

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

9 January 1986

EXAMINER HEARING

IN THE MATTER OF:

Application of Crown Central Petro- CASE
leum Corporation for salt water dis- 8804
posal, Chaves County, New Mexico.

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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I N D E X

KEN KIRBY

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MR. CATANACH: We'll call next
Case 8804.

MR. TAYLOR: The application of
Crown Central Petroleum Corporation for salt water disposal,
Chaves County, New Mexico.

MR. CATANACH: Are there
appearances in this case?

MR. PEARCE: May it please the
Examiner, I am W. Perry Pearce of the Santa Fe law firm of
Montgomery & Andrews, appearing in this matter on behalf of
the applicant, Crown Central Petroleum.

I have one witness to be sworn.

MR. CATANACH: Are there other
appearances in this case?

Will the witness please stand
to be sworn in?

(Witness sworn.)

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

DIRECT EXAMINATION

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BY MR. PEARCE:

Q Thank you, sir. For the record would you please state your name, place of employment, and business address?

A Okay. My name is Ken Kirby. I'm employed with Crown Central Petroleum Corporation; address is 4000 North Big Spring, Suite 213, Midland, Texas, 79705.

Q Mr. Kirby, have you ever testified before the New Mexico Oil Conservation Division or one of its examiners before?

A No, I have not.

Q All right, sir. For the record, please, would you state your educational background as it relates to the oil and gas industry?

A Yes, I received a Bachelor of Science in petroleum engineering from the University of Oklahoma in 1982 and I've been working as a production engineer for Crown Central Petroleum for approximately three and a half years.

Q All right, sir, and would you please state briefly the purpose of the application today?

A Okay, the purpose of the application is to request authorization for a salt water disposal well for our Humble State "B" 1 in Chaves County.

1 MR. PEARCE: Mr. Examiner, are
2 the witness' qualifications acceptable as an expert in geol-
3 ogy -- pardon me, petroleum engineering?

4 MR. CATANACH: Mr. Kirby, have
5 you worked in the area that you are requesting the disposal
6 of water?

7 A Yes, I have. I've had that area for ap-
8 proximately three years.

9 MR. CATANACH: The witness is
10 considered qualified.

11 MR. PEARCE: Thank you, Mr.
12 Examiner.

13 Q Mr. Kirby, if I may, let me direct your
14 attention to what I have marked as Crown Central Exhibit
15 Number One, which is Oil Conservation Division Form C-108,
16 with attachments.

17 During the course of this direct testi-
18 mony I will go through this form and the documents which are
19 attached to it for the examiner and those in attendance.

20 If you would initially, sir, please turn
21 to the first long sheet of paper in that exhibit, which is a
22 land plat, and describe that for us.

23 A Okay, this is a land plat showing the
24 area with an arrow pointing to the well of interest, the
25 Humble State "B" 1, and it has a half mile radius circle

1 drawn around the well.

2 Q All right, sir. Included within that
3 circle I see several wells. Would you please briefly sum-
4 marize the status of those wells for the examiner and those
5 in attendance?

6 A Okay. Crown Central owns two of these
7 wells. The third is the disposal well, or the Humble "B"
8 State 1, which we also own.

9 We have two producing wells, the Humble
10 State "A" 1 and "A" 2.

11 The "A" 1 is producing from the Bough C
12 formation and the "A" 2 is a plugged back well producing
13 from the San Andres.

14 Exxon has one plugged well, the Exxon
15 "BW" 6, which was plugged and abandoned, and Baron Corpora-
16 tion has one well that -- the Levick State No. 1 Well, which
17 is also plugged and abandoned.

18 Q Okay, and the two wells which Crown Cen-
19 tral operates are the only producing wells within the area
20 of interest, is that correct, sir?

21 A That's correct.

22 Q Thank you. At this time I'd ask you to
23 turn the page to the injection well data sheet for the pro-
24 posed injection well and review for the examiner the casing
25 program of that well.

1 A Okay. The well has 13-3/8ths surface
2 casing set at 409 foot with an 8-5/8ths intermediate string
3 set at 3569 foot, and 4-1/2 inch long string set at 9,066
4 foot.

5 We propose to run 2-3/8ths SALTA-lined,
6 which is a PVC-lined tubing with a Geiberson Uni-5 tension
7 packer set at 8826.

8 Q I'm sorry, sir, if you mentioned it I
9 missed it, what are the perforations in the well presently?

10 A Okay, present perforations are Bough C,
11 Bough C Pennsylvanian perms, 8906 to 9020.

12 Q And you propose to inject through those
13 same perforations, is that correct?

14 A Yes, we do.

15 Q All right, sir. If you would please turn
16 to the next page, which is another schematic of the "BW" No.
17 6 Well. This, I believe you mentioned, was an Exxon-oper-
18 ated well at one time?

19 A Yes, this was an Exxon Bough C well,
20 which was produced from the Bough C until 1973 when they
21 plugged and abandoned the well.

