this  
7 interval. And I assume that correlates with some of the  
8 producing intervals not too far away, so that would be more  
9 -- I would say more palatable for someone to review an  
10 application.

11 But then again, I didn't see the pressure plot on  
12 the frac job, I don't know if it went up or down, you know,  
13 or that kind of thing.

14 Q. Now, just so I understand the decision-making  
15 process, if a different interval were proposed, say, as you  
16 described, would the decision to accept that be yours or be  
17 the District Geologist's?

18 A. Ultimately, the District -- the Division  
19 Director, he is actually signing all of these now. But the  
20 -- it would be in collaboration with the District Geologist  
21 and myself.

22 Q. So you would work with the geologists?

23 A. Yes, sir.

24 Q. And what part of that collaboration would you  
25 have?

1           A.    Oh, I would have to make sure that the notices  
2 all went out right and wait the 15 days and the -- I pretty  
3 much would defer to the geologist for the geology or  
4 geological issues. I would probably ask the applicant if  
5 there was any higher-stress rock below the interval they  
6 want to inject into so that it would tend to confine it  
7 away from the Reef, that kind of thing, but...

8           MR. DOMENICI: I don't think I have anything else  
9 of the witness. Nothing further, thank you.

10                               REDIRECT EXAMINATION

11       BY MR. BROOKS:

12           Q.    Well, just because it came up in the cross-  
13 examination and was raised in the letter, do you remember  
14 -- I don't have -- didn't include it in your package so you  
15 don't have the documents before you, but do you remember  
16 the name of that other well which you were concerned about  
17 that you thought might not have been plugged as well as it  
18 ought to have been?

19           A.    I have it right here. There was three wells in  
20 the area of review, and that well was drilled down to, I  
21 think, the top of the salt, and it was plugged back. It  
22 was called the Jones Federal 3-23.

23           Q.    And how far is that well from the subject well?

24           A.    Tell you the truth, I don't have the footages.

25           Q.    Okay, but it's within the half-mile area of

1 review?

2 MR. SCOTT: 1320 feet is the answer to that  
3 question.

4 Q. (By Mr. Brooks) But while you had some concerns  
5 about that, you fully informed yourself about that well in  
6 the process of reviewing this application, correct?

7 A. Yes, I did, I --

8 Q. And you --

9 A. -- I looked at it pretty close.

10 Q. Yeah, and you made a judgment call not to require  
11 that that well be replugged?

12 A. It was a judgment call.

13 Q. And while that may have been a close call,  
14 normally OCD wouldn't go back and attempt to revoke an  
15 application because an Examiner made a close call that he  
16 might have made some other way in another case or, you  
17 know, just because it's a judgment call, and you have to  
18 use your judgment, right?

19 A. Yes, sir, they've told me about precedent here  
20 many times.

21 Q. But you're not taking the position that you made  
22 any kind of mistake in making that decision other than that  
23 another engineer might have called it the other way?

24 A. Yes, I don't think I made a mistake.

25 MR. BROOKS: Okay, thank you. That's really all

1 I have by way of follow-up, Mr. Examiner.

2 EXAMINATION

3 BY EXAMINER CATANACH:

4 Q. Okay. So, Mr. Jones, that area-of-review well  
5 was not -- it's not at issue in this case?

6 A. No.

7 Q. Okay. Are you aware of a general policy of the  
8 Division to not allow injection into the Capital Reef?

9 A. I have been told that that is our position, yes,  
10 which would, I guess, make that a policy. Now, I've never  
11 seen anything in writing about it or -- and I've never seen  
12 any statistics on researching wells that have already been  
13 approved by happenstance in the Reef.

14 Q. And do you know why that is a policy of the  
15 Division?

16 A. Not specifically. I can make some assumptions  
17 why it's a policy or -- I think it was the policy, because  
18 the Reef is an amorphous -- well, I can't testify  
19 geologically here, but in -- possibly connected with areas  
20 in the Reef that may have fresh water in them, so try to  
21 keep any injection away from the Reef.

22 Q. Okay. And you are also aware that there is some  
23 Yates and Seven Rivers production in the area where the  
24 Reef --

25 A. There's a pool pretty close here, a Yates --

1 Q. Is that the west -- Is it the Teas-Yates Pool?  
2 Are you aware of that?

3 A. I saw it, but I forgot the name of it, but it is  
4 a Yates-Seven Rivers pool.

5 Q. And you are aware that there is some -- maybe --  
6 possibly some waterflood activity in that pool?

7 A. I'm not aware of that. The truth is, I didn't  
8 look at it. I just -- in this case I pretty much -- I'm  
9 aware of that production in a way, but not any specifics on  
10 it.

11 EXAMINER CATANACH: Okay, let's leave it at that.  
12 Okay?

13 Anything else?

14 You may be excused.

15 MR. BROOKS: We'll call Bryan Arrant.

16 BRYAN G. ARRANT,  
17 the witness herein, after having been first duly sworn upon  
18 his oath, was examined and testified as follows:

19 DIRECT EXAMINATION

20 BY MR. BROOKS:

21 Q. Good afternoon.

22 A. Good afternoon.

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

25 A. My name is Bryan Gregory Arrant.

1 Q. And by whom are you employed, Mr. Arrant?

2 A. By the New Mexico Oil Conservation Division in  
3 District 2, Artesia, New Mexico.

4 Q. And are you the District Geologist that's been  
5 referred to in this matter?

6 A. Yes, sir. Actually, my job title is Petroleum  
7 Engineer Specialist, but District Geologist is generally  
8 what is referred --

9 Q. That's your working title, right?

10 A. Yes, sir.

11 Q. And have you testified before the Oil  
12 Conservation Division Examiners and had your credentials  
13 made a matter of record previously?

14 A. Yes, sir, I have.

15 Q. And just for the sake of the record, because the  
16 opposing counsel here is not one of our regulars who's  
17 heard all these credentials before, could you state briefly  
18 your credentials as a geologist?

19 A. Okay, I went to school at Texas Tech, and I  
20 graduated in 1981, in December. I was then a well-site  
21 consultant, I ran an owned my own mudlogging company. And  
22 then I was hired on by a company by the name of Nearburg  
23 Producing Company out of the Midland Office, and I worked  
24 for Nearburg Producing Company as a geo tech and a well-  
25 site geologist from roughly a period of 1985 to 1995.

1           In January of 1995 I was employed by the New  
2 Mexico Oil Conservation Division in Artesia, and I worked  
3 there until about 1997. For a brief period of time  
4 Nearburg Producing Company asked me to go back to work for  
5 them. I worked for them for a year or so, and then I came  
6 back here in 1997, and I've been here ever since.

7           MR. BROOKS: We'll submit Mr. Arrant as an expert  
8 in geology.

9           EXAMINER CATANACH: Any objection?

10          MR. DOMENICI: No objection.

11          EXAMINER CATANACH: Mr. Arrant is so qualified.

12          Q. (By Mr. Brooks) Mr. Arrant, have you  
13 familiarized yourself with the geology in the vicinity --  
14 to the extent your resources are available to you, of the  
15 geology in the vicinity of the Jones "B" Federal Number 3  
16 well?

17          A. Yes, sir.

18          Q. Calling your attention, then, to what has been  
19 marked as Defendant's [sic] Exhibit Number 8 -- that's the  
20 color diagram -- this is a very general diagram, but does  
21 this show in rather general terms the nature of the geology  
22 in that area?

23          A. Yes, sir, where the Jones Federal Number 3 is,  
24 it's kind of in the back-reef facies of the Reef. It  
25 penetrates -- It's not shown on here, but it penetrates the

1 Rustler, into the Salado, the Tansill, Yates and Seven  
2 Rivers. I don't see on the logs where it penetrates the  
3 Queen formation, but as it goes down it penetrates the  
4 Capitan limestone into the Delaware and on down.

