

Case Number
4595

Application

Transcripts

Small Exhibits

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 15, 1971

EXAMINER HEARING

-----)
IN THE MATTER OF:)

Application of Continental Oil)
Company for downhole commingling,)
Rio Arriba County, New Mexico.)
-----)

Case No. 4595

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

I N D E XJAMES A. MAZZAPAGE

Direct Examination by Mr. Kellahin

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Cross Examination by Mr. Nutter

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E X H I B I T SMarkedOffered and
Admitted

Applicant's Exhibits A, B, C and D

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MR. NUTTER: Case No. 4595.

MR. HATCH: Application of Continental Oil Company for downhole commingling, Rio Arriba County, New Mexico.

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

(Witness sworn)

(Whereupon, Applicant's Exhibits A, B, C and D were marked for identification.)

JAMES A. MAZZA

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A James A. Mazza.

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

A Continental Oil Company, a production engineer.

Q Where are you located?

A Casper, Wyoming.

Q Have you ever testified before the Oil Conservation Commission or one of its Examiners?

A No.

Q For the benefit of the Examiner, could you briefly outline your education and experience as an engineer?

A Yes, sir. I received a B.S. degree in geological engineering with a Petroleum option in 1965 from the Montana School of Mines, now known as the Montana College of Mineral Science and Technology. Since that time I have been employed as a production engineer for Continental Oil Company in our various division offices, responsible for all production and development phases of our operations for a specific area. In June of 1965 to December of 1965, I was involved in the various aspects of our engineering program. From January, 1966 to June 1967, I was assigned to our Billings, Montana office, responsible for our production operations in central Montana. From June, 1967 to November, 1967, I was assigned to our Durango, Colorado office and was responsible for our development and production operations for the San Juan Basin and portions of Utah. I was relocated in Casper, Wyoming in November of 1967 where

I presently reside at the capacity of production engineer for our San Juan Basin operations.

Q Are you in charge of the production engineering for the area involved in the Application in Case 4595?

A Yes, sir, I am.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

BY MR. KELLAHIN:

Q What does the Applicant propose in Case 4595?

A We request an order permitting Continental to commingle, without a packer, production from the undesignated Gallup and undesignated Dakota pools and we propose 28 No. 12 and 28 No. 13 wells located in our West Lindrith field. We also request the order to provide for commingling approval by administrative order for all future duals of Gallup and Dakota wells in the field.

Q Now, referring you to the Applicant's Exhibit A, would you identify that Exhibit?

A Exhibit A is a plat of our West Lindrith pool located in Township 25 North, Range 4 West, Rio Arriba County. It consists of four separate leases: The

Jicarilla Apache 20 lease consisting of Sections 17, 18, 19 and 20; the Jicarilla Apache 22 lease consisting of Sections 15, 16, 21 and 22; the Jicarilla Apache 28 lease consisting of Sections 27, 28, 33 and 34; and the Jicarilla Apache 30 lease consisting of Sections 29, 30, 31 and 32. Continental owns 100 per cent working interest in the undesignated Gallup and the undesignated Dakota reservoirs. The royalty interest is common, held by the Jicarilla Apache Tribe. There are no overriding royalties for working interest in the field.

Q So, the entire ownership is common throughout?

A Yes, sir.

Q The entire area we are talking about here?

A Yes, sir.

Q How many producing wells are there in the field?

A There are a total of 19 producing wells; 14 of these wells are dually completed in the undesignated Gallup and undesignated Dakota pool. Of the 14 dual completions, 12 are commingled in the wellbore without a packer and produce through a single tubing.

Q Now, that commingling in the wellbore was approved by the Commission in prior Hearings, is that

correct?

A Yes, sir.

Q And the commingling was substantially the same in those wells as you are proposing in the present case?

A Yes, sir.

Q Now, these two wells identified by the red arrow, what are those?

A The two wells identified by the red arrows are the two wells that we are proposing to drill this year, that we are requesting commingling approval at this Hearing.

Q Now, there are some additional wells identified by other arrows in the exhibit?

A Yes, the three wells identified by the dark arrows are 22 No. 5 located in Section 22, and 28 No. 10 well located in Section 28, and the 28 No. 11 well located in Section 33 and are wells to be drilled this year which commingling approval has already been obtained. The remaining dual wells are currently producing commingled with the exception of the 28 No. 2 well located in Section 27 and identified by a square, and the 22 No. 1 well located in Section 22, also identified by a square produced with separate casing strings.

Q You mean a casing string to each of the zones?

A Each zone has a casing string.

Q Now, referring to what has been marked as Applicant's Exhibit B, can you identify that, please?

A Yes. Exhibit B is a tabulation of the commingling approval already obtained from the Commission for current producing and proposed wells in the field. The producing wells, with the exception of 28 No. 9, located in Section 28, were approved by Administrative Order in 1970 to remove the packers and commingle dual zones in a common wellbore. The three wells to be drilled, the 22 No. 5 in Section 22, and the 28 No. 10 in Section 28 and the 28 No. 11 in Section 33 previously identified on Exhibit A with the dark arrows received approval for commingling as a result of a Special Hearing held before this Commission on November 18, 1970. Also, the 28 No. 9 well located in Section 28 received approval to commingle without a packer as a result of the same Hearing. The well was drilled and completed in February of 1971.

Q Now, what is the downhole commingling arrangement you propose for the 28 No. 12 and the 28 No. 13 wells?

A The commingling technique proposed can be best explained by reference to Exhibits B and C.

Q You are now referring to B and C?

A Yes, sir. The tabulation was Exhibit D rather than D, as I referred to it.

Q Go ahead.

A These Exhibits are a schematic of the mechanical arrangement for the proposed wells. It is identical to the mechanical arrangement of the 12 wells currently commingled in the field. The Gallup and Dakota zones will be perforated and stimulated separately, but will be commingled in the wellbore upon initial clean-up. A pumping unit will be installed as soon as the wells have been sufficiently cleaned up.

Q How do you propose to allocate production from the two zones if you complete them?

