

CASE 4044: Appli. of CONTINENTAL
OIL CO. FOR A NON-STANDARD GAS
PRORATION UNIT, LEA COUNTY.

Case Number

4044

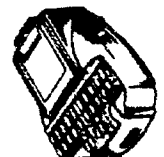
Application
Transcripts.

Small Exhibits

ETC.

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

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 5, 1969

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil Company
for a non-standard gas proration unit,
Lea County, New Mexico.

Case No. 4044

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 5, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of Continental Oil Company) Case No. 4044
for a non-standard gas proration unit,)
Lea County, New Mexico.)

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case No. 4044.

MR. HATCH: Case 4044. Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico.

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

(Whereupon, Applicant's Exhibits 1 through 6 were marked for identification.)

(Witness sworn.)

VICTOR T. LYON

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Victor T. Lyon, L-y-o-n.

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

A I am employed by Continental Oil Company, Conservation Coordinator in the Hobbs Division Office, Hobbs, New Mexico.

Q Have you testified before the Oil Conservation

Commission and made your qualifications a matter of record?

A Yes, sir.

Q Are the witnesses' qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

Q (By Mr. Kellahin) Mr. Lyon, are you familiar with the application of Continental Oil Company in Case 4044, presently before the Commission?

A Yes, sir.

Q Briefly, what's proposed by Continental Oil Company in this application?

A Case 4044 is the application of Continental Oil Company for approval to be effective coincident with the Reed-Sanderson unit of 481 acre non-standard gas proration unit and Eumont gas pool to be assigned jointly to Continental Oil Company's Reed A3, wells No. 2 and 3, located in Units H and I in Section 3, Township 20 South, Range 36 East, Lea County, New Mexico.

Q Now, referring to what has been marked as Exhibit 1, would you identify that exhibit?

A Exhibit No. 1 is a location and ownership plat showing the proposed non-standard proration unit outlined in red. It shows the unit wells circled in red. These

are wells numbers 2 and 3. No. 2 is located 1980 feet from the north line, 660 feet from the east line of Section 3. Well No. 3 is located 1980 feet from the south line and 660 feet from the east line of Section 3. The plat shows the presently approved proration units for each of these two wells, outlined in the bluegreen color. It also shows the location and ownership of Eumont wells in the immediate area of the Reed A3 lease.

Q Now, are both these wells dual completions?

A Both wells are completed in the Eumont gas and Monument oil pools. No. 2 was authorized by Administrative Order No. DC 8745. No. 3 was authorized by Administrative Order DC 312.

Q The only unit that is affected in this hearing is the Eumont production, is that correct?

A Yes, sir.

Q Now, referring to what has been marked as Exhibit No. 2, would you identify that Exhibit?

A Exhibit No. 2 is a copy of the latest production test taken by El Paso Natural Gas Company on November 1, 1968 for Reed A3 number 2. As shown on the right-hand side under volume calculation, this well was produced at a rate of 2319 mcf per day during that test, at a back

pressure of 416 pounds per square inch gauge.

Q Now, referring to what has been marked as Exhibit No. 3, would you discuss that Exhibit?

A Exhibit No. 3 is a production test conducted by El Paso Natural Gas Company on November 1, 1968 on the Reed A3 number 3. This test shows that the well produced at that time 3295 mcf per day, with a back pressure of 415 pounds per square inch gauge.

Q Now, referring to what has been marked as Exhibit No. 4, would you discuss the information reflected by that Exhibit?

A Exhibit 4 is a composite plat which attempts to portray what happened to this lease when the Reed-Sanderson unit was made effective. The upper left-hand plat shows Section 3, which is the Reed A3 lease. The Reed A3 lease consist of all of Section 3. The gas proration units for the Eumont pool, which were assigned to wells number 2 and 3, are shown by the cross-patched area. The units for number 2 is the northeast quarter and the east half of the northwest quarter of Section 3, and the units for well number 3 is the southeast quarter and the east half of the southwest quarter. Then, the plat on the upper right shows the outline of the Reed-

Sanderson unit and its relationship to the Reed A3 lease. As you can see, the east half of the east half on which the two gas wells are located is outside of the boundaries of the Reed-Sanderson unit. The plat at the bottom is a composite of the upper two. It shows that the Reed A3 lease was segregated by the Bureau of Land Management, which is required under Federal law. The Reed A3 lease was segregated as to that portion which is inside the unit and the portion which is outside the unit.

Q Now, clarify this; that portion inside the unit was segregated by the BLM, a separate lease as that outside of the units. Is this the result of the ruling by the Bureau?

A Yes, sir.

MR. NUTTER: Mr. Lyon, what is the vertical limits of the unit?

THE WITNESS: The Reed-Sanderson unit?

Q (By Mr. Nutter) Yes, sir.

A The Reed-Sanderson unit was originally defined as Queen formation.

Q What's the purpose of that unit?

A To waterflood.

Q To waterflood?

A The Eumont oil. Inadvertently, we included all of the Queen formation, whether it was productive of oil or gas. It was not our intent to unitize the gas.

Q Now, here on your Exhibit No. 1, you have 8 oil wells shown here; one is indicated to be abandoned, but are all those Eumont oil wells producing from the Queen?

A Yes, sir.

Q And these two gas wells are Eumont gas wells?

A Over on the right-hand side, and I think we've got another Exhibit coming up showing structure here.

Q So, evidently, these two wells to the right are up structurally to the oil well?

A That's correct. I have not shown the Monument oil wells. The wells to the east of the Reed-Sanderson unit are in the Monument oil pool or Eumont gas well.

Q Is gas productive to the east of that?

A The vertical limits of the Sanderson unit do include the productive interval.

Q Which is equivalent to the pay here in these 2 gas wells?

A Yes, a part of it is.

Q (By Mr. Kellahin) Now, in order to preserve

these units, you have to communize these acres?

A Yes, sir. We have a communization agreement and it has been signed by all working interest and overriding royalty interest owners and has been submitted to the USGS for approval, but the USGS policy is that they would communize only for a single gas proration unit.

Q Now, is the ownership common throughout this 481 acres?

A It is as to the gas, yes.

Q As to the gas. And, this is what you are communizing, and because of the BLM or USGS not approving a communization, except to unitize that then is the purpose of this hearing, is that correct?

