

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
CONFERENCE ROOM, STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO  
May 5, 1972

EXAMINER HEARING

IN THE MATTER OF:

Application of Atlantic Richfield  
Company for waterflood projects,  
Eddy County, New Mexico.

CASE NO. 4705

BEFORE: Elvis A. Utz  
Examiner

TRANSCRIPT OF HEARING

dearnley-meier reporting

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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1 MR. UTZ: Case 4705.

2 MR. HATCH: Application of Atlantic Richfield  
3 Company for waterflood projects, Eddy County, New Mexico.

4 MR. HINKLE: Clarence Hinkle of Roswell, appearing  
5 on behalf of Atlantic Richfield.

6 We have one witness and eleven Exhibits.

7 DAVID OWENS,  
8 was called as a witness, and after being duly sworn, testified  
9 as follows:

10 DIRECT EXAMINATION

11 BY MR. HINKLE:

12 Q State your name, your residence and by whom you are  
13 employed.

14 A David Owens, I work for Atlantic Richfield, in Midland,  
15 Texas.

16 Q What is your position with Atlantic Richfield?

17 A Operating Engineer for Southwest New Mexico.

18 Q Petroleum Engineer?

19 A Yes.

20 Q Have you previously testified before the Commission?

21 A No.

22 Q State briefly your educational background and your  
23 experience as a Petroleum Engineer.

24 A I graduated in January of 1968, from the University of  
25 Missouri and went to work for Sinclair immediately after

1 graduation. Later, in 1969, I went to work for  
2 Atlantic Richfield and have been working in West  
3 Texas and Southeast New Mexico as an Engineer and  
4 an Operations Engineer.

5 Q Are you familiar with Atlantic Richfield's operations  
6 in New Mexico?

7 A Yes, sir.

8 Q Are you familiar with the area involved in this  
9 Application?

10 A Yes.

11 Q And do you have logs of the wells and all that  
12 information available?

13 A Yes.

14 MR. HINKLE: Are the witness' qualifications  
15 acceptable?

16 MR. UTZ: Yes.

17 Q (By Mr. Hinkle) Have you prepared, or has there been  
18 prepared under your direction, certain information for  
19 introduction in this Case?

20 A Yes.

21 Q Exhibits 1 through 11?

22 A That's right.

23 Q Are you familiar with the Application of Atlantic  
24 Richfield in this Case?

25 A Yes.

1 Q What is Atlantic Richfield seeking to accomplish?

2 A We are seeking to initiate waterflood operations  
3 on our three leases in Sections 19 and 30, Township  
4 17 South, Range 31 East, in Eddy County, New Mexico,  
5 for the injection of water into the pressure zone of  
6 the Grayburg formation through five wells on these  
7 subleases.

8 Q This is the Grayburg-Jackson Pool?

9 A Yes, sir.

10 Q Referring you to Exhibit Number 1, will you explain what  
11 it is and what it shows?

12 A Exhibit 1 shows our projection area outlined in blue.  
13 It shows all of the wells that have been drilled in the  
14 project area within a two mile radius.

15 It shows the formations from where they have produced  
16 or are producing. The proposed injection wells in the  
17 project area are shown and other injection wells are  
18 also indicated and the red line shown on this Exhibit  
19 are north-south and east-west cross section lines which  
20 we will get to in later Exhibits.

21 Q There are quite a few leases under waterflood surrounding  
22 the proposed project area; are there not?

23 A Yes. Atlantic has an offset waterflood project to the  
24 northeast and south of the proposed project area.

25 Q Referring you to Exhibit 2, will you explain what it is?

1 A This is our north-south cross section, as indicated  
2 on Exhibit 1.

3 These are gamma-ray neutron logs of the wells and  
4 we have marked the top of the pressure zone and the  
5 top of the San Andres zone and we have also indicated  
6 here the main zone of interest.

7 As you can see from the cross section, it continues  
8 on across this area and you can also see the structure  
9 has a marked dip to the south.

10 Q Does this show continuity of production to the north  
11 and south sections of the project area?

12 A Yes, sir.

13 Q Referring you to Exhibit Number 3, would you explain it?

14 A Exhibit Number 3 is our east-west cross section. We  
15 have marked the same intervals on this, namely, the  
16 top of the Sand zone and the main zone of interest.

17 It again shows continuity in an east-west direction  
18 and shows that our structure is relatively flat east to  
19 west.

20 Q Referring you to -- in order to save time, let's take  
21 Exhibits 4, 5, 6, 7 and 8 altogether.

22 A These are diagrammatic sketches of injection wells  
23 and on these, we show the well name and location; we  
24 show the casing, size, and depth; we show the amount  
25 of cement and the cement tops on each one of these strings

1 of casing; we show the proposed injection intervals;  
2 we also have the injection lookup and the injection  
3 tubing and Packer with the approximate Packer setting  
4 date indicated.

5 Q Some of these -- are any of these open hole or are they  
6 all through perforation?

7 A Yes, Exhibit 6 and 7, these two wells will be open hole  
8 injection and the other wells are all perforated.

9 Q Do you propose to use the closed system or do you have  
10 plastic coated tubing?

11 A The tube will be bar steel. We have used this type of  
12 injection setup at offset injection wells where we are  
13 treating our injection water and have experienced no  
14 difficulty with corrosion problems in injection strings.

