

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS
209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE ROOM, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
March 1, 1972

EXAMINER HEARING

IN THE MATTER OF:)
)
Case 4508 being reopened pursuant to) Case No. 4508
the provisions of Order No. R-4117,)
which order established special rules)
and regulations for the Warren-)
Devonian Pool, Lea County, New Mexico.)
)

BEFORE: Richard L. Stamets
Examiner

TRANSCRIPT OF HEARING

1 MR. STAMETS: I will call Case Number 4508.

2 MR. HATCH: In the matter of Case Number 4508
3 being reopened pursuant to the provisions of Order R-4117,
4 which order established special rules and regulations for
5 the Warren-Devonian Pool, Lea County, New Mexico,
6 including a provision for 80-acre spacing units.

7 The Commission has received a letter from the
8 Continental Oil Company which states, in part, that they
9 see no reason to continue special pool rules and they
10 recommend this pool be reserved statewide.

11 MR. STAMETS: Are there any other appearances
12 in Case 4508?

13 (No response.)

14 MR. STAMETS: There being none, an order will
15 be issued establishing standard statewide pool rules for
16 the Warren-Devonian Pool.

17

18

19

20

21

22

23

24

25

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 24, 1971

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of Continental Oil)
Company for the assignment of)
discovery allowable and promulgation)
of special pool rules, Lea County,)
New Mexico.)

Case No. 4508

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

1 MR. UTZ: The hearing will come to order. We will
2 call Case 4508.

3 MR. HATCH: Application of Continental Oil Company
4 for the assignment of discovery allowable and promulgation of
5 special pool rules, Lea County, New Mexico.

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

9 (Witness sworn.)

10 (Whereupon, Applicant's Exhibits 1 through 5 were marked
11 for identification.)

12 VICTOR T. LYON,

13 having been first duly sworn, testified as follows:

14 DIRECT EXAMINATION

15 BY MR. KELLAHIN:

16 Q Would you state your name, by whom you are employed and
17 in what position?

18 A I am Victor T. Lyon, L-y-o-n. I am employed by Continental
19 Oil Company as conservation coordinator in the Hobbs
20 Division Office located in Hobbs, New Mexico.

21 Q Have you testified before the Oil Conservation Commission
22 and made your qualifications a matter of record?

23 A Yes, I have.

24 Q The witness' qualifications acceptable?

25 MR. UTZ: Yes, sir.

1 Q (By Mr. Kellahin) Mr. Lyon, are you familiar with the
2 application of Continental Oil Company in Case 4508?

3 A Yes, sir.

4 Q What's proposed by the Applicant in this case?

5 A Case Number 4508 is the application of Continental Oil
6 Company for an oil discovery allowable for its SEMU Well
7 Number 10 located in Unit F, Section 29, Township 20 South,
8 Range 38 East, Lea County, New Mexico, and for special
9 pool rules for the Warren Devonian Pool providing for
10 80-acre spacing unit.

11 Q Now, I refer you to what has been marked as the Applicant's
12 Exhibit Number 1. Would you identify that exhibit?

13 A Exhibit Number 1 is a location plat showing the area
14 immediately surrounding the SEMU Wells Numbers 10 and 58.
15 These two wells are shown circled in red. The dashed line
16 is the outline of the Southeast Monument Unit in which
17 these wells are located.

18 The plat shows the location of the wells in this area.
19 You will note that there is a faint circle circumscribed
20 around Well Number 10 showing a radius of two miles and
21 the wells inside this circle are indicated by a letter
22 symbol as to the formation from which they produce or have
23 produced.

24 The legend for these symbols is shown in the lower
25 right hand portion of the exhibit. Well Number 10 is

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1 located 1980 feet from the north line and 1980 feet from
2 the west line of Section 29. Well Number 58 is located
3 660 feet from the north line and 1980 feet from the west
4 line of Section 29.

5 The hashed areas shown on the map represent acreage
6 which is operated by Continental Oil Company on behalf of
7 the New Mexico Federal Unit. The area immediately south
8 and east of these two wells, which I described, Numbers
9 10 and 58, are within the Warren Unit which is owned by
10 the same company and is in the same proportion as is the
11 land shown in Southeast Monument Unit on this exhibit.

12 Q Now, were these wells originally completed in the Warren-
13 Devonian Pool?

14 A No, sir.

15 Q These are recompletions, are they not?

16 A Both wells were originally completed in the Warren-McKee
17 Pool. Well Number 58 was recompleted from the Warren-
18 McKee to the Devonian reservoir under discussion today in
19 an interval of 7783 to 7805 and was potentialized on May
20 18th, 1970, for 48 barrels of oil, 29 barrels of water,
21 gas too small to measure in twenty-four hours, producing
22 by gas lift.