A That is correct.

Q Now, what would your alternative be, if you don't receive approval of this non-standard unit?

A The alternative would be to redraft the communization agreement into two agreements and re-circulate it to all parties for approval.

Q Combining of the two wells and forming the single unit would be the logical solution, would it not?

A Yes, sir.

Q Referring to what has been shown as Exhibit 1,

would you identify that Exhibit?

A Exhibit 5 is an idealized cross-section, attempting to show what is going on in the area that we are talking about; the gas productive interval which extends up in the Seven Rivers formation and all of the Queen formation on the eastward side or right-hand side of the Exhibit as shown by the completion interval of the Reed A3 number 2; then it shows that the area dips steeply to the west or to the left-hand side of the Exhibit, and the sequence of fluid goes from the gas, right-hand side, to the oil in the center and ultimately to water on the low side, represented on the left-hand side.

Q Now, in your opinion, would all of the acreage you propose to dedicate to these two wells be productive of gas from the Tumout?

A Yes, sir. The existing operation units were approved, 1599, at which time the Commission found that the -- this acreage was gas productive.

Q Specifically, you found that the acreage was gas productive at the time of the 1599 approval?

A Yes, sir. At the time of the 1599 approval, the Commission found that the acreage was gas productive.

Q And, sir, you found that the acreage was gas productive at the time of the 1599 approval?

No. 6, would you identify that Exhibit?

A Exhibit No. 6 is an amendment to the unit agreement to the Reed-Sanderson unit. After the unit became effective, it became apparent that we had unitized the gas. It was not our intention to unitize the gas; therefore, we drew an amendment and it has been approved by all necessary persons and was finally approved by USGS on December 31, 1968. It was made retroactive to January 1, 1967, which was the effective date of the Reed-Sanderson unit.

Q Now, the affect of this amendment is to delete from the Reed-Sanderson unit any gas which is in units dedicated to gas well outside of the unit, is this the affect of it?

A Yes, sir.

Q That would, of course, delete the gas in your proposed non-standard unit from the Reed-Sanderson unit?

A That is correct.

Q It would be then operated as a separate property?

A Right.

Q Now, will the approval of this non-standard unit permit a better flexibility of the operation of the 2 wells involved?

A Yes, sir. As we have shown in Exhibits 2 and 3, either of these wells has adequate producing capability to produce the allowable for the entire unit and we see no reason to suspect there will be any need to change the acreage assigned to either well, but the fact that they are dual completions and our experience with other gas wells demonstrates that there is always the possibility that some change can occur and it would be desirable to rededicate acreage between these two wells. If the acreage is communized on the existing units, then we would not only have to ask for a rededication of acreage before this Commission, but we would also have to redraw the communizing agreement to reincorporate the revised boundaries.

Q In your opinion, will the approval of this non-standard result in the prevention of waste?

A Yes. In my opinion it will result in the prevention of waste in that we will have better assurance that the gas underlying this acreage will be produced.

Q Now, since all of the ownership within the unit is common, the correlative rights of the owner within the unit would not be affected, would they?

A There should be no impairment of correlative

rights.

Q Would there be any impairment of correlative rights to offsetting operators?

A I shouldn't think there would be any more than there is any at the present time.

Q Were Exhibits 1 through 6 prepared by you or under your supervision?

A Except Exhibits 2 and 3, which were prepared by El Paso Natural Gas Company.

Q They are the final well test records?

A Yes, sir.

MR. KELLAHIN: At this time, I offer Exhibits 1 through 6 into evidence.

MR. NUTTER: Continental Exhibits 1 through 6 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 6 were offered and admitted in evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Lyon, what has been the status of these two wells since January 1, 1967, insofar as production status is concerned? Have they been over-produced, under-

produced, in balance, or what?

A I am sorry I don't have that information.

Q I am just wondering if we make this thing retroactive for a period of almost two years, well it would be two years, if it would be complicated by any cancellation in over-production of another well; just what the status would have been over the last two years.

A It really should not change the status, as I understand it, if there has been allowable cancellation and I am quite certain there has not been.

Q What's their present status, do you know?

A I think they are reasonably in balance, but since the ownership is common, it appears to me that just a matter of practicality we could take the combined status of the wells at this date and there would be no change because there does not need to be any transfer of allowable or production or anything from one well to another.

Q What you are proposing right now you say they are reasonably in balance right now and you will just take the combined status of the two wells and make one composite status of the two wells out of those?

A Yes, sir.

Q Well, if there are no complications resulting from previous action, probably it won't be too difficult, it should be pretty much in balance now.

A I can check and let you know, but I failed to check that before I left.

Q We will look that up before we enter the order. Are there any further questions of Mr. Lyon? He may be excused. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all, Mr. Nutter.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4044? We will take the case under advisement.

I N D E X

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I, GLENDA BURKS, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Alinda Bayo
COURT REPORTER

I do hereby certify that the above is a true and correct copy of the original as shown to me by the person or persons who claim to be the owner of the same.

2/5 4044 69

[Signature]

New York, N.Y. 10011

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. 4044
Order No. R-3675

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A NON-STANDARD GAS PRORATION UNIT,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 5, 1969,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 13th day of February, 1969, 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, is the
co-owner and operator of the Reed A Lease consisting of Section
3, Township 20 South, Range 36 East, NMPM, Lea County, New Mexico,
the W/2 and W/2 E/2 of which section is included in the Reed-
Sanderson Unit Area approved by the Commission by Order No.
R-3126, dated October 4, 1966.

(3) That by Order No. R-1590, dated February 8, 1960, the
Commission approved two non-standard gas proration units in the
Eumont Gas Pool in said Section 3, as follows:

A 241-acre non-standard gas proration unit consisting
of the NE/4 and E/2 NW/4 of said Section 3, to be dedi-
cated to the applicant's Reed A-3 Well No. 2, located

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CASE No. 4044

Order No. R-3675

1980 feet from the North line and 660 feet from the East line of said Section 3, and

A 240-acre non-standard gas proration unit consisting of the SE/4 and E/2 SW/4 of said Section 3, to be dedicated to the applicant's Reed A-3 Well No. 3, located 1980 feet from the South line and 660 feet from the East line of said Section 3.