5 Q. Now, whoever prepared this map made the boundary  
6 between the Seven Rivers and the Queen by a dashed line.

7 Does that indicate some uncertainty about that or --

8 A. Yes, sir, as you go northward, up to the  
9 northwest shelf, you get into the Queen sands where it's  
10 definable. But in looking at an offset log, which is to  
11 the north and west of the subject well, I couldn't identify  
12 the Queen formation.

13 Q. Okay. And when you say the back facies of the  
14 Reef, that's toward the northwest or the left side of this  
15 map, right?

16 A. Correct. The Reef -- to the south of the Capitan  
17 Reef as, of course, most everybody knows, lies the Delaware  
18 Basin, and the Reef is sandwiched in between the middle of  
19 that and the northwest shelf.

20 Q. Now, the Yates-Seven Rivers, which is the general  
21 area in which they've requested to inject in this well,  
22 that in this particular well lies, then, immediately above  
23 the Capitan Reef, correct?

24 A. It does.

25 Q. Okay. Then I will call your attention to what



1 has been marked as Defendant's Exhibit -- as Applicant's  
2 Exhibit 7 and ask you to identify it.

3 A. Okay. This well is -- lies to the north and west  
4 of the subject application to inject. As you can see, it's  
5 the Jones Number 1-23.

6 Q. And that's in the same section as the Number 3?

7 A. Correct, in Section 23. It's -- I don't know the  
8 exact footages. I believe you told us, but it's --

9 Q. Well, it says on here it's 1650 from the south  
10 and 1650 from the west.

11 A. Correct.

12 Q. So it would be 1000 feet west of this -- and some  
13 -- but it's also south, so -- I don't know exactly how far,  
14 but it's somewhere in the range of between 1000 and 1500  
15 feet from the subject well, correct?

16 A. Yes, sir.

17 Q. Okay. Did you identify the top of the Capitan  
18 Reef in the log that's -- in the Jones Federal Number 1,  
19 using Exhibit 7?

20 A. Yes, sir, I did. I identified the top of the  
21 Reef as shown as being around 2705.

22 Q. Okay. And on what page is that in this exhibit?  
23 Since we don't have a spread, we have multiple pages.

24 A. Yeah, it's not marked as a page, as I can see on  
25 this. It's -- shows where the gamma-ray is real clean, and

1 directly up above that you see a caliper log ran, and it's  
2 about the third page from the back.

3 Q. Okay, and it's marked "Reef" in handwriting  
4 there?

5 A. Correct, that's my handwriting.

6 Q. Okay. Now, have you examined a log of the Jones  
7 Federal Number 3?

8 A. No, sir, I haven't. I've looked for that log on  
9 our OCD on line and on our website. It's not available on  
10 there, and I didn't see it on their administrative order,  
11 any reference to the log.

12 Q. Okay. I'll now call your attention, then, to  
13 what's been marked as Exhibit Number 4.

14 A. Okay -- okay.

15 Q. Now, the formation information on there, was that  
16 compiled by you?

17 A. Yes, sir, it was.

18 Q. Was that based on Exhibit 7, your analysis of the  
19 log, Exhibit 7?

20 A. This was -- Let me look here real quick. Jones  
21 "B" Federal. This looks like it's based on an estimate of  
22 the application, because I see a different API number. I  
23 see an API number, the last five digits is --

24 Q. Well, this says the Jones Federal Number up in  
25 the upper right-hand corner --

1 A. Oh, I'm sorry.

2 Q. -- which is the subject well, correct?

3 A. Yes.

4 Q. And -- But I thought I understood that you said  
5 the formation information was supplied by you?

6 A. Yes, it was.

7 Q. And if it was supplied by you, then you haven't  
8 seen a log on the Jones Federal Number 3, right?

9 A. No, this was a, let's say, estimated geological  
10 tops.

11 Q. Based primarily on your analysis of the log in  
12 the Jones Federal Number 1?

13 A. Exactly.

14 Q. Okay, the point you picked as the top of the Reef  
15 in the Jones Federal Number 3 -- the Jones Federal Number  
16 1, would be 2705?

17 A. Correct.

18 Q. And the bottom of the injection interval,  
19 according to Exhibit Number 1, which is the permit, is  
20 2720, correct?

21 A. Yes, sir, it is.

22 Q. Based on that, it would appear that this  
23 injection interval is going to be either in the Reef or  
24 just flat on top of it?

25 A. Yes, sir, that was my initial assumption when

1 this was brought to my attention.

2 Q. Okay. And call your attention, then, to -- and  
3 you've got your rule book up there --

4 A. Uh-huh.

5 Q. -- if you want to refer to it here, but --

6 A. Okay.

7 Q. -- Rule 106.

8 A. Okay.

9 Q. And this Rule 106 is not really a rule that  
10 applies to injection wells, it really is a rule that  
11 applies to drilling wells. But just looking at that rule  
12 it says that during drilling of any oil well, injection  
13 well or other service well, water straight above the  
14 producing and/or injection horizon shall be sealed off and  
15 separated.

16 And then in B it says, All fresh waters and  
17 waters present or probable -- waters of present or probable  
18 value shall be confined to their respective strata and  
19 shall be adequately protected, correct?

20 A. Yes, sir.

21 Q. And then looking over at Rule 701, Rule 701.E.(2)  
22 says, Disposal will not be permitted into zones containing  
23 waters having total dissolved solids concentrations of  
24 10,000 m.g.l. or less, correct?

25 A. Yes, sir.

1           Q.    Now, you can't testify, can you, and I'm not  
2 going to ask you to testify that at this particular  
3 location the Capitan Reef has waters of less than 10,000  
4 TDS, correct?

5           A.    I have no idea, based on the information.  
6 There's very limited information, and so I don't know.

7           Q.    But is it -- in some places is the Capitan Reef a  
8 major source of fresh water?

9           A.    Yes, sir, it's well documented in the Carlsbad  
10 area, and I believe it's the Carlsbad limestone, as it --  
11 just north and west of Carlsbad, and as you go down south  
12 the Carlsbad -- I mean the Capitan reef, is exposed above  
13 surface. And there around La Huerta there are some  
14 domestic wells and city wells which primarily get their  
15 water from the Capitan Reef.

16          Q.    And how far is that from this area? It's quite  
17 a --

18          A.    It's quite a ways away. It's miles away.

19          Q.    And in all fairness, as you go farther south,  
20 down to the area where this area is located, the water  
21 quality of Capitan Reef deteriorates?

22          A.    Yes, sir, I believe it's east.

23          Q.    Okay. But as you go from the area where it's  
24 used for municipal water purposes toward the area where  
25 these wells are located, we know that the quality of the

1 water deteriorates?

2 A. Based on scattered information, yes, sir.

3 Q. But we don't know how much or in what specific  
4 areas, correct?

5 A. Correct.

6 Q. Now, the Capitan Reef is a more or less  
7 continuous formation, is it not?

8 A. Yes, sir. It's -- you know, your fore-reef and  
9 your back-reef are different geologically, being the fore-  
10 reef is mainly composed of dolastones and limestones and  
11 has more fractures and vugular porosity, and as you  
12 prograde back you get more bedding dolastones and  
13 limestones and evaporites and sandstones.

14 Q. Is the Capitan Reef, at least in some places,  
15 characterized by a considerable permeability?

16 A. Yes, sir.

17 Q. And have there been some wells that have  
18 experienced circulation loss in that formation?

19 A. Yes, sir. Unfortunately, it's not well  
20 documented by the oil and gas operators. They --  
21 unfortunately, they don't supply that information to the  
22 New Mexico Oil Conservation, even though they should. But  
23 yes, time and time, we discover that they do lose  
24 circulation as they go through the Reef.

