

CASE 3156: Appli. of CONTINENTAL
for special pool rules for the
CASS POOL, LEA COUNTY, N. MEX.

CASE No.
5156

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

State of New Mexico
Oil Conservation Commission



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

January 25, 1965

Re: Case No. 3156
Order No. R-2825-B
Applicant:

CONTINENTAL OIL COMPANY

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

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

Carbon copy of order also sent to:

OTHER _____

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

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

December 7, 1964

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

Re: Case No. 3112 and 3156
Order No. R-2824 and R-2825
Applicant:
Continental Oil Company

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ix/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Astec OCC x (R-2824)

OTHER R-2824 sent to Charles Roberts - Continental Oil Co., Durango, Colo.

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. 3156
Order No. R-2825

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

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 24, 1964, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 7th day of December, 1964, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Continental Oil Company, seeks the promulgation of special rules and regulations for the Cass Pool in Township 20 South, Range 37 East, NMPM, Lea County, New Mexico, including a provision for 80-acre spacing and authority to transfer allowables.

(3) That one well in the Cass Pool can efficiently and economically drain and develop 80 acres.

(4) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, special rules and regulations providing for 80-acre spacing units should be promulgated for the Cass Pool.

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CASE No. 3156

Order No. R-2825

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

(6) That the applicant has not established that authority to transfer allowables within the Cass Pool will prevent waste or protect correlative rights.

(7) That the applicant's request for authority to transfer allowables within the Cass Pool should be denied.

IT IS THEREFORE ORDERED:

That Special Rules and Regulations for the Cass Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
CASS POOL

RULE 1. Each well completed or recompleted in the Cass Pool or in the Pennsylvanian formation within one mile thereof, and not nearer to or within the limits of another designated Pennsylvanian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a governmental quarter-quarter section or lot. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

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CASE No. 3156
Order No. R-2825

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot line.

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

RULE 6. A standard proration unit (79 through 81 acres) shall be assigned an 80-acre proportional factor of 2.33 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 80 acres.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Cass Pool or in the Pennsylvanian formation within one mile thereof that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of said rule. The operator shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before December 15, 1964.

(2) That each well presently drilling to or completed in the Cass Pool or in the Pennsylvanian formation within one mile thereof shall receive a 40-acre allowable until a Form C-128 dedicating 80 acres to the well has been filed with the Commission.

(3) That the applicant's request for authority to transfer allowables within the Cass Pool is hereby denied.

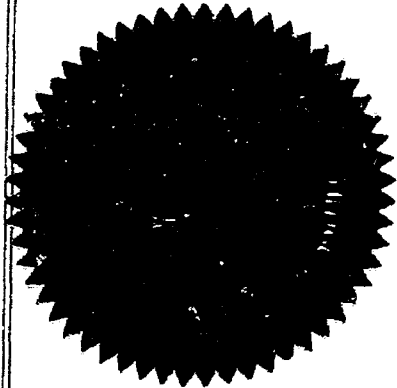
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CASE No. 3156
Order No. R-2825

(4) 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.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


Jack M Campbell
JACK M. CAMPBELL, Chairman

E. S. Walker
E. S. WALKER, Member

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

esr/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CASE No. 3156
Order No. R-2825-A

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

MUNG PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to clerical error,
Order No. R-2825, dated December 7, 1964, does not correctly state
the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That Rule 6 of the Special Rules and Regulations for
the Cass Pool promulgated by Order No. R-2825 is hereby corrected
to read as follows:

RULE 6. A standard proration unit (79 through 81 acres)
shall be assigned an 80-acre proportional factor of 3.33 for
allowable purposes, and in the event there is more than one well
on an 80-acre proration unit, the operator may produce the allow-
able assigned to the unit from the wells on the unit in any
proportion.

The allowable assigned to a non-standard proration
unit shall bear the same ratio to a standard allowable as the acre-
age in such non-standard unit bears to 80 acres.

(2) That the correction set forth above shall be effective
nunc pro tunc as of December 7, 1964.

DONE at Santa Fe, New Mexico, on this 21st day of December,
1964.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

E. S. Walker
E. S. WALKER, Member

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

ccr/

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. B. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

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

December 21, 1964

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

Re: Case No. 3156
Order No. 3165 and R-2850
Applicant:
Continental and Sam Boren & Major
& Giebel Oils

Dear Sir:

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

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Antec OCC

OTHER

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 11/30/64

CASE 3156

Hearing Date 9am 11/24/64

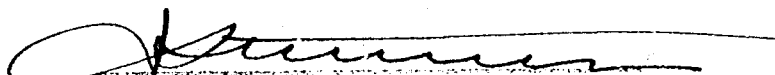
DSN@SF

My recommendations for an order in the above numbered cases are as follows:

Enter an order in this case approving
80-acre proration units for the Carr
Permian Pool. Although this
pool has been developed essentially
on 40-acre spacing. The assignment
of 80 acre units to the wells is in the
interest of conservation and the prevention
of waste. (Without going into the
reasons why.

assign an 80-acre proportional
factor of 2.33 for an 80-acre unit.