23 Well Number 10 was also recompleted from the Warren-
24 McKee Pool into the Warren-Devonian Pool in an interval
25 of 7764 to 87. It was potentialized on January 10th, 1971,

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

- 1 for 170 barrels of oil, 8 barrels of water, no gas in
2 twenty-four hours; also producing by gas lift.
- 3 Q Now, referring to what has been marked as Exhibit Number
4 2, would you identify that exhibit?
- 5 A Exhibit Number 2 is a structure map showing the config-
6 urations of the Devonian Formation in this particular area.
7 The contour interval is twenty-five feet. The two wells
8 which I have discussed, Numbers 10 and 58, are shown
9 circled in red.
- 10 There are two wells which are circled in green and
11 these two wells have been drill stem tested in the
12 Devonian Formation. As shown, the structure is a north-
13 south trending anticline with a steeply dipping west flank
14 and is bounded on the east by faulting.
- 15 Based on the data from the drill stem tests which
16 have been taken, the oil-water contact is estimated to
17 occur somewhere in the interval of a minus 4280 and a
18 minus 4245. The aerial extent of the reservoir is
19 estimated to be a maximum of approximately one section.
- 20 Q That is not unusual in the Devonian Pool, is it?
- 21 A Yes, that's quite true.
- 22 Q Now, referring to what has been marked as Exhibit Number
23 3, would you identify that exhibit?
- 24 A Exhibit Number 3 is a copy of the electric log run in the
25 SEMU Number 10. It shows the top and base of the producing

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1 formations in this particular area and this includes the
2 Grayburg, the Blinbry, the Tubb, Drinkard, Abo, and
3 McKee, as well as the Devonian.

4 You will note that there is a space of approximately
5 150 feet thickness between the top of the Devonian and
6 the base of the Abo. This is a detrital section occurring
7 there. To my knowledge, it does not produce anywhere.

8 Also between the base of the Devonian and the top of
9 the McKee is an interval of approximately 500 feet thick-
10 ness.

11 Q Which is non-productive?

12 A Yes, sir.

13 Q Now, referring to what has been marked as Exhibit Number
14 4, would you identify that exhibit?

15 A Exhibit Number 4 is a plat showing the Warren-Devonian
16 Pool in Township 20 South, Range 38 East and by a circle
17 or rectangle, the nearest Devonian production and the
18 nearest production is the South Vacuum Devonian Pool which
19 is approximately eighteen miles to the northwest.

20 I think this shows quite clearly that the Warren-
21 Devonian Pool is separated both horizontally and vertically
22 from any other known reservoir.

23 Q Now, when was the Number 10 Well originally completed?

24 A Well Number 10 was the second well completed in this
25 reservoir, but it was the first well tested in the

1 reservoir and Number 58 was completed, as I mentioned,
2 in the McKee and it was completed in the McKee in 1957,
3 May 20th was the date of its initial test and the Devonian
4 was drill stem tested during the drilling of that well.

5 Number 10 was completed on July 5th of 1949 and it
6 also drill stem tested the Devonian during those drilling
7 operations, so it actually tested the Devonian Pool eight
8 years before Number 58 did.

9 Now, there are also other characteristics which
10 indicate that this is a new reservoir. The Devonian
11 crude is intermediate sour but the McKee production is
12 this sweet crude and we are paid a premium price for
13 that sweet crude.

14 Also, the Devonian crude is highly under-saturated
15 whereas the other formations in this area have substantial
16 gas production, gas-oil ratios and, in fact, at sometime
17 or other during their producing life experienced gas-oil
18 ratio penalties so it appears that the Warren-Devonian
19 reservoir is producing either by fluid expansion or
20 water drive or both whereas the others appear to be
21 depletion type reservoirs.

22 Q Now, what information do you have that would indicate
23 that one well would drain in excess of 80 acres?

24 A Well, I think the best indication is the potential on
25 the well. It indicates that the permeability is quite

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

- 1 good and so this gives us a presumption that the well is
2 capable of draining 80 acres or more. We do not have
3 reservoir data which can substantiate this, but at the
4 same time, if we were to develop this on 40-acre spacing
5 and develop data which would substantiate it, we would not
6 be able to undrill those wells, so we think that it is
7 the best course of action to promulgate 80-acre spacing
8 on a temporary basis until this data is gathered.
- 9 Q In your opinion, would the order granting temporary rules
10 for 80-acre spacing prevent waste?
- 11 A Yes. I think it should help to prevent economic waste
12 which would result from drilling unnecessary well.
- 13 Q Have you prepared some special pool rules which you
14 recommend to the Commission?
- 15 A Yes. Exhibit Number 5 is the special pool rules which we
16 propose to the Commission to be entered on a temporary
17 basis for one year. Essentially, they call for 80-acre
18 units consisting of the north half, south half, east half,
19 west half of the governmental quarter section and pro-
20 viding flexibility for the well to be drilled in either
21 of the quarter quarter sections and at a location not
22 closer than 330 feet from the boundary of any governmental
23 quarter quarter section or lot.
- 24 Q Now, would you assign a proportional factor to the unit?
- 25 A Yes. We would recommend that the proportional factor have

1 3.33 which is in conformity with the Commission's Rules
2 and Regulations for pools of this depth on 80-acre spacing
3 be promulgated.

