

dearnley-meier reporting service, inc.

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
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
January 5, 1972

EXAMINER HEARING

IN THE MATTER OF Case 4482 being)
reopened pursuant to the provisions)
of Order No. R-4093, which order)
established 160-acre spacing units)
and established a maximum gas-oil)
ratio limitation of 3,000 cubic feet)
of gas for each barrel of oil)
produced for the Parkway-Strawn Pool,)
Eddy County, New Mexico.)

Case 4482

BEFORE: Daniel S. Nutter,
Alternate Examiner.

TRANSCRIPT OF HEARING

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

MR. NUTTER: Case 4482.

MR. HATCH: Case 4482: Petroleum Corporation request that Order No. R-4093 be extended for one year, that extension to relate to the spacing and to the GOR--for the Parkway-Strawn Pool, Eddy County, New Mexico.

MR. HINKLE: Clarence Hinkle, Roswell, representing the Petroleum Corporation.

We have one witness and a couple of exhibits.

(Whereupon, the Applicant's exhibits were marked for identification.)

LARRY SHANNON

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

DIRECT EXAMINATION

BY MR. HINKLE

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

A Yes, I am Larry Shannon; live in Dallas, Texas; employed by the Petroleum Corporation as a petroleum engineer.

Q Did you testify in the original hearing in regard to this matter about a year ago?

A Yes, I did.

Q Are you a petroleum engineer?

A Yes.

Q Your qualifications as a petroleum engineer are a matter of

1 record with this Commission?

2 A That is correct.

3 Q Since the last hearing have you continued to study the

4 conditions in the Parkway-Strawn Pool, and you are familiar

5 with the development that has taken place there?

6 A Yes.

7 Q And the production history involved?

8 A Yes.

9 Q Have you prepared, or have they been prepared under your

10 supervision the exhibits here?

11 A Yes, we have two exhibits.

12 Q Referring to Exhibit 1, explain what this is, and what it

13 shows.

14 A Yes, in Exhibit 1 you see the Petroleum Corporation State

15 Well No. 1 circled in red.

16 This is the only producing well in the Parkway-Strawn

17 Field.

18 Q That well is the well which was the basis for the adoption

19 of the special pool rules?

20 A Yes, that is correct. We have drilled since we received

21 the special field rules, we drilled the Petro State Well

22 No. 2 over to the west.

23 We found the Strawn, which is the Lux-Strawn on the

24 deeper part of the Strawn to be higher, but at the time we

25 completed the second well in the Wolf Camp-Stone, which we

1 have special field rules under the Parkway-Wolf Camp Field
2 This well was completed, the second well was completed on
3 July 5th, 1971, and flowed 810 barrels of oil in 24 hours,
4 a gallon volume of 1,200 Mcf per day; GOR, 1,485 to 1.
5 Q What is the acreage outlined in yellow?
6 A This is our current acreage position in this area, where we
7 have interests as outlined in yellow.
8 Q Now, this is a structural map contoured on top of the
9 Strawn Formation?
10 A Yes, that is correct.
11 Q Is this the same or practically the same as Exhibit A, that
12 was originally introduced showing the structural conditions?
13 A Yes, there are some changes in the acreage.
14 In Section 27 we have added acreage, and in Section 35
15 we have lost some acreage.
16 Q What about your contours?
17 A The contours have been modified.
18 Q On account of the form which was obtained in drilling the
19 additional wells?
20 A Only drilling additional wells, yes.
21 I would like to point out one other thing.
22 Over to the east in Section 30 the H. L. Brown well
23 was originally completed as a Morrow Gas Well; information
24 is still tight on this, and it is not available to us, but
25 it is our understanding it has been re-completed, but our

1 geologist says it is Atokla, above the Lusk, not the same
2 geological zone.

3 We have no information. They were contacted, and did
4 not want to release any information on this well, but it is
5 not producing at the present time, from what information we
6 have.

7 Q Now, the special pool rules that were adopted a year ago
8 provided also for disposal of salt water, did it not?

9 A Yes.

10 Q In open pits?

11 A Yes.

12 Q As an exception?

13 A Yes.

14 Q And it also provided for a special gas-oil ratio?

15 A Yes, it was 2,000 to 1 without a gas connection, and 3,000
16 to 1 limited GOR with the gas connection.

17 Q At the time of the original hearing you had no gas
18 connections; is that right?

19 A That is correct.

20 Q You were permitted to flare the gas originally?

21 A Yes, it is in the order here.

22 Q I will refer to Exhibit 1, and explain what it shows, too,
23 rather.

24 A Exhibit 2 is the production history from the Petco State
25 Well No. 1, the only producing well in the Parkway-Strawn

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

Pool.

Production began in December of 1970, and we show production through November, 1971.

I would like to point out that in August, September, October, and part of November, we slowed the production down, because at this point in time we completed our second well and we knew we would get a gas connection. We did not want to flare the surface gas, so we produced the well only a few days a month until such time as we had a gas connection to the well.