22 The well was plugged and abandoned when a
23 fish was lost in the hole. Okay, when they -- after the
24 tubing fish was lost they set a 25-sack cement plug at 8900
25 foot and then they shot and pulled the 4-1/2 inch casing at

1 3637 foot, setting a 50-sack cement plug; and then out of
2 the 4-1/2 inch casing stub and the 7-5/8ths casing shoe.

3 The 7-5/8ths was then pulled at 742 foot
4 where they set a 60-sack cement plug in and out of the cas-
5 ing stub, and another 60-sack plug in and out of the 10-3/4
6 surface shoe, yeah, casing shoe.

7 Then they set a 10-sack surface plug with
8 a dry hole marker.

9 Q All right, sir, and as I understand it,
10 that plugging job was done in 1973?

11 A That's correct.

12 Q In your opinion as a petroleum engineer,
13 does the plugging program on the well adequately separate
14 the Bough C formation from other possible producing forma-
15 tions?

16 A Yes, it does.

17 Q All right, sir, I would ask you at this
18 time to turn the page of the next exhibit, which is another
19 well schematic, this one of the Levick State No. 1 Well.

20 A Okay, the Levick State No. 1 is tempor-
21 arily abandoned due to collapsed casing at 5775 to 5921, and
22 after a short workover they commenced to plug and abandon
23 the well by setting a cast iron bridge plug at 5750, topping
24 that with 35 sacks of cement.

25 They then pulled the 4-1/2 inch casing at

1 3775, setting 100-foot of cement in and out of the casing
2 stub, and another 100 foot of cement in and out of the 7-
3 5/8ths casing shoe.

4 According to all Commission records, the
5 well was then -- they then stopped operations waiting on a
6 casing pulling rig to pull the 7-5/8ths. This was in 1975
7 and the well has been temporarily abandoned since then.

8 Q All right, sir, in your opinion as a
9 petroleum engineer, do you believe that the plugging program
10 which has been conducted on this well to date is adequate to
11 separate the Bough C formation from other possible producing
12 formations in the area?

13 A Yes, it has.

14 Q Mr. Kirby, out of interest, as a
15 petroleum engineer, if you were going to proceed to complete
16 the final plugging of this well, what additional steps would
17 you take?

18 A The additional steps to be taken would be
19 to shot and pull the 7-5/8ths casing, setting a plug in the
20 casing stub and another plug of cement in the 10-3/4 surface
21 pipe shoe, with a surface plug and dry hole marker.

22 Q In your opinion, sir, would any of those
23 steps add additional protection separating the Bough C from
24 other producing formations?

25 A No, they wouldn't.

1 Q All right, sir. At this time, if I may,
2 Mr. Kirby, let's look back up to the front of the applica-
3 tion, the second page has some well data on the Humble State
4 "A" No. 1 Well and the Humble State "A" 2 Well, which are
5 operated by Crown Central, and if you would review the cas-
6 ing programs and present operation of those wells for us,
7 please.

8 A Okay, the Humble State "A" 1 is a produc-
9 ing well pumping from the Bough C formation. It has 13-
10 3/8ths surface pipe set at 420 foot; has 8-5/8ths interme-
11 diate set at 3566; and 4-1/2 inch long string set at 9,089
12 foot.

13 The well is presently pumping approxi-
14 mately 17 barrels a day oil.

15 Q At this time, sir, if you would, let's
16 refer to the land plat which we first addressed, and iden-
17 tify which well that is you just addressed, please.

18 A Okay, that is the well in the southwest
19 of the southwest quarter of Section 21.

20 Q And that is a well which produces from
21 the zone in which you propose to inject, is that correct?

22 A Yes, it is.

23 Q All right, let's go to the Humble State
24 "A" 2, please, sir.

25 A The Humble State "A" 2 is a San Andres

1 well, which it has 13-3/8ths surface set at 417 foot; 8-
2 5/8ths set at 3577; and 4-1/2 inch long string at 9,060.

3 The well was plugged back, after casing
4 collapsed, by setting a cement retainer at 4649; let's see,
5 casing collapsed at 5770. We set a cement retainer at 4649
6 and squeezed 300 sacks of Class A cement below the retainer
7 as per Hobbs Commission Office.

8 Q All right, sir, at this point, if you
9 would, let's turn the page to the item marked Roman Numeral
10 VII, which is a general description of your expected opera-
11 tions of this injection well, and review those for the exam-
12 iner, please.

13 A Okay, we expect an average injection rate
14 of 32 barrels of water per day with a maximum of 50 barrels
15 of water per day. It will be a closed system and the well
16 is expected to take all water on a vacuum.

17 Q All right, sir, I would refer your atten-
18 tion to the item marked Roman Numeral XI. Are you aware of
19 any water wells within one mile of the proposed injection
20 well?

21 A No, I'm not.

22 Q And referring to the item marked Roman
23 Numeral XII, is there any evidence of connection between the
24 zone of injection, the Bough "C" Pennsylvanian, and any
25 fresh water aquifer?

1 A No, there is not.

2 Q All right, sir, at this time I would ask
3 you to refer to the first short page behind the well schema-
4 tics which we addressed earlier. This page is entitled Pro-
5 duced Water Analysis.