4 Q Now, in summary, would you say that the SEMU Number 10 is
5 the discovery well?

6 A Yes. It would appear to me that this is the well which
7 proves there was Devonian production in this area.

8 Q And do you recommend temporary field rules providing for
9 80-acre spacing to prevent waste?

10 A Yes, I do.

11 Q Would that impair correlative rights in any way?

12 A I do not believe that correlative rights would be
13 impaired in any way.

14 Q Were Exhibits 1 through 5 prepared by you or under your
15 supervision?

16 A Yes, they were.

17 MR. KELLAHIN: At this time I would like to offer in
18 evidence Exhibits 1 through 5, inclusive.

19 MR. UTZ: Without objection, Exhibits 1 through 5
20 will be entered into the record.

21 MR. KELLAHIN: That completes the case, Mr. Utz.

22 CROSS EXAMINATION

23 BY MR. UTZ:

24 Q Is the top of the Number 10 Well, top of the perforations,
25 7764?

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1 A Yes, this is true.

2 Q Then, your discovery allowable would be in the order of
3 38,820 barrels?

4 A I calculated that out, but I lost my figures. Anyhow, as
5 I understand it, it would be five times 7,764.

6 Q Or about 54 barrels a day? Is your well capable of
7 producing 320 barrels?

8 A The well has been tested at various rates at various tests.
9 Well, nearly all of the tests that have been taken on the
10 well are in excess of the potential test. I had intended
11 to bring a tabulation of these tests.

12 I recall that there was one in excess of 250 barrels
13 a day, but the well is supposed to have completed its
14 monthly allowable either yesterday or today and at my
15 request they have -- when the well has produced its
16 monthly allowable, they are to shut it in and run a bottom-
17 hole pressure bomb to get a pressure buildup test which
18 should give us considerable data about the reservoir so
19 it obviously does have excess producing capacity.

20 MR. UTZ: Are there other questions?

21 CROSS EXAMINATION

22 BY MR. HATCH:

23 Q I have a few. Now, you said the Number 58 was recompleated
24 in May of 1970?

25 A Yes.

- 1 Q What about the Number 10? I don't think you ever gave
2 a date when it was recompleted.
- 3 A It was recompleted January 10th of 1971.
- 4 Q Nearly a year after that?
- 5 A Yes, sir, eight months.
- 6 Q Eight months? But, the Number 10 was completed in the
7 McKee and drill stem tested in the Devonian in 1949?
- 8 A Yes, sir.
- 9 Q And the Number 58, then, was completed in the McKee in
10 1958 and drill stem tested in the Devonian?
- 11 A Yes, sir.
- 12 Q I have 58 here, that's why I use that.
- 13 A That must have been right, if I told you that. I was
14 thinking it was '57, was the reason that --
- 15 Q Well, I don't think it would make much difference between
16 '57 and '58. When was the Warren-Devonian Pool completed,
17 Mr. Lyon?
- 18 A May 20th of 1957 was the completion date of the Number 58.
19 '57?
- 20 A Yes.
- 21 Q All right. Do you have the approximate time the Warren-
22 Devonian Pool was created? Do you know when that was
23 created?
- 24 A No. I would just have to make a guess at it. I would
25 assume that it was about August or September.

1 Q Of 1970?

2 A Of 1970, yes.

3 Q Of course, it's in the Commission files. It's one of
4 their orders creating the pool?

5 A Yes, sir. I know that the discovery allowable rules
6 call for the filing of an affidavit by the first well to
7 drill stem test a well but that rule didn't exist when
8 these tests were taken.

9 Q I was going to ask was the affidavit filed and it was not?

10 A No, there has not been an affidavit filed.

11 Q Then, was this pool created at the request of Continental?

12 A I believe that the normal course of these things is for
13 the district office of the Commission to send us the
14 nomenclature form -- I don't remember the number of it --

15 Q I believe it's form 123.

16 A -- and ask us to recommend whether this is a new pool or
17 extension of a pool and we fill it out and send it in to
18 them and then they act on it either favorably or unfavor-
19 ably as they see fit.