Drury applicant's proposed Rule 6 is
inconsistent with good conservation
practices.


Staff Engineer

DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 24, 1964

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

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

- CASE 3147: Application of Newmont Oil Company for a waterflood expansion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its West Square Lake Waterflood Project by the injection of water into the Grayburg and San Andres formation through 10 wells in Sections 32, 33, and 35, Township 16 South, Range 30 East, and Section 4, Township 17 South, Range 30 East, Eddy County, New Mexico.
- CASE 3148: Application of Newmont Oil Company for a waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks establishment of the NW/4 SE/4 of Section 28, the W/2 SW/4 of Section 33, and the SE/4 NW/4 and SE/4 NE/4 of Section 34, all in Township 16 South, Range 31 East, as a buffer zone adjacent to its Square Lake Waterflood Project, Eddy County, New Mexico.
- CASE 3149: Application of Newmont Oil Company for amendment of Order No. R-2178-B, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an amendment of Order No. R-2178-B to include the S/2 SE/4 of Section 11, Township 18 South, Range 29 East, in Stage I of the Loco Hills Sand Unit Waterflood Project, to approve two Stage I water injection wells in said Section 11, and to include the NE/4 NE/4 of Section 15, Township 18 South, Range 29 East, in Stage III of the waterflood project.
- CASE 3150: Application of California Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Bogle Flats Unit Area comprising 11,091 acres, more or less, of State and Federal lands in Township 22 South, Range 23 East, Eddy County, New Mexico.
- CASE 3151: Application of Jake L. Hamon for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State E-8321 Well No. 1 located in Unit L of Section 4, Township 21 South, Range 35 East, Lea County, New Mexico, to produce oil from the Wolfcamp and Strawn formations through parallel strings of tubing.
- CASE 3152: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Wolfcamp production for its State E-8321 Well No. 1 located in Unit L of Section 4, Township 21 South, Range 35 East, Lea County, New Mexico, and for the promulgation of special rules for said pool, including a provision for 80-acre spacing and fixed well locations.

November 24th Examiner Hearing

CASE 3153: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Strawn production for its State E-8321 Well No. 1 located in Unit L. of Section 4, Township 21 South, Range 35 East, Lea County, New Mexico, and for the promulgation of special rules for said pool, including a provision for 80-acre spacing and fixed well locations.

CASE 3154: Application of Atlantic Refining Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Culwin Queen Unit Area comprising 820 acres, more or less, of State and Federal lands in Townships 18 and 19 South, Ranges 30 and 31 East, Eddy County, New Mexico.

CASE 3155: Application of Atlantic Refining Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Shugart Pool in its Culwin Queen Unit Area by the injection of water into the Queen formation through six injection wells in Section 36, Township 18 South, Range 30 East, Section 31, Township 18 South, Range 31 East, Section 1, Township 19 South, Range 30 East, and Section 6, Township 19 South, Range 31 East, Eddy County, New Mexico.

CASE 3156: Application of Continental Oil Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Cass Pool, Lea County, New Mexico, including a provision for 80-acre spacing and the transfer of allowables.

CASE 3157: Application of The Pure Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to complete its Red Hills Unit Well No. 1 located 330 feet from the South line and 2310 feet from the East line of Section 32, Township 25 South, Range 33 East, Lea County, New Mexico, as a dual completion (conventional) to produce gas from the Wolfcamp and Pennsylvanian formations through parallel strings of tubing.

CASE 3158: Application of The Pure Oil Company for the creation of a new gas pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Wolfcamp gas pool for its Red Hills Unit Well No. 1 located 330 feet from the South line and 2310 feet from the East line of Section 32, Township 25 South, Range 33 East, Lea County, New Mexico, and the promulgation of special pool rules including a provision for 640 acre spacing.

CASE 3159: Application of The Pure Oil Company for the creation of a new gas pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Pennsylvanian gas pool for its Red Hills Unit Well No. 1, located 330 feet from the South line and 2310 feet from the East line of Section 32, Township 25 South, Range 33 East, Lea County, New Mexico, and the promulgation of special pool rules including a provision for 640-acre spacing.

November 24th Examiner Hearing

CASE 3160: Application of Texaco Inc. for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (tubingless) of its State of New Mexico "R" (NCT-4) Well No. 1 located in Unit C of Section 7, Township 18 South, Range 35 East, Lea County, New Mexico, to produce oil from the Vacuum-San Andres and Vacuum-Abo Reef Pools through parallel strings of 2-7/8 inch casing cemented in a common well bore.

CASE 3161: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to permit Southern Union Production Company and all other interested parties to show cause why the Robert Mims-State Well No. 1 located in Unit M of Section 16, Township 29 North, Range 9 West, San Juan County, New Mexico, should not be properly repaired or plugged in accordance with a Commission approved plugging program.

CASE 3162: Application of Continental Oil Company for a waterflood expansion and an administrative procedure, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to convert to water injection its General American Green "B" Wells Nos. 4 and 7, located in Unit H of Section 7 and Unit L of Section 5, respectively, Cave Pool Waterflood Project, Township 17 South, Range 29 East, Eddy County, New Mexico. Applicant further seeks an administrative procedure in exception to Rule 701 whereby additional wells in said project could be converted to water injection prior to receiving response from flooding operations.