A We suggest that the same production allocation be used as was specified by Order No. R-4071. This specified that the allocation for oil would be 53 per cent for the upper zone and 47 per cent for the lower zone, and for gas it would be 39 per cent for the upper zone and 61 per cent for the lower zone.

Q Are you producing the wells any differently now than you were before you removed the packer in the commingled wells?

A Yes, but only 7 of the 12 commingled wells, the

difference being that removal of the packer in the gas has allowed us to install pumping units.

Q What is your main reason for wishing to remove the packer in these wells?

A Reduction in flowing bottom-hole pressure. The commingling technique used prior to 1970 required a 500 to 600 PSI fluid operated gas lift valve above the packer which allowed the upper zone in the Gallup to enter the tubing. The flowing bottom-hole survey showed that the Gallup was producing against an average back pressure of about 650 PSI and produced for only 10 to 15 minutes before the valve closed. This we believe severely restricted the Gallup production. The survey also shows that the Dakota zone, the lower zone, was operating against an average back pressure of 500 PSI plus about 200 PSI fluid head below the gas lift valve and packer. We estimated that by removing the packer that the flowing bottom-hole pressure could be reduced by approximately 200 PSI, thereby increasing recovery from the well.

Q Have you evaluated commingle well performance both before and after packer removal in the wells in which you have had experience?

A Yes, sir. A production comparison based upon actual well tests has showed an increased production by 39 barrels of oil per day the first full month after removal of the packers. Well tests in July, 1971, which are the latest tests we have available, showed that we are still producing 42 barrels a day more than we were the month prior to removing the packer. The production increase, however, cannot be credited to commingling alone, as we installed pumping units on some wells at the same time we removed the packers, however, the installation of pumping units could not have been possible with our previous commingling arrangement with a packer.

Q So, you would not have had an increased recovery without removing the packer?

A No, sir

Q For whatever reason?

A No, sir.

Q Have you completed any new wells, commingling, without a packer on initial completion?

A Yes, sir, the 28 NO. 9 well which is located in Section 28 in the NE/NE/4 which was completed in February of 1971 was without a packer in the hole.

Q I believe in prior Hearings there has been some

testimony as to the anticipated performance of newly completed wells. Have you had any experience on that; what has been your experience?

A In reviewing the performance of 28 No. 9 so far has been somewhat disappointing. The initial potential was less than anticipated. We initially produced the well by plunger lift at which time it declined in production very rapidly. After about 12 days, we installed a pumping unit which increased production by approximately 60 per cent. The decline rate, however, is less severe since installing the pumping unit, but there is not sufficient production history to make an adequate comparison.

Q Well, do you believe that commingling without a packer will help the future performance of your wells?

A Yes, we do. We believe that we will increase our ultimate recovery by approximately 15,000 barrels of oil per well. Here we are assuming that it will be necessary to pump a dual Gallup-Dakota well sufficiently to deplete the reservoirs.

Q Now, has eliminating the packer on completion reduced your investment cost?

A Yes, it has. Completion of a well with a packer

requires an additional initial expenditure of \$3500. per well which is the equipment and labor cost required to complete with a packer. Installing the pumping unit on completion rather than later in the well's producing life will save an additional \$1700. per well which is the cost to remove the packer based on current prices, at a total cost savings of \$5200. per well, which is realized initially. In addition to this, approximately \$500. per well will be saved initially by eliminating the annual packer leakage test.

Q Has the completion of these wells without a packer in your opinion caused any damage to either one of the commingled reservoirs?

A No, sir.

Q In your opinion, will the proposed 28 No.12 and 28 No. 13 wells be eligible for commingling under Rule 303-C?

A Yes, on the basis of experience it has been determined that after about three months, and in some instances upon initial completion, we find commingled production is less than 50 barrels per day.

Q And at the same time, you want prior approval before you drill the wells, is that correct?

A Yes, sir.

Q And not wait until you comply with Rule 303-C?

A Yes, sir.

Q Now, we have asked in this case for an administrative procedure for approval of further commingling. What are the plans of the Applicant in this case?

A We have plans to drill approximately 10 more wells if we can obtain commingling approval.

Q And these wells you would propose to commingle, and under present rules it would be necessary to seek approval at a Hearing, is this correct?

A Yes, sir.

Q In your opinion, is the area involved in your West Lindrith block, the area we are talking about here, a separate common source of supply from the other Gallup and Dakota formations in the San Juan Basin?

A Yes, I believe it is.

Q On what do you base that?

A On two things primarily. First of all, the Dakota in West Lindrith field produces primarily oil, whereas, the basin produces primarily gas. Also, there are Dakota gas wells approximately 3 miles north of our West Lindrith field which are about 300 feet structurally

lower than our Dakota wells.

Q That in your opinion indicates that it is a separate Dakota formation. Now, how about the Gallup?

A The Gallup is fairly common. It is more or less the same throughout the whole area.

Q Where is the nearest Gallup production, to your knowledge, to these wells?

A To my knowledge, the nearest Gallup production is produced in our Otero Ranch field which is approximately five miles from our West Lindrith log.

Q The wells in this immediate vicinity are the only Gallup production within five miles, is this correct?

A Yes, sir.

Q Now, assuming that the Commission sees fit to grant your request for administrative approval, how could the Application for Administrative Approval be limited to the particular area we have here?

A Well, we recommend that administrative approval should be granted, provided that the Dakota G.O.R. is less than 30,000 to 1 and the liquid hydrocarbon gravity is less than 50 degrees API.

Q Were Exhibits A, B, C and D prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: At this time I would like to offer in evidence Exhibits A, B, C and D.

MR. NUTTER: Continental's Exhibits A, B, C and D will be admitted in evidence.

(Whereupon, Applicant's Exhibits A, B, C, and D were offered and admitted in evidence.)

BY MR. KELLAHIN:

Q Do you have anything to add to your testimony, Mr. Mazza?

A Not at this time, no, sir.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Mazza, that last statement you made there a minute ago, you are proposing that administrative approval would be available providing the Dakota G.O.R. was less than 30,000 to 1?

A Yes, sir.

Q And that the Dakota gravity was less than 60 degrees?

A Yes, sir.