That gas connection was installed at the end of November and the well was started selling gas in December of 1971.

The pipeline that moved into this area is Lano Inc., out of Hobbs, New Mexico.

Q Do you have any figures for December?

A Yes.

Q I understand the official figures are not out yet.

A That is correct. The well produced over 700 barrels of oil in December, and approximately nine million cubic feet of gas.

Q All of which you were able to sell?

A To sell, yes.

I would like to also point out on this, we felt a year ago that if we were allowed to produce the well and dispose

1 of the water into an open pit, that the water production
 2 would decline, and we see this decline as not extremely
 3 evident, but there is certainly a decline in water
 4 production.

5 We feel that in time the well will have even more
 6 decline in water production, and hopefully an increase in
 7 oil and gas production.

8 Q Do you have any plans for drilling of any additional wells
 9 in the area?

10 A At the present time we would like to conserve the production
 11 from the two wells that we have in this area. We have a
 12 sizeable acreage position, and we have an investment now
 13 of approximately \$400,000, and for a few months, naturally
 14 we would like to develop.

15 Q If the information indicates it is economically justified,
 16 you would like to continue to dispose of the salt water in
 17 the open pit?

18 A Yes.

19 Q And you would like to continue the same gas-oil ratio as
 20 provided in the special rule?

21 A Yes.

22 Q What is your recommendation to the Commission at this time?

23 A We recommend that Order No. R-4093 be extended for one year
 24 under the same basic rules that were adopted a year ago.

25 We would like another year of temporary rules to

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

observe the production from this field.

Q You felt at that time you can probably determine whether or not you would be justified in any further development of the area?

A Yes.

MR. HINKLE: We would like to offer into evidence Exhibits 1 and 2.

MR. NUTTER: Exhibits 1 and 2 will be admitted.

CROSS-EXAMINATION

BY MR. NUTTER

Q Mr. Shannon, you mentioned that you had curtailed production from the one well because you were anticipating a connection for the gas because of the second well was being completed; is that in the No. 2 well?

A That is correct.

Q That you have in the Wolf Camp?

A Yes.

Q The potential you gave a minute ago, was that potential in the Wolf Camp?

A Yes.

Q What about water production on that well?

A It doesn't make any water production.

Q What is your water production in the month of December from your Well No. 1? You said you recovered 700 barrels of oil and nine million cubic feet of gas?

1 A I can give you an approximate figure, Mr. Nutter. I don't
2 have those records all together yet.

3 5,250 barrels, thereabouts.

4 Q In making your request that Order No. R-4093 be extended
5 for one year, that extension would relate to the spacing
6 and to the GOR?

7 A And to the disposal of the water.

8 Q Water disposal, but not flare of gas?

9 A That is right, everything but that. That is particularly
10 on page 6, paragraph 5 of the rule, they refer to the gas
11 connection in that point.

12 MR. NUTTER: Are there any further questions of the
13 witness?

14 CROSS-EXAMINATION

15 BY MR. PORTER

16 Q You may have testified to this on direct. What are the
17 approximate volumes of water we are talking about, daily
18 production?

19 A When we came here a year ago, Mr. Porter, our water
20 production was 280 barrels a day.

21 It is now down to approximately 170 barrels a day.

22 Q I see. I assume, Mr. Examiner, that there was evident in
23 the record at that time as to the proximity to fresh water.

24 MR. NUTTER: Yes, there was.

25 THE WITNESS: We are very close to what they call the

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

Pot Ash area, which is open pit.

CROSS-EXAMINATION
(CONTINUED)

BY MR. NUTTER

Q Those Pot Ash lakes are immediately nearby?

A Right to the east of us.

MR. NUTTER: That is all I have.

Does anyone have anything further in Case 4482?

We will take the case under advisement.

I N D E X

	<u>WITNESS</u>	<u>PAGE</u>
1		
2		
3	LARRY SHANNON	
4	Direct Examination by Mr. Hinkle	3
5	Cross-Examination by Mr. Nutter	9
6	Cross-Examination by Mr. Porter	10
7	Cross-Examination Continued by Mr. Nutter	11
8		
9		
10		
11		

E X H I B I T S

	<u>APPLICANT'S</u>	<u>ADMITTED</u>	<u>OFFERED</u>
12			
13			
14			
15			
16	Exhibits 1 & 2	9	6
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
January 17, 1973

EXAMINER HEARING

IN THE MATTER OF:

Case 4482 being reopened pursuant to
the provisions of Order No. R-4093-A,
which order continued the special
rules and regulations for the
Parkway-Strawn Pool, Eddy County, New
Mexico, for a period of one year.

Case No. 4482

BEFORE: Elvis A. Utz
Examiner

TRANSCRIPT OF HEARING

dearnley, meier & mc cormick

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
1216 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

dearnley, meier & mc cormick

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
1216 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

MR. UTZ: Case 4482.

