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I N D E X

DARRELL McBRIDE

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MR. CATANACH: We will call  
next Case 8976.

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MR. TAYLOR: Application of  
Chaveroo Operating Company for salt water disposal, Lea  
County, New Mexico.

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MR. KELLAHIN: If the Examiner  
MR. CATANACH: Are there  
appearances in this case?

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MR. KELLAHIN: If the Examiner  
please, I'm Tom Kellahin of the Santa Fe law firm of  
Kellahin & Kellahin. I have one witness to be sworn.

14

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MR. TAYLOR: Are there other  
appearances?

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Will the witness please stand?

18

(Witness sworn.)

19

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DARRELL McBRIDE,

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being called as a witness and being duly sworn upon his  
oath, testified as follows, to-wit:

## 1 DIRECT EXAMINATION

2 BY MR. KELLAHIN:

3 Q Mr. McBride, for the record would you  
4 please state your name and occupation?5 A I'm Darrell McBride and I'm Operations  
6 Manager for Chaveroo Operating.7 Q Mr. McBride, do you hold any professional  
8 degrees?9 A I hold a degree in engineering from Texas  
10 A&M.11 Q Have you previously testified as an en-  
12 gineer on behalf of your company in other salt water dispo-  
13 sal applications in the State of New Mexico?

14 A Yes, I have.

15 Q And pursuant to your employment have you  
16 prepared and reviewed the Commission Form C-108 that is the  
17 subject matter of this application?

18 A Yes, I have.

19 MR. KELLAHIN: We tender Mr.  
20 McBride as an expert.21 MR. CATANACH: Mr. McBride is  
22 considered qualified.23 Q Mr. McBride, let me take you to the pack-  
24 age of exhibits attached to the Form C-108 and let's turn to  
25 what is marked as Exhibit Number Two. It's the half mile

1 radius circle plat and if you would commence, sir, by iden-  
2 tifying for the Examiner the proposed disposal well.

3 A Our proposed disposal well is in the mid-  
4 dle of the circle. You see 2-B locating a site. This well  
5 was drilled by ARCO and P&A'ed.

6 Q What interest does your company have in  
7 the proposed disposal well?

8 A Well, we've searched the area looking for  
9 a site for disposal and we had a correlative rights problem  
10 on another lease and this seemed to be one of the most eco-  
11 nomically feasible alternatives, is to re-enter this well.

12 We have talked to ARCO at this time and  
13 received rights to re-enter this well for disposal.

14 Q What is the proposed formation you want  
15 to utilize for disposal purposes?

16 A Our proposed formation is the Grayburg  
17 series in the Lower San Andres.

18 Q And what is the maximum quantity or vol-  
19 ume of produced water a day that you're seeking approval  
20 for?

21 A 1000 barrels a day.

22 Q Can you identify for the examiner what  
23 wells or what leases within this area will contribute pro-  
24 ducing water that will be disposed of in this well?

25 A Well, produced water will be coming off

1 of surrounding leases there. If you'll notice the Chaveroo  
2 Lease LSA No. 2, which is dues south of the proposed dispo-  
3 sal well.

4 We have talked to Mesa Operating, they  
5 have some produced water out of the Abo detrital, and BTA  
6 just might be a possible alternative. They're at this point  
7 trying to put a disposal well in that area, too.

8 Q Is all the water produced in the area  
9 that will be disposed of in the disposal well water produced  
10 out of the Abo formation?

11 A Yes, sir.

12 Q Are you aware of any other operator that  
13 has obtained in this area approval to utilize the Abo for  
14 disposal purposes?

15 A I don't know of any other operator that's  
16 using the Abo.

17 Q Okay. Is there another operator utili-  
18 zing other formations in this area for disposal?

19 A Across the road Tom Ingram is utilizing  
20 the Bone Spring and the Glorieta. That's my understanding.  
21 I don't know that for sure.