(4) That the applicant now seeks the consolidation of the two existing non-standard gas proration units into one 481-acre non-standard gas proration unit in the Eumont Gas Pool comprising the E/2 and E/2 W/2 of said Section 3, said unit to be simultaneously dedicated to the aforesaid Reed A-3 Wells Nos. 2 and 3.

(5) That the applicant further seeks authority to produce the allowable assigned to the unit from either of the aforesaid wells in any proportion.

(6) That the applicant further requests that the effective date of the consolidation be January 1, 1967, to coincide with the effective date of the Reed-Sanderson Unit Agreement.

(7) That the gas and associated liquid hydrocarbon production attributable to the aforesaid 481-acre non-standard gas proration unit has been segregated from all other production from said Reed A-3 Lease as a result of said Reed-Sanderson Unit Agreement.

(8) That approval of the subject application will relieve the applicant from unnecessary administrative burden.

(9) That the proposed non-standard gas proration unit can be efficiently and economically drained and developed by the Continental Oil Company Reed A-3 Wells Nos. 2 and 3.

(10) That approval of the proposed non-standard gas proration unit will afford the applicant the opportunity to produce its just and equitable share of the gas in the Eumont Gas Pool, will prevent the economic loss caused by the drilling of unnecessary wells, will avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

(11) That Order No. R-1590 should be superseded.

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CASE No. 4044

Order No. R-3675

IT IS THEREFORE ORDERED:

(1) That a 481-acre non-standard gas proration unit in the Eumont Gas Pool comprising the E/2 and E/2 W/2 of Section 3, Township 20 South, Range 36 East, NMPM, Lea County, New Mexico, is hereby established and simultaneously dedicated to the Continental Oil Company Reed A-3 Well No. 2, located 1980 feet from the North line and 660 feet from the East line of said Section 3, and to the Continental Oil Company Reed A-3 Well No. 3, located 1980 feet from the South line and 660 feet from the East line of said Section 3.

(2) That the allowable assigned to the above-described non-standard gas proration unit shall be based upon the unit size of 481 acres; that the operator may produce the allowable assigned to the unit from the subject wells in any proportion.

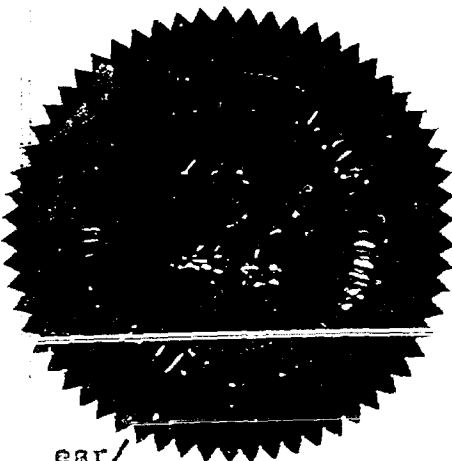
(3) That Order No. R-1590, dated February 8, 1960, is hereby superseded.

(4) That the effective date of Paragraphs (1), (2), and (3) above of this order shall be January 1, 1967.

(5) That the status of the above consolidated unit on the first day of the month succeeding signature of this order shall be the net combined status, as of that date, of the two individual units being consolidated.

(6) 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.



esr/

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

David F. Cargo
DAVID F. CARGO, Chairman

Alex J. Armijo
ALEX J. ARMILLO, Member

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

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 5 1969

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 Elvis A. Utz, Alternate Examiner:

CASE 4036: Application of Mobil Oil Corporation for a dual completion, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its C. L. O'Brien Well No. 1 located in Unit A of Section 7 Township 8 South, Range 30 East, Chaves County, New Mexico, to produce oil from an undesignated Pennsylvanian oil pool and the Lightcap (Devonian) Pool through parallel strings of tubing.

CASE 3975 (Reopened):

In the matter of Case No. 3975 being reopened pursuant to the provisions of Order No. R-3618, which order established 80-acre spacing units for the East Bluitt-San Andres Pool, Roosevelt County, New Mexico, for a period of approximately two months. All interested parties may appear and present evidence as to whether the subject area is indeed a separate common source of supply or an extension of the Bluitt-San Andres Gas Pool.

CASE 4010: (Continued from December 27, 1968 and January 8, 1969 Examiner Hearings)

Application of John H. Trigg for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formations through his Empire "J" Federal Well No. 1 located in Unit P of Section 1, Township 18 South, Range 26 East, Red Lake Grayburg-San Andres Pool, Eddy County, New Mexico.

CASE 4037: Application of Anadarko Production Company for several waterflood projects and waterflood buffer zones, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute several waterflood projects by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Etz Federal Well No. 3 and its Grier Well No. 14 located, respectively, in Sections 19 and 20 of Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the S/2 SW/4 of said Section 19, the N/2 SE/4 of said Section 19, and the N/2 SE/4 of said Section 20 as waterflood buffer zones with capacity allowables.

CASE 4038: Application of Kennedy Oil Company for a waterflood project and waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Carper Federal Well No. 2 located in Unit K of Section 19, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the N/2 SW/4 of said Section 19 as a waterflood buffer zone with capacity allowable.

CASE 4039: The application of the Oil Conservation Commission upon its own motion for an order granting an exception to the ninth paragraph of Chapter II, Section 2 of Order No. R-333-F to permit shutting in gas wells for the required shut-in test at some period during the 1969 test season other than immediately following the 7-day deliverability flow test; further to permit measuring the shut-in test pressure during the 8th to 15th day of shut-in of the well rather than on the 8th day as presently required. The above exceptions would be for the 1969 annual deliverability test season only and would be applicable to all wells in San Juan, Rio Arriba, McKinley and Sandoval Counties, New Mexico, subject to the testing requirements of Chapter II of Order No. R-333-F.

CASE 4023: (Continued and readvertised from the January 15, 1969 Regular Hearing)

Application of Ernest A. Hanson for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 1724 feet to 1736 feet in his Welch Federal Well No. 2 located 1650 feet from the North line and 2310 feet from the West line of Section 22, Township 19 South, Range 28 East, East Millman Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 4040: Application of Cities Service Oil Company for the institution of gas prorationing in the Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the limitation of gas production from the Buffalo Valley-Pennsylvanian Gas Pool in Chaves County, New Mexico, to reasonable market demand and to the capacity of gas transportation facilities, and that the subject pool be governed by the general rules and regulations for the prorated gas pools of Southeastern New Mexico insofar as said general rules and regulations are not inconsistent with the special rules and regulations governing the subject pool. Further, the applicant proposes that the allowable production from the pool be allocated among the wells in the pool on a 100% surface acreage basis.

