

CASE 4703: Appli. of CONTINENTAL
OIL CO. FOR SPECIAL POOL RULES,
RIO ARRIBA COUNTY, NEW MEXICO.

Case Number

4703

Application

Transcripts

Small Exhibits

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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 Continental Oil
Company for special pool rules,
Rio Arriba County, New Mexico.

CASE NO. 4703

BEFORE: Elvis A. Utz
Examiner

TRANSCRIPT OF HEARING

1 MR. UTZ: Case 4703.

2 MR. HATCH: Application of Continental Oil Company
3 for special pool rules, Rio Arriba County, New Mexico.

4 MR. KELLAHIN: Jason Kellahin and W. Thomas
5 Kellahin of Kellahin and Fox, appearing for the Applicant.
6 We have one witness we would like to have sworn.

7 MR. UTZ: Any other appearnaces?

8 (No response.)

9 CHARLES TARR,

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

12 DIRECT EXAMINATION

13 BY MR. KELLAHIN:

14 Q Would you state your name?

15 A Charles Tarr.

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

17 A I work for Continental Oil Company as a Staff Engineer
18 in Casper, Wyoming.

19 Q Is that office in charge of the area involved in this
20 Application?

21 A It is.

22 Q Have you ever testified before the Oil Conservation
23 Commission or one of its Examiners and made your
24 qualifications a matter of record?

25 A I don't believe I have.

1 Q For the benefit of the Examiner, would you briefly
2 outline your education and experience as an Engineer?

3 A I graduated from the Colorado School of Mines, with
4 a Bachelor of Science Degree in 1938. I have worked
5 for the Continental Oil Company since that time except
6 for about four and one-half years, when I was in the
7 Service.

8 I have worked from California to Illinois, in
9 Indiana, in the Rocky Mountain States, Kansas and some
10 other states. I am a registered Engineer in the State
11 of Colorado and belong to the Mountain Oil and Gas
12 Association, the North Dakota Geological Association
13 and a few other associations.

14 I have generally worked in Engineering in
15 supervisory jobs during the thirty-four years that I
16 have been with Continental.

17 Q In connection with your work for Continental, have
18 you had anything to do with the West Lindrith Gallup-
19 Dakota Pool?

20 A Yes.

21 Q Have you been acquainted with the pool since its
22 inception?

23 A Yes.

24 MR. KELLAHN: Are the witness' qualification
25 accepted?

1 MP. UTZ: I believe they are.

2 Q (By Mr. Kellahin) What is proposed by the Applicant
3 in Case 4703?

4 A We propose that the area of the West Lindrith Gallup-
5 Dakota Pool be spaced on 160 acre spacing. The limit
6 of the gas-oil ratio will be 1,000 cubic feet per
7 barrel of oil.

8 Q Ten thousand?

9 A I'm sorry, ten thousand. A definition of a gas well
10 will be established and any wells drilled within one
11 mile of the limits of the West Lindrith Gallup-Dakota
12 Pool will be subject to the Field Rules in the event
13 the well is completed as an oil well.

14 Q Referring to what has been marked as Applicant's
15 Exhibit Number 1, would you identify that Exhibit?

16 A Our Exhibit is merely a map showing the 1/16th sections
17 of the West Lindrith Pool. It also shows the limits,
18 the present limits, of the West Lindrith Gallup-Dakota
19 Pool with all of Continental's wells that have been
20 drilled to date.

21 El Paso Natural Gas' well are not indicated.

22 Q In addition to the Gallup-Dakota Pool, are there other
23 pools shown on the Exhibit?

24 A Yes -- well there are some wells that are in the Gallup
25 and there are some in the Dakota-Gallup that are shown

1 on the map but primarily the information is for
2 Continental's wells and I am not positive of the
3 others.

4 Q This well in Section 3, Township 24 North, Range 4 West;
5 what is that well?

6 A That well was drilled by Manning and that is a Gallup-
7 Dakota well, oil well.

8 MR. UTZ: Which Section was that?

9 THE WITNESS: Section 3, Township 24 North,
10 Range 4 West.

11 Q (By Mr. Kellahin) That would be included within the
12 boundaries of the West Lindrith Gallup-Dakota Pool?

13 A Yes, that was the last well drilled in the area.

14 Q Now, in connection with your Application, you said
15 you were applying for 160 acre spacing for wells in
16 this pool. Has the pool substantially been drilled
17 on 160 acre spacing to date?

18 A Substantially.

19 Q Very few exceptions would be required; is that correct?

20 A There are no Gallup-Dakota wells in any spacing closer
21 than 160 acres. We have drilled the twenty-three
22 Gallup-Dakota wells in one-quarter sections.

23 Q What is the cost of drilling a well in this pool?

24 A Our average cost for the last ten wells drilled, to
25 drill and equip, was \$115,000.

- 1 Q What kind of recovery do you anticipate you will get
- 2 from these wells?
- 3 A The economic limits are 4.4 barrels of oil per day.
- 4 We project a recovery of 65,000 barrels, in the next
- 5 nineteen years, and 390,000 MCF of gas.
- 6 MR. UTZ: What was the last figure?
- 7 THE WITNESS: 390,000 MCF. These are project
- 8 figures and they are not optimistic. The possible oil
- 9 recovery could be as much as 10,000 barrels more, these
- 10 are average figures.
- 11 We might go on to include the price of \$3.12
- 12 a barrel and the gas being sold as oil well gas is \$155 per
- 13 million. With one-eighth royalties, and Federal Income Tax,
- 14 the well will pay out in 10.32 years a net revenue of
- 15 \$25,300.
- 16 Q (By Mr. Kellahin) On that basis would it be
- 17 economical to drill this pool on less than 160 acre
- 18 spacing?
- 19 A Well, anything smaller than 160 acre spacing would
- 20 never pay out.
- 21 Q And, of course, if it was forty acre spacing under
- 22 State-wide rules, it would be even worse?
- 23 A If we drilled a well every forty acres, it would be
- 24 worse.
- 25 Q Do you have any information to show a well's economic

1 development on 160 acre spacing?

2 A We have some pressure information and our information
3 was on the Dakota-Gallup zone separately. We got bottom
4 hole pressure information because, at that time, we
5 were commingling the wells and before that we had
6 separate completions in the Dakota.

7 The initial bottom hole pressure on Well No. 28-1
8 in September of 1959 was 3,690 PSI. We ran a seven-day
9 buildup and the corrected pressure on that in June of
10 1968 showed a bottom hole pressure of 2,328 pounds
11 per square inch or a reduction of 1,362 PSI during the
12 eight years and nine months.