MR. CARR: Case 4482 in the matter of Case 4482 being reopened pursuant to the provisions of Order Number R-4093-A, which order continued the special rules and regulations for the Parkway-Strawn Pool, Eddy County, New Mexico, for a period of one year.

MR. COX: Lewis Cox of Hinkle, Bondurant, Cox & Eaton, Roswell, New Mexico, appearing on behalf of the applicant.

MR. UTZ: Are there other appearances in the case?

MR. SHANNON: Harry Shannon with Petroleum Corporation in Dallas.

* * * * *

HARRY SHANNON,

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

DIRECT EXAMINATION

BY MR. COX

Q State your name and employment, please, sir?

A Harry Shannon with the Petroleum Corporation, Dallas, Texas.

Q Have you previously testified before the Commission, Mr. Shannon?

A Yes, I have.

Q And what is your position with Petroleum Corporation?

1 A I'm the petroleum engineer and manager of operations.

2 MR. COX: Does the Examiner desire any more
3 testimony as to his qualifications?

4 MR. UTZ: Is he familiar with the subject matter
5 of this case?

6 Q (By Mr. Cox) You are familiar with the subject matter
7 of this case, Mr. Shannon?

8 A Yes.

9 MR. UTZ: Yes, he is qualified to testify in this
10 case.

11 Q (By Mr. Cox) Would you state the purpose of your
12 appearance here and what you expect the Examiner to
13 find this morning?

14 A Yes, we'd like to show the development that's occurred
15 in the Parkway-Strawn area and ask that the rules,
16 temporary rules for this field, be made permanent.

17 Q I hand you an instrument marked Exhibit 1 and ask you
18 to tell what that exhibit is and what it reflects?

19 MR. UTZ: Do you have a couple of more copies?

20 MR. COX: Yes, sir.

21 A This is a land map of the general area. I'd like to
22 refer specifically to the discovery well, the Petco
23 State No. 1, in the southeast quarter of Section 26,
24 right to the east of this area we have outlined in red.

25 This is the discovery well, and the well that the

1 rules applied for its production. We have, since this
 2 time, drilled the Petco State Well No. 2 to the west.
 3 It's in the southwest quarter of Section 26. The
 4 Strawn zone there -- and we'll get into the geology
 5 a little bit later -- was tight and it was not productive
 6 in the Strawn.

7 We have put together a six-section working unit
 8 on state land as outlined in red. The title is the
 9 Parkway West Unit and we have drilled Parkway West Unit
 10 No. 1 in the northwest quarter of Section 28.

11 This well, we believe, has importance in our area
 12 and we'll get into the specifics a bit later on in our
 13 exhibits.

14 Q I hand you now an instrument marked Exhibit Number 2 and
 15 ask you to explain the significance of that exhibit.

16 A Exhibit Number 2 is a structure map on the top of the
 17 Strawn and it shows the other wells drilled in the
 18 immediate area. We will refer, again, to Section 26
 19 first. That's to the right of the area outlined in
 20 red, that was our discovery well.

21 The well next to the west of it was drilled through
 22 the Strawn, but it was dense. We have now drilled the
 23 Parkway West Unit Number 1 well through the Strawn and
 24 we have tested gas on three different drill stem tests
 25 within the Strawn interval.

1 The Sunray Well to the south and west of us in
2 Section 32 did not test the Strawn. We don't know for
3 sure whether it may or may not have production
4 possibilities, but it was not tested at the time it was
5 drilled.

6 Q I hand you an instrument marked Exhibit Number 3 and
7 ask you to explain that exhibit.

8 A Exhibit Number 3 is a copy of the Duel Induction Lateral
9 log that was run on the Parkway West Unit Number 1 well.

10 We have also shown on this log the three drill
11 stem tests in levels of the Strawn. We have marked
12 the Strawn top at 10,212 feet. Specifically, the DST,
13 the first test within the zone, is from 10,238 to
14 347. It showed gas at an estimated rate of 2,000 Mcf
15 per day. The pressures are shown on the exhibit.

16 The second drill stem test tested the Strawn at
17 a rate of 1,700 Mcf per day; and we believe that this
18 drill stem test, the second, is the one that contains
19 the zone we now produce from in our Petco State No. 1
20 well in Section 26, or the discovery well.

21 We then ran a third drill stem test at a depth of
22 10,440 to 535. On this test, we got a gas flow at the
23 rate of 8,000 Mcf per day, pressures and all are shown
24 for that particular test.

25 The idea of this exhibit is to show that the Strawn

1 interval has several producing zones within it and we
2 believe it to be an extension of the discovery well.
3 We'd like, at this time, to say that the first question
4 that always comes up is the dry hole, the one that was
5 drilled to the west of us. We are not positive of the
6 description of why this happened, but we'd like to think
7 of it in this way: This is an algae-type reef build up
8 and small banks along the edge and there are times when
9 that porosity is dense, and it just couldn't have an
10 anomalous condition, it's not widespread.