CONTINENTAL OIL COMPANY

P. O. BOX 460

HOBBS, NEW MEXICO

November 3, 1964

PRODUCTION DEPARTMENT
HOBBS DISTRICT
JACK MARSHALL
DISTRICT MANAGER
G. C. JAMIESON
ASSISTANT DISTRICT MANAGER

1001 NORTH TURNER
TELEPHONE: EX 3-4141

New Mexico Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico

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

Gentlemen:

Re: Application for Special Pool
Rules - Cass Pool

We forward herewith application, in triplicate, for the adoption of special pool rules including provisions for 80 acre spacing and the right to transfer allowables between wells in the Cass Pool, Lea County, New Mexico.

We should appreciate your setting this matter for hearing at the earliest Examiner hearing.

Yours very truly,

Jack Marshall

JM-DFW
Enc.

cc: RGP GW JWK

DOCKET MAILED

Date 11-13-64

PIONEERING IN PETROLEUM PROGRESS SINCE 1875

BEFORE THE OIL CONSERVATION COMMISSION
OF THE
STATE OF NEW MEXICO

NOV 4 AM 8 00

IN THE MATTER OF THE APPLICATION OF
CONTINENTAL OIL COMPANY FOR SPECIAL
POOL RULES INCLUDING PROVISIONS FOR
80-ACRE SPACING AND ALLOWABLE TRANS-
FER PRIVILEGES IN THE CASS POOL, LEA
COUNTY, NEW MEXICO

Case 3156

A P P L I C A T I O N

Comes now applicant, Continental Oil Company, and re-
spectfully requests the promulgation of special pool rules in-
cluding provisions for 80-acre drilling and spacing units and
allowable transfer privileges for the Cass Pool in Lea County,
New Mexico, and in support thereof would show:

1. The Cass Pool, as presently defined, consists of
SW/4 Section 14, SE/4 Section 15, and Section 23, T-20S, R-37E,
Lea County, New Mexico.
2. Applicant is the operator and co-owner of leases
and wells producing from the Cass Pool.
3. Evidence available to applicant indicates that
wells in the Cass Pool are capable of draining at least 80 acres.
4. That 80-acre spacing and allowables and allowable
transfer privileges will result in the prevention of 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
promulgating special pool rules including provisions for 80-acre
spacing and allowable transfer privileges for the Cass Pool as
described above.

Respectfully submitted,

Jack Marshall
JACK MARSHALL
District Manager
of Production
Hobbs District

JM.DFW

ATLANTIC

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT
NEW MEXICO DISTRICT

BOONE MACAULAY, DISTRICT MANAGER
R. F. CHAMPION, DISTRICT LANDMAN
W. T. EASTES, DISTRICT GEOPHYSICIST
E. R. DOUGLAS, DISTRICT GEOLOGIST
A. D. KLOXIN, DISTRICT DRLO. & PROD. SUP'T.
W. P. TOMLINSON, DISTRICT ENGINEER
B. R. WARE, ADMINISTRATIVE SUPERVISOR

MAILING ADDRESS
P. O. BOX 1978
ROSWELL, NEW MEXICO

November 18, 1964

*File
Case 3156*

New Mexico Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: Case 3156: Application of Continental
Oil Company for Special Pool Rules,
Cass Pool, Lea County, New Mexico

Gentlemen:

As a partner in the New Mexico Federal Unit, we have observed the performance of the Cass Pool for many years. From these observations we believe that Cass Pool wells will adequately drain at least 80 acres. In the interest of conservation, we wish to support Continental Oil Company in its request for special rules for the Cass Pool.

Yours very truly,

W. P. Tomlinson

W. P. Tomlinson

WPT:ly

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 24, 1964

EXAMINER HEARING

IN THE MATTER OF:

APPLICATION OF CONTINENTAL OIL COMPANY FOR
SPECIAL POOL RULES, LEA COUNTY, NEW MEXICO

Case No. 3156

BEFORE:

DANIEL NUTTER

TRANSCRIPT OF HEARING



MR. NUTTER: We will call Case Number 3156.

MR. DURRETT: Application of Continental Oil Company for special pool rules, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin of Kellahin & Fox, representing the applicant. We have one witness we would like to have sworn.

VICTOR T. LYON thereupon was sworn and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q State your name, please.

A Victor T. Lyon.

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

A I am employed by Continental Oil Company as supervising engineer in the Hobbs District at Hobbs, New Mexico.

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

A Yes, sir, I have.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. NUTTER: Yes.

Q (MR. KELLAHIN) Are you familiar with the application of Continental Oil Company in Case Number 3156?

A Yes, sir.



Q State briefly what is proposed by Continental Oil Company in this case.

A Case Number 3156 is the application of Continental Oil Company for special pool rules for the Cass Pennsylvanian Pool, including provisions for 80-acre spacing and allowables, and for the transfer of allowables between wells.