13 We also have, at the same time and I am quoting from
14 some pressure information we got during June of 1968,
15 there were eleven pressure build up tests tests run and
16 the average bottom hole pressure in the Dakota in June
17 of 1968 was 2,654 pounds per square inch or an average
18 reduction from the virgin pressure of 1,040 pounds per
19 square inch. This shows that the wells are dropping in
20 pressure throughout the whole area of the field.

21 In the Gallup zone we do not have real good bottom
22 hole pressure information, however, on Well Number 22-2
23 in Section 21 in the NW/4 of the SE/4 of Township 25,
24 North, and Range 4 West, it was completed in March of
25 1959 and the initial bottom hole pressure was 2,659 PSI.

1 About four years later an offset well, Well Number
2 22-3, was drilled, that was drilled in September of
3 1963, and the initial pressure on that well was 1,758 PSI
4 or a reduction in pressure of 900 PSI in the Gallup.

5 So we believe that this information shows us that
6 the wells are draining -- the present wells are
7 draining the Gallup and Dakota zones and we cannot
8 afford to drill wells any closer than 160 acre spacing.

9 Therefore we are asking for well spacing of
10 160 acres.

11 Q In your opinion, what would occur if the wells were
12 drilled on anything less than 160 acres?

13 A Waste would occur.

14 Q Now, you have put in your Application your request
15 for a definition of a gas well, what is the basis of
16 this request?

17 A In past Hearings, we have had quite a number of
18 Hearings in the West Lindrith area dealing with
19 commingling and separation of the zones and trying
20 to take all the equipment out --

21 Q Just to clarify the record on this, was this area
22 originally operated as two common sources of supply,
23 one Gallup and one Dakota?

24 A Yes.

25 Q Then you did supply information to the Commission

1 to commingle production?

2 A Yes.

3 Q And later there was commingling in the well bore?

4 A Yes.

5 Q And then did the Commission eventually consolidate
6 both the Gallup and the Dakota into one pool?

7 A Yes, sir.

8 Q So that is what you are referring to in these various
9 cases?

10 A Yes. At that time, I believe, one of the Commissioners
11 asked us several times to make a definition of a gas
12 well, so we thought we just may as well submit a
13 definition of a gas well.

14 Q What do you propose as your definition of a gas well
15 and what is your basis for that proposal?

16 A We took the wording out of one of the other pool rules
17 for New Mexico, and we thought if we defined a gas well,
18 anything else would be an oil well.

19 So we ask the definition of a gas well be
20 defined as any well in the pool which produces with a
21 gas-oil ratio of 30,000 square feet of gas per barrel
22 of oil -- or more, more than 30,000 square feet, and
23 any well which produces liquid with a gravity of
24 60 degrees, API or greater. Any well producing with
25 a gas-liquid ratio of less than 30,000 cubic feet of

1 liquid hydro carbon should be classified an oil well.

2 When the gravity of the oil produced is very close
3 to 60 degrees API, it varies back and forth a few
4 tenths. This should be classified as an oil well.

5 Q You are aware that there is another pool in the area,
6 I believe the West Lindrith Gallup pool lists within
7 its boundaries a Basin Dakota Pool; is that correct?

8 A I don't believe that is quite accurate, but there are
9 Basin Dakota wells around this area. I believe the
10 Basin Dakotas are more or less to the north of us.

11 Q There is also a Gallup in the area?

12 A An Otero Gallup.

13 Q Is the Otero Gallup a gas producer?

14 A Generally it is an oil producer -- I will have to defer to
15 the Commission members on that.

16 Q You are asking that the pool rules be adopted effective
17 on any wells within a mile of the exterior boundaries
18 of the pool. If this includes the area where you
19 have Dakota gas production, how would you handle that?

20 A We were trying to establish field rules which would
21 apply to the Gallup-Dakota Pool only. I believe if a
22 person could call a well a Basin Dakota gas well, they
23 would end up with a much higher price for the gas.

24 Q Now, in the event the Commission approves this
25 Application, would you foresee any increase in oil

1 production?

2 A No, the wells are producing to capacity right now.

3 Q Would you foresee any increase in gas production?

4 A We have one well, the 20-5, located in the southeast
5 of the SE/4 of Section 20, Township 25 North, Range 4
6 West, which, because of its G.O.R. has to be limited
7 on gas right now based on the forty acre spacing.

8 The well produced during March about one million
9 cubic feet of gas, so that would be a slight increase
10 in gas sales.

11 If we had 160 acre spacing, we would have four
12 times the gas allowable -- or the gas allowable would
13 be increased four times.

14 Q But with little increase in oil production?

15 A That's right.

16 Q Can the pipeline take any gas that is produced in
17 the area?

18 A Yes.

19 Q Are they required by contract to do so?

20 A Yes, all the oil well gas we can produce, they will
21 purchase.

22 Q What is the need for a 10,001 G.O.R. if you are not
23 going to exceed this except on the one well?

24 A We anticipate future gas-oil ratios will continue to
25 climb as in the past thirteen years and we are trying

1 to avoid having to come before the Commission again
2 in a year or two and have another Hearing.

3 We thought we could handle all this at one Hearing
4 and maybe wouldn't be back on this case for maybe four
5 or five years.

6 Q Was Exhibit 1 prepared by you or under your supervision?

7 A Under my supervision.

8 MR. KELLAHIN: I would like to offer Applicant's
9 Exhibit 1.

10 MR. UTZ: Without objection, Exhibit 1 will be
11 entered into the record of the case.

12 (Whereupon Applicant's Exhibit 1 was admitted
13 in evidence.)

14 Q (By Mr. Kellahin) Do you have anything further to add,
15 Mr. Tarr?

16 A No, sir.

17 MR. KELLAHIN: That completes my Direct Examination.

18 CROSS-EXAMINATION

19 BY MR. ARNOLD:

20 Q Have you calculated what the gas allowable would be
21 on a 160 acre oil well with a limiting ratio of 10,000
22 to 1?

23 A No, I haven't. I do know that right now it is 354 MCF
24 per day on a forty acre well spacing. We anticipate in
25 the future that the total gas production will decline

1 just as the oil production has. I have an information
2 curve on all the wells and if it is needed, I can
3 introduce it in evidence. It shows both our gas and
4 oil are declining with time, so we will never end up
5 by being big gas producers in this area.

6 Q What is the oil allowable in that pool? Do we have
7 a schedule?

8 MR. HATCH: Actually, just for easy calculations,
9 the sheet states that it is a 100 barrel allowable and you
10 would get 200,000 cubic feet of gas, so if you went to
11 160 acre spacing, you would get 800,000 cubic feet of gas
12 with the ratio of 2,000 to 1.