25 Q. Based on your knowledge of the Capitan Reef,

1 would you have an opinion as to whether you could forecast  
2 with any degree of certainty where fluids would migrate  
3 that would be injected into that formation?

4 A. No, sir, I don't have any experience to do that.

5 Q. You don't believe that you could do it, then --

6 A. No, sir.

7 Q. -- based on what you know?

8 A. Not what I know, no.

9 Q. Okay. Do you believe that there is a probability  
10 that fluids would migrate through that formation?

11 A. Yes, sir.

12 Q. And you don't know how far --

13 A. No.

14 Q. -- or what direction --

15 A. No.

16 Q. -- but there is a possibility that it would  
17 occur?

18 A. Yeah.

19 Q. Is it because of concerns about fresh water that  
20 the Division has -- Well, I guess I haven't asked you this  
21 question. I asked Mr. Jones and he was a little unclear  
22 about it. Does the Artesia District of the Division, at  
23 least, have a -- maybe not a policy but a consensus that  
24 saltwater injection into the Capitan Reef is not a good  
25 idea?

1           A.    Yes, sir, and I really kind of like to -- It's  
2 other than a policy. I think we hang our hat on Rule 106.  
3 And you know, if I may go back to that, 106.B is all fresh  
4 waters or waters are present, and the key word here is  
5 probable value, so on and so on, shall be adequately  
6 protected. So you know, we feel like that we're going by  
7 Rule rather than a policy.

8           Q.    And basically when an applicant applies for an  
9 injection in this area, would we consider it to be their  
10 responsibility to demonstrate that it was not going to  
11 impact fresh water?

12          A.    Yes, sir, exactly. It's in the Rule book that  
13 operators are --

14          Q.    Knowing as we do --

15          A.    -- required to do that.

16          Q.    -- that the Capitan Reef is a freshwater-bearing  
17 formation and that there is some possibility of impact  
18 there?

19          A.    Yes, sir.

20          Q.    Now, if you had been asked your opinion about  
21 this before it was issued, would you have recommended that  
22 the Application be denied?

23          A.    I would have discussed with Will Jones about the  
24 matter. I would -- you know, we caught it in the Artesia  
25 Office, as you all know, but yes, I would have called Will



1 Jones and said, Hey, let's take a longer look at this.

2 MR. BROOKS: Okay, I think that's all my  
3 questions.

4 I need to submit at this time Exhibits 4, 7 and  
5 8.

6 EXAMINER CATANACH: Any objection?

7 MR. DOMENICI: No objection.

8 EXAMINER CATANACH: Exhibits 4, 7 and 8 will be  
9 admitted.

10 MR. BROOKS: Pass the witness.

11 EXAMINER CATANACH: Mr. Domenici?

12 MR. DOMENICI: Yes.

13 CROSS-EXAMINATION

14 BY MR. DOMENICI:

15 Q. Can you read that section of 106.B that you rely  
16 on again?

17 A. Yes, sir, I will. 106 states, quote, All fresh  
18 waters or waters of present or probable value for domestic,  
19 commercial or stock purposes shall be confined to their  
20 respective strata and shall be adequately protected by  
21 methods approved by the Division. Special precautions by  
22 methods satisfactory to the Division shall be taken in  
23 drilling and abandoning wells to guard against any loss of  
24 artesian water from the strata in which it occurs and the  
25 contamination of artesian water by injection water, oil or

1 gas.

2 Q. And is there a definition of fresh water that you  
3 use?

4 A. Well, the definition of fresh water for domestic  
5 stock or human use is 10,000 chlorides or less.

6 Q. Chlorides or TDS?

7 A. I'm sorry, TDS.

8 Q. Okay, and I think you indicated that it's your  
9 understanding that it's the applicant's burden to prove  
10 what you just stated there, that there's either no impact  
11 to fresh water or to any present or probable water supply?

12 A. In this Rule it states that.

13 Q. Now, is it your understanding that the Division  
14 is the Applicant today? The Division is applying to revoke  
15 the permit, isn't it?

16 A. Yes, sir.

17 Q. And you don't have any evidence that this water  
18 is less than 10,000 TDS, do you?

19 A. I don't have any evidence that it's less or more.

20 Q. So if, in fact, it was the Division's burden to  
21 prove this was fresh water, you wouldn't be able to do that  
22 today, correct?

23 A. No, I don't have the data for that.

24 Q. And have you ever -- I asked Mr. Jones, but have  
25 you ever been involved in revoking a permit?

1           A.    Yes, sir, many times, if that's a general  
2 question, yes.

3           Q.    Yes.  And have you been involved in revoking any  
4 saltwater disposal well permits?

5           A.    I believe so.  There's so much that goes in and  
6 out of our district, I can't tell you the exact operator,  
7 but I believe there was one recently that we denied an  
8 application for an SWD because it was relatively close to  
9 the Capitan, but I can't give you the exact operator or  
10 lease.

11          Q.    Denied or revoked?  I was talking about --

12          A.    We just denied it.

13          Q.    Okay.  And did you have information on what the  
14 quality of water in the Capitan Reef was relative to this  
15 application you denied?

16          A.    No, sir.

17          Q.    Do you have any evidence that you can present of  
18 any present or probable use of the water, if there is, in  
19 fact, water in the Capitan Reef below this proposed well  
20 site, present or probable use of that water for domestic,  
21 commercial or stock --

22          A.    No, sir.

23          Q.    Do you have any evidence of any nearby wells that  
24 use that water?

25          A.    Not at that depth, I don't.  I've looked at the

1 State Engineer's website, and I did not see at that time  
2 wells that used ground water at that depth in the Capitan  
3 Reef, as far as domestic use, stock use, whatever.

4 Q. What is the closest -- to your knowledge, closest  
5 well in the -- groundwater well in the Capitan Reef that  
6 uses Capitan Reef water?

7 A. As far as I know, it would be over -- in and  
8 around the City of Carlsbad, but that's not to say that  
9 there could be. I don't...

10 Q. And how many miles is that, roughly?

11 A. That's a good ways. Let's see, we're over in 23  
12 of 19-31, and the City of Carlsbad is in 21 of 26, so  
13 that's six, 12, 24, thirty- -- it's a good long ways. I  
14 can't give the exact distance in mileage, but I'd say 30,  
15 40 miles.

16 Q. More than 30 miles?

17 A. Yes, sir.

18 Q. Okay. And I think you indicated that there was a  
19 consensus in the Artesia District regarding protection of  
20 the Capitan Reef?

21 A. Yes, sir, there is.

22 Q. Is there a consensus as to what is protective of  
23 that reef?

24 A. Well, the consensus is that as an operator drills  
25 through the Reef, it's generally a requirement that an

1 operator set four strings of casing if he's going to pass  
2 through to the Delaware, and to ensure that -- you know,  
3 that if they do drill with, like I say, a cut brine fluid,  
4 that they don't drill that brine water through the Capitan  
5 Reef.

6 Q. Is there any consensus as far as an interval that  
7 an injection well needs to demonstrate between the  
8 injection interval and the Reef?

9 A. That it's above the Capitan Reef, you know. You  
10 know, back to these injection wells, injection wells that  
11 have been drilled in this area have been -- per one -- my  
12 investigation in the Yates and Seven Rivers formation, it's  
13 been in footage well above the top of the Capitan Reef.