Docket No. 4-69
February 5, 1969 Examiner Hearing

CASE 4041: Application of Tamarack Petroleum Company, Inc. for salt water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject produced salt water into the Queen formation in the perforated interval from 4955 feet to 5030 feet in its Texaco Monar Well No. 2, located in Unit H of Section 22, Township 19 South, Range 35 East, Pearl Queen Pool, Lea County, New Mexico.

CASE 4042: Application of El Paso Natural Gas Company for an amendment to Order No. R-2948, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2948, which order established a number of non-standard gas proration units in the Basin-Dakota Gas Pool, Rio Arriba County, New Mexico. Applicant proposes to change the acreage dedication comprising units 12 and 13 of Township 28 North, Range 6 West and Units 16 and 17 of Township 28 North, Range 7 West to comprise the following:

| TOWNSHIP 28 NORTH, RANGE 6 WEST | | |
|---------------------------------|--------|-----------------|
| Unit | Acres | Description |
| 12 | 320 | Section 33: N/2 |
| 13 | 330.71 | Section 33: S/2 |
| TOWNSHIP 28 NORTH, RANGE 7 WEST | | |
| Unit | Acres | Description |
| 16 | 320 | Section 35: N/2 |
| 17 | 332.40 | Section 35: S/2 |

CASE 4017: (Continued from the January 8, 1969 Examiner Hearing)
Application of Corinne Lease for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled in the SE/4 of said Section 8. 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 4043: Application of David Fasken for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled 1980 feet from the North line and 2105 feet from the East line of said Section 8. 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 No. 4043 will be consolidated for purposes of hearing with Case No. 4017 which is the application of Corinne Grace for compulsory pooling of the same section.

CASE 4044: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of two existing non-standard gas proration units into one 481-acre unit comprising the E/2 and E/2 W/2 of Section 3, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Reed A-3 Wells Nos. 2 and 3 located in Units H and I, respectively of said Section 3, to be effective as of January 1, 1967. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

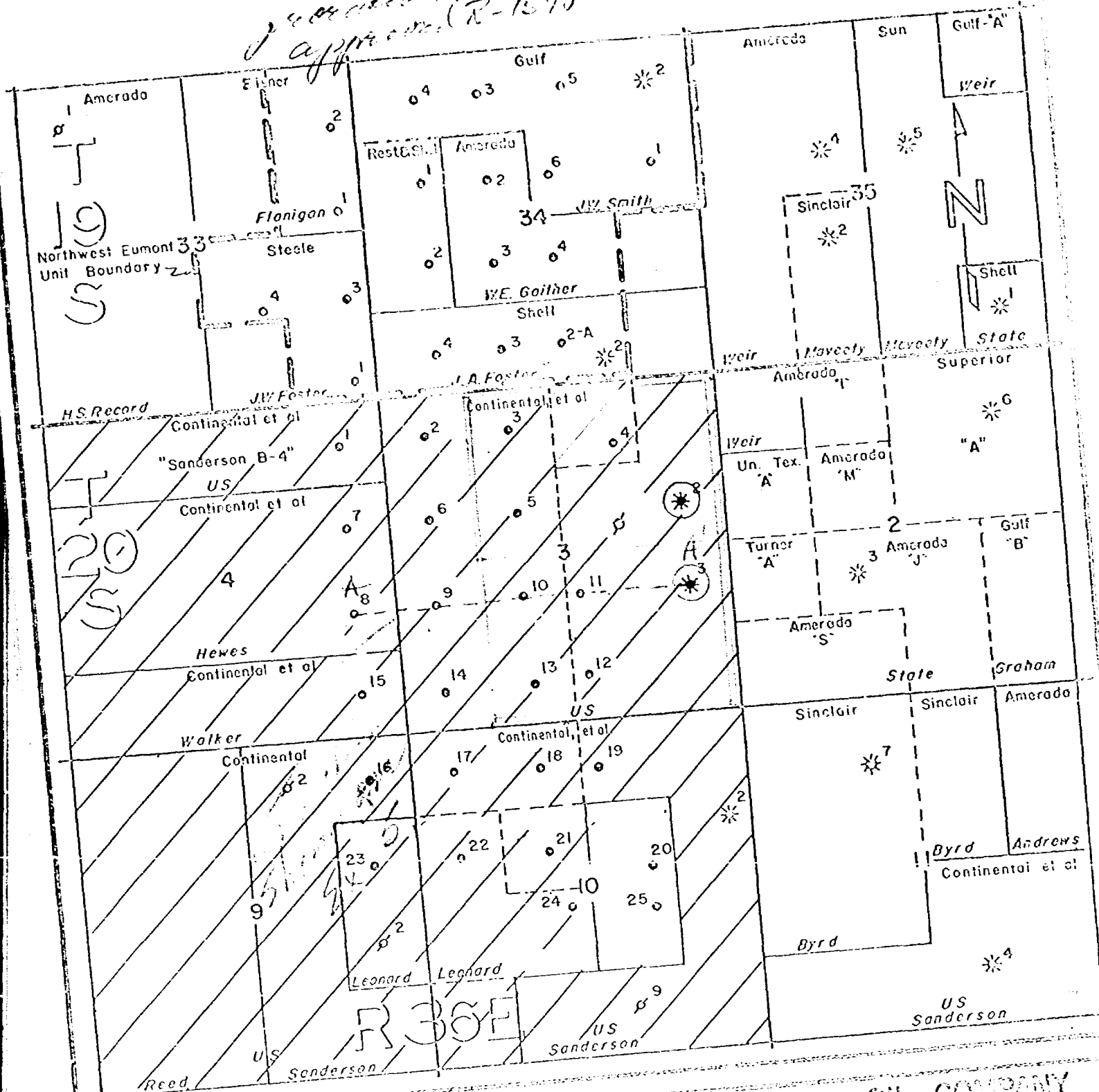
CASE 4045: Application of H & S Oil Company for an amendment to Order No. R-3357, as amended by Order No. R-3357-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3357, as amended by Order No. R-3357-A, which order authorized the H & S West Artesia Unit Waterflood Project. Applicant proposes to substitute the Roach Drilling Company-Leonard Well No. 18 located in Unit D of Section 17 as a water injection well in said project in lieu of the Cities Service-Mell Well No. 17 located in Unit M of Section 8, both in Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 4030: (Continued from the January 22, 1969 Examiner Hearing)
Application of Argus Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the perforated and open-hole interval from approximately 3554 feet to 3775 feet in its J. T. Lynn A-28 Well No. 3 located 2310 feet from the South line and 1650 feet from the East line of Section 28, Township 23 South, Range 36 East, Jalmat Yates-Seven Rivers Pool, Lea County, New Mexico.