11 But, it can happen and we think that that's
12 probably why. It doesn't eliminate the possibility of
13 any widespread tightness of the area, and it does not,
14 we believe, show two different reservoirs. We think
15 it's still the same reservoir, just an anomalous
16 condition.

17 Q Mr. Shannon, I now hand you Exhibits marked 4, 5, and 6,
18 and ask you to tell what they are and what their
19 significance is, precisely.

20 A All right. Exhibits 4, 5, and 6, are more detailed
21 information of the drill stem tests that we spoke of,
22 run on our Parkway West Unit Well No. 1.

23 I'd like to say one other thing. We have not
24 completed this well yet. We just finished our drilling
25 operations and released the drilling rig yesterday, and

1 completion proceedings will start next week. We have
2 another zone that we want to test, too, before we even
3 get to the Strawn, but this is of a more refinement of
4 the drill stem test as shown on Exhibit 3.

5 Q Now, I hand you an instrument marked Exhibit 7 and ask
6 you to explain what that is?

7 A Exhibit 7 is a recap of the oil, water, and gas that
8 have been produced from the Petco State Well No. 1, the
9 discovery well for the field, since initial production.

10 I might add to this, we are pumping a well, but
11 we have a pump located at 5,000 feet. We think, now,
12 that by lowering that pump a little deeper, we can
13 probably increase the oil as well as water production.

14 Q Are the provisions of the special field rules relating
15 to saltwater disposal and gas-oil ratio and the 160-acre
16 spacing, necessary to economically produce this well,
17 a continuation of those special field rules?

18 A Yes, we ask for that.

19 Q Does the data you've submitted in your opinion justify
20 making the temporary field rules for the Parkway-Strawn
21 Pool permanent?

22 A Yes, we believe it does.

23 MR. COX: I offer the Exhibits 1 through 7,
24 inclusive, in evidence at this time.

25 MR. UTZ: Without objection, Exhibits 1 through 7

1 will be entered into the record in this case.

2 Q (By Mr. Cox) Would the continuation of these special
3 field rules, in your opinion, Mr. Shannon, tend to
4 prevent waste and promote conservation and protect
5 correlative rights?

6 A Yes, sir, I believe it will.

7 MR. COX: No further questions.

8 CROSS-EXAMINATION

9 BY MR. UTZ

10 Q Mr. Shannon, basically, this is an 80-acre case, is that
11 correct?

12 A I'm sorry, I did not understand the question.

13 Q I say, basically, this was an 80-acre spacing case,
14 that's mostly what the order is all about, is 80-acre
15 spacing, is that correct, and the location and proration
16 unit?

17 A 160 acres is the spacing, sir.

18 Q Well, I haven't read the order, I'm just glancing at
19 it now. I see that it is 160-acre spacing as an oil
20 pool.

21 A Yes, that's correct, with a 3,000 to 1 GOR limitation
22 as long as the gas is being sold. We have a special
23 provision.

24 Q 2,000?

25 A 2,000 if the gas has been flared, 3,000 if it's being

dearnley, meier & mc cormick

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1 sold. We have special permissions in this order to
2 dispose of our water production in an open pit. There
3 is no fresh water in that immediate area.

4 Q The gas is being sold?

5 A The gas is being sold, it has been for approximately
6 one year.

7 Q You are operating it on a 3,000 GOR at this time, then?

8 A That's correct.

9 Q Mr. Shannon, do you know what the limits of the pool
10 are?

11 A I'm not positive of the exact legal description, no,
12 sir.

13 MR. COX: It's the southeast quarter of Section
14 26.

15 THE WITNESS: There is other acreage.

16 MR. COX: The order defines the pool as the
17 southeast quarter of Section 26, 19 south, 29 east.

18 Q (By Mr. Utz) That, at the time, is the only well in
19 the pool?

20 A That is correct, yes.

21 Q And what you are asking for here, at the present time,
22 is a continuation of the temporary order for the pool
23 rules of the southeast quarter of Section 26?

24 A That is correct, yes.

25 Q In your opinion, Mr. Shannon, does the well drilled in

1 Section 28 have some sort of communication with the well
2 drilled in the southeast quarter of section 26?

3 A Yes, we very definitely believe this. We think that,
4 we hope, they will tie in together.

5 Q Now, what do you base this opinion on, pressures, or --

6 A Both pressures and geological studies that we have run,
7 geophysical studies.

8 Q Okay. Regarding your Exhibits 4, 5, and 6, what's the
9 difference between the field pressure and the office
10 pressure?

11 A The pressures are very similar, sir. The original
12 pressure on the Petco State No. 1 and the pressure that
13 we see in the Parkway is very similar. We have not run
14 a bottom hole pressure on the discovery well, though,
15 since it was initially completed.

