

dearnley, meier & mc cormick

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1216 FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

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

December 19, 1972

EXAMINER HEARING

IN THE MATTER OF:

Application of Shell Oil Company
for a waterflood project,
Chaves County, New Mexico.

Case No. 4882

BEFORE: Elvis A. Utz,
Examiner.

TRANSCRIPT OF HEARING

1 MR. UTZ: Case 4882: Application of Shell Oil
2 Company for a waterflood project, Chaves County, New Mexico.

3 MR. LOPEZ: Owen Lopez, of the firm of Montgomery,
4 Federici, Andrews, Hannahs and Morris, Santa Fe, appearing
5 on behalf of the Applicant. I have one witness to be sworn.

6 MR. UTZ: Are there other appearances?

7 (No response)

8 B. M. BEST,

9 was called as a witness, and after being duly sworn, testified
10 as follows:

11 DIRECT EXAMINATION

12 BY MR. LOPEZ:

13 Q Would you please state your name and residence for
14 the record, please?

15 A Billy Wayne Best, Odessa, Texas.

16 Q Mr. Best, have you previously testified before the
17 Oil Conservation Commission and had your qualifications
18 accepted as a matter of record?

19 A No, I have not.

20 Q Could you then briefly describe your educational
21 background and work experience?

22 A I am a graduate of Texas Tech University, I graduated
23 in 1960 with a bachelor of science degree in petroleum
24 engineering. I went to work for Shell Oil Company in
25 1960, and have been working for Shell ever since. I

1 am presently a production engineer in the Southeastern
2 part of New Mexico.

3 Q You are familiar with the application of Shell Oil
4 Company in Case 4882?

5 A Yes, sir. The application is seeking authority to
6 institute a waterflood project by the injection of
7 water into the San Andres formation through the
8 following five wells in the Cato-San Andres Pool,
9 Chaves County, New Mexico: Amoco Federal Wells Numbers
10 4, 6, 7, and 8 in Units G, O, E and M, respectively,
11 of Section 33, and the Hodges Federal B Well Number 4
12 in Unit M of Section 34, all in Township 8 South,
13 Range 30 East.

14 Q And in your position with Shell, you are in charge of
15 this waterflood project, are you not?

16 A That's right.

17 MR. LOPEZ: Are the witness's qualifications
18 acceptable, Mr. Examiner?

19 MR. UTZ: Yes, they are.

20 Q (By Mr. Lopez) I believe you prepared some exhibits
21 in support of your application in this case, and I
22 ask you to turn to Exhibit One and briefly explain
23 what it describes.

24 A Exhibit One is a plat with a two-mile radius of the
25 subject waterflood project, which is outlined in dark

1 blue. The red boundary engulfs the proposed injection
2 wells, and this plat shows the proposed injection lines,
3 and also shows the tank battery on the east side, and
4 the tank battery for the proposed station site, which
5 will be 1400 feet from the south line and 1,900 feet
6 from the east line of Section 33, Township 8 South,
7 Range 30 East. This water station will be equipped
8 with automatic shut-down devices, and the well heads
9 will be equipped with check valves, and in cases of
10 malfunction, there will be an operator to check these
11 operations daily.

12 Q Now, turning to Exhibit Two, would you please explain
13 what this is?

14 A Exhibit Number Two is the downhole draining of the
15 proposed injection wells. Amoco Federal Wells Numbers
16 4, 6, 7, and 8, and the Hodges Federal B Well Number 4.
17 It shows the casing sizes, the depths at which they
18 are set, the amount of cement, and the top of the
19 cement, the perforated intervals, and the proposed
20 packer setting depths, and the tubing which we intend
21 to inject through is 2 and 3/8. Also attached to the
22 back is the exact locations of these wells.

23 Q That is the last page of the exhibit, which gives the
24 exact locations of each well?

25 A Yes, sir.

1 Q Now, turning to Exhibit Three, what is this?

2 A Exhibit Three is a log of each injection well, proposed
3 injection well. The San Andres is marked, and the top
4 of the pay is marked in red. The perforations and
5 depths are marked in green.

6 Q Now, turning to Exhibit Number Four, would you please
7 explain what this is?

8 A This gives the locations of the three leases involved.
9 The projection rate is proposed to be approximately
10 5,000 barrels per day for five wells with anticipated
11 well head pressure of 500 pounds.

12 We propose the water source to be produced water,
13 and we will convert the salt water wells to water
14 source wells.