ir/

multiple copies
VC-576
DC-2/2

Approved: (K-1593)



- EXISTING NSP UNIT

BEFORE EXAMINATION
OIL CONTAINMENT
APP. 4094

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT
HOBBS DIVISION
REED A-3 GAS UNIT
Lea County, New Mexico

SCALE

EM

November 1, 1968

| | | | | | | | |
|---|----------|------------------------------------|-----------|-------------|--------------------------------|-------------|---------------|
| Company Continental Oil Company | | | | | Lease Reed A-3 No. 2 | | |
| Unit | Test | Time | Temp. | Loc. | Point | | |
| H | 3 | 20 | 36 | Lea | Eumont | | |
| Type Well | | Producing Thru | | Tubing | Grain | Top of Well | Flow Pressure |
| G. O. Dual | | | | | X | 3393 | 13.2 |
| Date of Previous Minimum Contract Test | | In of Previous Thick Pressure Test | | Gravity | Water Sol. No. | Core Factor | |
| 5-3-68 | | .946 | | .680 | 61-102 | 1.50 | |

| FLOW DATA | | | | | FLOWING PRESSURES, PSIA | | DURATION OF FLOW HOURS |
|------------------|----------------------|-----------------------|----------------------|----------|-------------------------|--------------|------------------------|
| Prover Line Size | X Choke Orifice Size | Static Pressure Psig. | Diff. h _w | Temp. °F | Tubing | Casing | |
| | | 416 | | | | 438.2 | 24 |

VOLUME CALCULATIONS

| Coefficient (24 - Hour) | $\sqrt{h_w P_m}$ | Pressure Psia. | Flow Temp. Factor F _t | Gravity Factor F _g | Super Compress. Factor F _{py} | Rate of Flow Q-MCF/D @ 15.025 Psia. |
|-------------------------|------------------|----------------|----------------------------------|-------------------------------|--|-------------------------------------|
| | | | | | | 2,319 |

VOLUME INTEGRATED BY MAIN OFFICE

SHUT-IN DATA, PSIA

$$D_i = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_i^2} \right]^{n_i}$$

| P _r | Temp. R | T _r | Z |
|----------------|---------|----------------|---|
| | | | |

| DURATION | TUBING | CASING |
|----------|--------|--------------|
| 24 Hour | | 513.2 |
| 48 Hour | | 520.2 |
| 72 Hour | | 523.2 |

| LINE | ITEM | SOURCE | 113.2 | 263.2 | 613.2 | 863.2 |
|------|---|----------------------------|----------------|-------|-------|-------|
| 1 | P _c ² | | 273.7 | | | |
| 2 | P _d ² | | 12.8 | | | |
| 3 | P _i ² | | 192.0 | | | |
| 4 | P _c ² - P _d ² | $\bar{1} - \bar{2}$ | 260.9 | | | |
| 5 | P _c ² - P _i ² | $\bar{1} - \bar{3}$ | 81.7 | | | |
| 6 | B | $\bar{4} \div \bar{5}$ | 3.193 | | | |
| 7 | Log $\bar{6}$ | | .504199 | | | |
| 8 | n _i | | .946 | | | |
| 9 | | $\bar{7} \times \bar{8}$ | .476972 | | | |
| 10 | B ^{n_i} | Antilog $\bar{9}$ | 2.999 | | | |
| 11 | Q-MCF/D | | 2,319 | | | |
| 12 | D _i | $\bar{10} \times \bar{11}$ | 6,955 | | | |

- n_i = Slope of Wellhead Deliverability Curve (P_c² - P_i² vs Q)
 Q = Actual flow @ end of Flow Period at Wellhead Press., P_i
 P_c = Maximum Shut-in Pressure, Psia Observed in a 72 Hour Period
 P_i = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa), Psia
 P_d = Deliverability Pressure, Psia
 D_i = Wellhead Deliverability @ Deliverability Pressure (P_d), MCF/Day

| |
|--|
| Witnessed By: (Name) |
| Company: |
| Tested By: Jack O. Whitling |
| Calculated By: Jack O. Whitling |

BEFORE EXAMINATION

OF COMPANY

App. 11-1-68

4-1-89

General Gas Company

CONTRACT TEST

(10-67)

PM

November 1, 1968

Reed A-3 No. 3

Barrel

2328

.680

13.2

60-900

On

1.50

FLOWING PRESSURES, PSIA

DURATION OF FLOW HOURS

Tubing

Casing

451.2

24

FLOW DATA

| Prover Line Size | Choke Orifice Size | Static Pressure Psig. | Diff. h_w | Temp. $^{\circ}F$ |
|------------------|--------------------|-----------------------|-------------|-------------------|
| X | | 415 | | |

VOLUME CALCULATIONS

| Coefficient (24 - Hour) | $\sqrt{h_w P_m}$ | Pressure Psia. | Flow Temp. Factor F_t | Gravity Factor F_g | Super. Compress. Factor F_{pv} | Rate of Flow Q-MCF/D 15.025 Psia. |
|-------------------------|------------------|----------------|-------------------------|----------------------|----------------------------------|--------------------------------------|
| | | | | | | 3,295 |

VOLUME INTEGRATED BY MAIN OFFICE

SHUT-IN DATA, PSIA

$$D_i = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2} \right]^{n_i}$$

| P_r | Temp. R | T_r | Z |
|-------|-----------|-------|-----|
| | | | |

| DURATION | TUBING | CASING |
|----------|--------|--------|
| 24 Hour | | 516.2 |
| 48 Hour | | 522.2 |
| 72 Hour | | 525.2 |