Q And this would be determined on completion of the well, or what?

A Well, I think we have already established through

previous hearings that we fall well below these values I have specified, which in our opinion are the requirements for a gas well.

Q Well, suppose you drill here in Section 21. Say you went up in the NW/NW and drilled you a well there and on completion you found that it was producing with a high G.O.R., you would isolate the Dakota and see if the G.O.R. in the Dakota was 30,000 to 1 or more, and if it were, then, you would say, "Well, we've got a gas well in the Dakota." So, you wouldn't commingle, is that it?

A No, sir, I don't think there is any change of getting --

Q (Interrupting) I am just suggesting a hypothetical case to apply these 30,000 to 1 and 60 degree figures that you gave us. How do we apply them?

A Well, the commingled production that we will be getting from the well, I think we can use to determine this criteria. We have sufficient evidence and have provided at previous Hearings the isolated gravities of each zone in the commingled gravities, and this falls well below the 60 degree range.

Q Well, now, my hypothetical well up here NW/NW

of Section 21, if you complete that well -- if you receive your administrative approval as a commingled well in the two zones -- all right, you complete it and you find that you do have a high G.O.R., so you take an isolated G.O.R. test and an isolated gravity test and find out that it is a gas well in the Dakota. Then the commingling authority would be rescinded, is that it?

A According to the provisions that I have outlined, yes.

Q That is what I was wondering. You would notify the Commission if you had a high G.O.R. and then they would rescind that Order?

A Yes, sir.

MR. KELLAHIN: I think if the Examiner please, I might state that the Order for Administrative Approval could include some requirement for filing our test with the Commission.

BY MR. NUTTER:

Q Now, under the provisions of Order No. 4071 which authorized these four wells on Exhibit D to be completed as commingled wells and allocated the production to some percentage figures. Did that require that an isolated test be made of each of the zones prior

to completion of the wells?

A No, sir, it did not.

Q That was the purpose of the Order, not to have to put the packer in and take the isolated test, is that it?

A Yes, sir.

Q What was the 53 per cent, 47 per cent, and 39 per cent and 61 per cent based on; wasn't it the historical production from the other wells that had been completed?

A Yes, sir, it sure was.

Q Is there anything to date to indicate that that 53, 47, 39, 61 ratio should not apply in the future?

A No, sir, there is not.

Q So, those figures, so far as you know are still good?

A Yes, sir, and we are still recommending the same allocation be used.

Q You have completed one of the four wells that was previously authorized, namely, 28-9, and although you said that production has been disappointing, has there been anything to indicate that production is not coming from those zones in this ratio?

A No, sir, there has not.

Q So you still suggest that we apply the same ratio

to that well?

A Yes, sir, that is the ratio that is being applied to this well. This is the ratio that came under Order R-4071 which is the ratio that is used to allocate the Gallup and the Dakota production in that 28 No. 9 well.

Q And that was based on historical production from the other wells at the time when production was being measured from each of the two zones?

A Yes, sir.

Q Now, your proposed administrative approval would be limited to your West Lindrith block, is this correct?

A Yes, sir.

Q In these two formations?

A Yes, sir.

MR. NUTTER: Are there further questions of Mr. Mazza?

You may be excused.

(Witness dismissed.)

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

MR. KELLAHIN: No, sir, that is all, Mr. Nutter. Thank you.

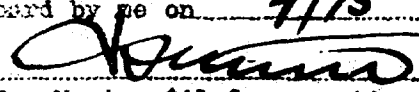
MR. NUTTER: Does anyone have anything they wish to offer in Case No. 4595? We will take the case under advisement.

STATE OF NEW MEXICO)
COUNTY OF SANTA FE) SS.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.


COURT REPORTER

My commission expires March 25, 1975.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4595 heard by me on 9/15 1971.

Examiner
New Mexico Oil Conservation Commission

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. 4595
Order No. R-4203

APPLICATION OF CONTINENTAL OIL
COMPANY FOR DOWNHOLE COMMINGLING,
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 15, 1971, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 8th day of October, 1971, 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 authority to commingle production from an undesignated Gallup oil pool and an undesignated Dakota oil pool in the well-bores of two wells to be drilled in Section 27, Township 25 North, Range 4 West, NMPM, West Lindrith Field, Rio Arriba County, New Mexico, as follows:

Jicarilla 28 Well No. 12 - NW/4 SW/4
Jicarilla 28 Well No. 13 - NE/4 NE/4

(3) That the applicant further seeks the establishment of a procedure whereby approval may be granted administratively for the similar completion of other wells to be drilled in the area.

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Order No. R-4203

(4) That each well previously completed in the above-described pools has been capable of only low marginal production.

(5) That the evidence indicates that wells completed in the future in said pools will be capable of only low marginal production.

(6) That the reservoir characteristics of the above-described Gallup and Dakota oil pools are such that underground waste would not be caused by the proposed commingling in the well-bores of the two wells to be drilled.

(7) That the granting of authorization to complete the subject wells as requested should permit the drilling of wells that would not otherwise be drilled and should result in the recovery of oil from each of the commingled zones in each of the subject two wells that would not otherwise be recovered, thereby preventing waste, and will not violate correlative rights.

(8) That the mechanics of the proposed completions are feasible and in accord with good conservation practices.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject wells, 53% of the commingled oil production should be allocated to the Gallup zone, 47% of the commingled oil production to the Dakota zone, 39% of the commingled gas production to the Gallup zone, and 61% of the commingled gas production to the Dakota zone in each of the subject two wells.

(10) That a procedure should be established whereby the Secretary-Director of the Commission may approve the similar completion of other wells to be drilled in the subject area.

(11) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to drill and complete each of the following two wells in Section 27, Township 25 North, Range 4 West, NMPM, West Lindrith Field, Rio Arriba County, New Mexico, in such a manner

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as to produce oil from undesignated Gallup and Dakota oil pools through a single string of tubing, commingling in the well-bores the production from each of said pools:

Jicarilla 28 Well No. 12 - NW/4 SW/4

Jicarilla 28 Well No. 13 - NE/4 NE/4

(2) That the applicant shall complete, operate, and produce said wells in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(3) That as to each of said wells, 53% of the commingled oil production shall be allocated to the Gallup zone, 47% of the commingled oil production to the Dakota zone, 39% of the commingled gas production to the Gallup zone, and 61% of the commingled gas production to the Dakota zone.