14 Q. What is "well above"?

15 A. I can't give you an exact depth. Let's say 100  
16 feet or more.

17 Q. All right. Do you know if either of them are 75  
18 feet -- within 75 feet of the top?

19 A. I don't have an exact number, no, sir. There may  
20 -- very well might be, but --

21 Q. Do you have an opinion on this particular well as  
22 to what interval would be protective?

23 A. Well, I know based on the offset log that -- you  
24 know, where I estimated the top of the Capitan Reef, I feel  
25 that this application, 966, the proposed perf'd intervals

1 from 2370 to 2720, it's the base that concerns me, the  
2 2720. I feel like that's either right on top of the Reef  
3 or just into the very top of the Reef.

4 And again, I looked for a log for the proposed  
5 application. And you all might have a copy of it, but we  
6 don't have a copy of that log. But I know that they ran a  
7 log, because in our well file application it notes that a  
8 sonic log and, I believe, a dual lateral log was around --  
9 I might be mistaken, it might be an induction log, but two  
10 logs were ran. But I don't know if those logs were ran up  
11 in the Capitan Reef interval.

12 MR. DOMENICI: I don't have anything else.

13 MR. BROOKS: Nothing further.

14 EXAMINATION

15 BY EXAMINER CATANACH:

16 Q. Mr. Arrant, do you have general knowledge of  
17 whether the Capitan Reef is hydrologically connected so  
18 that an incident in one part of the Reef may well in the  
19 future affect a different part of the Reef?

20 A. Well, it's been proposed that. I don't think  
21 there's direct scientific evidence that the waters migrate  
22 laterally, but I've read past information that it does.

23 Q. So is that part of the assumption that the  
24 Division utilizes in trying to protect the fresh water in  
25 the Reef?

1           A.    Yes, sir, we feel like that, you know, when  
2 operators want to drill through the Reef and drill with a  
3 -- like I say, again for an instance, with a cut brine or  
4 brine solution, it just further contaminates what, if any,  
5 probable waters to be protected, you know, it just -- you  
6 know, you raise your chloride levels in the Reef aquifer  
7 itself.

8           Q.    Mr. Jones's Exhibit Number 2, is that not in fact  
9 a water-quality map which has some data in the Reef?

10          A.    Yes, sir, it is. And it's very hard to read,  
11 I --

12          Q.    I will agree to that.

13          A.    Yeah, I have 2.75 reading glasses and I can't see  
14 it. But if you look real closely at this, you see like  
15 Yates and Seven Rivers and whatever CPAQ stands for.  
16 There's no description of what those man, but you can  
17 assume that Yates -- I mean, WTES is Yates and Seven Rivers  
18 possibly and Capitan. But I'm sure there's a better map  
19 available somewhere, but this map we have for Exhibit 2 is  
20 difficult to interpret.

21          Q.    I'm looking at the -- if indeed the CPA -- I  
22 don't know if that's a CPAC, that abbreviation there --

23          A.    Uh-huh.

24          Q.    -- there is a well to the southwest of where Mr.  
25 Jones had his circle --

1 A. Yeah.

2 Q. -- and it does indicate CPA -- I don't know if  
3 it's Q or C, but it does show 12,000.

4 A. I can see that.

5 Q. And I'm fairly sure that that is probably a data  
6 point where water quality in the Reef has been determined.

7 A. Uh-huh, correct. But what concerns me, the Reef  
8 is so massive, it's -- I don't know the vertical distance,  
9 I'm pretty sure it's like 1800 feet thick. And so where  
10 was that taken at? You know, that's a question that we  
11 don't know, where that chloride was taken at, if it was  
12 taken down at the base or where in the Reef it was  
13 measured.

14 Q. Do you know if there's a correlation as to water  
15 quality with depth in the Reef?

16 A. I've heard that water quality degrades as you go  
17 down. That's just kind of a general assumption that --

18 Q. So in this case, if you were injecting possibly  
19 at the top of the Reef, which is -- it looks like it's  
20 proposed here, that may be affecting the highest quality  
21 water that's in the Reef?

22 A. That's what I would assume, but unfortunately I  
23 can't give you an exact, you know, scientific answer for  
24 it.

25 Q. Okay. How did you determine -- On your Exhibit



1 Number 7, how did you in fact determine that that was the  
2 actual top of the Reef?

3 A. These logs that I used -- We have a number of  
4 logs and you can go to the logs on our website where  
5 there's tops on the logs, and it was back when we had a  
6 geologist here by the name of Larry Brooks and other  
7 geologists, but anyway, that's where I got -- the top of  
8 the Reef was. And as you can see, at 2705, how clean that  
9 gamma-ray reads. I mean, it just tracks, just real clear,  
10 straight down. There's no deviation from it, all the way  
11 down to where you almost get to the top of the Delaware.  
12 So in my review and estimation, undoubtedly I think that's  
13 where the top of the Capitan Reef is.

14 It's been some time ago since I reviewed this,  
15 but I've looked in quite a few areas around this, and  
16 unfortunately operators don't list the top of the Capitan  
17 Reef. They seem to -- since the Capitan Reef isn't an oil-  
18 and gas-bearing zone they rely on, for instance, the  
19 Rustler, the Yates, the Seven Rivers and then the Delaware.  
20 You really have to look far and few between to find an  
21 operator who denotes the top of the Capitan Reef.

22 Q. Okay, so it's not only in injection disposal  
23 wells, the Division enforces drilling regulations and  
24 precautions that protect the Reef as well?

25 A. Yes, sir.

1 EXAMINER CATANACH: Okay. I believe that's all I  
2 have of Mr. Arrant.

3 REDIRECT EXAMINATION

4 BY MR. BROOKS:

5 Q. Well, just one question since these water-quality  
6 numbers on this map were --

7 A. On -- which exhibit?

8 Q. Exhibit 2.

9 A. Okay.

10 Q. -- came up -- I don't even have my glasses, so  
11 they're totally illegible to me at this point --

12 A. Right.

13 Q. -- but -- I looked at them when I did and I  
14 couldn't read them, but you and Mr. Jones and I looked at  
15 an enlarged version of this map, did we not?

16 A. Yes, sir, we did, earlier today.

17 Q. And none of us knew what CPAQ stood for --

18 A. Not exactly.

19 Q. -- except totally by speculation, right?

20 A. Correct.

21 Q. Nobody could testify to it?

22 A. Yeah, since it had CP we just -- you know I kind  
23 of guessed maybe Capitan --

24 Q. You thought it might be, but you don't know that?

25 A. Yeah, and it doesn't -- unfortunately doesn't say

1 it on this exhibit.

2 Q. Now, there are some numbers in this map in the  
3 same general vicinity with that designation that are under  
4 10,000, are there not?

5 A. You can see one, I think, to the southwest. I  
6 think it says 7600 and -- What section would that be?  
7 Well, just look to the southwest of the circled star where  
8 the Jones "B" Federal 3 lies. It looks like 7600, but -- I  
9 think that's what we saw when we enlarged that picture.

10 Q. This document has been presented in evidence so  
11 the Examiner can examine it under a magnifying glass and  
12 see what those numbers actually are, correct?

13 A. Right.

14 MR. BROOKS: Okay, thank you. That's all I have.

15 EXAMINER CATANACH: Mr. Brooks, let me try and  
16 shed some light on this exhibit. I have -- I know that  
17 this is an exhibit that has been copied from a book the  
18 Division is in possession of, and I believe we have it  
19 upstairs. It's a water-quality-type book of southeast New  
20 Mexico, and I'm not sure if it's published by the geologic  
21 society, but I do know that we are in possession of this  
22 book.

23 What I'd like to recommend is that we follow up  
24 on this and try and find out what those abbreviations stand  
25 for, maybe get a better quality.

1 MR. BROOKS: Okay, I will undertake to do that,  
2 and I'll furnish the information to Mr. Domenici and to  
3 you.

4 EXAMINER CATANACH: If we're going to rely on  
5 this for any kind of information, we need to know where it  
6 came from, so let's do that.