13 A Right now we have 354 MCF per day, so it would be four
14 times that.

15 Q It would be 1,300 a day with the limiting ratio of 2,000
16 to 1?

17 A Right, but no well will make that.

18 Q If no well will make that, what really is the purpose
19 of going higher with the limiting ratio particularly
20 when it may cause proration problems if we do approach
21 the Dakota Pool with prorationing?

22 A I was trying to solve my problems, not your problems,
23 Mr. Arnold. If I may put it that way?

24 MR. UTZ: I think you did.

25 A (Continuing) I believe the G.O.R. is going to

1 continue to increase and I don't want to be limited
2 if they go up four times what they are now, and this
3 is conceivable in three or four years.

4 Q While the G.O.R. is increasing, is the total amount
5 of gas produced increasing?

6 A The G.O.R. is increasing and the total amount of gas
7 is decreasing. Right now the average of these wells
8 is 8,760 cubic feet per barrel, originally when we
9 started out, it was about 1,500.

10 The ratio is going to continue to increase.

11 Q Isn't the important thing the total amount of gas
12 that you can produce?

13 A Revenue-wise, to us, yes, the total amount of oil we
14 can produce and how much gas we can sell is our main
15 consideration.

16 Q Do you anticipate in the area you are in, that there
17 are wells capable of producing 1,300,000 cubic feet
18 of gas per day, either now or in the future?

19 A At the present time, I do not. As to what will happen
20 in the future, I don't know. Let me look -- if you
21 will wait just a minute, I will look at my production
22 reports for March.

23 Q Actually, the reason I was expressing concern was
24 because if we could go to 160 acre spacing with a
25 10,000 to 1 limiting ratio, it is going to give the wells

1 in the neighborhood of five million cubic feet of
2 gas per day, which is about four times, four or five
3 times the average production from the Basin Dakota
4 prorated gas wells.

5 So, it looks like we might get into a problem
6 if the pool started to approach the Basin-Dakota.

7 A At that time, that could be taken care of with another
8 Hearing. I don't see this because of the low porosity
9 and the liquid saturation.

10 Q Don't you think it would be a better approach, due to
11 the fact that you said you don't have a well capable
12 of producing more than 1,300,000, to leave the limiting
13 ratio at 2,000 and, if you actually do develop wells
14 capable of producing more gas, then handle that
15 problem at that time?

16 A The biggest well we have right now, just looking at
17 our March report, was 9,225 MCF of gas during the month.
18 This was a thirty-one day month.

19 MR. UTZ: March?

20 THE WITNESS: Yes.

21 A (Continuing) So this is 300 MCF per day and this was
22 our biggest well. In this pool I can't foresee wells
23 producing more than this, but I will say that our ratio
24 could climb as it has in the past and we may well
25 have to come back to you. The only well which we have

1 any problem on, at the present time, is Well 20-5
2 and we have received a note from you telling us to
3 reduce the production because in February it over
4 produced 11,633 MCF.

5 Q Actually, you are just going to 160 acre spacing and
6 multiplying the gas produced by four, without changing
7 the limiting ratio?

8 A This will help me, but how long it will help me is what
9 I don't know. If it is a big problem I think it is
10 for the Commission to decide. As our expert witness,
11 of course, I would like to have what we requested and
12 if it is not possible, I do believe you have some
13 pools in New Mexico that have gas-oil ratios different
14 from the State-wide limit.

15 Q The only reason they are different is because they
16 are adjacent to gas pools in the same reservoir.

17 A I can see it is going to be a problem because sometimes
18 the Dakota-Basin Gas Pool will sometimes merge or
19 run up against the West Lindrith Gallup-Dakota Oil
20 Pool.

21 MR. UTZ: Has it yet?

22 THE WITNESS: It hasn't yet. I don't know where
23 the limits of liquid saturation are.

24 Q (By Mr. Arnold) If you should drill a gas well within
25 the area here, a well which turned out to be, by your

1 definition, a gas well, would you want to define that
2 as a Basin Dakota Gas Well, or a West Lindrith
3 Gallup-Dakota Gas Well?

4 A I am sure if we were able to complete a Dakota Gas
5 Well, we would want to classify it as a Basin Dakota
6 Gas Well to get the advantage of thirty-two cents
7 per MCF as compared to selling gas as oil well gas
8 where we are getting fifteen and one-half cents per MCF.

9 MR. UTZ: Do you have any gas-oil ratios at more
10 than 10,000 now?

11 THE WITNESS: Yes.

12 MR. UTZ: Would they be gas wells under your
13 definition that you are proposing?

14 THE WITNESS: No, I have asked for 30,000 cubic
15 feet per barrel, and also, the oil produced is 46 degrees API
16 and it has to be in a range up to 60 degrees API to be a
17 gas well.

18 MR. UTZ: Is your oil production decreasing as
19 the G.O.R. goes up?

20 THE WITNESS: Yes.

21 MR. UTZ: Is this why you say you will only
22 produce so much gas or your total gas production will not
23 increase?

24 THE WITNESS: The total gas production has
25 continued to decline and we think it will continue the same

1 was the ratio is going up, but the total production is
2 going down.

3 MR. UTZ: You may continue, Mr. Arnold.

4 MR. ARNOLD: I believe that about covers the
5 points I had in mind.

6 CROSS-EXAMINATION

7 BY MR. PORTER:

8 Q I would like to clear up the definition of a gas
9 well. You have two factors that enter into a gas
10 well, one is the gas-oil ratio and the other would
11 be the gravity of the liquid produced.

12 A Yes.

13 Q What did you say about that?

14 A Sixty degrees API.

15 Q Do you have any wells in the pool now that even
16 approach that gravity?

17 A No, we do not.

18 Q So there is a very good chance you never will have
19 gas wells there?

20 A That's my contention.

21 MR. KELLAHIN: His testimony was this is an
22 alternative definition, 30,000 to 1 or producing liquids of
23 sixty degrees API.

24 MR. PORTER: I didn't hear it that way. I thought
25 he said, "and."

1 THE WITNESS: "Either," it's the alternative,
2 you wouldn't have to have both.

3 MR. HATCH: Did I understand you to say these
4 rules that you propose would apply for one mile outside
5 of the boundaries of the pool if the well was completed as
6 an oil well?

7 THE WITNESS: Yes.

8 MR. ARNOLD: This is confusing me, which comes
9 first, the chicken or the egg? You are going to use the
10 definition in the pool rules and decide whether it is a
11 gas well or an oil well and you would use the rules long
12 enough to define it and then, if it was a gas well, you
13 wouldn't use the rules anymore?