22 Rice Engineering, to the southwest of us  
23 there has two disposal wells in the San Andres and they're  
24 injecting about 6000 barrels a day down two different wells.

25 Q How about BTA, do they have a disposal

1 well --

2 A BTA --

3 Q -- in the area?

4 A -- at this time does not have one. They  
5 have -- they have received rights from the Commission in the  
6 last hearing to inject in the CalTex Well. If you'll  
7 notice, it's south and east in the next survey.

8 Q It's just to the east of the half mile  
9 radius circle?

10 A Yes.

11 Q In the next section over?

12 A Yes.

13 MR. KELLAHIN: Mr. Examiner,  
14 that was a case heard on July 23rd. It's Case 8942. It was  
15 an application by BTA Oil Producers. I believe Mr. Ramey  
16 was the witness on that case.

17 Q Within the area of review, can you iden-  
18 tify for us which operators still operate wells?

19 A In the half mile radius area, you mean?

20 Q Yes, sir. I believe there's only two  
21 operators currently operating wells.

22 A Yes, besides Chaveroo Operating. Those  
23 operators are BTA and Mesa Operating.

24 Q And the surface owner at the proposed  
25 disposal well is the State of New Mexico?



1 3465 and we put an additional hat on that of 30 percent;  
2 well, it would be 50 percent over to get us back up into the  
3 surface pipe.

4 We're proposing 300 sacks of cement.  
5 We'll cement our 5-1/2 back up into the surface pipe and  
6 we'll go back in and drill out with a 4-3/4 inch bit and  
7 drill through that plug at 4792 to 4892 and inject in the  
8 open hole interval from 4792 to 6432.

9 6432, that plug is set from 6432 to 6532  
10 over the top of the Glorieta interval.

11 So we'll have a massive open hole inter-  
12 val of the Grayburg and Lower San Andres to inject into.

13 Q Let's turn to Exhibit Number Five, Mr.  
14 McBride. Have you caused a tabulation to be made of all the  
15 wells within the half mile radius?

16 A Yes, I have.

17 Q Have you found any of those producing or  
18 plugged and abandoned wells that are completed or plugged in  
19 such a fashion that they constitute a hazard to fresh water  
20 sources if the disposal well is utilized as you propose?

21 A No, I haven't. The three wells that have  
22 been P&A'ed are Lone Star Producing, Elk Oil, and Sun Ex-  
23 ploration's well.

24 Q They are the last three wells on the tab-  
25 ulation?

1           A           Yes. And in all the wells they've  
2 covered the salt. Let's see, there's one well they didn't  
3 cover the salt interval in but surface pipe, on the bottom  
4 of all surface pipe they've set a plug. Would I need to go  
5 into those?

6           Q           Let's go into the schematics on the plug-  
7 ged and abandoned wells. If you'll start with Exhibit Num-  
8 ber Six, that's the Atlantic State "B" No. 1 Well.

9           A           Okay, on the "B" No. 1, we'll start at  
10 the bottom. They've put a plug over the detrital series and  
11 7412 to 7312 covers the top of the Bone Springs; 6598-6498  
12 covers the top of the Glorieta; and 4969 to 4869 covers the  
13 top of the San Andres interval.

14                    You'll note back on our injection well,  
15 the top of the injection interval was 4892. The base of  
16 the shoe is covered, 3613 to 3513. They put one at 1328 to  
17 1228 to cover the salt, and the Ogallala aquifer is probably  
18 covered at 39 -- 390 to 3300, -- correction, 330 feet. They  
19 topped it off with a 10 sack plug.

20           Q           All right, let's turn to Exhibit Number  
21 Seven, which is the schematic on the New Mexico X-19 State  
22 No. 1 Well.

23           A           Okay, this is Sun's well. This well also  
24 has plugging in the same manner. The only question to show  
25 that our interval is covered is they have a plug on top of

1 the Grayburg series at 4875 to 4975 and they put an  
2 additional plug at 4450 to 4350, and the shoe is covered  
3 again and the salt section, and they put a 10-sack top on  
4 it.

