

1 STATE OF NEW MEXICO  
2 ENERGY AND MINERALS DEPARTMENT  
3 OIL CONSERVATION DIVISION  
4 STATE LAND OFFICE BLDG.  
5 SANTA FE, NEW MEXICO

6 19 September 1984

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of BBC, Inc. for salt  
10 water disposal, Eddy County, New  
11 Mexico.

CASE  
8346

12 BEFORE: Michael E. Stogner, Examiner

13 TRANSCRIPT OF HEARING

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16 A P P E A R A N C E S

17  
18 For the Oil Conservation  
19 Division:

Jeff Taylor  
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22 For the Applicant:

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Artesia, New Mexico 88210

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I N D E X

ROBERT E. BOLING

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E X H I B I T S

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3 MR. STOGNER: Call next Case  
4 Number 8346.

5 MR. TAYLOR: Application of  
6 BBC, Inc. for a salt water disposal, Eddy County, New Mexi-  
7 co.

8 MR. DICKERSON: Mr. Examiner,  
9 I'm Chad Dickerson of Artesia, New Mexico, appearing on be-  
10 half of the applicant.

11 We have one witness.

12 MR. STOGNER: Are there any  
13 other appearances in this matter this morning?

14 (Witness sworn.)

15 ROBERT E. BOLING,  
16 being called as a witness and being duly sworn upon his  
17 oath, testified as follows, to-wit:

18  
19 DIRECT EXAMINATION

20 BY MR. DICKERSON:

21 Q Mr. Boling, will you state your name,  
22 your occupation, and where you reside, please?

23 A My name is Robert E. Boling and I live in  
24 Artesia, New Mexico, and I'm an oil and gas consultant and  
operator and Vice President of BBC, Inc., the applicant.

25 Q You're also a geologist and a landman,

1  
2 are you not?

3 A Yes, sir.

4 Q And you have previously qualified before  
5 this Division and had your credentials made a matter of re-  
6 cord?

7 A Yes, sir.

8 MR. DICKERSON: Is this witness  
9 qualified, Mr. Examiner?

10 MR. STOGNER: He is.

11 Q You're Vice President of BBC, Inc., as  
12 well, you stated, Mr. Boling?

13 A Yes.

14 Q Okay. Would you briefly summarize the  
15 purpose of BBC's application in Case 8346?

16 A The -- to get permission to inject pro-  
17 duced salt water into the Delaware formation in the old Amo-  
18 co No. 1 Federal "AZ".

19 Q Directing your attention to Exhibit Num-  
20 ber One, which is the Form C-108 submittal filed with this  
21 application, would you turn to the map which is a part of  
22 that exhibit and direct the Examiner's attention to the pro-  
23 posed injection well?

24 A All right. The proposed injection well  
25 is the well in the center of the circle with the half mile  
26 diameter, in the northeast of the southeast of Section 29,  
27 26 South, 30 East.

28 Q Point out any other wells within the half

1  
2 mile circle which have penetrated the proposed injection  
3 zone.

4 A There are two. The first one is TP No. 1  
5 USA New Mexico and it's 1980 from the south and 660 from the  
6 east of Section 29, and it was drilled in 1955 to test the  
7 Delaware at a total depth of 3410, and it did not, it was  
8 not a successful completion and was plugged and abandoned.

9 It is 100 feet from our proposed well,  
10 our proposed injection well.

11 Q And how was that well plugged and aban-  
12 doned?

13 A They set 5-1/2 at 3407 feet with 150  
14 sacks of cement and made their completion attempt through  
15 the 5-1/2.

16 Then they cut the 5-1/2 off at 2847, put  
17 a 15-sack plug in and out of that stub at the bottom and the  
18 15-sack plug in and out of the surface casing at 350 feet  
19 and set a marker in the top of it.

20 There is a drawing of that well, Exhibit  
21 B shows the top of the Delaware lime and the casing and the  
22 cement, everything about the plugging.

23 Q Okay. What's the status of the other  
24 well within the half mile area?

25 A The other well is the Fred Pool No. 1 TP  
Federal. It's 660 from the north and east of Section 29 and  
100 feet within the half a mile radius. If it had been at a  
-- if the well had been at a standard location it would have

1  
2 been exactly a half a mile to this Fred Pool Well.

3                   The Fred Pool Well was drilled in 1960  
4 and it was a cable tool well. They drilled the thing and  
5 didn't cement any casing. When they abandoned it they pul-  
6 led all casing and set cement plugs, set a 60-sack plug at  
7 total depth and filled the hole with heavy mud back to 8-  
8 5/8ths casing and pulled 8-5/8ths casing and set a 60-foot  
9 plug at 1132 feet; filled the hole with heavy mud and set a  
marker at the top.

10               Q           There's also a schematic attached showing  
11 the mechanics of that well.

12               A           Yes, sir, there is.

13               Q           What is the gas well indicated in the  
14 northwest quarter of Section 29 immediately outside the area  
of review, Mr. Boling?

15               A           That's the Amoco No. 1 "BP" Federal. It  
16 produces from the Wolfcamp at about 11,000 feet.