16 Q The initial pressures were very similar?

17 A Yes.

18 Q On these exhibits, I notice that you have a field
19 pressure and an office pressure, and I was interested
20 in --

21 A The reason that is given that way, as an operator, we
22 like to have some form of pressure once the test tube
23 is removed from the field. The men on the field will
24 read the charts and provide us with an approximate
25 pressure that goes into our drilling records.

1 Then, after the charts had been in the record, they
2 used a scanner and they are more accurate then. We can
3 measure our pressures without drill reports.

4 Q Now, in regard to the three zones, and by that I guess
5 perhaps I'd better ask first, have you completed this
6 well in all three zones of the Strawn?

7 A No, sir. We have not completed the wells, we just
8 released the drilling rig and ran pipe. We plan to
9 start completion next week.

10 Q Do you plan to complete in all the three zones that you
11 did a drill stem test on?

12 A Our plans are not firm, but we plan to only go to the
13 bottom zone and then something deeper, below the Strawn,
14 and hopefully have a dual completion.

15 Q Then you feel, I believe you stated, that the middle
16 zone was the zone that the discovery well was completed
17 in?

18 A We think that to be true, the best we can tell.

19 Q You don't intend to complete in that zone in this well?

20 A Not at this time because, to be truthful with you, the
21 deliverabilities were better on the lower zone. The
22 hydrocarbons were there in the same zone, but the plans
23 now are to attempt a completion in the bottom of it,
24 that way it's easier to come up later in life, and also
25 because of deliverability.

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

2 MR. STAMETS: Just a couple.

3 CROSS-EXAMINATION

4 BY MR. STAMETS

5 Q Mr. Shannon, looking at your production report, it looks
6 like the GOR on the one is about 20,000 Mcf per barrel.
7 Is that about right?

8 A I guess it is high, Mr. Stamets.

9 Q And the well is classified as an oil well, not as a
10 gas well?

11 A Yes, that's true.

12 Q And the well you intend to complete will be classified
13 as a gas well in all probability?

14 A We don't know at this point, but there is a possibility
15 that it may be.

16 Q Do you think that some future date, fairly soon, the
17 Commission should consider calling a hearing to
18 determine that this is an associated reservoir, and
19 come up with special pool rules for the whole area?

20 A After additional development, that may be something
21 they would want to consider, that's true.

22 Q Do you think unlimited withdrawals of the gas from the
23 well in Section 28 would affect the one producing well
24 in Section 26 at this time?

25 A There is no evidence that it can. The well in Section

dearnley, meier & mc cormick

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

1 26 is a marginal well and almost uneconomical to
2 produce at the time; but, we produced this well for as
3 long as we have in hopes that we could tell something
4 more about the reservoir, and I guess optimistically
5 inclined, we hoped to find it in a better structural
6 position.

7 MR. STAMETS: That's all the questions I have.

8 MR. UTZ: Are there any other questions of the
9 witness?

10 (No response.)

11 MR. UTZ: He may be excused.

12 Are there any statements in this case?

13 (No response.)

14 MR. UTZ: The case will be taken under advisement.
15
16
17
18
19
20
21
22
23
24
25

dearnley, meier & mc cormick

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
1216 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

HARRY SHANNON

Direct Examination by Mr. Cox	3
Cross-Examination by Mr. Utz	9
Cross-Examination by Mr. Stamets	13

E X H I B I T S

	<u>ADMITTED</u>	<u>OFFERED</u>
Exhibit 1	8	4
Exhibit 2	8	5
Exhibit 3	8	6
Exhibit 4, 5, & 6	8	7
Exhibit 7	8	8

dearnley, meier & mc cormick reporting service, inc.

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
1216 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
OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
January 3, 1973

EXAMINER HEARING

IN THE MATTER OF:

Case 4482 being reopened pursuant to
the provisions of Order No. R-4093-A,
which order continued the special rules and
regulations for the Parkway-Strawn Pool, Eddy
County, New Mexico, for a period of one year.
All interested parties may appear and show
cause why said special pool rules should be
further extended.

Case No. 4482
(Reopened)

BEFORE: Daniel S. Nutter,
Examiner

TRANSCRIPT OF HEARING

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 6, 1971

EXAMINER HEARING

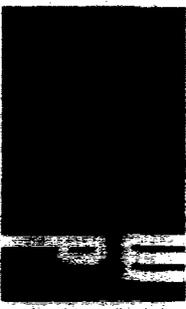
IN THE MATTER OF:

-----)
Application of the Petroleum Corporation)
for the creation of a new pool, special)
rules therefore, and exceptions to Orders)
Nos. R-3221 and R-4070, Eddy County, New)
Mexico. Applicant, in the above-styled)
cause, seeks the creation of a new Strawn)
oil pool for its Petco State Well No. 1)
located in Unit P of Section 26, Township)
19 South, Range 29 East, Eddy County, New)
Mexico, and for the promulgation of special)
rules therefore, including provisions for)
160-acre spacing units and a limiting gas-)
oil ratio of 4000 cubic feet of gas per)
barrel of oil. Applicant further seeks)
exceptions to Orders Nos. R-3221 and R-)
4070, respectively, to permit the disposal)
of water produced by said well in an un-)
lined surface pit and to flare gas produced)
by said well.)
-----)

Cause No.
4482

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING



I N D E X

	<u>PAGE</u>
<u>HAL DEAN</u>	
Direct Examination by Mr. Hinkle	3
Cross Examination by Mr. Nutter	10
<u>HARRY SHANNON</u>	
Direct Examination by Mr. Hinkle	10
Cross Examination by Mr. Nutter	16

E X H I B I T S

	<u>Marked</u>	<u>Offered and Admitted</u>
Applicant's Exhibit Nos 1-5	3	(1-3) 9 (4-5)16

MR. HATCH: Case Number 4482. Application of Petroleum Corporation for the creation of a new pool, special rules, therefore, in exception Order Numbers R-3221 and R-4070, Eddy County, New Mexico.

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

MR. HINKLE: I am Clarence Hinkle of Hinkle, Bondurant, Cox and Eaton, Roswell, appearing in behalf of the Petroleum Corporation.

HAL DEAN

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence, and by whom you are employed?

A Hal Dean, Midland, Texas, Petroleum Corporation.

Q What is your position with the Company?

A A geologist.

Q Have you previously testified before the Commission?

A Yes, I have.

Q Are your qualifications as a petroleum geologist a matter of record with the Commission?

A Yes, they are.

Q Are you familiar with the Application of the Petroleum Corporation in this case?

A Yes, I am.

Q What is Petroleum Corporation seeking to accomplish?

A We desire to create a new Strawn oil pool for its Petco State Well Number 1, located in Unit P of Section 26, Township 19 south, Range 29 east, Eddy County, New Mexico, and for the adoption of Rules which include provisions for 160-acre spacing units and a limiting gas-oil ratio of 4000 cubic feet of gas per barrel of oil.

Q And also for disposal?

A Also for disposal of water produced by the well in an unlined surface pit, and to flare gas produced by said well.

Q Now, have you prepared or have there been prepared under your direction certain exhibits for introduction in this case?

A Yes, there has been.

Q Refer to Exhibit Number 1, and explain what this shows?

A Exhibit Number 1 is a regional map showing the location of the subject well--arbitrarily called the potash area--and it shows how it is located in relation

to the other Strawn production areas 13 miles to the west.

Q Of the west limits of the Lusk Field?

A Yes, Lusk Field, and six miles northeast of the Scanlon-Strawn gas fields.

Q Now, referring to the Exhibit there, Number 2, can you explain that?

A Exhibit Number 2 is a map showing the wells which have penetrated the Strawn formation in the adjoining Township, and the area in which Petroleum Corporation is the operator of a 4 1/2 section working interest unit. It is colored in red. The location of the well and wells producing oil from the Strawn formation and is in the southeast of the southeast of Section 26. The closest well drilled is the H. L. Brown Well, which is located approximately 2 miles east, which is a recently completed Morrow gas well. The information has not been released on this subject well. The Ashman-Millard, this is located approximately five miles north. It was completed as a dry hole and Sunray Number 1, New Mexico State was completed as a Morrow gas well and is located four miles west, and has been abandoned. Cactus Jennings Federal, located two-and-a-half miles southwest was a dry hole and was completed approximately five years ago.

Q Is there something else you wish to add?

A I think that the legends on the map are self-explanatory.

Q Would you refer to Exhibit Number 3, and explain it to the Commissioner?

A This is Exhibit Number 3, and it is a cross section showing the structural relationship and stratographic relationship of the wells in the immediate vicinity of the subject well. Well Number A is Sunray Mid-Continent 1-Q, and as you can see, the Strawn formation is colored green. The Strawn formation Sunray Well was not tested, but appears to be dense and the Petroleum Corporation Number 1 Petco State, which is well number P, is tested. The Strawn formation is a covered gas and oil well and has been completed as an oil well.

Q Now, the details of that well and production history would be produced by the next witness, is that correct?

A Yes, the only thing we show on the cross section here. We did have a definite porosity and permeating into the Strawn formation. It was tested and it was approximately 200 feet below a well to the west, which was dense.

Q Is that the "C" well?

A That is the "A."

Q The "A" Well?

A The "C" Cactus well was drilled and they had

inclusive testing of the Strawn formation. It was generally conceded by the operator to be dense and not productive of any fluid. This well is approximately flat with the Petco Corporation Number 1, Petco State. The third well on the contour cross section is H. L. Brown, Jr., Number 1. The data is not completely released on this. From our information it was approximately 200 feet low structurally to our well, and was also dense, so what we had was a porous zone in the Strawn surrounded by non-porous wells.