5 Q All right. Would you turn to Exhibit  
6 Eight, which the Elk plugged and abandoned well?

7 A Okay. Elk was plugged in a proper --  
8 same manner with the Glorieta being covered and they have an  
9 additional -- two additional plugs at 4907 and 4807 and  
10 4400-4200; two different plugs set in the San Andres inter-  
11 val, so we're covered above there. We shouldn't have any  
12 migration up on any one of three wells.

13 Q Are there any sources of water that's  
14 classified as fresh water within the area?

15 A There's fresh water within the Ogallala  
16 aquifer and it's anywhere from 300 feet to 150 feet.

17 Q Are the wells within the half mile radius  
18 completed with casing and cementing in such a fashion that  
19 the fresh water sands are isolated?

20 A Yes, sir. First of all, all the fresh  
21 water sands are covered by and circulated with surface cas-  
22 ing and they're all plugged properly after that, too; shoes  
23 covered on all of them, and we at least have two different  
24 plugs it would have to migrate through to get back up to the  
25 fresh water interval.

1           Q           Have you supplied to the Division copies  
2 of water analyses from various wells?

3           A           Yes, I have. The only fresh water analy-  
4 sis I have is from Giles Lea Ranch, which is located about a  
5 mile and a half away. I've got two different samples. He's  
6 got an irrigation well and one at this house. I have those  
7 samples located in this. Giles Lea Home is one sample.

8           Q           That's Exhibit Number Ten.

9           A           And I have R. D. Lea irrigation well, the  
10 other sample.

11          Q           Exhibit Number Twelve.

12          A           And I've got R. D. Lea's home. I've  
13 really got three water samples.

14          Q           Okay, Exhibit Number Thirteen is the R.  
15 D. Lea home.

16          A           I have a water analysis from the San An-  
17 dres well that's located in the adjacent survey.

18          Q           That's Exhibit Number Eleven.

19          A           We have consulted with ALCO Chemical Com-  
20 pany and they say that our water from the LSA Well, which is  
21 Exhibit --

22          Q           Eleven.

23          A           -- Eleven is compatible with the San An-  
24 dres formation.

25          Q           Have you examined currently available

1 geologic and engineering data to determine whether or not  
2 there is any open faulting or other hydrologic connections  
3 between the disposal formation and any sources of drinking  
4 water?

5 A Yes, I have, and there's none that we're  
6 aware of in this area.

7 Q Was the application including all the at-  
8 tached exhibits prepared by you or compiled under your  
9 direction and supervision?

10 A Yes, sir.

11 MR. KELLAHIN: That concludes  
12 our examination of Mr. McBride.

13 We move the introduction of Ex-  
14 hibits One through Sixteen.

15 MR. CATANACH: Exhibits One  
16 through Sixteen will be admitted into evidence.

17

18 CROSS EXAMINATION

19 BY MR. CATANACH:

20 Q Mr. McBride, the formations you'll be in-  
21 jecting into are the Grayburg and the San Andres?

22 A Yes.

23 Q And I understand, is there production in  
24 this area from that pool?

25 A Is there production in this area?

1 Q From the Grayburg and San Andres forma-  
2 tions?

3 A The nearest production is probably a lit-  
4 tle over a mile and a half, and would you want me to locate  
5 that well for you?

6 Q No, that's okay.

7 A It was a recently drilled well. I under-  
8 stand it's producing now. It's only cutting about 10 per-  
9 cent oil at this point, anyway.

10 Q Mr. McBride, is that -- that is State  
11 land, right?

12 A Yes, sir.

13 Q Is it leased to anybody that you know of?

14 A ARCO has the lease on it.

15 Q The surface, is it leased?

16 A The surface, Giles Lea owns the surface  
17 rights.

18 Q And he has consented to your -- has he  
19 been notified of your intention to --

20 A No, I guess that he probably hasn't.

21 MR. KELLAHIN: We have. We  
22 notified the Commissioner of Public Lands and I don't know  
23 that we --

24 MR. TAYLOR: They don't normal-  
25

1 ly tell their lessee.