Q Referring to what has been marked Exhibit Number 1, would you describe the information shown thereon?

A Exhibit 1 is a location and ownership map of an area of the Cass Pennsylvanian Pool. The boundaries of the pool are shown by the red line. The wells producing from the pool are circled in red. The dashed heavy line is the boundary of the southeastern monument unit. You will notice it isn't closed on the east, since the unit extends further to the east than the area shown on the map.

Q The boundaries of the pool as shown on the exhibit are those as defined by the Oil Commission?

A Yes, sir.

Q Referring to what has been marked Exhibit 2, would you identify it and describe the information shown there.

A Exhibit 2 is a structure map of the area shown on Exhibit 1, showing the structural configuration of the top of the Strawn formation. Again, the wells producing from the Pennsylvanian formation in the Cass Pool are circled in red. Those

wells which have penetrated this marker are shown by the sub-Z datum circled.

Q What is the current production in the Cass Pool?

A Wells in the Cass Pool have been tested on their most recent tests to have a total capacity of 498 barrels of oil and 10,301 barrels of water. Individual wells were tested as follows: Number 2, 142 barrels of oil per day and 3,600 barrels of water per day; Number 3, 157 barrels of oil and 450 of water per day; Number 4, 150 barrels of oil and 4,200 barrels of water per day; and Number 61, 12 barrels of oil and 1,111 barrels of water per day.

Q What method is currently being used for disposing of water produced?

A Water produced from the Cass Pool is being injected in our water flood project in the Skaggs Pool.

Q Does the Skaggs water flood project dispose of all water produced from the Skaggs Pool?

A Yes. The expanded pilot project requires the use of all water produced. We contemplate further expansion of the project to include the entire Grayburg in the south unit. When this is done there will be a need for additional water--approximately 5,000 barrels per day.

Q Would you describe briefly the history of the Cass Pool.

dearnley-meier

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



dearnley-meier

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



A The Cass Pool was discovered on December 20, 1944 with the completion of the SEMU Penn Number 2 well. Since that time four additional wells have been completed in the Pennsylvanian formation. Prior to the installation of the Skaggs Pool waterflood, produced water was disposed of in open pits. When the pilot waterflood project was completed there was a need for additional water. A Reda pump was installed in the SMU Number 4 in order to secure the additional water that was needed. This installation increased production from 655 to 4,810 barrels of water per day. It also increased oil production from 10 to 190 barrels per day.

Q Referring to what has been marked Exhibit 3, would you describe what has been shown on this exhibit.

A Exhibit 3 is a well performance curve on the SEMU Penn Number 4--this is the well I just described as having a Reda pump installed. The point where the Reda pump is installed is marked, and occurs at about March of 1963. As you can see, the water production increased very appreciably and the oil production also increased very appreciably.

Q Have you placed Reda pumps in any additional wells?

A Yes, a Reda pump was recently installed in SEMU Penn Number 2, and again, when we increased the withdrawal of water we observed a very significant increase in oil.

Q Is that shown on Exhibit 4?

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



A Yes, sir. Exhibit 4 is a well performance curve of SEMU Penn Number 2, and again the point at which the Reda pump was installed is shown, and occurred in August, I believe it is, of 1964.

Q Do you anticipate that Reda pumps will be installed in any additional wells?

A Yes, sir, as the need for water increases it will be necessary to install additional Reda pumps in order to supply the volumes of water required.

Q You're talking about the need for water in the Skaggs Waterflood?

A Yes, sir.

Q You will install Reda pumps in the Cass Pool in order to get the necessary water?

A Yes, sir.

Q In your opinion, will one well in the Cass Pool drain 80 acres?

A Yes, sir, it will.

Q Do you have any evidence to support your conclusion?

A Yes, sir. I would like to refer to Exhibit 5, which shows an interference test which has been conducted between wells producing from the Cass Pool. On September 10, 1964, prior to installation of the Reda pump in SEMU 2, the SEMU 4 well was pumping 4,000 barrels of fluid per day, with the Reda



pump set at 2,100 feet and a working fluid level at 1,900 feet. This fluid level is shown on the second line in Exhibit 5, under Well Number 4. On September 14, 1964 after a Reda pump was installed in Well Number 2 and while the well was producing at the rate of 3,600 barrels of fluid per day, the SEMU Penn Number 4, which is 2,500 feet east of Penn Number 2, pumped off. The fluid levels were measured in Wells Number 3 and 7, and were found to be at 527 and 1,364, respectively. The fluid level at Number 7 is shown in Line 1 in Exhibit 5 under Well Number 7.

Q You say "pumped off." What do you mean by that?

A The Reda pump began drawing air--there wasn't sufficient submergence to operate it at capacity.

Q What happened when SEMU Penn Number 4 was again placed on pump?