17                       It is at the present time shut in. They  
18 have never gotten a pipeline connection.

19               Q           With regard to your proposed injection  
20 well, Mr. Boling, what is the mechanical status of that well  
21 at the present time?

22               A           That well is plugged at the present time  
23 and the well was initially drilled in 1980 and Amoco planned  
24 to take the thing to the Wolfcamp or the Morrow and they got  
25 down to the Delaware at about 3550 and 55, 3555, and did not  
take it any deeper. They decided to try to make a well in

the Delaware, but in the drilling of that well they set 13-3/8ths casing at 950 feet and cemented with 1100 sacks and circulated 216 sacks of that 1100; of the total cement, why, 216 sacks they figured circulated.

Then they set 9-5/8ths at 3555 with 1900 sacks and the top of the cement by temperature survey is at 410 feet from the surface, which was in the 13-3/8ths casing.

Q Okay, in your proposed injection well what is the tubing program that you anticipate using?

A 4-1/2 inch tubing, plastic-lined, set at about 3300 feet with a type Baker LocSet Model A-3 packer or the equivalent.

Q What is the proposed average and maximum rate, daily rate and volume of fluids to be injected in the well?

A Well, we hope we can find enough water to have a 5000 barrel a day average with a 7000 barrel a day maximum injection rate, I mean volume, with we figure the injection pressure would be about 500 pounds, with a minimum -- with a maximum injection pressure of 670 pounds without further permission to raise the pressure because that is .2 of a pound per foot.

Q This is a closed system, is it not, Mr. Boling?

A No, sir, it's open.

Q What is the source of the water that you

1  
2 propose to inject?

3 A 9/10ths of it is the Bushy Draw Delaware,  
4 which is being -- the field which is being developed in this  
5 area, and then there is a small amount from the Wolfcamp and  
6 Morrow gas wells in the area.

7 Q What information do you have regarding  
8 the compatibility of the injected water with the formation  
9 in which you propose to inject?

10 A Well, we have some water analyses at-  
11 tached from three -- the three parts of the Delaware and the  
12 Wolfcamp, but the water's coming out, at least 9/10ths of  
13 the water we're going to inject is coming out of the same  
14 formation we're putting it back into.

15 Q Would you briefly describe the -- in geo-  
16 logical terms, the Delaware, the portion of the Delaware in  
17 which you propose to inject?

18 A Well, we plan to inject in the upper part  
19 of the Delaware, which is the Bell Canyon, and it's a very  
20 fine grained quartz sand with alternating thin layers of  
21 shale and limestone.

22 Q If you've not stated it, Mr. Boling, what  
23 is the interval, the exact location of the interval in which  
24 you propose to inject?

25 A Well, Exhibit A shows the condition of  
the well as it is right now.

Amoco perforated 3350 to 96 in the 9-  
5/8ths, perforated the 9-5/8ths casing 3350 to 96, and



1  
2 tested it and they tested oil and water and finally just  
3 went to mud. I mean no oil and no water, just died.

4 So what we plan to do is reperforate  
5 their perforated interval. I mean they only perforated a  
6 few holes, and we want to perforate four holes to the foot  
7 and then we want to deepen the hole from its present total  
8 depth to 3700 and then inject into the perforations at 3350  
9 to 96 and the open hole from total depth, present total  
10 depth to 3700, and the way the well is now is shown in Exhi-  
11 bit A and the way we plan to recomplete it is shown in Exhi-  
bit B.

12 Q What stimulation program do you antici-  
13 pate using?

14 A Acid. We'd clean it up with acid.

15 Q Are there any underground sources of  
16 fresh water in the area, Mr. Boling?

17 A No, sir.

18 Q And you have submitted with the Form C-  
19 108 logging and any test data available on that well?

20 A Yes, sir.

21 Q You have examined all available engin-  
22 eering and data and you have determined there is no evidence  
23 of any open faults or any other type of hydrologic connec-  
tion which would allow the injected water to migrate either  
up or down?

24 A That is correct.

25 Q Exhibit Number Two, Mr. Boling, is an af-

1  
2 Affidavit of mailing reflecting notice of mailing of this ap-  
3 plication and notice of the hearing to the owner of the sur-  
4 face, the BLM, and all lease operators within one-half mile,  
5 is it not?

6 A Yes, sir.

7 MR. DICKERSON: Mr. Examiner,  
8 move admission of Applicant's Exhibit One and Two at this  
9 time.

10 MR. STOGNER: Exhibits One and  
11 Two will be admitted into evidence.

12 MR. DICKERSON: I have no fur-  
13 ther questions, Mr. Examiner.

14 CROSS EXAMINATION

15 BY MR. STOGNER:

16 Q Mr. Boling, on the water analyses in --  
17 made part of Exhibit One, you have four different waters:  
18 One from Cherry Canyon, Bell Canyon, Brushy Canyon, and the  
19 Wolfcamp. Which one best represents the water that is pre-  
20 sent in your injection zone that you propose to utilize?