15 Q Do you have anything further to commend on in these  
16 Exhibits?

17 A No, sir.

18 Q I refer you to Exhibit 9.

19 A Exhibit 9 is the decline curve of production on the  
20 three subleases since 1960. It shows that the production  
21 had declined in 1968 to less than 1,000 barrels of oil  
22 per month, and there are approximately two barrels of  
23 oil per day showing that we have been in the declining  
24 stage of production in the past two years.

25 We have obtained some response from our offset

1       injections.

2       Q     You have filed with your Application, logs of all these  
3       wells, have you not?

4       A     Yes, sir.

5       Q     With the exception of one which was not available?

6       A     The Federal Number 2 is not available.

7       Q     What is Exhibit 10?

8       Exhibit 10 is a large scale plat of the project  
9       area again showing our injection well and underlined in  
10      red on this Exhibit is the accumulated oil production for  
11      the project area which is 636 barrels as of 1/1/72.

12           This plat also shows continuation of our eighty  
13      acre pattern that has been developed on our offsetting  
14      plats.

15      Q     Is all the land in the project area Federal or State  
16      land?

17      A     It is all Federal land.

18      Q     Have you obtained approval from the U.S.G.S. concerning  
19      this project?

20      A     Yes, Exhibit 11 is a letter from the U.S.G.S. giving  
21      their approval of the project subject to the  
22      conditions listed on the second page.

23      Q     Are the royalties uniform throughout the three leases?

24      A     Yes.

25      Q     Do you have any overrides?

- 1 A No.
- 2 Q When do you plan to start injecting water?
- 3 A As soon as we gain State approval.
- 4 Q Are you requesting a project allowable?
- 5 A Yes, sir.
- 6 Q In accordance with the rule?
- 7 A Yes.
- 8 Q In your opinion, would approval of this project
- 9 protect conservation?
- 10 A Yes, sir.
- 11 Q And protect correlative rights?
- 12 A Yes.

13 MR. HINKLE: I will offer Exhibits 1 through 11.

14 MR. UTZ: Without objection, Applicant's Exhibits

15 1 through 11 will be entered into the record of this Case.

16 (Whereupon, Applicant's Exhibits 1 through 11 were

17 admitted in evidence.)

18 MR HINKLE: That's all my Direct Examination.

19 CROSS-EXAMINATION

20 BY MR. UTZ:

21 Q Mr. Owens, did you state your source of water?

22 A We are getting our water from Keel West Water Supply

23 Systems. We also will be reinjecting our produced water.

24 Q What is the company?

25 A Keel West Water Supply Systems.



1 Q Referring to your Exhibit Number 4, I notice the  
2 Well has a liner in the bottom, now, have you tested  
3 the casing on this well and been satisfied of the  
4 enclosure there?

5 A This liner has not been set yet. The well, at the  
6 present time, is an open hole completion through the  
7 Grayburg formation.

8 Q How about the casing tests on the other wells?

9 A They are all presently producing with no indication  
10 of any leaks. They were tested when they were  
11 originally cemented.

12 Q How long ago was that?

13 A It varies. Some of the wells were drilled in the fifties  
14 and some of the wells were drilled in the late forties.  
15 I believe I can get the exact dates, if you need them.

16 Q No, I think that is close enough. I might ask one  
17 more question, have you estimated what the secondary  
18 recovery might be?

19 A Yes, we anticipate approximately 620,000 barrels of  
20 secondary recovery from the area.

21 MR. UTZ: That's all I have.

22 MR. HATCH: Mr. Hinkle, ordinarily the Commission,  
23 where there is more than one lease, has orders written for  
24 each lease.

25 MR. HINKLE: Well, in this particular case, because

1 of the royalties being uniform, and it is all Federal land  
2 and there is no override and the working interest is all under  
3 Atlantic Richfield, I can't see any reason for it.

4 MR. HATCH: It wouldn't present any problems if  
5 listed as three?

6 MR. HINKLE: No.

7 MR. UTZ: Are there any other questions?

8 (No response.)

9 (Witness excused.)

10 MR. UTZ: Any statements in the Case?

11 (No response.)

12 MR. UTZ: The Case will be taken under advisement.  
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1 STATE OF NEW MEXICO )  
 )  
 2 COUNTY OF BERNALILLO )

3 I, RICHARD E. McCORMICK, a Certified Shorthand Reporter,  
 4 in and for the County of Bernalillo, State of New Mexico,  
 5 do hereby certify that the foregoing and attached Transcript  
 6 of Hearing before the New Mexico Oil Conservation Commission  
 7 was reported by me; and that the same is a true and correct  
 8 record of the said proceedings to the best of my knowledge,  
 9 skill and ability.

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12 CERTIFIED SHORTHAND REPORTER  
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I, Richard E. McCormick, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.  
 Witness my hand and seal this 15th day of May, 1955.  
 Richard E. McCormick  
 Certified Shorthand Reporter

dearnley-meier reporting

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I N D E XWITNESS:PAGEJERRY TWEED

Direct Examination by Mr. Hinkle

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Cross-Examination by Mr. Utz

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E X H I B I T SAPPLICANT'S (Atlantic Richfield)OFFEREDADMITTED

Exhibit Number 1

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Exhibit Number 2

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Exhibit Number 3

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Exhibit Number 4

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Exhibit Number 5

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Exhibit Number 6

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Exhibit Number 7

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Exhibit Number 8

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Exhibit Number 9

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Exhibit Number 10

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Exhibit Number 11

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