(4) That as to each well, commingling in the well-bore shall continue only so long as the commingled production does not exceed 50 barrels of oil per day nor 100 barrels of water per day.

(5) That as to each well, the maximum amount of gas which may be produced daily from the commingled zones shall be determined by multiplying 2000 by the top unit allowable for the Gallup zone.

(6) That the Secretary-Director of the Commission is hereby authorized to approve the drilling and completion of other wells in Sections 15 through 22 and 27 through 34, Township 25 North, Range 4 West, NMPM, West Lindrith Field, Rio Arriba County, New Mexico, in such a manner as to produce oil from the Gallup and Dakota formations through a single string of tubing, commingling in the well-bores productive from each of said formations.

(7) Application for administrative approval shall be made in QUADRUPLICATE, with two copies of the application to be mailed to the Commission's Santa Fe Office, and two copies to the Aztec District Office of the Commission. The application shall be accompanied by the following:

(a) Diagrammatic Sketch of the proposed completion showing all casing strings, including

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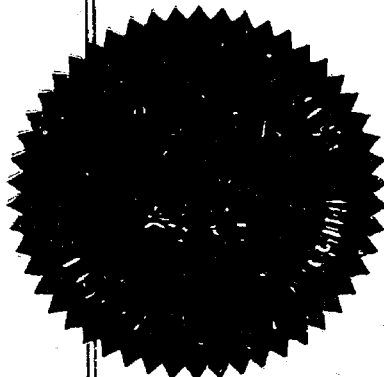
diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, and such other information as may be pertinent.

- (b) Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- (c) Waivers consenting to such completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.
- (d) Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted when available.)

The Secretary-Director may approve the completion if, after a period of 20 days following the filing of the application, no operator has filed objection to the proposed completion.

(8) 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.



dr/

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Bruce King
BRUCE KING, Chairman

Alex J. Armijo
ALEX J. ARMILLO, Member

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

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 15, 1971

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

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for October, 1971, from fifteen prorated pools in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, for October, 1971.

CASE 4222 (Reopened): In the matter of Case 4222 being reopened pursuant to the provisions of Order No. R-3850-A, which order continued 80-acre spacing units for the West Sawyer-San Andres Pool, Lea County, New Mexico, for an additional one-year period. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units and present evidence as to whether or not said pool is in fact an associated reservoir.

CASE 4588: Application of V. H. Westbrook for a pressure maintenance project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Delaware formation through his Guy A. Reed Well No. 2 located in Unit L of Section 24, Township 24 South, Range 28 East, Malaga-Delaware Pool, Eddy County, New Mexico.

CASE 4589: Application of Anadarko Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Burnham Grayburg San Andres Unit Area comprising 480 acres, more or less, of state lands in Section 2, Township 17 South, Range 30 East, Square Lake Field, Eddy County, New Mexico.

CASE 4590: Application of Wolfson Oil Company, MKA Oil Properties, John H. Hendrix, and Bruce A. Wilbanks for a special gas-oil ratio limitation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks as an exception to Rule 506 of the Commission Rules and Regulations, a limiting gas-oil ratio of 6,000 cubic feet of gas per barrel of oil in the Drinkard Pool, Lea County, New Mexico.

CASE 4591: Application of American Quasar Petroleum Company of New Mexico for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill an exploratory gas well at an unorthodox location 660 feet from the South and East lines of Section 21, Township 25 South, Range 33 East, Lea County, New Mexico, to test the Devonian, Pennsylvanian, and Wolfcamp formations within one mile of the Red Hills Field.

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Docket No. 20-71

- CASE 4592: Application of Gulf Oil Corporation for amendment of order permitting commingling of production, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4079, which order authorized the applicant to commingle production from the Hobbs (Grayburg-San Andres) and Hobbs-Blinbry Pools on its W. D. Grimes NCT-B Lease and to commingle production from said lease with the Hobbs (Grayburg-San Andres) Pool on its W. D. Grimes NCT-A lease, located in Sections 32 and 33, Township 18 South, Range 38 East, Lea County, New Mexico. Applicant seeks to allocate production to each lease and pool on the basis of bi-monthly tests rather than monthly tests.
- CASE 4593: Application of Continental Oil Company for an exception to Order No. R-3221, as amended, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, to dispose of water produced by wells located on its W. R. Means lease comprising the S/2 and NW/4 of Section 28, and E/2 and E/2 W/2 of Section 29, Township 14 South, Range 30 East, Vest Ranch-Queen Pool, Chaves County, New Mexico, in unlined surface pits.
- CASE 4594: Application of Continental Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its second well on a proration unit at an unorthodox location 660 feet from the South line and 2540 feet from the East line of Section 19, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico.
- CASE 4595: Application of Continental Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from undesignated Gallup and Dakota oil pools in the wellbores of two wells to be drilled in Section 27, Township 25 North, Range 4 West, West Lindrith Field, Rio Arriba County, New Mexico. Applicant further seeks the establishment of a procedure whereby similar approval may be granted administratively for other wells to be drilled in said area.
- CASE 4597: Application of Morris R. Antweil for lease commingling and off-lease storage, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle condensate produced from his Little Jewel Well No. 1 and Allen Well No. 1 located in Units F and J, respectively,

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Docket No. 20-71

(Case 4597 continued)

of Section 31, Township 22 South, Range 27 East, and from his Joell Well No. 1 located in Unit C of Section 6, Township 23 South, Range 27 East, South Carlsbad-Strawn Gas Pool, Eddy County, New Mexico, after separation and measurement of the liquids from each well.