14 THE WITNESS: Somewhere in this area these pools
15 are changing from oil pools to gas pools, somewhere, I don't
16 know where it is. I thought by having this kind of
17 definition it would give the Commission a method of deciding
18 whether they had an oil well or a gas well when it was
19 completed.

20 MR. ARNOLD: A minute ago you answered one of
21 my questions saying that a gas well being drilled within the
22 development area, being defined as a gas well, I understood
23 you to say that this would be defined as a Basin-Dakota gas
24 well.

25 THE WITNESS: I said I would rather have a Basin-

1 Dakota gas well than a West Lindrith Gas Well.

2 MR. UTZ: Is this in San Juan County?

3 THE WITNESS: Rio Arriba County, New Mexico.

4 MR. UTZ: What kind of structure is this, or
5 is it a structure?

6 THE WITNESS: No.

7 MR. UTZ: A stratographic trend?

8 THE WITNESS: Yes, there is no measurable structure
9 in the whole area.

10 MR. UTZ: This oil area, is it not lower in the
11 Dakota formation than the gas area?

12 THE WITNESS: Not to be best of my knowledge. We
13 are producing out of two members of the Dakota so we are
14 producing out of the top.

15 MR. UTZ: I am trying to figure what connection
16 there might be between the oil area and the gas area, if
17 there is any.

18 THE WITNESS: I don't know. The place we have
19 oil saturation on the contour map, drawn either in the Gallup
20 or the Dakota, is just monotonous. It just shows the dips.
21 I think we introduced those in the past, so they are in
22 your records but it just shows the dip of the Basin.

23 MR. UTZ: Could these bottom hole pressures in
24 the wells conform with the pressures in the surrounding areas?

25 THE WITNESS: I don't know if they were originally,

1 but I am sure the pressures are going down -- this area is
2 going down faster in pressure than the Basin. The West
3 Lindrith is going down faster than the Basin-Dakota.

4 MR. UTZ: What gravity oil do you have?

5 THE WITNESS: It is forty-six degrees API, plus
6 or minus just a few tenths.

7 MR. UTZ: Are there any other questions of this
8 witness?

9 MR. KELLAHIN: I think it might be helpful to
10 suggest, I don't know the case number at this time, but I
11 would suggest you take notice of the record in the previous
12 cases.

13 There were a number of cases presented to the
14 Commission involving the use of the cross over assembly which
15 eventually went to down hole commingling in these two pools,
16 and finally culminated with the designation of this West
17 Lindrith Pool as a common source of supply with both the
18 Gallup and Dakota formations.

19 My recollection is that the production of these
20 wells would have been abandoned had the two pools not been
21 combined.

22 I think the situation is unique in that you do
23 have both Gallup production and Dakota production which is
24 not the West Lindrith-Gallup pool. I don't know of any
25 other place in the State with a situation like this. But

1 this has already been designated by the Commission as a
2 separate common source of supply.

3 Because there is Dakota gas production within a
4 few miles of the pool, somewhere along the line you are
5 getting into a fringe area and I think these could be treated
6 as Basin-Dakota gas wells and certainly they could be
7 prorated on the same basis and this would form ample protection
8 for anybody in the area.

9 What we really need at the moment is some type
10 of gas-oil ratio and a definement of the West Lindrith
11 Pool and these really are all we are asking for. It might
12 be that you will want to set up a procedure whereby if you
13 run into this situation, it automatically comes before the
14 Commission for a Hearing.

15 MR. PORTER: Did I understand you to say that if
16 a well should go from an oil well to a gas well in this
17 particular pool as it is now defined, that that should be
18 prorated as a Basin-Dakota Gas Well?

19 THE WITNESS: If it is producing from the
20 Dakota unless you want to change your definition of what
21 the Dakota Pool is.

22 MR. UTZ: You are not saying that a well completed
23 in both formations would be a Dakota Gas Well?

24 MR. KELLAHIN: Not necessarily. I say that it could
25 be handled on proration as such, you have to do something

1 with it. I see nothing inconsistent with prorating it as
2 though it were a Basin-Dakota Well.

3 THE WITNESS: I don't see any way of changing
4 the present oil well in the West Lindrith Gallup Pool to
5 a gas well, because of the gravity of liquids.

6 MR. PORTER: We are back to that. That's the
7 way I understood you originally. If you have both high
8 gravity and high gas-oil ratio together, it is a gas well.

9 MR. UTZ: No, you have to have either.

10 THE WITNESS: Either. I don't believe it will
11 ever get to be a gas well because I am sure the liquids are
12 not going to increase the gravity up to sixty degrees API.

13 MR. PORTER: I understand that.

14 THE WITNESS: Therefore because the liquids don't
15 increase in gravity, the wells will always be oil wells.

16 MR. PORTER: This point has to be clarified.

17 MR. KELLAHIN: A well producing with a gas-liquid
18 ratio of 30,000 cubic feet of gas per barrel of oil or one
19 that produces oil with a gravity of sixty degrees API or
20 greater; either/or.

21 MR. UTZ: That means either.

22 MR. KELLAHIN: Right.

23 MR. UTZ: So it will be either 30,000 to 1 or
24 sixty degrees API, whichever comes first.

25 MR. KELLAHIN: Right, that is the way it was

1 advertised.

2 MR. UTZ: Okay. Mr. Tarr, if your G.O.R. does
3 exceed 30,000 then you will have some gas wells in there?

4 THE WITNESS: From what Mr. Kellahin has said.

5 MR. PORTER: I don't know who is testifying here.

6 THE WITNESS: I would like to reread the letter
7 I wrote to him. We have "or" in the wording.

8 MR. PORTER: At this point, I am wondering what
9 the Company wants, what the Applicant wants.

10 MR. KELLAHIN: Can you answer that?

11 MR. PORTER: Do you want a well to have to meet
12 both the sixty degrees API and the 30,000 to 1 G.O.R.?

13 THE WITNESS: We would rather that the wells
14 not be classified -- reclassified as gas wells in the future.
15 This is our intention as long as they were originally oil
16 wells.

17 MR. KELLAHIN: Just to clarify this, Mr. Tarr, would
18 you ask the Commission to classify a gas well as one having
19 30,000 to 1 G.O.R. ratio, and sixty degrees API fluid?