A We lowered the pump from its previous level at 2,100 feet and placed it on production at a rate of 4,200 barrels of fluid per day. The total producing rate of SEMU Penn Number 2 and Number 4 at this time was 7,800 barrels of fluid. This was September 18, 1964. The fluid levels on each well measured on this date as follows: Number 2 at 2,418--this is shown in Line 3 of Exhibit 5 under Well 2, which is a draw-down of 186 feet; Number 4 was measured at 2,201 feet, which is down from 1,900 feet previously, on a draw-down of 301 feet. Number 3 was measured at 558, down 31 feet after lowering the pump in Number

4; and Number 7 was measured 1,674 feet. This is shown on Line 3 under Well Number 7 on Exhibit 5, which is down 310 feet from its previous operating level.

Q What does this indicate in the way of drainage area?

A This would indicate to me that a well is capable of draining a radius of at least 2,500 feet, or approximately 450 acres.

Q I note from your previous exhibits, Numbers 3 and 4, that the percentage of oil production increased when the production of total fluids increased upon installation of the Reda pumps. In your opinion does this represent oil that will be recovered, which would not have been recovered had the withdrawal rates not been increased?

A Yes, this is true, I think. SEMU Number 4 was producing ten barrels of oil and 655 barrels of water per day prior to the installation of the Reda pump, and as you can see from Exhibit 3, an extrapolation of the curve would indicate that the well would be producing 200 barrels a day by January 1, 1965, and this would be below the economic limit, and it would be necessary to shut the well down at this producing rate.

Q If you had not been interested in obtaining additional water, this oil would have remained in the reservoir, is that not true?

A Yes. Our prime objective in putting in pumps was

securing additional water, and we were fortunate that additional oil was recovered also.

Q This is a pool that has been developed for a number of years?

A Yes, sir.

Q Considering the length of time this pool has produced, why is it necessary to ask for 80-acre spacing and allowables at this time?

A Up to this time the regular 40-acre allowable has been adequate to take care of the production on the pool, and with the requirement for water and the installation of Reda pumps the additional fluid withdrawal has increased the productivity of the individual wells to a point where it is higher than the normal 40-acre allowable, and even higher than the 80-acre allowable. Therefore it has been necessary to intermit the production of the various wells in order to avoid over-producing in individual wells allowed.

Q Will production of these wells at a higher rate, in your opinion, result in recovery of oil which would not be recovered otherwise?

A Yes, sir, I think this is very true. Most of the wells in the pool are approaching their economic limit, and in a normal situation the disposal of the salt water produced would create an additional expense, which would not encourage the high

volume lift equipment which we have found will increase recovery from the pool.

Q How much water is required in the Skaggs Pool?

A When the flood is completely expended it is anticipated that 15,000 barrels of water per day will be required.

Q And the granting of 80-acre allowables in the Cass Pool will permit an increase in production of water for this purpose?

A Yes, sir, this is true. By having the situation such that we don't have to shut-in a well because it has exceeded its allowable, we will be able to supply water.

Q In addition to 80-acre spacing and proration units, are you asking for the right to transfer allowables?

A Yes.

Q Why?

A As we previously mentioned, because we need the additional flexibility in producing individual wells. Of course, Reda pumps are expensive to install and to operate, and we would like to lift the water with as few pumps as necessary, and to have the greatest amount of flexibility in the wells from which we produce water; and we have found that if we produce these wells continuously at the rates we have been producing, individual wells can and do exceed the normal allowable, even with an 80-acre allowable; and therefore we would like to have the privilege of transferring allowables between wells.

Q Is it necessary that you have a steady, constant source of water for the Skaggs Waterflood?

A Yes.

Q It has to be at a regular, steady rate?

A Yes.

Q Would the ability to transfer allowables within the Cass Pools help to establish a steady flow?

A Yes, this would be very helpful.

Q In your opinion, would the transfer of allowables within the Cas Pool result in waste or impairment of any correlative rights?

A No, sir. All these wells are within the boundaries of the Southeast Monument Unit. There are no wells producing from the Cas Pool owned or operated by any outside party-- consequently you might say that this is all producing from one lease.

Q I note from the production tests that the wells SEMU Penn Number 7 and Number 61 are not making top allowable oil production. Why should these wells be granted top allowable producing rates?

A Experience indicates that the amount a well can produce is determined by the amount of fluid you move. The pumps in these two wells are set high, and in order to increase production to top allowable rates it would be necessary to lower

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the pumps to increase the volume of fluid moved.

Q And if this request is granted to you, do you intend to do this?

A We will lower the pumps in the wells as necessary to supply the water for our waterflow.

Q Would you briefly summarize your testimony, and give your recommendations to the Examiner as to the adoption of pool rules.