CASE 4583: (Continued from the August 18, 1971, Examiner Hearing) Application of V. F. Vasicek and J. M. Fullinwider, doing business as V-F Petroleum for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the E/2 of Section 15, Township 16 South, Range 35 East, Lea County, New Mexico, said acreage to be dedicated to a well to be re-entered and recompleted in the Pennsylvanian formation and located 1980 feet from the South and East lines of said Section 15. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4596: Southeastern New Mexico nomenclature case calling for an order for the creation, extension and abolishment of certain pools in Lea, Eddy, and Chaves County, New Mexico.

(a) Create a new pool in Eddy County, New Mexico, classified as an oil pool for Strawn production and designated as the South Hackberry-Strawn Pool. The discovery well is the Perry R. Bass Big Eddy Unit No. 33 located in Unit P of Section 4, Township 20 South, Range 31 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM
SECTION 4: SE/4 SE/4

(b) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Maroon Cliffs-Morrow Gas Pool. The discovery well is the Perry R. Bass Big Eddy Unit No. 7 located in Unit O of Section 19, Township 20 South, Range 31 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM
SECTION 19: S/2

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(c) Create a new pool in Lea County, New Mexico, classified as an oil pool for Pennsylvanian production and designated as the McDonald-Pennsylvanian Pool. The discovery well is the J. M. Huber Corporation Griffin No. 1 located in Unit A of Section 4, Township 14 South, Range 36 East, NMPM. Said pool would comprise:

TOWNSHIP 14 SOUTH, RANGE 36 EAST, NMPM
SECTION 4: NE/4

(d) Abolish the Northwest Vacuum-Abo Pool in Lea County, New Mexico, described as:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
SECTION 2: SW/4
SECTION 3: NE/4 SE/4

(e) Extend the North Vacuum-Abo Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
SECTION 2: SW/4
SECTION 3: SE/4

(f) Extend the Blinebry Oil Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM
SECTION 36: NE/4

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
SECTION 8: NW/4

(g) Extend the South Carlsbad-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH RANGE 26 EAST, NMPM
SECTION 25: S/2

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM
SECTION 30: S/2
SECTION 31: W/2

(h) Extend the South Carlsbad-Strawn Gas Pool in Eddy County, New Mexico, to include therein:

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TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM
SECTION 30: S/2

- (i) Extend the Double L-Queen Associated Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 29 EAST, NMPM
SECTION 25: NW/4 SE/4

- (j) Extend the Eagle Creek-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM
SECTION 22: W/2

- (k) Extend the Flying "M"-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM
SECTION 9: NE/4

- (l) Extend the Flying "M"-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM
SECTION 9: W/2, NE/4 and N/2 SE/4

- (m) Extend the Grayburg Jackson Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 30 EAST, NMPM
SECTION 18: S/2 NW/4

- (n) Extend the Langlie-Mattix Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
SECTION 20: NW/4 and NW/4 SW/4

- (o) Extend the Power Grayburg-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM
SECTION 1: NE/4 NE/4

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
SECTION 6: SW/4 NW/4

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(Case 4596 continued)

(p) Extend the East Shoebar-Devonian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 36 EAST, NMPM

SECTION 29: SW/4

SECTION 30: SE/4

(q) Extend the North Vacuum-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

SECTION 12: S/2

SECTION 14: S/2

SECTION 23: N/2

(r) Extend the North Vacuum-Lower Wolfcamp Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

SECTION 4: NW/4

(s) Extend the Northwest Vacuum-Wolfcamp Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

SECTION 5: SE/4

(t) Extend the Vada-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 34 EAST, NMPM