20 THE WITNESS: Yes.

21 MR. KELLAHIN: Instead of "or"?

22 THE WITNESS: Yes, instead of "or." I would rather
23 "and" than "or."

24 MR. UTZ: This is classified as an oil pool; is
25 it not?

1 THE WITNESS: Yes, sir.

2 MR. STAMETS: If we just forgot the gas well
3 definition these would always be oil wells; wouldn't they?
4 Would you recommend such a thing?

5 THE WITNESS: I don't want to belabor the definition
6 of gas or oil any further.

7 MR. STAMETS: I would like to see if I understand
8 this right. When you are talking about a well going to a
9 gas well or being classified as a gas well on this 30,000 to
10 1 basis, you are talking about a well which is already
11 classified as a Lindrith Gallup-Dakota Oil Well and if the
12 G.O.R. went up over 30,000 you would want to call it a
13 Lindrith Gallup-Dakota Gas Well?

14 THE WITNESS: Hopefully not because we changed
15 the "or" to "and."

16 MR. PORTER: I might swear Mr. Arnold in to
17 answer this. Do you call approximately what the gravity
18 of the Basin-Dakota Gas Well, the liquid that comes from the
19 well is?

20 MR. ARNOLD: Well, there is a big variation. Some
21 of the condensate which is of very high gravity is as high
22 as seventy-five, but actually in quite a few places in the
23 Basin-Dakota Pool you actually find crude zones which produce
24 as low as forty-two. So I would say you can't fix the gravity
25 and say the Dakota Gas Wells are going to produce a particular

1 gravity because of the different kinds of production and it
2 would depend on whether it is condensate, crude oil, or a
3 mixture of both.

4 MR. PORTER: Do you understand my question? My
5 question only goes to the wells classified as Basin-Dakota
6 Gas Wells. I am not talking about oil wells.

7 MR. ARNOLD: I understood your question.

8 THE WITNESS: Your average gravity was sixty-two.

9 MR. PORTER: From your Basin-Dakota Gas Wells?

10 THE WITNESS: Where we had run tickets.

11 MR. ARNOLD: Do you consider there is any
12 condensate mixed in your produced crude oil from some of the
13 gas?

14 THE WITNESS: It is predominantly all oil. The
15 cores showed oil all the way up and down.

16 MR. UTZ: Is there any possibility that there is
17 Dakota gas production to the southeast of this area?

18 THE WITNESS: Slight. There is more chance for
19 Dakota gas production immediately west and immediately east.
20 We plan to drill a well to the east of this area, there are
21 three wells shown on that map to the west and they are
22 shown as Basin Oil Wells in the Dakota.

23 We intend to drill a well somewhere in between those
24 on some other land that we own which is not shown on this
25 map.

1 It is possible that Dakota oil production will
2 extend to those three wells.

3 MR. UTZ: Is there a possibility of this being
4 low rim?

5 THE WITNESS: I don't know.

6 MR. UTZ: Any other questions?

7 MR. ARNOLD: You aren't recommending that any
8 well in the Basin-Dakota Gas Pool which would meet your
9 criteria for being an oil well be classified an oil well, but
10 only in the area you are talking about?

11 THE WITNESS: Only the West Lindrith Gallup-Dakota
12 Pool.

13 MR. UTZ: Any other questions?

14 (No response.)

15 MR. UTZ: Any statements in this Case?

16 (No response.)

17 MR. UTZ: The witness may be excused. The case
18 will be taken under advisement.
19
20
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22
23
24
25

1 STATE OF NEW MEXICO)
2) ss
3 COUNTY OF BERNALILLO)

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

11 *Richard E. McCormick*
12 CERTIFIED SHORTHAND REPORTER

13
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20
21
22 I hereby certify that the foregoing is
23 a complete record of the proceedings in
24 the Executive Hearing of Case No. 4703
25 heard by me on May 8, 1972.
Richard E. McCormick, President
New Mexico Oil Conservation Commission

I N D E X

WITNESS:

PAGE

CHARLES TARR

Direct Examination by Mr. Kellahin

3

Cross-Examination by Mr. Arnold

13

Cross-Examination by Mr. Porter

19

E X H I B I T S

APPLICANT'S: (Continental)

OFFERED

ADMITTED

Exhibit Number 1

5

13



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2838 - SANTA FE
87501

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMJO
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

May 31, 1972

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 4703
Order No. R-4314
Applicant:
Continental Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC X

Artesia OCC

Aztec OCC X

Other _____

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 4703
Order No. R-4314

APPLICATION OF CONTINENTAL OIL
COMPANY FOR SPECIAL POOL RULES,
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 5, 1972,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 31st day of May, 1972, the Commission a
quorum being present, having considered the testimony, the
record, and the recommendations of the Examiner, and being
fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required
by law, the Commission has jurisdiction of this cause and the
subject matter thereof.
- (2) That the applicant, Continental Oil Company, seeks
the promulgation of special rules and regulations for the West
Lindrith Gallup-Dakota Oil Pool, Rio Arriba County, New Mexico,
including provisions for 160-acre spacing and proration units,
oil well and gas well classification, and a gas-oil ratio limita-
tion of 10,000 cubic feet of gas per barrel of oil.
- (3) That the applicant has established that one well in the
West Lindrith Gallup-Dakota Oil Pool can efficiently and economical-
ly drain and develop 160 acres.
- (4) That there is no necessity for the special classifica-
tion of oil and gas wells as requested by the applicant.
- (5) That there is no necessity for the adoption of a
gas-oil ratio limitation in excess of 2,000 cubic feet of gas
per barrel of oil.
- (6) That in order to prevent the economic loss caused by
the drilling of unnecessary wells, to avoid the augmentation of
risk arising from the drilling of an excessive number of wells,
to prevent reduced recovery which might result from the drilling
of too few wells, and to otherwise prevent waste and protect
correlative rights, special rules and regulations providing
for 160-acre spacing units should be promulgated for the West
Lindrith Gallup-Dakota Oil Pool.

-2-

CASE NO. 4703
Order No. R-4314

(7) That the special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(8) That the special rules and regulations for the West Lindrith Gallup-Dakota Oil Pool should apply only to wells located within the horizontal limits of said pool.