7 MR. BROOKS: Correct.

8 MR. DOMENICI: Could I follow up on that?

9 EXAMINER CATANACH: Sure.

10 RECROSS-EXAMINATION

11 BY MR. DOMENICI:

12 Q. Do you interpret these numbers on this map to be  
13 TDS numbers?

14 A. Well, let's go to what it says down at the bottom  
15 left. It says chloride concentrations, I believe, "Water  
16 containing relatively high concentration of chloride ions  
17 (10,000 or more than 150,000 milligrams per litre)..."

18 Q. Do you know if there's a correlation to chloride  
19 levels and TDS in the Capitan?

20 A. Well, I think it's the chloride levels that we  
21 rely on, on the information more.

22 Q. Let me say it this way: Wouldn't you expect the  
23 TDS would be approximately double the chloride number?

24 A. I can't answer that. I don't know if it would be  
25 double, or the exact figure.

1 MR. DOMENICI: Okay. Let me ask -- Can I move on  
2 to a different topic and just tie this up?

3 EXAMINER CATANACH: (Nods)

4 Q. (By Mr. Domenici) I want to get your best  
5 testimony as to your knowledge as to whether or not there  
6 are two saltwater disposal wells injecting into the Capitan  
7 Reef in the vicinity of this well.

8 A. I looked briefly for that, and I couldn't find  
9 any. You may have that information, but I pulled from one  
10 of our databases called RBDMS, and -- the whole township of  
11 19-31. And I didn't look at all of them, unfortunately,  
12 but the ones I did look at was one Ray Westall, the  
13 Tennessee Federal Number 1, and it appeared to me that the  
14 injection intervals was in the Yates and Seven Rivers.

15 And then this well to the southwest, I don't  
16 believe that the Jones Federal Number 1 -- I don't think  
17 that there was -- it appears also again that the intent was  
18 in the Yates-Seven Rivers. Do you have information that  
19 other wells are injecting into the Reef in this township?

20 Q. Yes. I'll let -- I'm going to let Mr. Scott  
21 testify about that.

22 A. Okay.

23 Q. I just wanted to know if you had found any.

24 A. Not in this township, no, sir, and range.

25 Q. Okay, do you know of any roughly a mile away?

1           A.    I don't see any, no.  Is there any unwritten  
2 policy or informal policy, whatever, that you would revoke  
3 Mr. Scott and Lynx's permit because it was newer, but not  
4 some other one that might be older, if it was the same  
5 geological circumstance?

6           A.    Well, let me back up to say that since I've been  
7 employed by the Oil Conservation Division, along with -- in  
8 conjunction with my supervisor, District Supervisor, Tim  
9 Gum, we've looked at this closely and at times declined it.  
10 However, prior to that there may have well been cases where  
11 there's been applications approved.

12           Q.    And not revoked?

13           A.    Yes, sir, but I don't have any knowledge.

14           MR. DOMENICI:  I don't have anything else.

15           MR. BROOKS:  Nothing further.

16           EXAMINER CATANACH:  The witness may be excused.

17           Are you done with your direct presentation, Mr.

18 Brooks?

19           MR. BROOKS:  Yes, your Honor.

20           EXAMINER CATANACH:  Okay, let's take a 10-minute  
21 break here.

22           (Thereupon, a recess was taken at 3:14 p.m.)

23           (The following proceedings had at 3:29 p.m.)

24           EXAMINER CATANACH:  Let us proceed.  Mr.

25 Domenici, I'll turn it over to you.

1 MR. DOMENICI: Thank you.

2 LARRY R. SCOTT,

3 the witness herein, after having been first duly sworn upon  
4 his oath, was examined and testified as follows:

5 DIRECT EXAMINATION

6 BY MR. DOMENICI:

7 Q. State your name for the record, please.

8 A. Larry Ray Scott.

9 Q. And describe briefly your qualifications as an  
10 expert witness.

11 A. Engineering degree from the University of Texas,  
12 seven years with Conoco, Incorporated, in various  
13 engineering capacities, the last as a supervising  
14 production engineer, and the last 24 years as an engineer  
15 and partner in Lynx Petroleum Consultants, Incorporated.

16 Q. And have you testified in front of the OCD  
17 before?

18 A. On numerous occasions.

19 Q. Have you been qualified and accepted as an  
20 expert?

21 A. Yes.

22 MR. DOMENICI: I'll tender Mr. Scott as an expert  
23 petroleum engineer.

24 EXAMINER CATANACH: Any objection?

25 MR. BROOKS: No objection.

1 EXAMINER CATANACH: Mr. Scott is so qualified.

2 Q. (By Mr. Domenici) Mr. Scott, please explain to  
3 the Hearing Examiner how you decided to present this  
4 application in the way you did.

5 A. Well, we made an administrative application for  
6 approval for the Jones "B" Number 3. If you will refer to  
7 Exhibits 1 and 2, these are structure maps prepared by the  
8 Roswell Geological Society that show the structure in the  
9 area --

10 EXAMINER CATANACH: Do you have --

11 MR. DOMENICI: Here.

12 EXAMINER CATANACH: Thank you.

13 THE WITNESS: -- that show the structure in the  
14 area on top of the Yates formation.

15 On Exhibit Number 1, you'll note the two arrows,  
16 one pointing to the Jones Federal "B" Number 3, which is  
17 the well in question, and the second arrow points to the  
18 Jones 3-23, which was the cement plug that I was prepared  
19 to defend, but now I don't guess I have to.

20 Exhibit 2 is a structure map of the Hackberry  
21 North-Yates Pool. This pool is just west of the Lusk area.  
22 It's also structure on top of the Yates sand, and with  
23 arrows pointing to two wells, the Tennessee Federal Number  
24 1, located in 21, and the Pacer 28 Number 1, located down  
25 in Section 28, structurally -- at a structurally similar



1 position to the Tennessee Federal Number 1.

2 As I was investigating disposal zone options in  
3 the area, I reviewed all of the wells in 19 South, 31 East,  
4 and 19 South, 32 East, for disposal potential, and Exhibits  
5 3, 4 and 5 are log sections on wells that I'll be talking  
6 about here in just a second.

7 The Exhibit 3 is a sonic -- or actually it's just  
8 a gamma-ray log. It's a sonic gamma-ray, with no sonic  
9 above the intermediate casing point, showing the top of the  
10 Yates, the top of my currently approved injection interval,  
11 and the base of my currently approved injection interval.

12 Now, a handwritten notation that was on this log  
13 showed an oil-water contact in the Plains unit, the Jones  
14 Federal Number 2, which is located approximately three-  
15 quarter mile northeast of the Jones "B" Number 3.

16 I'll refer you now to Exhibit 4. This is the  
17 Pacer 28 Number 1 log, with the perforations and open-hole  
18 injection interval of the Tennessee Federal Number 1 marked  
19 from approximately 2400 feet down to 2565 feet.

20 Questions?

21 EXAMINER CATANACH: Yeah, you're referring to  
22 Exhibit Number 4?

23 THE WITNESS: That's correct, Exhibit Number 4 is  
24 the Pacer 28 Number 1 log.

25 EXAMINER CATANACH: Okay.

1           THE WITNESS: We correlated the Yates top in the  
2 Tennessee Federal Number 1. This is a commercial disposal  
3 facility approximately 1 1/2 miles west of our proposed  
4 operation. The zones that they are injecting into are from  
5 approximately 2400 feet down to 2565 feet. I correlated  
6 that log to the Jones B Number 3 and requested  
7 administrative approval for injection in basically the  
8 identical interval.

9           Q.    (By Mr. Domenici) Why do you say it was the  
10 identical interval?

11          A.    Correlating the gamma-ray curves on both of these  
12 logs allows us to determine that the zones are correlative  
13 through this interval.

