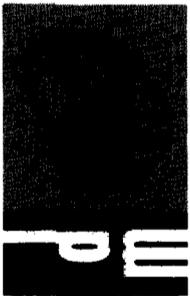


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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Roswell, New Mexico

October 13, 1971
Examiner Hearing

IN THE MATTER OF:)

Application of Penroc Oil)
Corporation for a waterflood)
expansion and amendment of)
Order No. R-3494, Eddy County,)
New Mexico.)

Case No. 4607

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

1 MR. NUTTER: We will call Case No. 4607.

2 MR. HATCH: Case 4607. Application of Penroc Oil
3 Corporation for a waterflood expansion and amendment of Order
4 No. R-3494, Eddy County, New Mexico.

5 MR. KELLAHIN: If the Examiner please, Jason
6 Kellahin, Kellahin and Fox, Santa Fe, appearing for the
7 applicant. We have one witness I would like to have sworn.

8 (Witness sworn)

9 JOHN CASTLE

10 having been first duly sworn, according to law, upon his oath
11 testified as follows:

12 DIRECT EXAMINATION

13 BY MR. KELLAHIN:

14 Q Would you state your name please?

15 A John Castle.

16 Q By whom are you employed and in what position, Mr. Castle?

17 A Penroc Oil Corporation, and I am President.

18 Q Have you testified before the Oil Conservation Commission
19 or one of its examiners and made your qualifications a
20 matter of record?

21 A Yes, I have.

22 MR. KELLAHIN: Are the witness' qualifications
23 acceptable?

24 MR. NUTTER: Yes, they are.

25 Q Mr. Castle, are you familiar with the application of

- 1 Penroc Oil Corporation in Case No. 4607?
- 2 A Yes.
- 3 Q What is proposed by the applicants in this case?
- 4 A Penroc proposes to drill an injection well on its Phillips
- 5 Artesia Waterflood Project in the Artesia-Grayburg-Queen-
- 6 San Andres field, Eddy County.
- 7 Q And is that a part of an existing waterflood project?
- 8 A Yes.
- 9 Q Was that waterflood project approved by this Commission?
- 10 A Yes, it was.
- 11 Q And has been in operation for some time?
- 12 A Yes.
- 13 Q Now, in the application, Mr. Castle, the applicant asks
- 14 for a location 2640 feet from the south line and 1320
- 15 feet from the east line. It was advertised, however, as
- 16 2645 feet from the south line and 1325 feet from the east
- 17 line to get it off of the survey line.
- 18 A Yes, that's correct.
- 19 Q Did that have any effect on your application?
- 20 A No, it doesn't.
- 21 Q That is satisfactory with you?
- 22 A Yes.
- 23 Q Now, referring to what has been marked as the Applicant's
- 24 Exhibit No. 1, would you identify that exhibit?
- 25 A Exhibit No. 1 is a plat showing the Penroc's lease

1 outlined in red. It shows also our proposed injection well
2 located -- which will be located 2645 from the south line,
3 1325 feet from the east line of Section 27, Township 17
4 South, Range 25 East, in the Artesia-Queen-Grayburg-San
5 Andres field.

6 Q Now, is your existing waterflood also shown on this exhibit?

7 A Yes. All of the -- as is shown in the right-hand bottom
8 part of this plat, it shows the existing injection wells,
9 the existing shallow Permian wells, and the Abo reef wells,
10 gas wells and dry holes.

11 Q And it shows the lease ownership within a radius of two
12 miles of your injection well?

13 A Yes, it does.

14 Q Now, referring to what has been marked as Exhibit No. 2,
15 would you discuss that exhibit?

16 A Exhibit No. 2 is a graph which shows the oil production for
17 five or six months before the waterflood was commenced.

18 Then it shows water injection, water production, and
19 the oil production from that point up through August, 1971.

20 Q When was the waterflood started?

21 A It was begun in September of 1968.

22 Q And you received an almost immediate response; is that
23 correct?

24 A Within ninety days we had a response.

25 Q And what has been the history of the oil and production in

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1 the water injection since that date?

2 A Since -- from the time we got our first kick it was in
3 November of 1968 until about January or February of 1970.

4 We were producing oil at the rate of around 17,
5 1800 barrels a month. Before the flood was commenced we
6 were producing only around 300 barrels a month.

7 Q And since January or February of 1971 oil production has
8 dropped from around 1700 barrels a month down to about 900?
9 Does it indicate that an additional injection well is
10 necessary to keep the flood in operation?