IT IS THEREFORE ORDERED:

That, effective July 1, 1972, Special Rules and Regulations for the West Lindrith Gallup-Dakota Oil Pool, Rio Arriba County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
WEST LINDRITH GALLUP-DAKOTA OIL POOL

RULE 1. Each well completed or recompleted in the West Lindrith Gallup-Dakota Oil Pool shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 160 acres, more or less, substantially in the form of a square, which is a quarter section being a legal subdivision of the United States Public Land Surveys.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit consisting of less than 160 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located no nearer than 330 feet to the outer boundary of the proration unit or to any governmental quarter-quarter section line nor nearer than 660 feet to the nearest well drilling to or capable of producing from the same pool.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting

-3-

CASE NO. 4703
Order No. R-4314

the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned a 160-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

RULE 7. That the limiting gas-oil ratio for the West Lindrith Gallup-Dakota Oil Pool shall be 2,000 cubic feet of gas per barrel of oil produced.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the West Lindrith Gallup-Dakota Oil Pool are hereby approved; that the operator of any well having an unorthodox location shall notify the Aztec District Office of the Commission in writing of the name and location of the well on or before June 15, 1972.

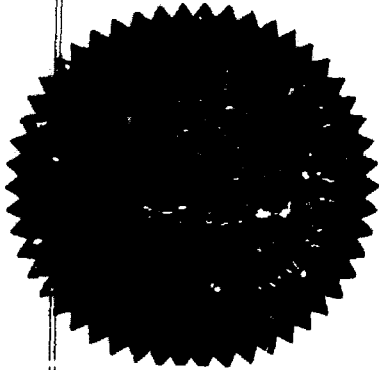
(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the West Lindrith Gallup-Dakota Oil Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the West Lindrith Gallup-Dakota Oil Pool shall receive no more than one-fourth of a standard allowable for the pool.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

-4-
CASE NO. 4703
Order No. R-4314

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Bruce King
BRUCE KING, Chairman

Alex J. Armijs
ALEX J. ARMIJO, Member

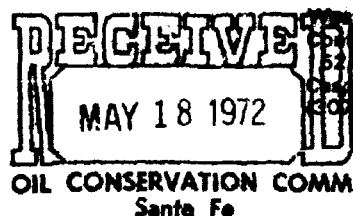
A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

S E A L

dr/



Production Department



Western Hemisphere Petroleum Division
Continental Oil Company
52 North Durbin
Casper, Wyoming 82601
(307) 234-7311

May 15, 1972

5-18-72

State of New Mexico
Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico 87410

Attention: Mr. Emery C. Arnold

Dear Emery:

W. Lindrith Gallup-Dakota Pool Rules Hearing May 5, 1972 at Sante Fe.
Case 4703
File: JO-414-JO

Thank you for your letter dated May 9, 1972 explaining the gas allowable for 160 acre spaced oil wells. I am aware of how the gas allowable for 40 acre spaced oil wells is calculated in New Mexico. Prior to the hearing, I had not determined the allowable gas production for a 160 acres spaced Gallup-Dakota Well at West Lindrith.

In applying for field rules, we thought it best to ask for all items which we thought we could reasonably expect to be approved by the Commission. Not knowing which items would be approved or disapproved, we endeavored to present enough information so the Commission could, through its years of experience and wisdom, write field rules to solve Continental's present and potential problems. Continental Oil Company did not wish to have any rules adopted which would in the future cause the Commission additional regulatory problems.

If one were to assume the Commission will approve the 160 acre well spacing rule and Continental's definition of oil and gas wells, perhaps the 10,000 to 1 GOR rule would be ill advised. In general, at West Lindrith, the total gas production from older wells declines at a slightly lower rate than the oil production. Increasing GOR's at the older wells is not a problem with Continental due to the method the New Mexico Commission uses to calculate the allowable gas production from oil wells. However, I also know that on several of the recently drilled oil wells, the gas-oil ratios and total gas producing rates were quite high. Also, gas production probably will increase as time passes. In the future, Continental does not wish to shut-in or restrict marginal oil wells in the West Lindrith Gallup-Dakota pool due to high gas production. This was the reason for proposing the 10,000 to 1 GOR rule.

After analysing both Continental's position at West Lindrith and the Commission's position with respect to Basin Dakota gas wells, we still believe to present state wide 2000 to 1 GOR rule will prove burdensome to Continental in the future. Also, we can see that the Commission probably will not approve the 10,000 to 1 GOR rule. Therefore, if it is proper, we suggest the Commission should perhaps write a limiting 4,000 to 1 GOR rule and grant Continental the relief it believes it will require to avoid shutting in marginal oil wells in the future and at the same time prevent excessive Basin Dakota gas production at oil wells.

Through this compromise, the Commission would avoid the correlative rights problem mentioned in your letter.

Yours very truly,

Original Signed By:
C. M. Tarr

Charine M. Tarr
Senior Staff Engineer

Original Signed By:
W. C. BLACKBURN
Approved: _____
W. C. Blackburn
Division Manager, Production Department

je

COPY FOR → CC: Mr. A. L. Porter, Jr.
Mr. Jason W. Kellahin

Case 4703
Heard 5-3-72
Rec. 5-15-72

Grant Contentment's request for
special Pool Rules for the
Hallup-Ok Oil Pool as follows:

1. 160 Ac. Spacing for all wells.
2. 30,000 and 60° API Gravity fluids
for well definitions.
3. Well spacing as is now for
160 ~~Ac~~ ^{Fe}
4. Lease the 10,000 G & P. for the
pool. + Lease it the 20,000!!

The Oke

- CASE 4700: Application of Penasco Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Penasco Shugart Queen Sand Unit Area, Shugart Pool, by the injection of water into the Queen formation through four wells located in Sections 8, 9, 16, and 17, Township 18 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks a procedure whereby additional injection wells within the unit area may be approved administratively.
- CASE 4701: Application of Wynn Oil Company for an unorthodox location and a dual completion, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion of its Largo Federal Well No. 2 to produce gas from the Blanco-Mesaverde and Basin-Dakota Pools at an unorthodox location for the Blanco-Mesaverde Pool 1500 feet from the South line and 1100 feet from the East line of Section 13, Township 27 North, Range 8 West, San Juan County, New Mexico.
- CASE 4702: Application of Penroc Oil Corporation for a special gas-oil ratio limitation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an amendment of the special rules and regulations for the Hobbs-Drinkard Pool, Lea County, New Mexico, to provide for a limiting gas-oil ratio of 10,000 cubic feet of gas per barrel of oil for said pool.
- CASE 4703: Application of Continental Oil Company for special pool rules, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the West Lindrith Gallup-Dakota Oil Pool, Rio Arriba County, New Mexico, including provisions defining a gas well in the pool as one producing with a gas-liquid ratio of 30,000 cubic feet of gas per barrel of oil or one which produces oil with a gravity of 60° API or greater, a gas-oil ratio limitation for oil wells of 10,000 cubic feet of gas per barrel of oil, and 160-acre spacing units for both oil and gas wells.
- CASE 4709: Application of Continental Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Eumont Gas Pool and the Penrose Skelly Oil Pool in the wellbore of its Lockhart A-17 Well No. 1 located in Unit L of Section 17, Township 21 South, Range 37 East, Lea County, New Mexico.
- CASE 4710: Application of Hanson Oil Corporation for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, to dispose into unlined surface pits water produced by 22 wells located

Docket No. 10-72

DOCKET: EXAMINER HEARING - FRIDAY - MAY 5, 1972

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Richard L. Stamets, Alternate Examiner:

CASE 4689: (Continued from the April 5, 1972, Examiner Hearing)

Application of Petroleum Corporation of Texas for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, to dispose into unlined surface pits water produced by its Dexter Federal Well No. 15 located in Unit J of Section 15, and all of its wells located or to be located in the NW/4 of Section 20, Township 17 South, Range 30 East, Grayburg-Jackson Pool, Eddy County, New Mexico.

