

Cage No.

4840

Application; Transcripts;

Small Exhibits, Etc.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMJO
MEMBER

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

October 10, 1972

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

Re: Case No. 4840
Order No. _____
Applicant: R-4417

Continental Oil Company

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC
Artesia OCC
Aztec OCC

Other State Engineer Office

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. 4840
Order No. R-4417

APPLICATION OF CONTINENTAL OIL
COMPANY FOR A WATERFLOOD PROJECT,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 4, 1972, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 10th day of October, 1972, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Continental Oil Company, seeks authority to institute a waterflood project in the Langlie Lynn (Queen) Unit Area, Langlie-Mattix Pool, by the injection of water into the Seven Rivers and Queen formations through nine injection wells in Sections 22, 23, 26 and 27, Township 23 South, Range 36 East, NMPM, Lea County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

-2-

Case No. 4840

Order No. R-4417

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to institute a waterflood project in the Langlie Lynn (Queen) Unit Area, Langlie-Mattix Pool, by the injection of water into the Seven Rivers and Queen formations through the following-described wells in Township 23 South, Range 36 East, NMPM, Lea County, New Mexico:

| <u>Well Name</u> | <u>Unit</u> | <u>Section</u> |
|--|-------------|----------------|
| Shell Oil Company State "JK" Well No. 4 | O | 22 |
| Gackle Oil Company Sinclair "A" State Well No. 7 | O | 23 |
| Gackle Oil Company Sinclair "A" State Well No. 3 | L | 23 |
| Continental Oil Company Lynn B-1 Well No. 15 | L | 26 |
| Continental Oil Company Lynn B-1 Well No. 12 | G | 26 |
| Continental Oil Company Lynn B-1 Well No. 11 | K | 26 |
| Continental Oil Company Lynn B-1 Well No. 10 | E | 26 |
| Continental Oil Company Lynn B-1 Well No. 9 | B | 26 |
| Continental Oil Company Lynn B-1 Well No. 8 | A | 27 |

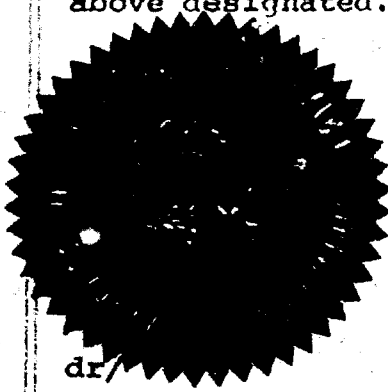
(2) That the subject waterflood project is hereby designated the Continental Langlie Lynn Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(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


BRUCE KING, Chairman

ALEX. J. ARMILLO, Member

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

dr/

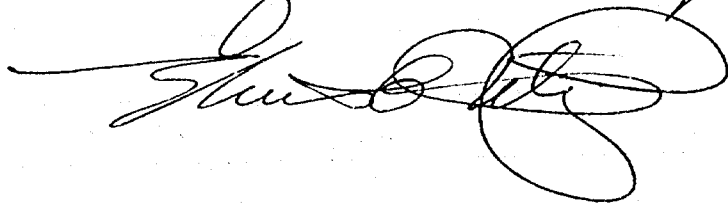
Case 4840

Heard 10-9-72

Rec. 10-5-72

Grant Court. permission to
convert ~~the~~ wells to Water Injection.
Well locations noted on exhibit
4 A thru D.

Grant Admin procedure for
expansion of unit, & the
conversion of oil injection
wells.



DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 4, 1972

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

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

CASE 4808: (Continued from the September 13, 1972, Examiner Hearing)

Application of Skelly Oil Company for a waterflood expansion and dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to expand its Grayburg-Jackson Skelly Unit Waterflood Project, Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water through its Unit Well No. 114 located in Unit D of Section 14, Township 17 South, Range 31 East. Said Well No. 114 to be completed as a dual completion in such a manner as to permit the production of oil from the Fren-Seven Rivers Pool and the injection of water into the Grayburg-Jackson Pool.

CASE 4608: (Reopened)

In the matter of Case 4608 being reopened pursuant to the provisions of Order No. R-4213 which order established special rules and regulations for the Haystack Siluro-Devonian Pool, Chaves County, New Mexico, including a provision for 80-acre spacing units. All interested persons may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 4612: (Reopened)
In the matter of Case 4612 being reopened pursuant to Order No. R-4218 which order established special rules and regulations for the Cuerno Largo-Pennsylvanian Pool, Lea County, New Mexico, including provisions for 160-acre spacing units and an 80-acre proportional factor of 4.77 for allowable purposes. All interested persons may appear and show cause why said pool should not be developed on less than 160-acre spacing units and why the 80-acre proportional factor of 4.77 should or should not be retained.