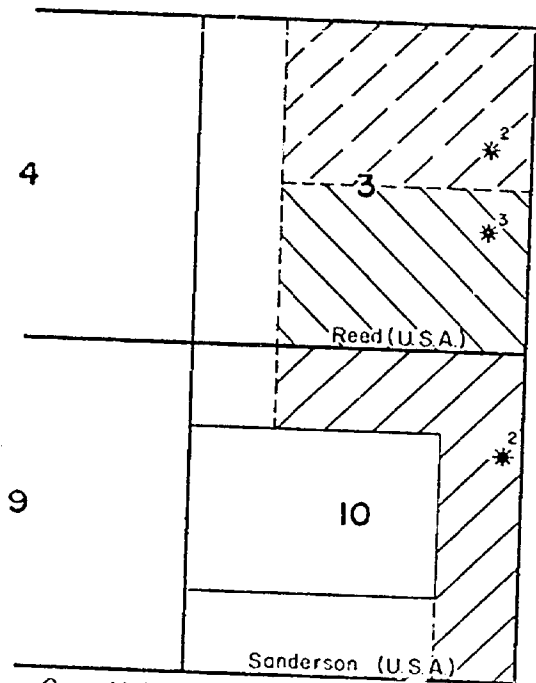
| LINE | ITEM | SOURCE | 113.2 | 263.2 | 613.2 | 863.2 |
|------|-----------------|----------------|---------|-------|-------|-------|
| 1 | P_c^2 | | 275.8 | | | |
| 2 | P_d^2 | | 12.8 | | | |
| 3 | P_t^2 | | 203.6 | | | |
| 4 | $P_c^2 - P_d^2$ | $1 - 2$ | 263.0 | | | |
| 5 | $P_c^2 - P_t^2$ | $1 - 3$ | 72.2 | | | |
| 6 | B | $4 \div 5$ | 3.643 | | | |
| 7 | $\log 6$ | | .561459 | | | |
| 8 | n_i | | .566 | | | |
| 9 | | 7×8 | .317786 | | | |
| 10 | B^{n_i} | Antilog 9 | 2.079 | | | |
| 11 | Q-MCF/D | | 3,295 | | | |
| 12 | D_i | 10×11 | 6,850 | | | |

- n_i = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)
- Q = Actual flow at end of Flow Period at Wellhead Press., P_t
- P_c = Maximum Shut-in Pressure, PSIA
- Observed in a 72 Hour Period
- P_t = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa), PSIA
- P_d = Deliverability Pressure, PSIA
- D_i = Wellhead Deliverability - Deliverability Pressure (P.D.), MCF/D

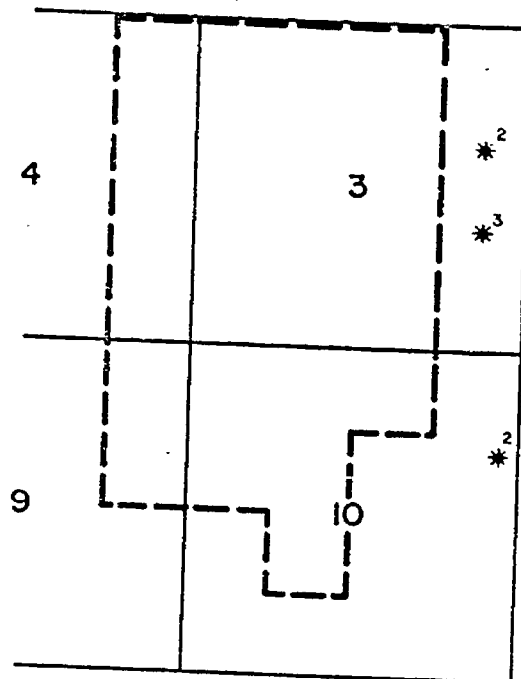
Witnessed by: Jack O. Whitting

Witnessed by: Jack O. Whitting

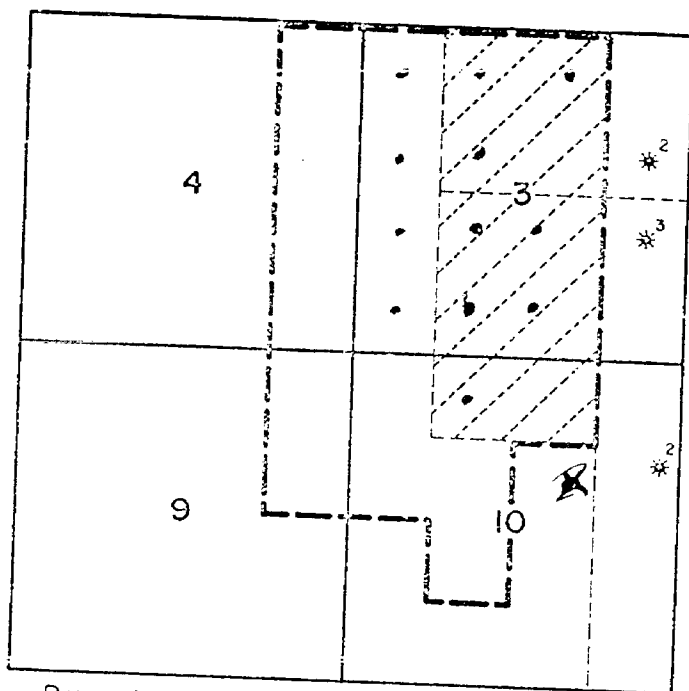
REED SANDERSON UNIT AND OVERLYING
GAS PRORATION UNITS, T20S-R36E
Lea County, New Mexico



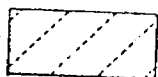
Gas Units and leases before Unit



Unit Boundary



Present relationship of Unit and Gas Units



Unit Acreage
included in Gas Unit

BEFORE PRORATION UNIT

OIL AND GAS

Approved by

Lea County, New Mexico

AMENDMENT TO UNIT AGREEMENT FOR
REED SANDERSON UNIT
LEA COUNTY, NEW MEXICO

It is hereby agreed that the Unit Agreement for the Development and Operation of the Reed Sanderson Unit, Lea County, New Mexico, shall be amended by changing paragraph (g) of Section 2 to read as follows:

"(g) "Unitized Substances" means all oil, gas, gaseous substances, sulphur contained in gas, condensate, distillate, and all associated and constituent liquid or liquefiable hydrocarbons within or produced from the Unitized Formation; save and except any part of any of the enumerated substances which are committed to a gas proration unit approved prior to November 1, 1967, the well for which is located outside of the Unit Area."