CASE 4697: Application of Texaco Inc. for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (tubingless) of its V. M. Henderson Well No. 9 located in Unit G of Section 30, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock and Tubb Pools through parallel strings of casing, cemented in a common well-bore.

CASE 4698: Application of David Fasken for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of his Arco "9" Morrison Well No. 1 located in Unit B of Section 9, Township 19 South, Range 25 East, Eddy County, New Mexico, in such a manner as to produce gas from an undesignated Cisco gas pool through tubing and gas from the Boyd-Morrow Gas Pool through the casing-tubing annulus.

CASE 4711: Application of Shell Oil Company for commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle North Vacuum Abo production from its State VB Com Well No. 1 located in Unit B of Section 19, Township 17 South, Range 35 East, Lea County, New Mexico, and from its State K Lease comprising the SE/4 of said Section 19 after separately metering the State VB Com production and determining the State K production by means of the subtraction method.

CASE 4699: Application of Penasco Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Penasco Shugart Queen Sand Unit Area comprising 520 acres, more or less, of Federal and State lands in Sections 8, 9, 16, and 17, Township 18 South, Range 31 East, Shugart Pool, Eddy County, New Mexico.

(Case 4710 continued)

or to be located in Sections 24, 25, 26, 34, and 35, Township 18 South, Range 30 East, Shugart Pool, Eddy County, New Mexico.

CASE 4704: Application of Atlantic Richfield Company for rededication of acreage, Lea County, New Mexico. Applicant, in the above-styled cause, seeks amendment of Order No. R-1932 to permit the 240-acre non-standard gas proration unit comprising the NE/4 NE/4 of Section 33 and the NW/4 and NW/4 NE/4 of Section 34, Township 19 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico, established by said order to be dedicated simultaneously to its J. H. Williams "Com" Well No. 3 and its J. H. Williams Well No. 5 located, respectively, in Units E and F of said Section 34.

CASE 4705: Application of Atlantic Richfield Company for waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to institute three waterflood projects on its leases in Sections 19 and 30, Township 17 South, Range 31 East, Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water into the Grayburg formation through five wells located in said Sections 19 and 30.

CASE 4706: Application of Kennedy Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool by the injection of water into the Grayburg formation through its State "B" Well No. 1 located in the NW/4 SW/4 of Section 19, Township 17 South, Range 31 East, Eddy County, New Mexico.

CASE 4708: Application of Jake L. Hamon for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Pennsylvanian and Devonian formations in perforated and open-hole interval from 10,492 feet to 13,100 feet in his State B-2330 Well No. 1 located in Unit C of Section 31, Township 16 South, Range 36 East, East Shobar-Devonian Field, Lea County, New Mexico.

CASE 4707: Application of Blackrock Oil Company for a dual completion, salt water disposal, and unorthodox location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Bates McIntyre Federal Well No. 1 at an unorthodox location 1980 feet from the North line and 650 feet from the East line of Section 9, Township 6 South, Range 27 East, Chaves County, New Mexico, in such a manner as to produce gas from the Haystack Cisco Gas Pool through tubing and to dispose of salt water down the casing-tubing annulus into the San Andres and other formations in the open-hole interval from 1186 feet to 4389 feet, the N/2 of said Section 9 would be dedicated to the well.

Memo

From
EMERY ARNOLD

To Peter,

I have tried to clarify
in this letter what I
evidently didn't make to
clear trying to question
Mr. Tarr the other day.
You might want to pass
it on to Elvis as it may
have a bearing on his
recommended order

Emery



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
1000 RIO BRAZOS ROAD - AZTEC
87410

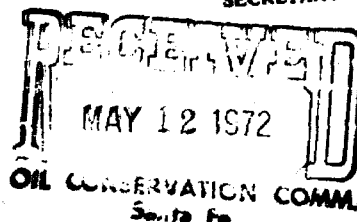
GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMJO
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

May 9, 1972

Mr. Charles Tarr
Continental Oil Co.
152 North Durbin
Casper, Wyoming 82601



Dear Mr. Tarr:

In reviewing your testimony and answers to my questions in Case 4703 pertaining to pool rules in the West Lindrith-Gallup-Dakota Pool, I have decided that there is a possibility that you misunderstood how our oil proration rules operate. If this is true, I thought it might be well if I wrote you a letter clarifying my position and clarifying our rules.

I am speaking specifically of the portion of your testimony requesting that limiting gas oil ratios be set at 10,000 cubic feet per barrel of oil. As our rules operate, an oil well may produce the amount of gas obtained by multiplying the limiting ratio by the top oil allowable in the pool. No penalty is made on the oil allowable until that volume of gas is exceeded. If the pool is approved for 160 acre spacing, the oil allowable factor would be 4.77 with a 100 barrel 40 acre unit allowable. The top allowable in this pool would become 477 barrels. Therefore, with a limiting ratio of 2000 to 1 as is now in effect, the gas limit would be 477×2000 or 954 mcf per day. Until that volume of production is exceeded, no penalty is made on the oil allowable even though individual well gas-oil ratios may far exceed 2000 cubic feet per barrel. The monthly gas allowable per well would become approximately 28,620 mcf per month. From studying your production reports, this volume appears to be over twice the capacity of any of Continental's wells. Therefore, increasing the limiting ratio serves no purpose and at the same time it might possibly create problems in the future as development proceeds on the outer extensions of the pool. The problem I am contemplating, for instance, is the possibility of a well being drilled which is capable of 100 barrels of oil per day and which has a GOR of 25,000 to 1. This would be defined as an oil well by your rules, but with a 10,000 to 1 limiting ratio it would be legally producing 2,500 mcf per day which exceeds usual allowable rates for Basin Dakota gas wells. This of course would pose a problem insofar as correlative rights are concerned.