CASE 4837: Application of Amoco Production Company for an unorthodox location, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well at an unorthodox location 1980 feet from the South line and 660 feet from the East line of Section 18, Township 5 South, Range 33 East, Peterson-Pennsylvanian Gas Pool, Roosevelt County, New Mexico, with the S/2 of said Section 18 to be dedicated to the well.

CASE 4838: In the matter of the application of the Oil Conservation Commission of New Mexico on the motion of Hanagan Petroleum Corporation for the abolishment and extension of certain pools in Eddy County, New Mexico. Under consideration will be a proposal to:

(a) Abolish the Golden Eagle-Morrow Gas Pool in Eddy County, New Mexico, described as:

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM
SECTION 11: All

(b) Abolish the Avalon-Middle Morrow Gas Pool in Eddy County, New Mexico, described as:

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM
SECTION 1: All

(c) Extend the Catclaw Draw Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM
SECTION 1: All
SECTIONS 11 and 12: All
SECTIONS 13 and 14: All
SECTION 25: All
SECTION 36: All

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
SECTION 18: All

CASE 4839: Application of Continental Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Langlie-Lynn (Queen) Unit Area comprising 760 acres, more or less, of State and Federal lands in Township 23 South, Range 36 East, Lea County, New Mexico.

CASE 4840: Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Seven Rivers and Queen formations through nine wells located in Sections 22, 23, 26, and 27, Township 23 South, Range 36 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 4841: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the open hole interval from 10,600 to 10,780 feet in its New Mexico 'B0' State Well No. 3, located in Unit D of Section 24, Township 11 South, Range 32 East, Moore-Devonian Pool, Lea County, New Mexico.

UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION
OF THE LANGLIE LYNN (QUEEN) UNIT
LEA COUNTY, NEW MEXICO

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 1

CASE NO. 4839-4840

Submitted by Continental Oil Co

Hearing Date Oct 4, 1972

UNIT AGREEMENT

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CERTIFICATION - DETERMINATION

Pursuant to the authority vested in the Secretary of Interior, under the act approved February 25, 1920, 41 Stat. 437, as amended, 30 U. S. C. Secs. 181, et seq., and delegated to the Oil and Gas Supervisor of the Geological Survey (33 F.R. 5812), I do hereby:

A. Approve the attached agreement for the development and operation of the LANGLEY LYNN (QUEEN) UNIT AREA, County of Lea, State of New Mexico.

B. Certify and determine that the unit plan of development and operation contemplated in the attached agreement is necessary and advisable in the public interest for the purpose of more properly conserving the natural resources.

C. Certify and determine that the drilling, producing, rental, minimum royalty, and royalty requirements of all Federal leases committed to said agreement are hereby established, altered, changed, or revoked to conform with the terms and conditions of this agreement.

Dated _____

Oil and Gas Supervisor,
United States Geological Survey

Contract Number _____

UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION
OF THE
LANGLIE LYNN (QUEEN) UNIT AREA
COUNTY OF LEA
STATE OF NEW MEXICO

1 THIS AGREEMENT, entered into as of the 1 day of July,
2 1972, by and between the parties subscribing, ratifying or
3 consenting hereto, and herein referred to as the "parties hereto",

4 W I T N E S S E T H:

5 WHEREAS, the parties hereto are the owners of working,
6 royalty, or other oil interests in the Unit Area subject to this
7 Agreement; and

8 WHEREAS, the term "Working Interest" as used herein
9 shall mean the interest held in Unitized Substances or in lands
10 containing Unitized Substances by virtue of a lease, operating
11 agreement, fee title, or otherwise, which is chargeable with and
12 obligated to pay or bear all or a portion of the costs of drill-
13 ing, developing, producing, and operating the land under the unit
14 or cooperative agreement. "Royalty Interest" as used herein shall
15 mean a right to or interest in any portion of the Unitized Sub-
16 stances or proceeds thereof other than a Working Interest; and