A We are requesting field rules for the Cass Pool which provide for 80-acre spacing for the following reasons: One, the Pennsylvanian water is needed for waterflood purposes in the Skaggs waterflood project. Two, by producing the additional quantities of water we have found that oil producing rates are increased above the normal unit allowable. Number three, the increased rate of withdrawal will recover oil which would otherwise not be recovered. Four, the additional water produced is being put to beneficial use and will not create a problem of disposal. Five, since the pool has been developed on 80-acre spacing the additional allowable, based on field rules calling for 80-acre spacing, will provide adequate allowable within the spirit of the state-wide rules and regulations. Let me point out at this point that, rather than asking for a strictly unit allowable, we thought that 80-acre allowables with transfer privileges would be within the spirit of the rules

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and regulations of the Commission, rather than the unit allowable just assigned as a unit allowable. Six, we believe that the increased withdrawal rates will prevent waste, in that oil will be recovered which otherwise would not be recovered, and that this can be done without any possibility of violating correlative rights. Seven, the use of Cass Pool water eliminates the necessity of using fresh water for our waterflood and thus avoids any conflict with surface use of fresh water resources. In view of these facts, it is recommended that pool rules calling for 80-acre proration and drilling units be established for the Cass Pennsylvanian Pool, with the privilege of transfer of allowables between wells in the pool.

Q Were Exhibits 1 through 4 prepared by you or under your supervision?

A Yes, sir--Exhibits 1 through 5.

Q One through 5?

A Yes; and I have an additional exhibit which I would like to offer, which is a set of our proposed field rules.

Q Is that marked as Exhibit 6?

A Yes, it has been so marked. These field rules are essentially the standard 80-acre field rules, with the exception of Rule 6, which is the rule providing for transfer of allowables between wells. I would also like to point out that this rule is fairly restrictive, because we feel that this is a

unique situation, that all of the production from a pool is confined to a single lease, and that this is used in conjunction with a waterflood. There is a question of prevention of waste, and additional oil is being recovered, and there is no problem of a salt water disposal; consequently we have proposed no allowable which would be transferred to a well located nearer than 2,000 feet to another and producing from the same pool that is operated by another operator.

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

MR. NUTTER: Applicant's Exhibits 1 through 6 are admitted into evidence.

MR. KELLAHIN: That's all I have on direct examination.

MR. IRBY: Concerning your Rule 6 of the proposed rules, did I misunderstand a minute ago--I thought you said that all of the producing wells in the Cass Pool were within a unit?

A Yes, sir.

Q Then they are all operated by the same operator, isn't that true?

A That is true.

Q You are just proposing this in the event your 2,000-foot limitation--that would just be in the event that there was an additional completion?

A No, sir, this isn't entirely our thinking. We are well

aware that unusual exceptions like this are used as precedents, and we wanted to put enough restriction on these rules that if they are used as precedents, that would not be a practice which would perhaps get out of control of the commission, or go further than the commission desires it.

Q But in your situation that you are presently presenting, this wouldn't have any limitation as such, isn't that correct?

A That's true--there are no other Cass Pool wells, other than those that we operate.

Q I don't exactly understand about the Reda pump, and I think it might be because I wasn't hear at the first of your testimony. Which wells have Reda pumps in them?

A Two and Four.

Q And those you would propose to leave in those wells?

A Yes, sir.

Q And you do not propose to install Reda pumps in any of the other two wells?

A Yes, we probably will.

Q Now, in the transfer of allowables you weren't necessarily contemplating transferring the allowable from a well without a Reda pump to a well with a Reda pump, although this might be the case?

A We probably would transfer allowables from a well with-

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out a Reda pump to a well with a Reda pump, because this is where the greater volume of oil is produced.

Q That would be the usual case; but you might be in a situation where you would transfer between wells, or two wells could both have Reda pumps in them?

A Yes.

Q Just depending upon the volume of oil--whether they would or would not make their allowable?

A Yes, sir. We realize there is a certain amount of discretion available to the operator. We would like to have the allowables assigned especially in accordance with the production capacity of the wells.

Q Are you also contemplating a provision that has been in some previous transfer of allowable orders, that the well receiving the transferred allowable would not in any event receive more than top allowable--one additional top allowable? ... Do you understand what I mean?

A Yes, I understand, and I don't believe this limitation would restrict us in this case, and yet I don't see that leaving that limitation out would create waste or violate correlative rights.

MR. IRBY: Thank you--that's all.

MR. NUTTER: Mr. Lyon, your Number 2 and Number 4 have Reda pumps?

A Yes.

Q And on the last test they made 142 and 150 barrels of oil, respectively?

A Yes, sir.

Q Plus several thousand barrels of water?

A Three made 157 barrels of oil and 450 barrels of water.

Q Say it again.

A Three made 157 barrels of oil and 450 barrels of water.

Q What kind of pump was that?

A Just a rod pump.

Q Why are you going to put a Reda pump in that one?

A I don't think we could handle all the oil we produced if we put in a Reda at this time.

Q That oil ratio there is relatively low?

A Yes.

Q What do you presume would be the criteria for transfer of allowability--taking a test of the well?

A Of course I'm not sure what future events will bring about, but I think for the most part all of these wells will remain on production except for mechanical failure or temporary shut-down. It may be necessary as we advance into this thing to shut in a well or two.

Q Would that be the well that you transfer the allowable?

A We would transfer it from--yes.

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Q Transfer the allowable from?

A Yes.

Q How would we know how much allowable to continue to transfer, or would this same allowable that was determined at the test prior to shutting down the well remain on that transfer?

A We would like for it to be that way.