Q Now, you inserted a plat there on Exhibit Number 2, which shows the relative locations of these wells?

A Yes, sir.

Q It would appear, then, to the east you have a higher well?

A To the west here?

Q To the west.

A A higher well?

Q Then you have between BAC you have it relatively flat?

A Structurally, yes.

Q Now, in your opinion, what does that indicate?

A As far as geology is concerned?

Q Yes.

A From a geological standpoint we feel that this well is located on some sort of shelf which would indicate the possibility of fossiliferous limestone, and the possibility of having stratographic implications of forming a trap for oil and gas.

Q In other words, this is more of a stratographic type of pool or discovery than it is structural?

A Yes, sir.

Q In your opinion?

A This is definitely a stratographic type trap.

Q And for that reason you did not prepare a structural plat?

A Yes, sir. The density of the well information is scarce, and it would not be meaningful.

Q Have you compared the logs of the discovery well of the Petco State Number 1 with the logs producing wells in the Lusk-Strawn pool?

A Yes, sir, I have.

Q How do they compare?

A They compare favorably with the same relative zones which we are producing from in the Lusk field. We recorded the Lusk zone in our Petco State Number 1, and it exhibited the same type of lithology. It had a similar type porosity and permeability.

Q Now, is it your feeling that it is probably an edge well on a pool that might be comparable to the Lusk-Strawn Pool?

A Yes, sir, I feel that it has the same potential that the initial well has, that would be found in the Lusk field.

Q Did your Company do any further development studies of the area?

A Yes, we conducted a sismographic survey in the area. We are doing additional sub-surface work ,and we hope to be able to drill additional wells in this area as soon as possible.

Q Do you have any idea of the timing of the next well, when that would be?

A Between 60 and 90 days.

Q Do you have anything further with respect to these exhibits?

A No, sir, I do not.

MR. HINKLE: I would like Exhibits Numbers 1 through 3 to be admitted.

MR. NUTTER: Exhibits Number 1 through 3 will be admitted in evidence.

MR. HINKLE: That is all.

MR. NUTTER: Are there any further questions of the witness?

CROSS EXAMINATION BY MR. NUTTER:

Q Mr. Dean, for our information the Commission, on December 2nd, in Case Number 4471, there was an Application by H. L. Brown. Would you want to look at that?

A By all means.

Q That's Case No. 4471, and you can get that file across the hall.

(Whereupon, a discussion was held off the record.)

MR. NUTTER: Are there any further questions of Mr. Dean?

If there are no questions, the witness may be excused.

(Whereupon, the witness was excused.)

MR. HINKLE: We will call Mr. Harry Shannon.

HARRY SHANNON

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name and your residence, and by whom you are employed?

A My name is Harry Shannon, and I live in Dallas,

Texas, and I am employed by the Petco Corporation as a petroleum engineer.

Q Have you previously testified before the Commission?

A Yes, I have.

Q Are your qualifications as a petroleum engineer a matter of record with the Commission?

A That is correct.

Q Have you previously prepared or had prepared under your direction certain exhibits for introduction into this case?

A Yes.

Q Are you familiar with the discovery wells since you started drilling, and all the tests that have been made in connection with it?

A Yes.

Q You have kept up with it?

A Yes, with a production history.

Q Of the well?

A That is correct.

Q Now, I refer you to Exhibit Number 4; can you explain what this is and what it shows?

A Exhibit Number 4 is a chart showing the daily oil and gas production of the subject well. The water is shown in blue; gas production in red, and the oil is

in natural color from the xerox. We placed the well on artificial lift on November 15th, 1970 and it produced until December the 8th, at which time the well was determined to have a potential of 49 barrels of oil per day, 650 FMC per day of gas, and 289 gallons of water. On this exhibit, we think there is a trend that has been established. As you can see, the gas production when we started pumping the well was slightly over 200 MCF per day, and gradually it increased almost daily to as high as or over the MCF some points. The oil production has also increased beginning with 10 barrels per day and reaching a height of 54 barrels per day. At the same time the water production, which has been as high as 513 barrels per day, has gradually declined and we see that it leveled at 255 barrels per day. And another thing that has happened, we show by this vertical line that the well produced, as I have said, through artificial pumping, and we've ran it until December 23rd of 1970 when we shut down the pumping unit, and the well continued to flow and it has been flowing since that time.

Q Is that unusual that the water is decreasing; is it normal as far as the Strawn is concerned?

A We think this is normal. We think this tends

to prove that we have an edge water not supported by a large aquifer.

Q Is this indicative that there is no water, that it is a dry pool?

A Yes.

Q So you have an increase in both oil and gas, and a decrease in water so far as the production history is concerned?

A I might add another point to this: Prior to pumping the well, we find that there was a very small amount of gas, and after we swabbed it a few days it produced some oil and some gas and reached the point that it is at today.