17 WHEREAS, the Mineral Leasing Act of February 25, 1920,
18 41 Stat. 437, as amended, 30 U. S. C. Secs. 181 et seq., authorized
19 Federal lessees and their representatives to unite with each
20 other, or jointly or separately with others, in collectively
21 adopting and operating a cooperative or unit plan of development
22 or operation of any oil or gas pool, field or like area, or any
23 part thereof for the purpose of more properly conserving the
24 natural resources thereof whenever determined and certified by
25 the Secretary of the Interior to be necessary or advisable in the
26 public interest; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico hereinafter referred to as "Commissioner", is authorized by an Act of the Legislature (Sec. 1, Chap. 88, Laws of 1943 as amended by Sec. 1 of Chap. 176, Laws of 1961, Chap. 7 Art. 11, Section 39, N.M.S. 1953 anno) to consent to or approve this Agreement on behalf of the State of New Mexico, insofar as it covers and includes lands and mineral interests of the State of New Mexico; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Sec. 3, Chap. 88, Laws of 1943 as amended by Sec. 1 of Chap. 176, Laws of 1961, Chap. 7 Art. 11, Section 39, N.M.S. 1953 anno) to amend with the approval of the lessee, any oil and gas lease embracing State lands so that the length of the term of said lease may coincide with the term of such unitized development and operation of State lands; and

WHEREAS, the Oil Conservation Commission of the State of New Mexico hereinafter referred to as "Commission" is authorized by law (Chap. 72, Laws of 1935, as amended by Chap. 193, Laws of 1937, Chap. 166, Laws of 1941, and Chap. 168, Laws of 1949, Chap. 65, Art. 3, Sec. 14, N.M.S., 1953 anno) to approve this Agreement, and the conservation provisions hereof, and

WHEREAS, the parties hereto hold sufficient interests in the Langlie Lynn (Queen) Unit Area covering the land hereinafter described to give reasonably effective control of operations herein; and

WHEREAS, it is the purpose of the parties hereto to conserve natural resources, prevent waste, and secure other benefits obtainable through development and operation of the Area subject to this Agreement under the terms, conditions and limitations herein set forth;

NOW THEREFORE, in consideration of the premises and the promises herein contained, the parties hereto commit to this agreement their respective interests in the below-defined Unit Area, and agree severally among themselves as follows:

1 1 ENABLING ACT AND REGULATIONS The Mineral Leasing
2 Act of February 25, 1920, as amended, supra, and all valid, per-
3 tinent regulations, including operating and unit plan regulations
4 heretofore issued thereunder, or valid, pertinent and reasonable
5 regulations hereafter issued thereunder, are accepted and made a
6 part of this Agreement as to Federal lands, provided such regu-
7 lations are not inconsistent with the terms of this Agreement;
8 and as to non-Federal lands, the oil and gas operating regulations
9 in effect as of the effective date hereof governing drilling and
10 producing operations, not inconsistent with the terms hereof or the
11 laws of the State in which the non-Federal land is located, are
12 hereby accepted and made a part of this Agreement.

13 2. UNIT AREA. The area specified on the plat attached
14 hereto marked Exhibit "A" is hereby designated and recognized as
15 constituting the Unit Area, containing 760 acres, more or less.

16 Exhibit "A" shows, in addition to the boundary of the Unit
17 Area, the boundaries and identity of tracts and leases in said
18 Area to the extent known to the Unit Operator. Exhibit "B" attached
19 hereto is a schedule showing to the extent known to the Unit Operator
20 the acreage, percentage and kind of ownership of oil interests
21 in all land in the Unit Area. Exhibit "C" attached hereto, is a
22 schedule showing the percentage of participation credited to each
23 Tract in the Unit Area based upon a presumed one hundred percent
24 (100%) commitment. (Tract means each parcel of land described as
25 such and given a Tract Number in Exhibit "B".) However, nothing
26 herein or in said schedule or map shall be construed as a repre-
27 sentation by any party as to the ownership of any interest other
28 than such interest or interests as are shown in said map or schedu'e
29 as owned by such party. Exhibits "A" and "B" shall be revised by
30 the Unit Operator whenever changes in the Unit Area render such
31 revision necessary, or when requested by the Commissioner or by the

1 Oil and Gas Supervisor, hereinafter referred to as "Supervisor",
2 and not less than six (6) copies of the revised exhibits shall be
3 filed with the Supervisor and at least two copies shall be filed
4 with the Commissioner.