20 Q Do you recall what well was shown as the discovery well
21 on that form?

22 A I don't know that -- yes, it does call for a discovery
23 well. I am sure that Number 58 was the well because it
24 was the only producing well at that time.

25 Q On Exhibit 2 you have shown two wells in green there that

1 you say also drill stem tested the Devonian?

2 A Yes, sir.

3 Q Would you identify those wells and tell when they drill
4 stem tested the Devonian?

5 A I am not sure that I have those dates. One is the SEMU
6 McKee Number 11 in Unit D of Section 29 and I don't have
7 the date that it was completed. I could only guess that
8 because it has one number higher than Number 10 it was
9 drilled after Number 10.

10 I will be glad to get this information from our
11 file and supply it to you.

12 Q You mean from the Commission records?

13 A Well, or from ours, either way.

14 Q The records in the Commission's office would probably
15 reflect the completion data.

16 A I am sure they would. The other one is Warren-McKee
17 Number 7 in Unit B in the same section. This drill stem
18 test was conducted in the interval 7800 to 7955 and
19 recovered 6930 feet of sulphur water and it was, I would
20 assume, tested prior to Number 10 but it did not indicate
21 the presence of oil or gas.

22 Q If I understand you correctly a minute ago you said that
23 you estimated probable extent of aerial of this pool --

24 A Yes.

25 Q -- as being approximately one section?

- 1 A A maximum of one section.
- 2 Q Would you describe that area that you think --
- 3 A It would appear that this would incorporate the west half
4 of the southeast quarter of Section 20.
- 5 Q West half of the southeast section of 20?
- 6 A And the northeast quarter of the northeast quarter of
7 Section 29.
- 8 Q Northwest quarter of the northeast?
- 9 A And approximately the west half of Section 29 with the
10 exception of the southwest of the southwest which appears
11 to be too low.
- 12 Q Within that area you have described, are there other --
- 13 A Let me also add the southwest quarter southwest quarter
14 of Section 20, and I believe that that will catch all of
15 what appears to us to be productive.
- 16 Q Within that area, are there other wells that you know of
17 that drill stem tested the Devonian?
- 18 A There was another well which was drill stem tested, Well
19 Number 28 in Unit J of Section 20, drill stem tested an
20 interval 7796 to 7801. This was not drill stem tested.
21 It was a production test and we do not have agreement in
22 our office that this was actually the Devonian.
- 23 Our geologist feels that it was in the detrital zone
24 above the Devonian and our reservoir engineer feels that
25 it was the Devonian and for that reason, because there

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1 was not agreement, I do not circle that well on Exhibit

2 2. Would you like the results of that test?

3 Q Yes.

4 A It was perforated 7796 to 7801.

5 Q What were those?

6 A 7796 to 7801, acidized with one thousand gallons, swabbed
7 and flowed 36 barrels load oil and 165 barrels water in
8 eighteen hours; it then swabbed one hundred percent water
9 and the perforations were squeezed.

10 Q Why was Number 58 recompleted in the McKee prior to the
11 time that Number 10 was?

12 A The well had ceased to produce from the McKee and was
13 available at that time. We had plans to recomplete both
14 of the wells and it just happened that 58 was available
15 before Number 10 was.

16 Q Number 10 was still producing at that time?

17 A Yes, that's my understanding.

18 Q Do you have a time when Number 10 stopped producing from
19 the McKee?

20 A I'm sorry, I don't. I can get that for you if you would
21 like.

22 Q I think you should.

23 A All right.

24 MR. HATCH: That's all the questions I have.

25 MR. UTZ: The witness may be excused.

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1 (Witness excused.)

2 MR. KELLAHIN: If the Examiner please, I would like
3 to make a very brief statement here if I may. We have a rather
4 difficult situation here in connection apparently with the
5 assignment of the discovery allowable. We take the position,
6 of course, that we should follow the rules that presently
7 exist, which provides that the drill stem test is the governing
8 feature.

9 We do have the situation where the Number 10 Well
10 was the first one to have a drill stem test. No affidavit was
11 filed because we had no such rule at that time. Number 58
12 then was the first one to be recompleted admittedly but the
13 discovery allowable, we feel, should be assigned to the Number
14 10 Well.

15 MR. HATCH: Of course, Rule 509 was not in existence
16 at that time.

17 MR. KELLAHIN: That's correct.

18 MR. UTZ: The case will be taken under advisement.
19
20
21
22
23
24
25

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

dearnley-meier

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

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I N D E X

WITNESS

PAGE

VICTOR T. LYON

Direct Examination by Mr. Kellahin

2

Cross Examination by Mr. Utz

9

Cross Examination by Mr. Hatch

10

E X H I B I T S

Applicant's 1 through 5

2