Q Now, what have you been doing with the water that has been produced from the well?

A We have a temporary permit to dispose of it in an open pit well until we have this hearing.

Q Is this water located in what is know as the "potash" area"or the area where there has been orders by the Commission permitting the disposal in an open pit?

A That is correct. I don't have an outline of this potash area, but the Oil Conservation Commission's Office in Artesia tells me that there are one or two west of that area.

Q To your knowledge, are there any fresh water strata in that area?

A We have no fresh water in the immediate area. We had to go approximately 12 miles to find water to drill with.

Q In your opinion, does the disposal of this salt water in the open pit, this will not contaminate any fresh water?

A That is our opinion.

Q Now, what have you been doing as far as gas is concerned; have you been flaring it?

A We have been flaring gas, that is correct.

Q Is there any market for the gas or oil in this area at the present time?

A We have talked to five companies that purchase gas, and all of their lines are over five miles from our property, and they have not indicated any interest at this point. I think that in the future there will be a market.

Q The first witness testified there might be a pool of some consequence, and that you would have no problem in obtaining a market for the gas; do you agree with that?

A Very definitely, that is what we need.

Q Are you hauling the oil at the present time?

A That is correct.

Q Are you familiar with the pool rules, the special pool rules, that have been adopted for the Lusk-Strawn Pool?

A Yes, I am.

Q What are your recommendations to the Commission with respect to the adoption of the special pool rules in connection with this pool?

A Well, actually, we would request very similar rules: Spacing as far as 660 feet in any quarter section or a line of 330 in any quarter section is acceptable by us. We would also like 160-acre spacing space units. The allowable factor would be fine with us, or one well.

Q You are asking for 160-acre allowable?

A That is right. We would also like a 4000-to-one GOR limitation, which is in the Lusk-Strawn Pool.

Q You would also like to be permitted to flare until the market can be obtained?

A That is correct.

Q And further tests after the continuation of production of this well?

A Also to dispose of salt water.

Q In open pit?

A In open un-lined pits.

Q In your opinion, will the adoption of the pool rules tend to be in the interest of conservation and also prevent waste and protect corelative rights?

A Yes, I do think that it would.

MR. NUTTER: Do you have anything else?

MR. HINKLE: We have one other exhibit.

BY MR. HINKLE:

Q Referring to Exhibit Number 5, explain what this is?

A Exhibit 5 is a laboratory water analysis of the water that we have produced from this well. I think it is self explanatory as far as the minerals are concerned.

Q It is really not a very high chloride content?

A No.

Q As far as produced water is concerned?

A No.

MR. HINKLE: We would like to offer these in evidence, Exhibits Number 4 and 5.

MR. NUTTER: Exhibits Number 4 and 5 will be admitted in evidence.

MR. HINKLE: That is all that we have of this witness.

CROSS EXAMINATION BY MR. NUTTER:

Q Mr. Shannon, will the further production of this

well result in an increase or a decrease in the ratio or can you say what it is producing; there is no notation in here?

A No, I have been asked several times and I am really quite certain that we can see a trend of a decrease of GOR. At some time or other in the production industry there is an increase.

Q Gas production has been fairly stable, and a few barrels of oil produced would make a big difference in the GOR?

A It certainly does, sir. We have a high volume of water and this makes a big difference in the daily oil production too.

Q Since this well produced this volume of oil and water and gas after being stimulated with over 250 gallons acid, is the additional potential and the initial capability, does it compare favorably with the original potential and the original capability over in the Lusk-Strawn pool?

A That is true.

Q This is kind of a strange well in a way?

A We are kind of inbetween being called a gas reservoir and an oil reservoir, and at this point I am not sure, but I think that under our present information which we have, it is an oil reservoir and that is another reason that we are seeking a 160-acre spacing.

Q What is the gravity of your oil?

A 47.

MR. HINKLE: But you are only asking for a temporary ruling.

THE WITNESS: We are only asking for a temporary rule until we can develop the reservoir.

BY MR. NUTTER:

Q Now, you mentioned that all of your pipe lines are at least five miles away as far as gas is concerned?

A Approximately; some of them are more or less than others.

Q Now, there appears to be a pretty sizable flaring there?

(Whereupon, a discussion was held off the record.)

A Certainly, we don't want to flare the gas, but it is important to us that we produce from the well to see what characteristics result before we drill our first developmental well.

MR. HINKLE: For at least 60 or 90 days.

THE WITNESS: Yes, 60 or 90 days.

BY MR. NUTTER:

Q It has been the Commission's policy in the

past to withhold a GOR until such time as the market was available, such as over in the Lusk-Strawn Pool. The Commission will withhold the increase until such time that we can do this.

Are there any further questions of Mr. Shannon?
You may be excused.

MR. HINKLE: That is all that we have.

MR. NUTTER: Since there is nothing more concerning Case Number 4482, we will take this case under advisement.