5 3. EXPANSION OF UNIT AREA. It is recognized that at some
6 time or times in the future it might be desirable and beneficial
7 to expand the Unit Area to include therein additional Tracts of
8 land. The Unit Area may, therefore, with the approval of the Commissioner,
9 and the Director of the United States Geological Survey, hereinafter
10 referred to as "Director", be expanded to include therein any additional
11 Tract or Tracts, whenever such expansion is necessary or advisable
12 to conform with the purposes of this Agreement, and Unit Operator,
13 acting on behalf of the Working Interest Owners collectively, after
14 being duly authorized by them as provided for in the Unit Operating
15 Agreement, has negotiated an agreement or agreements with the owners
16 of such Tract or Tracts fixing the tract participation of each such
17 Tract and committing such owners to this Agreement and to the Unit
18 Operating Agreement. Whenever the Unit Area is enlarged so as to
19 admit additional land qualified for participation, Exhibit "C" shall
20 be revised as set forth in Section 12, Participation and Allocation
21 of Production. Any such expansion shall be effected in the following
22 manner:

23 (a) Unit Operator, on its own motion, after preliminary
24 concurrence by the Director and Commissioner, shall prepare
25 a notice of proposed expansion describing the contemplated
26 changes in the boundaries of the Unit Area, the reasons
27 therefore, and the proposed effective date thereof, pre-
28 ferably the first day of a month subsequent to the date
29 of notice.

30 (b) Said notice shall be delivered to the Supervisor and
31 Commissioner, and copies thereof mailed to the last known

1 address of each Working Interest Owner, Lessee, and Lessor
2 whose interests are affected, advising that thirty (30)
3 days will be allowed for submission to the Unit Operator
4 of any objections.

5 (c) Upon expiration of the thirty (30) day period pro-
6 vided in the preceding item (b) hereof, Unit Operator shall
7 file with the Supervisor and Commissioner evidence of mailing
8 of the notice of expansion and a copy of any objections
9 thereto which have been filed with the Unit Operator,
10 together with an application in sufficient number, for approval
11 of such expansion and with appropriate joinders.

12 (d) After due consideration of all pertinent information,
13 the expansion shall, upon approval by the Supervisor and
14 Commissioner become effective as of the date prescribed
15 in the notice thereof.

16 4. UNITIZED LAND AND UNITIZED SUBSTANCES. All land com-
17 mitted to this Agreement as provided in Section 5, Tracts Qualified
18 for Participation, as to the Unitized formation defined immediately
19 below, shall constitute land referred to herein as "Unitized Land"
20 or "land subject to this agreement". All oil, gas, gaseous substances,
21 sulphur contained in gas, condensate, and all associated and constituent
22 liquid or liquefiable hydrocarbons in the Unitized Formation are
23 unitized under the terms of this Agreement and herein is called
24 "Unitized Substances".

25 "Unitized Formation" is defined as the interval between the
26 top of the Penrose (Queen) formation to a point 100 feet above the
27 top of the Queen formation. The top of the Queen formation and the
28 top of the Penrose (Queen) formation are shown at the depths of 3548'
29 and 3710'; respectively, on the Gamma-Ray-Sonic log run in the Albert
30 Gackle-Sinclair "A" State No. 6 located 660' from the South line and
31 1980 feet from the West line of Section 23, Township 23 South Range
32 36 East, N.M.P.M.

1 5 TRACTS QUALIFIED FOR PARTICIPATION Inasmuch as the
2 objective of this Unit Agreement is to have lands in the Unit Area
3 operated and entitled to participation under the terms hereof, no
4 joinder shall be considered a commitment to this Unit Agreement unless
5 the Tract involved is qualified under this Section. On or after the
6 effective date hereof, the Tracts within the Unit Area which shall
7 be entitled to participation in the production of Unitized Substances
8 therefrom shall be those Tracts within the Unit Area more particularly
9 described in Exhibit "B" that are qualified as follows (for the pur-
10 poses of this section, the record interest shall replace the royalty
11 interest as to Federal Land):

12 (a) Each Tract as to which Working Interest Owners owning
13 one hundred percent (100%) of the Working Interest have
14 signed or ratified this Agreement and the Unit Operating
15 Agreement, and Royalty Owners owning seventy-five percent
16 (75%) or more of the royalty created by the basic leases
17 have signed or ratified this Agreement;