14          Q.    And what about Exhibit 5?

15          A.    Exhibit 5 is a log on the Sun Oil Company Shearn  
16 Federal Com Number 1. This is a direct offset to another  
17 injector located in Section 15 of 19 South, 32 East, that  
18 injector being the Jennings "B" Federal Number 2. And this  
19 log also shows the perforations and the open-hole injection  
20 interval for an active injector, that go considerably  
21 deeper than the interval that we requested.

22          Q.    Did you have these logs, Exhibits 4 and 5,  
23 available when you prepared your Application?

24          A.    Yes, I did. In fact, the interval that we  
25 applied for was based on exactly these correlations.

1 Q. And did you understand that these two other logs  
2 reflected approved disposal wells by OCD?

3 A. They are currently active disposal wells, and I  
4 had to make the assumption that they were approved.

5 Q. And were you aware of an informal policy that --  
6 informal or unofficial policy that you've heard testified  
7 to here today?

8 A. Yes, sir, I am well aware of the no-disposal-in-  
9 the-Capitan Reef policy, and used the precedent set by  
10 these other wellbores to select our injection interval.

11 Q. So is it accurate you understood the policy to  
12 allow injection at the top or on top of --

13 A. That's done not only in these two these were just  
14 the two closest. And I picked an upgradient and a  
15 downgradient well, but there are many instances where  
16 injection activities have been allowed overlying the Reef  
17 in several Yates-Seven Rivers oil pools in Lea County.

18 Q. There was discussion of the Teas, T-e-a-s?

19 A. That would be one of those oil pools.

20 Q. And describe in some detail, so it's on the  
21 record, as to what your knowledge is about that.

22 A. Well, that's a small anticlinal bump, oil and gas  
23 pool, in the Yates and Seven Rivers formations that was  
24 depleted and converted to waterflood/water-injection  
25 operations to enhance oil recovery, injecting into

1 substantially similar intervals to the ones we have on  
2 these logs.

3 Q. What information do you have about the water  
4 quality of the Capitan Reef near the proposed --

5 A. I didn't bring exhibits to show, but I am in  
6 possession of total dissolved solids maps that were  
7 prepared by Riesbeck, Incorporated, and submitted in an  
8 earlier hearing, should be in the Division records, that  
9 indicate total dissolved solids in this area on the order  
10 of 80,000 parts per million in the Reef.

11 Q. And are you able to testify as to what a rough  
12 ratio is between chloride concentration and TDS?

13 A. I think technically it's about 1.8. It varies a  
14 little with water. 1.8 to 2-to-1, TDS versus chlorides.

15 Q. So if we had chloride readings at 10,000 or  
16 12,000 --

17 A. TDS would be on the order of 20,000, that's  
18 correct.

19 Q. Are you aware of any fresh water in the Capitan  
20 Reef?

21 A. We investigated freshwater resources in four  
22 sections surrounding our application. We found in the  
23 State Engineer's records one well to 250 feet. We were  
24 unable to locate that well and did not get a water sample.

25 Q. But no wells into the Reef itself --

1 A. Oh, no, no.

2 Q. -- and no production out of the Reef?

3 A. No, none.

4 Q. Are you aware of any present or probable use of  
5 water in the Capitan Reef adjacent to or below your  
6 proposed location?

7 A. No.

8 Q. Is there any evidence that would indicate there's  
9 any present or probable use of that water?

10 A. No.

11 Q. And you've been watching this issue for how long?  
12 A decade? Would that be accurate?

13 A. I've been aware of Capitan Reef issues for over a  
14 decade now.

15 Q. What is the relationship between the Capitan Reef  
16 that is below the proposed well and the Capitan Reef  
17 described as a water supply for Carlsbad?

18 A. Well, the Capitan Reef outcrops at the west side  
19 of the horseshoe and dips continuously, pretty much  
20 continuously, incised by various submarine canyons all the  
21 way around the northern edge of the Permian Basin, and  
22 disappears off the south edge of the Central Basin Platform  
23 at a depth of about 5000 feet. The dip is continuous from  
24 surface around the horseshoe to 5000 feet at the eastern  
25 part of the state.

1 Q. And the dip is away from where it is used as a  
2 water supply?

3 A. The Reef would be high to the west, low to the  
4 east.

5 Q. Do you know about the water gradient?

6 A. I don't know of any fresh water in the Capitan  
7 Reef east of the Pecos River.

8 Q. What, in the current permit, requires you to  
9 provide information that would indicate whether there's an  
10 impact on the Capitan Reef?

11 A. Mr. Jones required us to run a tracer survey when  
12 we completed our conversion to injection, and that would  
13 indicate that the water that we were injecting was going  
14 into the zone that we had perforated and should verify that  
15 it's not moving either up or down from the intended  
16 interval.

17 Q. And so if you go ahead and -- if you're allowed  
18 your permit and you go ahead and use it, then you would run  
19 that --

20 A. Oh, certainly.

21 Q. Can you tell the Hearing Examiner the source of  
22 the water that would be injected?

23 A. We have approximately 200 barrels per day of Bone  
24 Springs water produced on leases in the immediate vicinity.

25 Q. Are you planning to operate this well for

1 purposes of disposing of any water other than water used --

2 A. Not at the present time, no.

3 Q. And do you have an opinion as to whether or not  
4 this well is protective of fresh water?

5 A. I believe this well will have no impact on fresh  
6 water resources.

7 Q. And is it protective of any present or probable  
8 -- or any water that has a present or probable use as a  
9 domestic or commercial use?

10 A. I believe it does that.

11 Q. And do you feel that revoking your permit would  
12 follow a precedent of other -- of the way other similar  
13 wells have been --

14 A. It would be a grave injustice.

15 Q. Do you want to comment on any of the other  
16 testimony you heard today, for the Hearing Examiner?

17 A. Well, there are -- I guess the only comment that  
18 I would have is that there are wells injecting into  
19 correlative intervals in the immediate vicinity, both  
20 upgradient and downgradient of my proposed activities. If  
21 my permit is revoked, there's a lot of others out there  
22 that are going to -- about to get some bad news.

23 Q. And what -- without impacting the viability of  
24 your proposed disposal well, isn't there any adjustments  
25 that you could make in the bottom level of the injection

1 interval?

2 A. I think we would be prepared to do so, but nobody  
3 asked.

4 Q. But what adjustments would be viable -- or would  
5 be able to make that would not affect the viability?

6 A. Oh, if there is concern about us being too close  
7 to the Reef at the bottom end of the injection interval, I  
8 believe we could make a 50-foot adjustment with no -- or  
9 little impact on our proposed operations.

10 Q. But greater than that it would begin -- it would,  
11 in fact --

12 A. As you start decreasing the interval, then the  
13 injection pressures necessarily go up, and that also  
14 becomes an issue.

15 MR. DOMENICI: Nothing further.

16 EXAMINER CATANACH: Mr. Brooks?

17 CROSS-EXAMINATION

18 BY MR. BROOKS:

19 Q. Okay Mr. Scott, I want to get clear, because we  
20 went over it fairly quickly, what each of these exhibits  
21 is.

22 A. Exhibit 3 is --

23 Q. Well, hold on a minute.

24 A. Okay.

25 Q. Let me ask you some questions here. Exhibit 3



1 says Jones Federal "B" Number 3. Is that the subject well?