SECTION 2: S/2 and NW/4

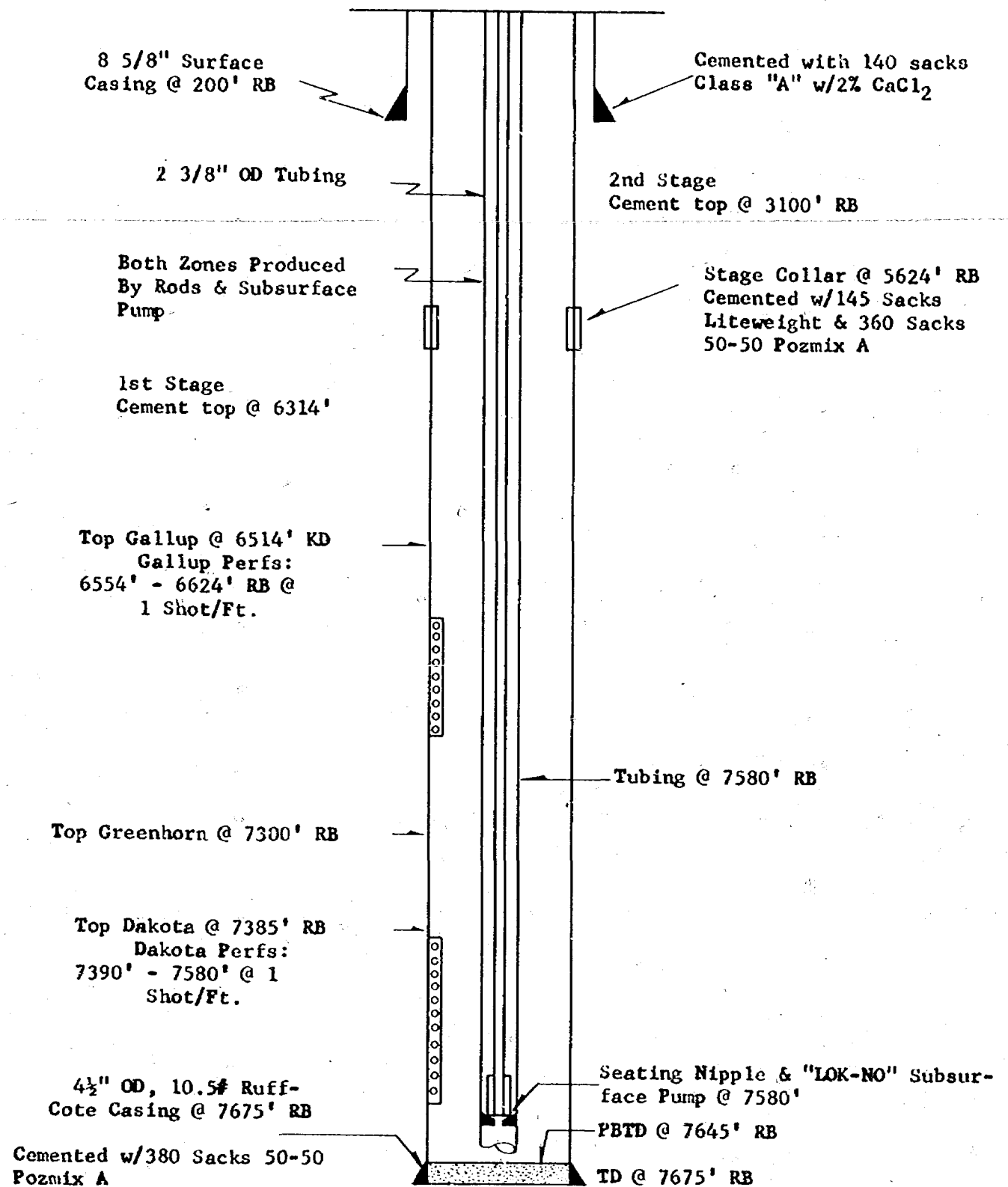
SECTION 3: NE/4

SECTION 7: S/2

SECTION 10: E/2

SECTION 11: N/2

**PROPOSED
DOWNHOLE COMMINGLING INSTALLATION**
(all depths estimated)



Centralizers located 10' and 60' above casing
Setting depth and 90' thereafter to 6400' RB;
Also one centralizer 30' above and 30' below
stage collar.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Exhibitor EXHIBIT NO. 15
 CASE NO. 4595

CONTINENTAL OIL COMPANY
 PRODUCTION DEPARTMENT
 Casper, Wyoming



WEST LINDRITH
EXHIBIT "B"

Proposed Downhole Commingling Installation—Jicarilla 28-12

County: Rio Arriba

State: New Mexico

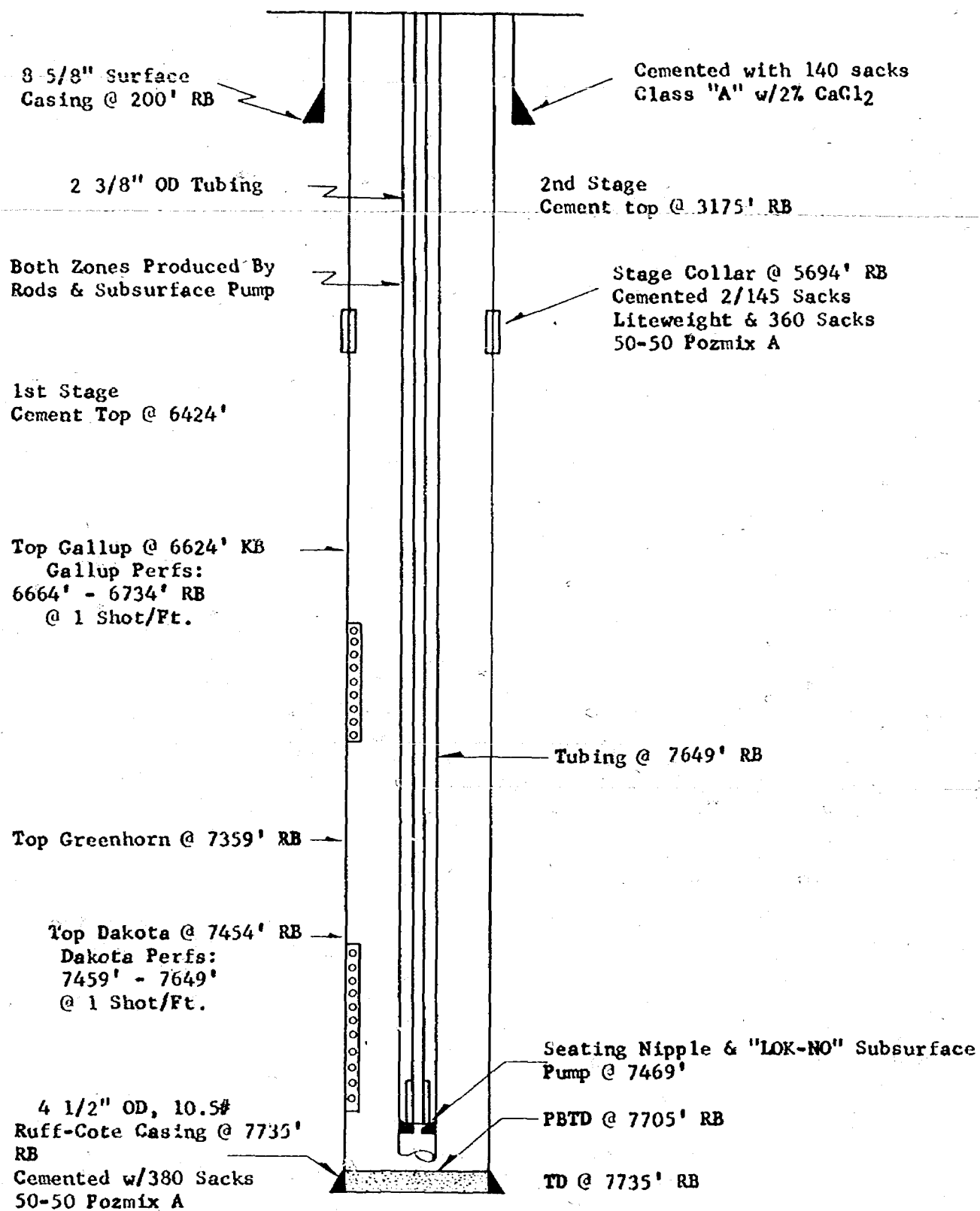
Engineer: J A Mozzo

Draftsman: B S. Date: 8-24-71

Scale = No Scale

Well Status Posted to:

PROPOSED
DOWNHOLE COMMINGLING INSTALLATION
(all depths estimated)



Centralizers located 10' and 60' above casing
Setting depth and 90' thereafter to 6500' RB;
Also one centralizer 30' above and 30' below
stage collar.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 4575