2 MR. KELLAHIN: -- we can tell  
3 the grazing lessee.

4 MR. TAYLOR: Does he use any of  
5 the water out there? Does he -- I guess he does. You've  
6 got water analysis --

7 A There's no fresh water source in the  
8 area.

9 All the fresh water he has is across the  
10 highway at his place.

11 MR. TAYLOR: And he doesn't  
12 have -- there's no windmill?

13 A No. Closest water sources I have there  
14 are at his house, which are almost two and a half miles  
15 away.

16 MR. TAYLOR: On your notice  
17 would you look at your page two and tell me, it looks to me  
18 like ARCO should have been notified. Who -- does somebody  
19 else operate that lease there?

20 A Well, ARCO --

21 MR. KELLAHIN: That's the party  
22 from whom we received the rights to use the wellbore.  
23 They've assigned to us.

24 MR. TAYLOR: You have a separ-  
25 ate permit from them. I mean you have something from them,

1 right?

2 A In fact our well, the LSA Well, is on a  
3 farmout from ARCO at this time.

4 MR. TAYLOR: Okay.

5 That's the only one I can see.

6 A So is BTA's well. It's an ARCO farmout.

7 MR. TAYLOR: I see you gave BTA  
8 notice. I just didn't see any ARCO.

9 I guess that's all.

10 MR. CATANACH: I will definite-  
11 ly need a better copy of the tabular data.

12 MR. KELLAHIN: Yeah. Can we  
13 take yours off there, Darrell?

14 A Sure.

15

16 RE CROSS EXAMINATION

17 BY MR. CATANACH:

18 Q Mr. McBride, one more question. You do  
19 intend to use this well for commercial disposal.

20 A Yes.

21 Q And all you're proposing right now is  
22 1000 barrels a day.

23 A I think on the schematic here I noticed  
24 we requested 2000 barrels a day. I'd like to get that chan-  
25 ged, amended, if I could, to 2000 barrels a day.

1 MR. KELLAHIN: It's not adver-  
2 tised. You'll have to tell him what your anticipated needs  
3 are. If they're 2000, then that's what you're requesting.

4 A At present we probably won't have any  
5 more than 3-or-400 a day but I -- these wells are starting  
6 to cut higher and higher percentages of water every day, so  
7 right now we're cutting about 27 percent oil and we're  
8 culling water at about 6 percent per year, so I would ima-  
9 gine we're going to be injecting quite a bit more water here  
10 in the future.

11 Q Do you anticipate injecting anything  
12 other than Abo produced water in the well?

13 A There are some -- Tom Ingram across the  
14 road has quite a bit of Abo water. BTA's in that area.

15 Yes, we probably would. There are some  
16 other disposal outfits that have requested that there's not  
17 enough disposal wells in that area. We're having to haul  
18 right now approximately 15 miles to a disposal site. We're  
19 paying 82 cents a barrel and there is several companies,  
20 trucking companies have come to me and told me that if we  
21 put a disposal site here they'd have plenty of water for us.

22 I would imagine it would be water from  
23 the San Andres and everything produced in that area.

24 Q Okay. I would suggest that whenever you  
25 do take on extra water from -- from any formation other than

1 the Abo that you do notify us. I would ask you that. And  
2 at the time we may require you to run some kind of  
3 compatibility test or something if we think it's necessary.

4 A No problem.

5 MR. CATANACH: I have no  
6 further questions of the witness.

7 He may be excused.

8 Is there anything else in Case  
9 Number 8976?

10 If not, it will be taken under  
11 advisement.

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13 (Hearing concluded.)

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## C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8976, heard by me on August 20 19 86.

David R. Catant, Examiner  
Oil Conservation Division