Q When actually that well may have declined so that it wouldn't have that much allowable later on, but you're going to shut the worst ones, presumably--not the best?

A This all hinges on the need for water. We may be producing 100% water out of some wells, if this amount of water is needed for waterflood. As we advance into the fluid then of course our need for water will decline.

Q You don't need to transfer allowable to a well that produces 100% water?

A No.

MR. IRBY: You won't shut down a good oil-producing well?

A We would prefer not to, but as you can see from our Well Number 3, with the allowables we have requested, the limitation that we have imposed in our request here, we couldn't afford to produce this at a very high rate, because it would exceed the oil allowable for the entire lease.

MR. NUTTER: Number 61 has a standard rod pump?

A Yes, sir.

Q Is it contemplated that you would put a Reda on

that well?

A Very likely.

Q Would you transfer allowability to that well?

A If it is necessary in order to regularize the oil production with the water that is produced--yes, sir, this is what we contemplate.

Q Are there five wells altogether in the pool?

A Yes, sir.

Q How many do you contemplate will have Reda pumps on them--four? All but the Number 3?

A Probably.

Q You've got two installed at the present time?

A Yes.

Q When was the last of these five wells drilled?

A I believe Number 61 was the last one. That seems to be the one--I don't have any data on it. I can get that information for you, but I don't have it with me.

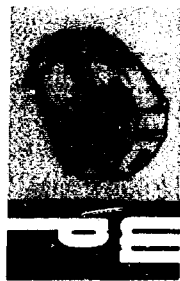
Q We can get it from our well files--we will take notice of our well files with respect to this case. Now, as to the ability of a well to drain more than 40 acres--Exhibit 5, is that correct--

A Yes, sir. I might point out that I didn't put the draw-down in Well Number 3 because it seemed so insignificant compared to others; yet in most pools I've had experience with if you can get a reduction in pressure of 15 pounds, which is

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what this amounts to, we would think we could drain half the United States with it.

MR. NUTTER: Are there further questions of Mr. Lyon? ...He may be excused. Has anyone anything further to offer in Case Number 3156?

MR. IRBY: I would like to state for the record, we have received a letter from Atlantic Refining Company, stating that they want to support Continental Oil Company in their request for special rules for the Cass Pool.

MR. NUTTER: We will take Case Number 3156 under advisement, and call Case Number 3162.

* * *

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

I, ELIZABETH K. HALE, Notary Public and Court Reporter, do hereby certify that the foregoing and attached transcript of hearing in Case Number 3156 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.'

Witness my hand and seal of office this 5th day of December, 1964.

Elizabeth K. Hale
Notary Public

My commission expires:
May 23, 1968.

I hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3156 heard by me on 11/24, 1964.

[Signature]
Examiner
New Mexico Oil Conservation Commission

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CASE No. 3156
Order No. R-2825-B

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

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to clerical error,
Order No. R-2825, dated December 7, 1964, does not correctly state
the intended order of the Commission,

IT IS THEREFORE ORDERED:

(1) That Rule 4 of the Special Rules and Regulations for
the Cass Pool promulgated by Order No. R-2825 is hereby corrected
to read as follows:

RULE 4. Each well shall be located within 150 feet of the
center of a governmental quarter-quarter section or lot.

(2) That the correction set forth above shall be effective
nunc pro tunc as of December 7, 1964.

DONE at Santa Fe, New Mexico, on this 25th day of January,
1965.