21 A Well, the water which is present in the  
22 injection zone is Bell Canyon; be right at the very top.

23 Q Okay. You show some Brushy Canyon. How  
24 -- what kind of percentage of Brushy Canyon's produced water  
25 will you be injecting into your zone, your well?

26 A Oh, roughly 25 percent, and the reason  
27 is, and this may increase as time goes by, and the reason is

1  
2 C. C. Williamson, who is an active operator in the area, has  
3 recently taken on a 20-well commitment and that's the reason  
4 we need the well, lots of water.

5 But, Williamson drills clear through and  
6 he completes in the Brushy Canyon. Worth Petroleum don't.  
7 They just go to the Cherry Canyon and quit. So they're not  
8 producing any; Worth is not producing any Brushy Canyon  
9 water. Williamson is producing everything.

10 Q While we're on this, what kind of percent-  
11 age of Cherry Canyon produced water do you expect to be in-  
12 jecting at this time?

13 A Oh, around 70 percent. There's very lit-  
14 tle Bell Canyon, very little that's producing in that area.

15 Q Well, we're already up to 95 percent uti-  
16 lization. So Bell Canyon and Wolfcamp produced water will  
17 take up the remaining 5 percent.

18 I'd like to now examine a little more  
19 closely the USA New Mexico A Well No. 1, the plugged and  
20 abandoned well which is roughly 100 foot -- 100 feet from  
21 your proposed injection well. Is that not the one?

22 A Yes, uh-huh, TP.

23 Q Yes, sir, TP Coal and Oil.

24 A Yes.

25 Q I'm somewhat concerned -- were the per-  
forations shown on this schematic, were they squeezed before  
the well was plugged?

A Nope. We have no record of that. But

1  
2 I'll tell you, I was a little nervous, too, so I went over  
3 and talked to your Artesia office and toured this with the  
4 well records and everything else, and I said, hey, if I was  
5 coming in there today would you still approve this kind of a  
6 plugging? And they said, yep, looks good enough to us.

7 Q Who did you speak with over in the Arte-  
8 sia --

9 A Larry Brooks was the one, yes, sir.

10 You see, it's hard to show but that cas-  
11 ing is full of cement also, probably, inside and outside.  
12 And 15 sacks, you know, that's about 15 cubic feet of mat-  
13 erial and it fills up quite a large area, you know, quite a  
14 lot of a 5-1/2 hole.

15 Q So this 15 sacks of cement is not setting  
16 on -- let me rephrase that.

17 This 15 sacks of cement, you're saying is  
18 not, probably not setting on top of the stub of the 5-1/2  
19 casing.

20 A No, but it, you know, it's hard to show  
21 it without getting into the color business and that kind of  
22 thing.

23 Q What's the nearest disposing -- disposal  
24 well in the Delaware formation in this area? Do you know?

25 A Yes, sir. It is located in the northeast  
of the northwest of Section 33, 26 South, 30 East, and BBC  
owns it.

Q That's the northeast --

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A Of the southeast. See there in 33, that well that says it shows a dry hole on this map?

Q Yes, sir.

A And there's a little old notation "Work-over" there, it says. Well, we really made a disposal. It's Stateline -- BBC's Stateline Federal.

Q And that's --

A Disposal.

Q -- that's disposing in the Delaware presently.

A Yes. But you see, with Williamson coming with the 20-well drilling program, and all of those wells making lots of water, we anticipate the need of another well.

Q Is this well presently injecting or is it in the --

A No, it is --

Q It is injecting?

A Yeah, that well's injected about 60,000 barrels a month, you see, and we have a pipeline that runs right along the section line north of the section -- north line of the Section 33, to 32, 31, and so forth, and that pipeline runs over to the middle of Section 35 of 26, 29, and gathers all that water from those leases on the way to our disposal well.

Q Are there any Delaware injection wells over on the Texas state side?

1  
2 A I think, I'm not positive, but I think  
3 that H. L. Brown has one possibly in the southwest of the  
4 southeast of 5, down to the southeast. He has a lot of ac-  
5 reage in there and he is injecting his own water.

6 Q It's possible. We just don't know at the  
7 time.

8 A Well, he has one down there somewhere and  
9 he's injected, because very once in awhile he turns those  
10 down and just floods us. I mean here come the trucks.

11 Q Have you looked at possibly buying a well  
12 down in Texas to dispose of this water?

13 A I get tongue-tied as soon as I get to  
14 Texas.

15 Q Would there be any Texas water come up to  
16 New Mexico to be disposed in this well?

17 A Heavens, no.

18 MR. STOGNER: I have no further  
19 questions of Mr. Boling at this time.

20 Are there any other questions  
21 of this witness?

22 If not, he may be excused.

23 Is there anything further in  
24 Case Number 8346?

25 If not, this case will be taken  
under advisement.

(Hearing concluded.)

## 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 Con-  
servation Division was reported by me; that the said tran-  
script 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  
transcript is a full, true, and correct  
record of the hearing held on Sept. 19, 1984,  
8346  
Michael J. Stegner, Examiner  
Oil Conservation Division