2 A. That is correct, sir.

3 Q. And this is a partial log from the subject well?

4 A. That is correct, sir.

5 Q. And it covers the injection interval, right?

6 A. That is correct, sir.

7 Q. You have not picked the base of the Capitan Reef  
8 on -- or the top of the Capitan Reef on this one?

9 A. No, sir, I did not.

10 Q. You've marked the base of the injection interval,  
11 though, at 2720, right?

12 A. That's correct.

13 Q. Okay. Now, Exhibit 4 is labeled the -- Let's  
14 see, that's the Pacer 28 Federal Number 1. Now, where --

15 A. If you will refer to Exhibit map -- Exhibit map 2  
16 shows the relation of the Pacer 28 Number 1 to the  
17 Tennessee Federal Number 1. The Tennessee Federal Number 1  
18 is an approved injection well --

19 Q. Okay, now, these -- these wells -- this appears  
20 -- This is Township 19 South, 31 East, the same township,  
21 correct?

22 A. That's correct, sir.

23 Q. And this Pacer 28 Number 1 well is in Section 28,  
24 and it looks like it's right about two miles southwest, the  
25 subject well; is that correct?

1           A.    No, sir, it would be a little less than a mile  
2 southwest of the Tennessee Federal Number 1.  It would  
3 be --

4           Q.    Well, no, I mean from the subject well.

5           A.    From the subject well it would be approximately  
6 two miles southwest, that's correct.

7           Q.    Okay.  Now, the other well, Exhibit Number 5, is  
8 labeled Shearn Federal Com Number 1?

9           A.    Yes, sir.

10          Q.    And that is located where?

11          A.    That's in Section 15 of 19 South, 32 East, and it  
12 is the direct offset of the Jennings "B" Federal Number 2.  
13 And I apologize, I don't have a map exhibit included for  
14 that wellbore.

15          Q.    And the one that it's an offset of is another  
16 injector?

17          A.    That is affirmative.

18          Q.    And that would be about -- since it's in an  
19 adjacent township, it would be like about five or six  
20 miles --

21          A.    Oh, five miles east, correct.

22          Q.    -- from the subject well?

23          A.    Correct.

24          Q.    Now, you said that you picked the interval in  
25 this well by a correlation to what well?

1           A.    By correlation primarily to the Tennessee Federal  
2   Number 1.

3           Q.    Which is the well that is an offset of the Pacer  
4   28?

5           A.    That is correct, sir.

6           Q.    And what you were trying to do then was to get an  
7   equivalent injection interval as well to the one in that?

8           A.    Absolutely.

9           Q.    Now, did you determine the top of the Capitan  
10   Reef on any of these other wells?

11          A.    No, sir, I did not. I was trying to remain  
12   within precedent.

13          Q.    Right. You indicated in your testimony that you  
14   have in your possession some studies of water quality in  
15   the Capitan Reef in this area; is that correct?

16          A.    Those are also in your possession.

17          Q.    Well, that may well be, but I'm not aware what  
18   they are, so I wouldn't have any idea how to go about  
19   finding them. Would you be able to furnish that material  
20   to the Division and to the Examiner -- to me and to the  
21   Examiner?

22          A.    I only have one copy of the reference material,  
23   but I would be pleased to furnish titles and authors for  
24   you all's review, but I'm confident that those books are  
25   here in this building also.

1           Q.   Well, I guess I can't ask you to violate the  
2   copyright law, although I've always thought that using it  
3   for exhibits in litigation was a fair use, but I'm not a  
4   copyright lawyer so I guess I'll have to be satisfied with  
5   that. We do need that information, however, so -- because  
6   at this point it's total hearsay and we've not had an  
7   opportunity to evaluate it.

8           And furthermore, I promised to furnish similar  
9   data on our map, which frankly I didn't attempt to offer  
10  those numbers until the Examiner raised it because I knew  
11  that our witness couldn't vouch for them. Anyway, we will  
12  pursue that. Thank you.

13           What steps, if any, has Lynx taken in reliance on  
14  this Application after it was granted and before the  
15  Division advised you that we intended to revoke it?

16           A.   I'm not sure I understand the question.

17           Q.   Well, the Division granted this application,  
18  right?

19           A.   Yes, sir.

20           Q.   And you were advised that it had been granted?

21           A.   Yes, sir.

22           Q.   And then at some time after that you were advised  
23  that the Division would seek revocation, correct?

24           A.   That is correct, sir.

25           Q.   And what period of time passed from --

1 A. Approximately 30 days.

2 Q. And what if anything did Lynx do during that 30-  
3 day period of time in reliance upon -- if any, did Lynx do  
4 in that 30-day period, approximately 30-day period of time,  
5 in reliance upon the Division having granted this  
6 application?

7 A. You're asking me if I did any actual work?

8 Q. Yes, that's correct.

9 A. No, sir, what we did was, we submitted AFE  
10 approvals to our working interest partners in the lease for  
11 approximately \$80,000 of expenditures to make the  
12 conversion, and those were in the process of coming back to  
13 us when we got the Division's letter and we stopped all  
14 activity.

15 Q. Very good. Now, the last question that Mr.  
16 Domenici asked you about could you change the injection  
17 interval to provide some security that it would not be  
18 injecting into the Capitan Reef --

19 A. Well, I don't believe we are now, but --

20 Q. Well, but could you do that? Could you change  
21 your injection plan to reduce the potential for injection  
22 into the Capitan Reef?

23 A. I would have to carefully review our drilling  
24 time logs through those various intervals, but I'm of the  
25 opinion that a 50-foot reduction in the bottom perf would

1 be -- would not be any hardship. Any more than that, I'd  
2 probably need to take a second look.

3 MR. BROOKS: Okay, I don't think we have anything  
4 further.

5 EXAMINER CATANACH: Okay. Anything further, Mr.  
6 Domenici?

7 MR. DOMENICI: I would just like to talk -- after  
8 he's done, I'd like to talk to the witness about trying to  
9 get part of that data into the record.

10 EXAMINER CATANACH: Okay.

11 MR. DOMENICI: But I don't have any questions.

12 EXAMINATION

13 BY EXAMINER CATANACH:

14 Q. Mr. Scott, do you dispute the to-of-the-Reef pick  
15 that Mr. Arrant has provided us?

16 A. I don't know, Mr. Examiner, whether I'm qualified  
17 to dispute that or not. I find some difficulty with  
18 consistent Reef-pick tops through the area. If you'll  
19 notice on the Shearn Federal Number 1 log, that marker just  
20 below total depth is considered by some to be the top of  
21 the Reef.

22 Q. Are you referring to that gamma-ray marker?

23 A. That's correct, sir.

24 Q. You don't have evidence today to demonstrate what  
25 you believe the top of the Reef is?

1 A. No, sir, I do not.

2 Q. Do you know when the permits were issued for the  
3 Tennessee well and for the -- What was the other one?

4 A. The Jennings "B" Federal Number 2.

5 Q. Well, there are several wells we're talking about  
6 here.

7 A. The Tennessee is our west offset, the Jennings  
8 "B" Federal Number 2 is our east offset, and I reviewed  
9 both of those applications on the OCD website, and I don't  
10 recall what those dates were.

11 Q. Okay. But it is your opinion that those wells  
12 are injecting in the same correlative interval as your  
13 well?

14 A. Absolutely. In fact, the well back to the east  
15 is significantly deeper into the section than the interval  
16 that we applied for. I limited the scope of the vertical  
17 interval in my application to coincide with that approved  
18 in the Tennessee Federal Number 1, because it's a much  
19 closer well. It's only a mile and a half from our proposed  
20 operations.

21 Q. Okay. Referring to your Exhibit Number 3 for the  
22 Jones Federal "B" Number 3, you reference an oil-water  
23 contact in the Plains Producing Jones Number 2, which you  
24 stated was three-quarter miles northeast?

25 A. Yes, sir, that would be in unit letter K, Section

1 24, 19 South, 31 East, and that was in internal Lynx  
2 records that were obtained by us in our purchase of this  
3 property and actually involved a producing well that's now  
4 plugged and abandoned.