CONTINENTAL OIL COMPANY		
PRODUCTION DEPARTMENT Casper, Wyoming		
WEST LINDRITH		
EXHIBIT "C"		
Proposed Downhole Commingling Installation—Jicarilla 28-13		
County: Rio Arriba	State: New Mexico	
Engineer: J. A. Mozza	Draftsman: B. S.	Date: 8-24-71
Scale:  = No Scale	Well Status Posted to:	

EXHIBIT "g"

PREVIOUS APPROVALS FOR COMMINGLED WELLS

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Case EXHIBIT NO. 12
CASE NO. 45795

Well	Status	Location			NMOCC Approval	Approval Date	Max. Oil Allowable	Max. Gas Allowable	Production Allocation	
		Unit	Sec	Twn. Rng.						
22 No. 2	Producing	J	21	25 4	No. DHC-65	9-28-70	50 BOPD	2000 x Top Dakota Allowable	60% Upper - 40% Lower	Oil and Gas
22 No. 3	Producing	D	22	25 4	No. DHC-67	9-28-70	50 BOPD	2000 x Top Dakota Allowable	10% Upper - 90% Lower	Oil and Gas
22 No. 4	Producing	J	15	25 4	No. DHC-66	9-28-70	50 BOPD	2000 x Top Dakota Allowable	55% Upper - 45% Lower	Oil and Gas
28 No. 1	Producing	J	28	25 4	No. DHC-57	9-20-70	50 BOPD	2000 x Top Dakota Allowable	50% Upper - 50% Lower	Oil and Gas
28 No. 3	Producing	P	34	25 4	No. DHC-63	9-28-70	50 BOPD	2000 x Top Dakota Allowable	45% Upper - 55% Lower	Oil and Gas
28 No. 4	Producing	D	34	25 4	No. DHC-62	9-28-70	50 BOPD	2000 x Top Dakota Allowable	80% Upper - 20% Lower	Oil and Gas
28 No. 5	Producing	J	33	25 4	No. DHC-58	9-20-70	50 BOPD	2000 x Top Dakota Allowable	60% Upper - 40% Lower	Oil and Gas
28 No. 6	Producing	D	33	25 4	No. DHC-64	9-28-70	50 BOPD	2000 x Top Dakota Allowable	50% Upper - 50% Lower	Oil and Gas
28 No. 7	Producing	J	27	25 4	No. DHC-60	9-28-70	50 BOPD	2000 x Top Dakota Allowable	60% Upper - 40% Lower	Oil and Gas
28 No. 8	Producing	D	28	25 4	No. DHC-56	9-3-70	50 BOPD	2000 x Top Dakota Allowable	60% Upper - 40% Lower	Oil and Gas
30 No. 3	Producing	J	32	25 4	No. DHC-61	9-28-70	50 BOPD	2000 x Top Dakota Allowable	70% Upper - 30% Lower	Oil and Gas
22 No. 5	Proposed	L	22	25 4	No. R-4071	12-1-70	50 BOPD	2000 x Top Dakota Allowable	53% Upper - 47% Lower 39% Upper - 61% Lower	Oil Gas
28 No. 9	Producing	A	28	25 4	No. R-4071	12-1-70	50 BOPD	2000 x Top Dakota Allowable	53% Upper - 47% Lower 39% Upper - 61% Lower	Oil Gas
28 No. 10	Proposed	L	28	25 4	No. R-4071	12-1-70	50 BOPD	2000 x Top Dakota Allowable	53% Upper - 47% Lower 39% Upper - 61% Lower	Oil Gas
28 No. 11	Proposed	B	33	25 4	No. R-4071	12-1-70	50 BOPD	2000 x Top Dakota Allowable	53% Upper - 47% Lower 39% Upper - 61% Lower	Oil Gas

JASON W. KELLAHIN
ROBERT E. FOX

KELLAHIN AND FOX
ATTORNEYS AT LAW
54½ EAST SAN FRANCISCO STREET
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

September 8, 1971

RECEIVED
SEP 9 - 1971
OIL CONSERVATION COMMISSION

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

Case 4595

Gentlemen:

Enclosed is application Downhole commingling. We understand that this application has been set for hearing on September 15, 1971.

Thank you for your attention to this matter.

Very truly yours,

Sybol Richmond
(Mrs) Sybol Richmond,
Secretary to Jason W. Kellahin

/r
Encl. as stated above

DOCKET MARKED

Date 9-3-71

BEFORE THE OIL CONSERVATION
COMMISSION OF NEW MEXICO

RECEIVED

(1950-12/1)

11

IN THE MATTER OF THE APPLICATION
OF CONTINENTAL OIL COMPANY FOR
PERMISSION TO COMMINGLE PRODUCTION
IN THE WELL BORE, UNDESIGNATED
GALLUP AND UNDESIGNATED DAKOTA
POOLS, RIO ARriba COUNTY, NEW MEXICO

Case 4595

A P P L I C A T I O N

Comes now Continental Oil Company and applies to the Oil Conservation Commission for permission to commingle production from the undesignated Gallup and the undesignated Dakota Pools in its Jicarilla 28 Well No. 12, located in the NW 1/4 SW 1/4 of Section 27, Township 25 North, Range 4 West, N.M.P.M., and its Jicarilla 28 Well No. 13, located in the NE/4 NE/4 of Section 27, Township 27 North, Range 4 West, N.M.P.M., Rio Arriba County, New Mexico.

Applicant further requests the adoption of an administrative procedure for the approval of commingling production in other wells in the West Lindrith field which produce from the undesignated Gallup and the undesignated Dakota Pools.

In support of this application, applicant would show the Commission:

1. Applicant has heretofore received approval, after notice and hearing for the commingling of production in four wells in the same area, and in the same formations.
2. Applicant proposes to complete the two above designated wells in such manner as to commingle production in the wellbore, to be produced through one string of tubing with no packer in the hole.
3. It is anticipated that applicant will seek approval to

complete approximately ten additional wells in the same manner.

4. The feasibility of this manner of completion has been established, and there will be no damage to either of the reservoirs through this manner of completion in the area of the subject wells, and an administrative procedure for approval of such completions should be established.