6 Would you review the contents of this do-
7 cument for the Examiner, please?

8 A Okay. We took water analyses from both
9 wells producing from the Bough C in the San Andres which are
10 listed here. From these analyses we could not find any
11 problems with precipitants or any other problems from com-
12 bining the two waters.

13 We have also taken a sample jar and com-
14 bined the two waters in their approximate percentages, and
15 we have found no precipitants to be formed when you combine
16 these two waters.

17 Q All right, sir, and for the record, as I
18 understand it, the Humble State "A" No. 1 Well, the water of
19 lower quality shown on this water analysis is water taken
20 from the proposed injection zone; the better quality water
21 is water to be mixed with that and injected from the San An-
22 dres, is that correct?

23 A That's correct.

24 Q All right, sir, at this time I would ask
25 you to turn the page. I find a letter from you to the Ros-

1 well Daily Record requesting that a legal notice be pub-
2 lished. Attached to that is an affidavit of publication in
3 the Roswell Daily Record, notifying the public of the pro-
4 posal to convert this well to salt water disposal.

5 Did in fact Crown Central Petroleum cause
6 this legal notice to be given?

7 A Yes, we did.

8 Q All right, sir, I would ask you to turn
9 the page and I find a page which has a number of xeroxed
10 copies of postal return receipts. Could you discuss each of
11 those receipts, the party by whom it was received, and the
12 reason notice was given to that party?

13 A Okay, we sent these three certified re-
14 ceipts to, one to the State of New Mexico, since they're the
15 surface owner. We sent one to Exxon and Baron Corporation
16 as offset operators, and another one to Union Texas Petro-
17 leum, on the next page, as an operator.

18 Q All right, sir, at this time let's refer
19 back to the land plat which we used earlier in the case. As
20 I understand it, the State of New Mexico has the surface in-
21 terest in these properties. Baron Corporation operated the
22 plugged well to the west of the proposed injection location.
23 Looking at that plat it appears that Union Texas Petroleum
24 has acreage to the south of the section in question; there-
25 fore received notice.

1 I also note, sir, that there appears to
2 be a corner of a tract which is also encompassed by the one-
3 half mile radius circle. Could you describe the status of
4 that land for us?

5 A Yes. The northeast corner of this Sec-
6 tion 28, is not leased. The last lease was -- expired in 5-
7 19-1980, so it's unleased State land.

8 Q Okay, and by whom was that lease held at
9 that time?

10 A Up to 1980 it was Boston Energy Company.

11 Q All right. Thank you, sir.

12 Do you have anything further in this case
13 at this time?

14 A No, I don't.

15 MR. PEARCE: Mr. Examiner, I
16 have nothing further at this time. I would tender the wit-
17 ness for any questions you may have.

18

19 CROSS EXAMINATION

20 BY MR. CATANACH:

21 Q Mr. Kirby, referring to the schematic on
22 the Exxon Corporation's Well "BW" No. 6, I don't see where
23 it shows cement behind the 4-1/2 inch casing. Are you aware
24 of how much cement they used to cement the casing?

25 A No, I'm not. I got my information from

1 Dwight's here and they did not show how much cement was run
2 behind the 4-1/2.

3 Q Okay. Can you provide me with that in-
4 formation if -- I believe it can be obtained from the well
5 file?

6 A Yes, it can.

7 Q Also, on the Baron Corporation Levick
8 State No. 1, would you provide the same information on that
9 well for me?

10 A Okay.

11 Q The produced water analysis you have sub-
12 mitted, was that done by your company?

13 A No, it was not. It was done by a company
14 in Levelland, Texas, and I believe it was B & R Petroleum.
15 I might have that --

16 MR. PEARCE: If the Examiner
17 would like us to, we'll be happy to provide that information
18 for the record subsequent to this hearing when we provide
19 the information on cement behind the 4-1/2 on the other two
20 wells.

21 MR. CATANACH: That would be
22 fine, Mr. Pearce.

23 MR. PEARCE: Thank you, sir.

24 Q One more question, you stated in your ap-
25 plication that there were no fresh water wells within the

1 one mile radius?

2 A Yes, sir.

3 Q How was that information obtained, Mr.
4 Kirby?

5 A It was obtained in the field by me and
6 the foreman.

7 Q Mr. Kirby, to be certain on that point,
8 can I have you check with the State Engineer's Office and
9 they have all that information, and just to be sure, and if
10 you also would provide that information to me.

11 MR. PEARCE: We'll be happy to
12 do that, Mr. Examiner.

13 MR. CATANACH: Thank you. I
14 have no further questions of this witness.

15 MR. PEARCE: I have nothing
16 further at this time, Mr. Examiner.

17 I would move the admission of
18 Crown Central Petroleum Exhibit Number One.

19 MR. CATANACH: Exhibit Number
20 One will be admitted into evidence.

21 MR. PEARCE: Thank you, Mr.
22 Examiner, I have nothing further.

23 MR. CATANACH: Is there any-
24 thing further in Case 8804?

25 If not, it will be taken under
advisement.

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY 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. 8804, heard by me on Jan 9 1986,

David R. Catanzano, Examiner
Oil Conservation Division