5 Q. Okay.

6 A. The Roswell Geological Society reports that the  
7 main pay in the Lusk-Yates-Seven Rivers Pool is a dolomite  
8 approximately 255 feet below the top of the Yates. And  
9 that correlated fairly well with that Plains unit marker.

10 Q. Was that interval productive in the Jones 3 well,  
11 or was it ever tested?

12 A. In the Jones "B" Number 3?

13 Q. Yeah.

14 A. We tested a roughly correlative interval in the  
15 Jones Federal 1-23, which was referenced in the previous  
16 testimony, updip to the Jones "B" Number 3 and produced  
17 water.

18 Q. What was this well? This well was drilled for  
19 something deeper?

20 A. Strawn.

21 Q. Okay. Hm. If the Division was correct in its  
22 pick of the top of the Capitan Reef and you did contract  
23 your injection interval 50 feet from the bottom, is there  
24 something that you see geologically that would serve as a  
25 barrier between those intervals?



1           A.    No, sir, not that I can speak to, no.

2           EXAMINER CATANACH:  I think that's all I have.

3           (Off the record)

4           MR. BROOKS:  I don't think we have anything  
5 further at this point.  Thank you.

6           EXAMINER CATANACH:  Okay, Mr. Domenici?

7           MR. DOMENICI:  I'd just like to move Lynx  
8 Exhibits 1 through 5.

9           EXAMINER CATANACH:  Any objection?

10          MR. BROOKS:  No objections.

11          EXAMINER CATANACH:  Exhibits 1 through 5 will be  
12 admitted.

13          MR. DOMENICI:  We have nothing further.  I would  
14 like to talk to Mr. Scott and see if we could make that  
15 data available in some way.  Is that in a bound book, or is  
16 it --

17          THE WITNESS:  W.B. Hess wrote a Capitan Reef  
18 study, there's a USGS report on the Capitan Reef, and one  
19 of -- the Riesbeck hydrological study, that I'm aware of,  
20 was prepared by Mike Wallace, a hydrologist in Albuquerque.  
21 And that -- if -- that was an exhibit in a previous case  
22 and should still be in the Division records, and I can  
23 furnish that case number when I get back to the office.

24          MR. BROOKS:  Okay.  Of course, if we can  
25 unambiguously point out what it is, I would think we could

1 make it a matter of record. If we could get copies  
2 furnished that would be good, but I do understand there may  
3 a concern about the copyright law.

4 MR. DOMENICI: Can we get the USGS study? Is  
5 that a long study or --

6 THE WITNESS: It's bound and, oh, probably 150  
7 pages thick, pretty extensive.

8 MR. DOMENICI: What I would propose is that we  
9 just do the cover page and the section that deals with this  
10 section of the Reef, if we could pull that out, Larry, if  
11 that's --

12 THE WITNESS: I think we can do that.

13 MR. DOMENICI: Okay, I would propose we do that,  
14 and with the other book too, cover page and the section  
15 dealing with this part of the Reef. And you'll have the  
16 cover page --

17 MR. BROOKS: Yeah.

18 MR. DOMENICI: -- and so if you need to look at  
19 that book for something else, or more pages, you could get  
20 it or we could make it available.

21 MR. BROOKS: Okay, I appreciate that. I think  
22 that would be helpful probably to the Examiner as well.

23 There's one thing I wanted to point out by way of  
24 a closing statement --

25 EXAMINER CATANACH: Before you do that, I'd like

1 to get Bryan back onto the stand for a couple of questions,  
2 if I may.

3 MR. BROOKS: Okay, sure. Do you need to have  
4 copies of any of the exhibits?

5 EXAMINER CATANACH: We could probably work off  
6 his exhibits, basically the log.

7 MR. BROOKS: Well, I think what he plans to ask  
8 you about is about Lynx's exhibits.

9 MR. ARRANT: Okay.

10 BRYAN G. ARRANT (Recalled),  
11 the witness herein, having been previously duly sworn upon  
12 his oath, was examined and testified as follows:

13 EXAMINATION

14 BY EXAMINER CATANACH:

15 Q. Well, what I wanted to ask you, Bryan -- and I'm  
16 not going to put you on the spot; if you need some time to  
17 evaluate it, I would certainly provide you that. But we've  
18 heard a proposal here today from Lynx to contract the  
19 injection interval in this well, and I would ask you if  
20 that would make a difference to the Division and if that  
21 would be acceptable. And if you don't have an opinion at  
22 this time, if you think you need time to study that, I  
23 would grant you that.

24 A. I would request that, Mr. Examiner, to get not  
25 only myself but our District Supervisor and other people to

1 look into that, see if that's a workable solution.

2 Q. Okay, that's what I'll have you do then. I would  
3 like to get you to do that, provide me a recommendation  
4 from you and the District Supervisor whether or not that  
5 would be acceptable in this case.

6 A. Okay.

7 Q. And based -- you know, tell me what it's based  
8 upon as well as you can.

9 A. Okay.

10 Q. That's really all I have, but I would really like  
11 that.

12 A. Okay.

13 EXAMINER CATANACH: And you can go.

14 THE WITNESS: Okay.

15 EXAMINER CATANACH: Okay, Mr. Brooks?

16 MR. BROOKS: Okay. Well, I'm not going to make,  
17 really, an argumentative -- a closing statement; I know  
18 that those are usually superfluous. I do want to point  
19 out, though, from a legal standpoint what the basis for  
20 this Application is.

21 The Division filed this in order to revoke the  
22 permit that had been granted, and we are not seeking to  
23 revoke it on the ground of the rules we referred to,  
24 because we recognize that we have not made and we are not  
25 at this time in a position to make a case where the

1 Division could prove that fresh water will be impacted.

2 What we are contending here is that this  
3 application was granted by mistake and that we would not  
4 have granted this application on this record, had we  
5 recognized where it was located and what the potential  
6 impacts might be.

7 So we're asking that this application -- this  
8 order, administrative order granting this, be revoked,  
9 simply because it was granted by mistake. And that was why  
10 I asked that last question, to establish that Lynx has not  
11 taken any action in reliance on it. I'm not sure the  
12 Division would be estopped if they had, but that doesn't  
13 become an issue because it's apparent that they have not.

14 That's all I have.

15 EXAMINER CATANACH: Okay. Anything, Mr.  
16 Domenici?

17 MR. DOMENICI: I would -- Just to respond, I  
18 don't think a mistake by itself allows revocation. I think  
19 that the mistake has to involve a grounds for denying the  
20 application. I think what we've seen is, possibly there  
21 was a failure to consult, but when you look at what the  
22 consultation would have consisted of, the evidence  
23 indicates there are numerous other similar wells.

24 And so I think a mistake in and of itself isn't  
25 grounds to revoke. There has to be some merit behind that

1 mistake, and I don't think they've shown that.

2 EXAMINER CATANACH: Okay. There being nothing  
3 further, Case 13,451 will be taken under advisement.

4 MR. BROOKS: Thank you.

5 EXAMINER CATANACH: And we'll adjourn this  
6 hearing.

7 (Thereupon, these proceedings were concluded at  
8 4:07 p.m.)

9 \* \* \*

10  
11  
12  
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14  
15 I do hereby certify that the foregoing is  
16 a complete record of the proceedings in  
17 the Examiner hearing of Case No. 13451,  
18 heard by me on June 16, 2005.  
19 David R. Catanch, Examiner  
20 Oil Conservation Division  
21  
22  
23  
24  
25

## CERTIFICATE OF REPORTER

STATE OF NEW MEXICO    )  
                              )   ss.  
COUNTY OF SANTA FE    )

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL June 21st, 2005.



STEVEN T. BRENNER  
CCR No. 7

My commission expires: October 16th, 2006