11 A Yes.

12 Q And will an injection well located as you proposed here in
13 your opinion effectively flood the area involved?

14 A Yes, we think it will.

15 Q What is the source of water you are putting in this well?

16 A We purchase pressured water from Debco, who has the flood
17 adjoining us to the east and southeast.

18 Q And what volumes of water do you anticipate to inject in
19 this well?

20 A We will probably inject around, oh, say 4,000 barrels per
21 month.

22 Q Does it require pressure? Has that been your experience?

23 A Yes. It will be under pressure of approximately 900
24 pounds.

25 Q Has that been your experience in your other injection

1 wells?

2 A Yes.

3 Q And that effectively injects the producing horizon in this
4 instance?

5 A Yes.

6 Q Now, referring to what has been marked as Exhibit No. 3,
7 would you identify that exhibit?

8 A Exhibit No. 3 is a sketch showing the way the injection
9 well will be completed, so beginning at the top we will
10 drill to 12-inch hole with cable tools and set 9 5/8
11 inch casing at approximately 500 feet and circulate the
12 cement, blow the surface casing.

13 We will drill an 8 3/4 inch hole to total depth or
14 approximately 200 feet, set 7-inch production string and
15 cement it with 250 sacks which should tie in with the
16 surface casing.

17 We will run plastic-coated 2 3/8 inch tubing with a
18 Baker Pinchon Packer at 1950. We estimate the injection
19 interval to be from 2010 to 2030, which will be the
20 Premiere sand of the Grayburg formation.

21 We will fract that zone with 15,000 gallons of lease
22 crude using 15,000 pounds of sand, total depth will be
23 approximately 2100 feet.

24 Q Now, you will use internally coated tubing?

25 A Yes.

1 Q And inject through the tubing under a packer?

2 A That's right.

3 Q Will you fill the casing tubing annulus with an inert
4 fluid?

5 A Yes, we will.

6 Q Will you set a pressure gauge at the surface?

7 A Yes.

8 Q Were Exhibits 1 and 2 and 3 prepared by you or under your
9 supervision?

10 A Yes.

11 MR. KELLAHIN: At this time I would like to offer in
12 evidence Exhibits 1, 2, and 3.

13 MR. NUTTER: Applicant's Exhibits 1 through 3 will
14 be admitted in evidence.

15 MR. KELLAHIN: That completes our case, Mr. Nutter.

16 CROSS-EXAMINATION

17 BY MR. NUTTER:

18 Q Mr. Castle, you mentioned that you would inject 4000
19 barrels of water per month. Does that mean into each of
20 the two wells?

21 A No.

22 Q Are the totals for both wells?

23 A That will probably be a total for both wells. We won't
24 know the exact amount until after we experiment with it
25 for a couple of months.

1 Q In other words, according to your Exhibit No. 2 you are
2 injecting approximately 4000 barrels a month now, so it
3 is just more or less divided this in half?

4 A Yes. If we would check to see what kind of response we
5 get after a couple of months then we might increase it or
6 decrease it after that.

7 Q I see. Now, with reference to your Exhibit 3, up at the
8 top here it says the 9 5/8 inch casing will be set at
9 500 with calculated cement. I think your testimony was
10 circulated cement.

11 A That is what it is supposed to be. That is a misprint.

12 Q And also down at the bottom here we would have to, I guess,
13 since the application was amended, the footages would be
14 amended to be 2645 feet from the south line and 1325 feet
15 from the east line.

16 A Yes, that's right.

17 MR. NUTTER: Are there any further questions of
18 Mr. Castle? He may be excused.

19 (Witness excused)

20 MR. NUTTER: Do you have anything further, Mr.
21 Kellahin?

22 MR. KELLAHIN: That's all, Mr. Nutter. Thank you.

23 MR. NUTTER: Does anyone have anything they wish to
24 offer in Case 4607? We'll take the case under advisement.

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I N D E X

WITNESS

PAGE

JOHN CASTLE

Direct Examination by Mr. Kellahin

2

Cross-Examination by Mr. Nutter

7

E X H I B I T S

OFFERED IN EVIDENCE

PAGE

Applicant's Exhibits 1 through 3

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1 STATE OF NEW MEXICO)
2 COUNTY OF BERNALILLO)

3 I, LINDA MALONE, Court Reporter, do hereby certify that
4 the foregoing and attached Transcript of Hearing before the
5 New Mexico Oil Conservation Commission was reported by me;
6 that the same is a true and correct record of the said
7 proceedings, to the best of my knowledge, skill and ability.

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11 Linda Malone
12 Court Reporter

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22 I do hereby certify that the foregoing is
23 a complete record of the proceedings in
24 the ~~hearing~~ hearing of Case No. 4607
25 heard by me on 10/13 1971
Linda Malone, Reporter
New Mexico Oil Conservation Commission