I would appreciate having your comments on the matter, if for no other reason so that I can be assured that we are understanding one another.

Thank you.

Yours very truly,

Emery C. Arnold
Emery C. Arnold
Supervisor, District #3

ECA:mc

cc: Mr. A. L. Porter, Jr., Oil Conservation Commission, Santa Fe, New Mexico

JASON W. KELLAHIN
ROBERT E. FOX

KELLAHIN AND FOX
ATTORNEYS AT LAW
54½ EAST SAN FRANCISCO STREET
POST OFFICE BOX 1789
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

March 30, 1972

Case 4703

Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Continental Oil Company

Gentlemen:

Enclosed is application of Continental Oil Company
for adoption of pool rules for the West Lindrith
Gallup-Dakota Oil Pool, Rio Arriba County, New
Mexico.

Please set this case for hearing on May 5, 1972.

Yours very truly,

Jason W. Kellahin
Jason W. Kellahin

JWK:abs

Enclosures: (3)

RECEIVED
APR 3 1972

DOCKET MAILED

Date 4-21-72

BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF CONTINENTAL OIL COMPANY FOR
ADOPTION OF POOL RULES FOR THE
WEST LINDRITH GALLUP-DAKOTA OIL
POOL, RIO ARriba COUNTY, NEW
MEXICO.

Case 4703

A P P L I C A T I O N

Comes now Continental Oil Company and applies to the Oil Conservation Commission of New Mexico for the adoption of pool rules for the West Lindrith Gallup-Dakota Oil Pool, Rio Arriba County, New Mexico, and in support thereof would show the Commission:

1. The West Lindrith Gallup-Dakota Oil Pool was created by Commission Order No. R-4260, entered in Case No. 4667 for the production of oil from the Gallup and Dakota formations.

2. Applicant proposes that special pool rules be adopted for the pool, which should include the following provisions:

A. A provision for 160-acre spacing and proration units, with wells to be located in any quarter-quarter section.

B. A provision for a limiting gas-oil ratio of 10,000 cubic feet of gas to 1 barrel of oil.

C. A gas well should be defined as any well in the pool producing with a gas-liquid ratio of 30,000 cubic feet of gas per barrel of liquid hydrocarbons, or more, or any well which produces liquid hydrocarbons with a gravity of 60° API or greater. Any well producing with a gas-liquid ratio of less than 30,000 cubic feet of gas per barrel of liquid hydrocarbons and which produces liquid hydrocarbons with a gravity of less than 60° API should be classified as an oil well. The rules should further provide that no well classified as an oil well will be reclassified as a gas well unless the classification is approved by the Commission following a hearing.

D. The pool rules for the West Lindrith Gallup-Dakota Oil Pool should apply to any Gallup-Dakota oil well drilled and completed within one mile of the outer

boundaries of the West Lindrith Gallup-Dakota Oil Pool as defined by the Commission now or as said pool might be from time to time extended.

E. Such other provisions as may be proper in the premises.

3. In support of the foregoing provisions, applicant would show the Commission that one well will efficiently and economically drain and develop not less than 160 acres in the pool, and that the drilling of additional wells could result in waste; that the pool can efficiently produce with a limiting gas-oil ratio of 10,000 to 1; and for the efficient and economic development and production of the pool, a definition of a gas well, and of an oil well in the pool should be adopted; and to insure orderly development, any well drilled and completed within one mile of the outer boundaries of the pool in the Gallup-Dakota formations should be governed by the pool rules adopted for the West Lindrith Gallup-Dakota Pool.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner, and that after notice and hearing as required by law the Commission adopt pool rules as prayed for.

Respectfully submitted,

CONTINENTAL OIL COMPANY

By Jason W. Kellahin
KELLAHIN & FOX
P. O. Box 1769
Santa Fe, New Mexico 87501

DRAFT

GMH/dr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

APPLICATION OF CONTINENTAL OIL
COMPANY FOR SPECIAL POOL RULES,
RIO ARriba COUNTY, NEW MEXICO.

CASE No. 4703

Order No. R-4314

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 5, 1972,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 5 day of May, 1972, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Continental Oil Company, seeks
the promulgation of special rules and regulations for the West
Lindrieth Gallup-Dakota Oil Pool, Rio Arriba County, New Mexico,

including provisions for 160-acre spacing and proration units,

oil well and gas well classification, and a ~~limit~~
gas-oil ratios limitation of 10,000 cubic feet of
gas per barrel of oil.

(3) That the applicant has established that one well in the West Lindrith Gallup-Dakota Oil Pool can efficiently and economically drain and develop 160 acres.

(4) That there is no necessity for the special classification of oil and gas wells as requested by the applicant.

(5) That there is no necessity for the adoption of a gas-oil ratio limitation in excess of 2,000 cubic feet of gas per barrel of oil.

(6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, special rules and regulations providing for 160-acre spacing units should be promulgated for the West Lindrith Gallup-Dakota Oil Pool.

(7) That the special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(8) That the special rules and regulations for the West Lindrith Gallup-Dakota Oil Pool should apply only to wells located within the horizontal limits of said pool.

IT IS THEREFORE ORDERED:

That, effective July 1, 1972, Special Rules and Regulations for the West Lindrith Gallup-Dakota Oil Pool, Rio Arriba County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
WEST LINDRITH GALLUP-DAKOTA OIL POOL.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit consisting of less than 160 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well shall be located no nearer than 330 feet to the outer boundary of the proration unit or to any governmental quarter-quarter section line nor nearer than 660 feet to the nearest well drilling to or capable of producing from the same pool.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned a 160-acre proportional factor of ^{4.77}~~4.33~~ for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the West Lindrith Gallup-Dakota Oil Pool ~~or in the~~ ~~the~~ ~~formation within one mile there~~ ~~are~~ are hereby approved; that the operator of any well having an unorthodox location shall notify the Aztec District Office of the Commission in writing of the name and location of the well on or before June 15, 1972.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the West Lindrith Gallup-Dakota Oil Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation,

Rule 7. That the limiting gas-oil ratio for the West Lindrith Gallup-Dakota Oil Pool shall be 2000 cubic feet of gas per barrel of oil produced.

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CASE NO. 4703

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each well presently drilling to or completed in the West Lindrith Gallup-Dakota Oil Pool ~~or in the~~ formation ~~within one mile thereof~~ shall receive no more than one-fourth of a standard allowable for the pool.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

CASE 4704: Appli. of ATLANTIC
RICHFIELD COMPANY FOR REDEDI-
CATION OF ACREAGE, LEA COUNTY.