5. The commingling of production will not result in waste, but on the contrary is an economical and proper method of producing wells in the undesignated Gallup and Dakota pools in this area, will result in the production of oil that would not otherwise be recovered, and will result in the prevention of waste.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commissions's duly appointed examiner, and that after notice and hearing as required by law the Commission enter its order approving the commingling of production as requested, together with the adoption of an administrative procedure for the approval of such commingling in other wells in the West Lindrith Field, Rio Arriba County, New Mexico.

Respectfully submitted,
CONTINENTAL OIL COMPANY

By Jason W. Kellahin
Jason W. Kellahin
P.O. Box 1769
Santa Fe, New Mexico 87501
ATTORNEY FOR APPLICANT

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:

CASE No. 4595

Order No. R-4203

APPLICATION OF CONTINENTAL OIL
COMPANY FOR DOWNHOLE COMMINGLING,
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 15, 1971,
at Santa Fe, New Mexico, before Examiner ~~Exxxxx~~ Daniel S. Nutter.

NOW, on this October day of September, 1971, 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
authority to commingle production from an undesignated Gallup oil
pool and an undesignated Dakota oil pool in the well-bores of two
wells to be drilled in Section 27, Township 25 North, Range 4 West,
NMPM, West Lindrith Field, Rio Arriba County, New Mexico, as
follows:

Jicarilla 28 WELL No. 12 - NW/4 SW/4 Section 27
Jicarilla 28 WELL No. 13 - NE/4 NE/4 Section 27

(3) That the applicant further seeks ~~and~~ ^{for} the
establishment of a procedure whereby approval
may be granted administratively for the similar
completion of other wells to be drilled in the area.

(4) ~~45~~ That each well previously completed in the above-described pools ~~have~~ been capable of only low marginal production.

(5) ~~45~~ That the evidence indicates that wells completed in the future in said pools will be capable of only low marginal production.

(6) ~~45~~ That the reservoir characteristics of the above-described Gallup and Dakota oil pools are such that underground waste would not be caused by the proposed commingling in the well-bores of the two wells to be drilled.

(7) ~~45~~ That the granting of authorization to complete the subject wells as requested should permit the drilling of wells that would not otherwise be drilled and should result in the recovery of oil from each of the commingled zones in each of the subject two wells that would not otherwise be recovered, thereby preventing waste, and will not violate correlative rights.

(8) ~~45~~ That the mechanics of the proposed completions are feasible and in accord with good conservation practices.

(9) ~~45~~ That in order to allocate the commingled production to each of the commingled zones in the subject wells, 53% of the commingled oil production should be allocated to the Gallup zone, 47% of the commingled oil production to the Dakota zone, 39% of the commingled gas production to the Gallup zone, and 61% of the commingled gas production to the Dakota zone in each of the subject two wells.

(10) ~~45~~ That a procedure should be established whereby approval of the Secretary - Director of the Commission may approve the similar completion of other wells to be drilled in the subject area.

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CASE NO. 4595
Order No. R-

(11)(10) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to drill and complete each of the following two wells
Section 27,
in Township 25 North, Range 4 West, NMPM, West Lindrith Field, Rio Arriba County, New Mexico, in such a manner as to produce oil from undesignated Gallup and Dakota oil pools through a single string of tubing, commingling in the well-bores the production from each of said pools:

Jicarilla 28 well No. 12 - NW 1/4 SW 1/4 Section 27
Jicarilla 28 well No. 13 - NE 1/4 NE 1/4 Section 27

(2) That the applicant shall complete, operate, and produce said wells in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(3) That as to each of said wells, 53% of the commingled oil production shall be allocated to the Gallup zone, 47% of the commingled oil production to the Dakota zone, 39% of the commingled gas production to the Gallup zone, and 61% of the commingled gas production to the Dakota zone.

(4) That as to each well, commingling in the well-bore shall continue only so long as the commingled production does not exceed 50 barrels of oil per day nor 100 barrels of water per day.

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CASE NO. 4595

Order No. R-

(5) That as to each well, the maximum amount of gas which may be produced daily from the commingled zones shall be determined by multiplying 2000 by the top unit allowable for the Gallup zone.

(6) ~~WA~~ That the Secretary-Director of the Commission is hereby authorized to approve the drilling and completion of other wells in Sections 15 through 22 and 27 through 34, Township 25 North, Range 4 West, NMPM, West Lindrith Field, Rio Arriba County, New Mexico, in such a manner as to produce oil from the Gallup and Dakota formations through a single string of tubing, commingling in the well-bores productive from each of said formations.

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CASE NO. 4595

Order No. R-

(7) Application for administrative approval ~~of a multiple completion~~ shall be made in QUADRUPLICATE, with two copies of the application to be mailed to the Commission's Santa Fe Office, and two copies to the ~~District Office for the area in which the well is located.~~ *to the District Office of the Commission.* Application shall be made on the Commission Form ~~G-107, Application for Multiple Completion,~~ *the* and shall be accompanied by the following:

- (a) Diagrammatic Sketch *of the proposed completion* ~~of the Multiple Completion~~, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, ~~location of packers, side door chokes,~~ and such other information as may be pertinent.
- (b) Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- (c) Waivers consenting to such ~~multiple~~ completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.

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Order No. R-

- (d) Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon.

(If such log is not available at the time application is filed, it shall be submitted *when available.*)
~~as hereinafter provided.~~)

The Secretary-Director may approve the ~~multiple~~ completion if, after a period of 20 days following the filing of the application, no operator has filed objection to the proposed ~~multiple~~ completion.

(8) ~~That~~ 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.

Continental

Commonly producing for
Unclad Gallup + Unclad Dakota
Pools - Jarvis 28 well no 12
" " " " 13

West Lindith Field
Rio Arriba County -

~~4 wells~~

- 10 add ==

=+ administrative approval -
west

some as other wells
already

12
13

- Sec , T - R =
27 25N 4W -
27

CASE 4596:

SOUTHEASTERN NEW MEXICO
NOMENCLATURE