18 (b) Each Tract as to which Working Interest Owners owning
19 one hundred percent (100%) of the Working Interest have
20 signed or ratified this Agreement and the Unit Operating
21 Agreement, and Royalty Owners owning less than seventy-five
22 percent (75%) of the royalty interests created by the basic
23 leases have signed or ratified this agreement, and as to which
24 (1) all Working Interest Owners in such Tract join in a
25 request for inclusion of such Tract in Unit Participation
26 upon the basis of such commitment status, and further as to
27 which (2) seventy-five percent (75%) or more of the combined
28 voting interests of Working Interest Owners in all Tracts
29 which meet the requirements of Subsection 5(a) vote in favor
30 of the acceptance of such Tract as qualified. For the pur-
31 pose of this Subsection 5(b), the voting interest of each

1 Working Interest Owner shall be equal to the ratio (expressed
2 in percentage) which the total of such Working Interest
3 Owner's percentage participation in all Tracts which qualify
4 under Subsection 5(a), bears to the total percentage parti-
5 cipation of all Working Interest Owners in all Tracts which
6 qualify under said Subsection 5(a) as such percentages are
7 shown on Exhibit "C";

8 (c) Each Tract as to which Working Interest Owners owning
9 less than one hundred percent (100%) of the Working Interest
10 have signed or ratified this Agreement and the Unit Operating
11 Agreement, regardless of the percentage of royalty interest
12 therein that is committed hereto, and as to which (1) the
13 Working Interest Owners who operate the Tract and all of the
14 other subscribing Working Interest Owners in such Tract have
15 joined in a request for inclusion of such Tract in Unit
16 participation upon the basis of such commitment status and
17 have tendered and executed and delivered an indemnity agree-
18 ment, indemnifying and agreeing to hold the owners of the
19 working interests in the other qualified Tracts harmless
20 from and against any and all claims and demands that may be
21 made by the non-subscribing Working Interest Owners in such
22 Tract on account of the inclusion of the same in Unit parti-
23 cipation, and further as to which (2) seventy-five percent
24 (75%) or more of the combined voting interests of the Working
25 Interest Owners in all Tracts which meet the requirements
26 of Subsections 5(a) and 5(b) above, vote in favor of the
27 inclusion of such Tract. For the purpose of this Subsection
28 5(c), the voting interest of each Working Interest Owner
29 shall be equal to the ratio (expressed in percentage) which
30 the total of such Working Interest Owner's percentage parti-
31 cipation attributed to Tracts which qualify under Subsections

1 5(a) and 5(b) bears to the total percentage of all Working
2 Interest Owners attributed to all Tracts which qualify under
3 Subsections 5(a) and 5(b), as such percentages are set out
4 in Exhibit "C".

5 6. UNIT OPERATOR. Continental Oil Company is hereby designated
6 as Unit Operator, and by signature hereto as Unit Operator agrees and
7 consents to accept the duties and obligations of Unit Operator for the
8 development and production of Unitized Substances as herein provided.
9 Whenever reference is made herein to the Unit Operator, such reference
10 means the Unit Operator acting in that capacity and not as an owner
11 of interest in Unitized Substances, and the term "Working Interest Owner"
12 when used herein shall include or refer to Unit Operator as the owner
13 of a Working Interest when such an interest is owned by it.

14 7. RESIGNATION OR REMOVAL OF UNIT OPERATOR. Unit Operator
15 shall have the right to resign at any time, but such resignation shall
16 not become effective so as to release Unit Operator from the duties
17 and obligations of Unit Operator and terminate that Operator's rights
18 as such for a period of six (6) months after notice of intention to
19 resign has been served by Unit Operator on all Working Interest Owners,
20 the Director and the Commissioner, and until all wells are placed in
21 a satisfactory condition for suspension or abandonment whichever is
22 required by the Supervisor, or the Commission, unless a new Unit Operator
23 shall have been selected and accepted and shall have taken over and
24 assumed the duties and obligations of Unit Operator prior to the
25 expiration of said period.

26 The resignation of Unit Operator shall not release the Unit
27 Operator from any liability for default by it hereunder occurring prior
28 to the effective date of its resignation.

29 The Unit Operator may, upon default or failure in the per-
30 formance of its duties or obligations hereunder, be subject to removal
31 by an affirmative vote of the Working Interest Owners of at least

1 ninety percent (90%) of the voting interest remaining after excluding
2 the voting interest of the Unit Operator. Such removal shall be
3 effective upon notice thereof to the Director and the Commissioner.
4 In all such instances of resignation or removal, until a successor
5 Unit Operator is selected and accepted as hereinafter provided, the
6 Working Interest Owners shall be jointly responsible for performance
7 of the duties of Unit Operator and shall, not later than thirty (30)
8 days before such resignation or removal becomes effective, appoint a
9 common agent to represent them in any action to be taken hereunder.