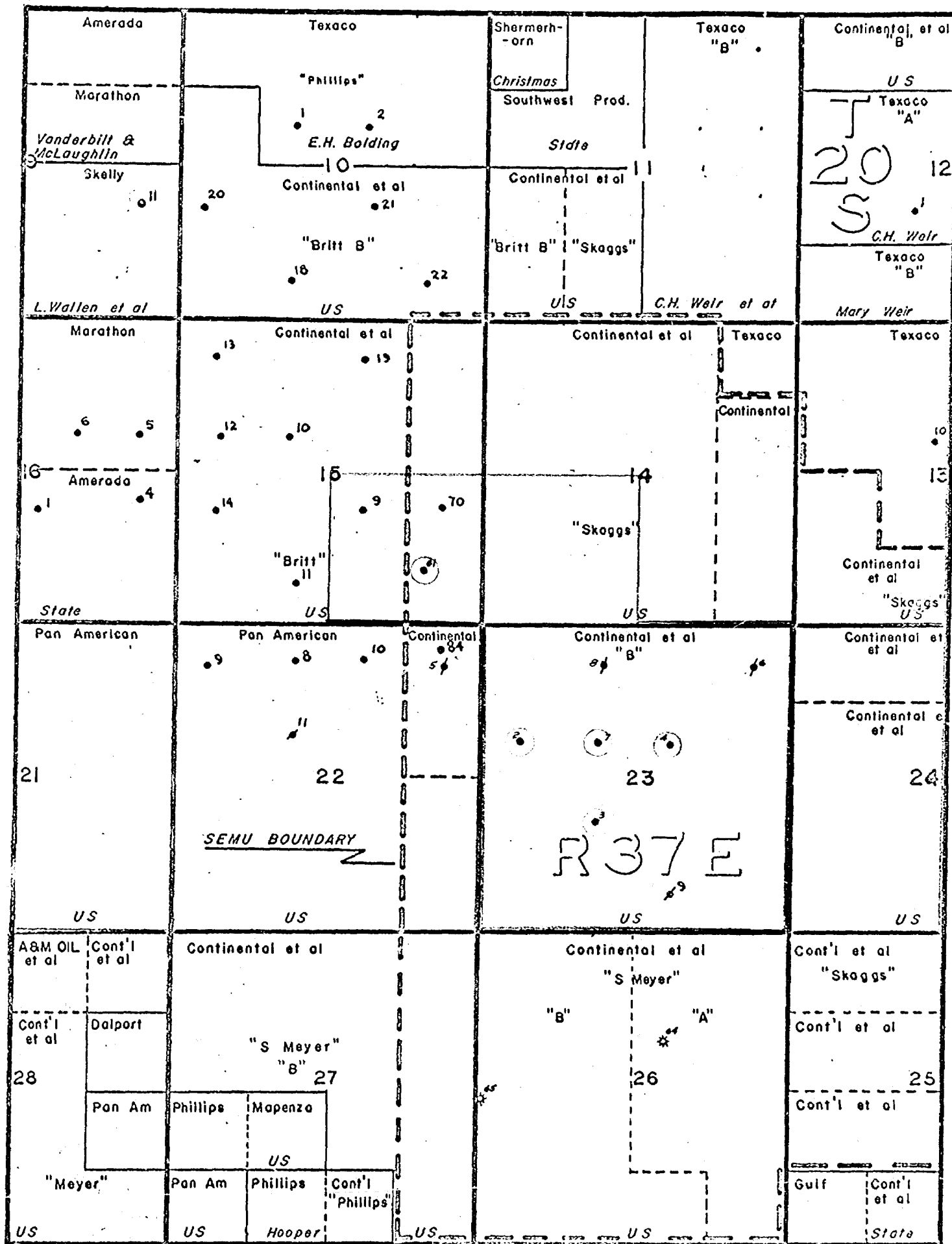
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

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

esr/



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 3156

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT
HOBBS DISTRICT
CASS PENN. POOL
Lea County, New Mexico
LOCATION AND OWNERSHIP PLAT
EXHIBIT NO. 1

INDICATED INTERFERENCE BETWEEN WELLS
BASED ON OPERATING FLUID LEVELS

	Well No. <u>2</u>	Well No. <u>4</u>	Well No. <u>7</u>
Operating fluid level when Well No. 2 producing - No. 4 shut-in	2232'	-	1364'
Operating fluid level when Well No. 4 producing - No. 2 shut-in	-	1900'	-
Operating fluid level when both Well No. 2 and Well No. 4 producing on Reda pump	2418'	2201'	1674'
Operating fluid level draw-down due to additional Reda pump in operation	186'	301'	310'

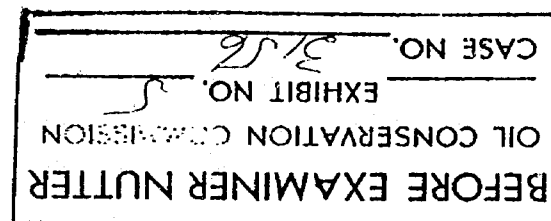


EXHIBIT NO. 5

SPECIAL RULES AND REGULATIONS
FOR THE CASS POOL

RULE 1. Each well completed or recompleted in the Cass Pool or in the Pennsylvanian formation within one mile of the Cass Pool, and not nearer to or within the limits of another designated Pennsylvanian Pool, shall be spaced, drilled, operated, and produced in accordance with the special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Cass Pool shall be located on a standard unit containing 80 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a single governmental quarter-section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. The Secretary-Director may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a single quarter-quarter section or lot. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application immediately upon receipt of written waivers from all offset operators; or, in the absence of such waivers, after 30 days from receipt of the application if no offset operator has entered an objection to the formation of the non-standard unit.

RULE 4. Each well projected to or completed hereafter in the Cass Pool shall be located not less than 330 feet from any boundary of a single governmental quarter-quarter section or lot.

RULE 5. A standard proration unit (79 through 81 acres) in the Cass Pool shall be assigned an 80-acre proportional factor of 3.33 for allowable purposes, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the

BEFORE EXAMINER NUTTER

CONSERVATION COMMISSION

EXHIBIT NO. 6

Special Rules and Regulations
for the Cass Pool
Page 2

allowable assigned to the unit from the wells on the unit in any proportion. The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable in the Cass Pool as the acreage in such non-standard unit bears to 80 acres.

RULE 6. The allowable, or any portion thereof, of any well capable of producing from the Cass Pool may be transferred to another well on the same lease capable of producing said allowable in addition to its own assigned allowable from the Cass Pool; provided, however, that no such allowable shall be transferred to a well nearer than 2000 feet from another well producing from the Cass Pool which is operated by another operator, unless written consent of said offset operator is first obtained, or after notice and hearing.