It is understood that the words that have been underlined above have been added to the paragraph as it originally appeared in the Unit Agreement initially approved and which became effective January 1, 1967, that no words have been deleted and that the Unit Agreement shall remain unchanged hereby except as specifically shown above.

The effective date of this amendment shall be January 1, 1967.

CONTINENTAL OIL COMPANY

By: *[Signature]*

Attorney-in-Fact

STATE OF TEXAS

COUNTY OF HARRIS

The foregoing instrument was acknowledged before me this 5th day of December, 1968, by V. C. Eissler, Attorney in-Fact for Continental Oil Company, a Delaware corporation.
(a corporation, on behalf of said corporation)

My Commission Expires:

June 1, 1969

[Signature]
Notary Public, in and for

HARRIS County, TEXAS

Approved DEC 31 1968

Effective JAN 1 1967

[Signature]
Regional Oil and Gas Supervisor
U.S. GEOLOGICAL SURVEY

RECORD EXAMINER

App. 4424

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

JAN 10 1969

at 1:20 *[Signature]*
and recorded in Book 226
Page 266
THE HARRISON, Clerk
By *[Signature]* Deputy



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

7722 REC 276 267

267

December 31, 1968

Continental Oil Company
P. O. Box 460
Hobbs, New Mexico 88240

Attention: Mr. L. P. Thompson

Gentlemen:

On December 31, 1968, the amendment of Section 2(g) of the Reed Sanderson unit agreement, Lea County, New Mexico, No. 14-08-0001-8822, was approved effective as of January 1, 1967. This amendment was given preliminary approval by Survey letter of February 13, 1968.

The amendment modifies Section 2(g) of the unit agreement to provide that the portion of the gas production allocated to certain lands within the unit area from Queen gas wells located outside the unit area will not be considered unitized substances. The amendment has been executed by all of the owners of committed working interests and nonworking interests with the exception of Mr. H. S. Moss, working interest owner of tract 2-B. You advise that Mr. Moss is ill and unable to transact business at this time.

Copies of the amendment are being distributed to the appropriate Federal agencies and two copies are returned herewith.

Sincerely yours,

John A. Anderson
JOHN A. ANDERSON
Regional Oil and Gas Supervisor

4314

| RECEIVED HOODS DIVISION | |
|----------------------------|--|
| JAN 3 1969 | |
| Mr. Thompson | |
| Mr. Anderson | |
| Mr. Lee | |
| Mr. Smith | |
| Mr. Jones | |
| Mr. Brown | |
| Mr. White | |
| Mr. Black | |
| Mr. Green | |
| Mr. Gray | |
| Mr. Red | |
| Mr. Blue | |
| Mr. Yellow | |
| Mr. Purple | |
| Mr. Pink | |
| Mr. Orange | |
| Mr. Silver | |
| Mr. Gold | |
| Mr. Bronze | |
| Mr. Copper | |
| Mr. Iron | |
| Mr. Steel | |
| Mr. Aluminum | |
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| Mr. Arsenic | |
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| Mr. Potassium | |
| Mr. Barium | |
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CONTINENTAL OIL COMPANY

P. O. Box 460
HOBBS, NEW MEXICO 88240

1001 NORTH TURNER
TELEPHONE 393-4141

PRODUCTION DEPARTMENT
HOBBS DIVISION
L. P. THOMPSON
Division Manager
G. C. JAMIESON
Assistant Division Manager

January 17, 1969

Case 4044

JWA
Case ~~4044~~ 4044

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

Attention of Mr. A. L. Porter, Jr.,
Secretary-Director

Re: Application for approval of 481-acre
Non-Standard Proration Unit, Section
3, T-20S, R-36E, Lea County, New Mexico

Gentlemen:

Confirming the telephone conversation between your Mr. Hatch and our Mr. Lyon, we forward herewith in triplicate an application for hearing for the captioned unit. The proposed NSP unit is a consolidation of two existing NSP units established by Order R-1590.

All interests in both units are identical. It is requested that the effective date be made co-incident with the Reed Sanderson Unit Agreement, January 1, 1967, in order to qualify the communitization of the acreage for federal approval.

Please set this matter for hearing on your February 5, 1969, examiner docket.

Yours very truly,

VTL-JS
Attach

RLA JJB JWK

DOCKETED

1-23-69

PIONEERING IN PETROLEUM PROGRESS SINCE 1875

IN THE MATTER OF THE APPLICATION OF
CONTINENTAL OIL COMPANY FOR ESTABLISHMENT
OF A 481-ACRE NON-STANDARD GAS PRO-
RATION UNIT IN THE EUMONT POOL TO BE
EFFECTIVE COINCIDENTLY WITH THE REED
SANDERSON UNIT AGREEMENT AND TO BE
DEDICATED JOINTLY TO ITS REED A-3
WELLS NOS. 2 AND 3, LOCATED IN SECTION
3, TOWNSHIP 20 SOUTH, RANGE 36 EAST,
LEA COUNTY, NEW MEXICO, AND FOR APPROVAL
TO PRODUCE THE UNIT ALLOWABLE BY SAID
WELLS IN ANY PROPORTION

Case 4044

A P P L I C A T I O N

COMES NOW, Continental Oil Company and respectfully requests
establishment of a 481-acre non-standard gas proration unit in the Eumont Gas
Pool consisting of the E/2 and E/2 W/2 of Section 3, T-20S, R36E, to be effective
coincidently with the Reed-Sanderson Unit Agreement, and to be allocated jointly
to its Reed A-3 Wells Numbers 2 and 3, located in Units H and I, respectively,
of said Section 3, and for approval to produce the unit allowable by said wells
in any proportion, and in support thereof would show:

1. That applicant is operator and co-owner of the Reed A-3
Lease consisting of Section 3, T-20S, R-36E, Lea County,
New Mexico.
2. Applicant has heretofore drilled and dually completed in
the Monument Oil Pool and Eumont Gas Pool its Reed A-3 Well
No. 2, located 1980 feet from the north line and 660 feet
from the east line of said Section 3, and its Reed A-3
Well No. 3, located 1980 feet from the south line and 660
feet from the east line of said Section 3.
3. That Order No. R-1590 established a 241-acre non-standard
gas proration unit for well No. 2 and a 240-acre non-
standard gas proration unit for Well No. 3, as shown on
the attached plat.
4. That the said Reed A-3 lease has been segregated by virtue
of the formation of the Reed Sanderson Unit and it has be-

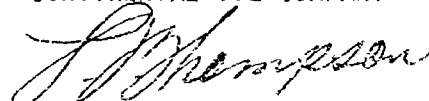
come necessary to communitize the leases in order to preserve the said gas proration units, said communitization became effective January 1, 1967, coincident with the effective date of the Reed Sanderson Unit.

5. That it is desirable, for greater producing flexibility and to prevent future hearings for re-allocation of acreage between the wells, to assign the entire communitized acreage to the two wells jointly.
6. That the granting of this application is in the interest of preventing waste and will not impair correlative rights.

WHEREFORE, Applicant respectfully requests that this application be set for hearing before the Commission's duly appointed examiner, and that upon hearing, an order be entered approving a 481-acre non-standard gas proration unit in the Eumont Pool for the Reed A-3 Wells Nos. 2 and 3 as described above.

Respectfully submitted,

CONTINENTAL OIL COMPANY


L. P. Thompson

VTL-JS

DRAFT

GMH/esr

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. 4044

Order No. R-3675

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A NON-STANDARD GAS PRORATION UNIT,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 5, 1969,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of February, 1969, 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, is the
co-owner and operator of the Reed A Lease consisting of Section
3, Township 20 South, Range 36 East, NMPM, Lea County, New Mexico,
the W/2 and W/2 E/2 of which section is included in the Reed-
Sanderson Unit Area approved by the Commission by Order No.
R-3126, dated October 4, 1966.

(3) That by Order No. R-1590, dated February 8, 1960, the
Commission approved two non-standard gas proration units in the
Eumont Gas Pool in said Section 3, as follows:

A 241-acre non-standard gas proration unit consisting
of the NE/4 and E/2 NW/4 of said Section 3, to be dedi-
cated to the applicant's Reed A-3 Well No. 2, located
1980 feet from the North line and 660 feet from the
East line of said Section 3, and

A 240-acre non-standard gas proration unit consisting of the SE/4 and E/2 SW/4 of said Section 3, to be dedicated to the applicant's Reed A-3 Well No. 3, located 1980 feet from the South line and 660 feet from the East line of said Section 3.

(4) That the applicant now seeks the consolidation of the two existing non-standard gas proration units into one 481-acre non-standard gas proration unit in the Eumont Gas Pool comprising the E/2 and E/2 W/2 of said Section 3, said unit to be simultaneously dedicated to the aforesaid Reed A-3 Wells Nos. 2 and 3.

(5) That the applicant further seeks authority to produce the allowable assigned to the unit from either of the aforesaid wells in any proportion.

(6) That the applicant further requests that the effective date of the consolidation be January 1, 1967, ^{to coincide} ~~coincidental~~ with the ~~effective date of~~ the Reed-Sanderson Unit Agreement.

attach (7) That the gas and associated liquid hydrocarbons production attributable to the aforesaid 481-acre non-standard gas proration unit has been segregated from all other production from said Reed A-3 Lease as a result of said Reed Sanderson Unit Agreement.

(8) That the approval of the subject application will relieve the applicant from any unnecessary administrative burden.

(8) That the proposed non-standard gas proration unit can be efficiently and economically drained and developed by the Continental Oil Company Reed A-3 Wells Nos. 2 and 3.

(9) That approval of the proposed non-standard gas proration unit will afford the applicant the opportunity to produce its just and equitable share of the gas in the Eumont Gas Pool, will prevent the economic loss caused by the drilling of unnecessary wells, will avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

(10) That Order No. R-1590 should be superseded.

IT IS THEREFORE ORDERED:

(1) That a 481-acre non-standard gas proration unit in the Eumont Gas Pool comprising the E/2 and E/2 W/2 of Section 3, Township 20 South, Range 36 East, NMPM, Lea County, New Mexico, is hereby established and simultaneously dedicated to the Continental Oil Company Reed A-3 Well No. 2, located 1980 feet from the North line and 660 feet from the East line of said Section 3, and to the Continental Oil Company Reed A-3 Well No. 3, located 1980 feet from the South line and 660 feet from the East line of said Section 3.

(2) That the allowable assigned to the above-described non-standard gas proration unit shall be based upon the unit size of 481 acres; and that the operator may produce the allowable assigned to the unit from the subject wells in any proportion; ~~that the status of said consolidated unit shall be the combined status, as of January 1, 1967, of the two units being consolidated.~~

(3) That Order No. R-1590, dated February 8, 1960, is hereby superseded.

(4) That the effective date of this order shall be January 1, 1967.

(6) 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.

Paragraphs (1), (2), and (3) above
(5) That the status of the above consolidated unit on the first day of the month succeeding signature of this order shall be the net combined status, as of that date, of the two individual units being consolidated and said date

Via . from via Lyon
12-16-69

In the matter of the application of
Central Oil Co. for establishment
of a 481-acre non-standing over
proportion unit in the Eminent Pool
to be effective ~~co~~ coincidentally
with the ~~Reed~~ Reed-Henderson
Unit Agreement and to be dedicated
jointly to its Reed A-3 Wells
Nos. 2 and 3 located in Sect
3, T20S, R36E, Lea Co., N.M.
and for approval to produce the
unit allowable by said wells
in any proportion.

Effect. date of Reed-Henderson Unit
agreement is Jan 1, 1967.

In

= R-1590 =

= For purpose of Federal approval -

E/2 and E/2 W/2

| | | |
|----|----------|---------|
| #2 | 1947 FNL | 660 FEL |
| #3 | 1980 FSL | 660 FEL |