15 The Shell Federal Number 1 is 330 feet from the
16 north line and 990 feet from the east line. The
17 perforated interval is 3,581 to 3,680. The second
18 well is close by, 1,980 feet from the north line and
19 660 feet from the east line of Section 16. The
20 perforation depths are 3,414 to 3,485.

21 Q And do the additional pages of the exhibit describe
22 the water analyses for the source of the water?

23 A Yes, it describes the analyses of source water and
24 analyses were made by Martin Water Laboratories in
25 Midland, Texas.

1 Q Turning your attention to Exhibit Number Five, would
2 you please describe what this is?

3 A Exhibit Five is a production curve of the Cato field.
4 On the back we have tabulated the monthly production of
5 each lease and the sum of the three leases together.

6 You will notice that there has been a very steep
7 decline, approximately fifty-eight percent, and from
8 my calculations, the economic limits on these three
9 leases will be approximately between March and June
10 of 1974. We plan to commence injection in mid-summer
11 of 1973, and it is anticipated that this will take
12 about nine months from injection to waterflood response.

13 So waterflood response and the economic limits
14 of the leases will be at about the same time.

15 Q Now, turning your attention to Exhibit Number Six,
16 will you explain this?

17 A Exhibit Six is a letter to all the offset operators,
18 and attached is a copy of the receipt for certified
19 mail. In this letter, we notified the offset operators.

20 Q Will you explain Exhibit Number Seven?

21 A Exhibit Seven is a letter that Shell sent to the USGS
22 notifying them of this hearing, and attached is their
23 letter of approval for this project.

24 Q And could you briefly summarize exactly what you are
25 requesting?

1 A Well, if this application is approved, we hope to have
2 operations set up by mid-summer with all connections
3 installed, and commence injection. Unless the project
4 is approved, there are an amount of reserves which will
5 not be recovered. It is our firm opinion that approval
6 of this application will prevent waste and protect
7 correlative rights.

8 Q Do you have an opinion as to the amount of additional
9 secondary recovery?

10 A On Exhibit Four, we have indicated-- we have estimated
11 an increase in the reserves of 543,000 barrels of oil
12 from these three leases.

13 Q Were Exhibits One through Seven prepared by you, or
14 under your supervision?

15 A Yes, they were.

16 MR. LOPEZ: At this time, we would like to
17 introduce Exhibits One through Seven.

18 MR. UTZ: Without objection, Exhibits One through
19 Seven will be entered into the record of this case.

20 MR. LOPEZ: That's all we have.

21 * * * *

22 CROSS EXAMINATION

23 BY MR. UTZ:

24 Q Mr. Best, do you intend to re-inject your produced
25 water?

dearnley, meier & mc cormick

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1 A That's right.

2 Q How about the surface equipment on your injection wells?

3 Do you intend to monitor that with a gauge?

4 A Yes, we intend to monitor the amount of water we inject

5 with meters.

6 Q How about checking for casing leaks? Will you have a

7 gauge at the surface, or will you leave it open?

8 A I'm sure we will place a gauge upon the wells. We

9 plan to fill the annulus with fluid to limit corrosion.

10 MR. UTZ: Are there any questions of the witness?

11 (No response)

12 MR. UTZ: If not, he may be excused.

13 (Witness excused.)

14 MR. UTZ: Are there any statements in this case?

15 (No response)

16 MR. UTZ: The case will be taken under advisement.

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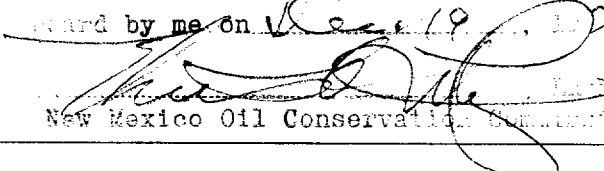
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1 STATE OF NEW MEXICO)
 2 COUNTY OF BERNALILLO } ss
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4 I, RICHARD E. McCORMICK, a Certified Shorthand
 5 Reporter, in and for the County of Bernalillo, State of
 6 New Mexico, do hereby certify that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

11 
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 13 CERTIFIED SHORTHAND REPORTER
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23 I do hereby certify that the foregoing is
 24 a complete record of the proceedings in
 25 the Examiner hearing of Case No. 4882
 heard by me on June 19, 1952

 New Mexico Oil Conservation Commission

I N D E XWITNESSPAGE

B. W. BEST

Direct Examination by Mr. Lopez

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Cross Examination by Mr. Utz

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Exhibit #1

Plat

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Exhibit #2

Downhole draining

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Exhibit #3

Log

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Exhibit #4

Location of leases

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Exhibit #5

Production curve

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Exhibit #6

Letter

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Exhibit #7

Letter

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