10 The resignation or removal of Unit Operator under this Agree-
11 ment shall not terminate its rights, title or interest as the owner
12 of a Working Interest or other interest in Unitized Substances, but
13 upon the resignation or removal of Unit Operator becoming effective,
14 such Unit Operator shall deliver possession of all wells, equipment,
15 materials and appurtenances used in conducting the Unit operations and
16 owned by the Working Interest Owners to the new duly qualified successor
17 Unit Operator or to the owners thereof if no such new Unit Operator is
18 elected, to be used for the purpose of conducting Unit operations
19 hereunder. Nothing herein shall be construed as authorizing removal
20 of any material, equipment and appurtenances needed for the preservation
21 of any wells.

22 8. SUCCESSOR UNIT OPERATOR. Whenever the Unit Operator
23 shall tender his or its resignation as Unit Operator or shall be
24 removed as hereinabove provided, or a change of Unit Operator is
25 negotiated by Working Interest Owners, a successor Unit Operator
26 shall be selected by Working Interest Owners voting according to
27 their respective Tract participation in all unitized land by a
28 majority vote; provided, that, if a majority but less than 75
29 percent of the Working Interests qualified to vote are owned by
30 one party to this agreement, a concurring vote of one or more
31 additional Working Interest Owners shall be required to select a

1 new Operator. Such selection shall not become effective until:

2 (a) a Unit Operator so selected shall accept in writing
3 the duties and responsibilities of Unit Operator; and

4 (b) the selection shall have been approved by the
5 Supervisor and the Commissioner.

6 If no successor Unit Operator is selected and qualified as
7 herein provided, the Director or Commissioner at their election may
8 declare this Unit Agreement terminated.

9 9 ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT.

10 If the Unit Operator is not the sole owner of Working Interest, costs
11 and expenses incurred by Unit Operator in conducting Unit operations
12 hereunder shall be paid and apportioned among and borne by the owners
13 of Working Interests, all in accordance with the agreement or agree-
14 ments, whether one or more, separately or collectively, entered into
15 by and between the Unit Operator and the owners of Working Interests.
16 Any agreement or agreements, whether one or more, entered into between
17 the Working Interest Owners and the Unit Operator as provided in this
18 section are herein referred to as the "Unit Operating Agreement".

19 Such Unit Operating Agreement shall also set forth such
20 other rights and obligations as between Unit Operator and the Working
21 Interest Owners as may be agreed upon by Unit Operator and the Working
22 Interest Owners; however, no such Unit Operating Agreement shall be
23 deemed either to modify any of the terms and conditions of this Unit
24 Agreement or to relieve the Unit Operator of any right or obligation
25 established under this Unit Agreement, and in case of any inconsistency
26 or conflict between the Unit Agreement and the Unit Operating Agreement,
27 this Unit Agreement shall prevail. Three (3) true copies of any Unit
28 Operating Agreement executed pursuant to this section shall be filed
29 with the Supervisor prior to approval of this Unit Agreement, and
30 thereafter promptly after any revision or amendment.

31 10. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR. Except as

1 otherwise specifically provided herein, the exclusive right,
2 privilege, and duty of exercising any and all rights of the parties
3 hereto, including surface rights, which are necessary or convenient
4 for prospecting for, producing, storing, allocating and distributing
5 the Unitized Substances are hereby delegated to and shall be
6 exercised by the Unit Operator as herein provided. Acceptable
7 evidence of title to said rights shall be deposited with said
8 Unit Operator upon his request and, together with this Agreement,
9 shall constitute and define the rights, privileges and obligations of
10 Unit Operator. Nothing herein, however, shall be construed to
11 transfer title to any land or to any lease or operating agreement,
12 it being understood that under this Agreement the Unit Operator, in
13 its capacity as Unit Operator, shall exercise the rights of possession
14 and use vested in the parties hereto only for the purposes herein
15 specified.

16 11. PLAN OF OPERATION. It is recognized and agreed by
17 the parties hereto that the Unit Area is developed and productive,
18 and only such drilling as is incidental to a secondary recovery or
19 pressure maintenance program is contemplated.

20 Inasmuch as the primary purpose of this Unit Agreement is
21 to permit the institution and consummation of a secondary recovery
22 or pressure maintenance program for the maximum economic production
23 of Unitized Substances consistent with good engineering and conservation
24 practices, Unit Operator, concurrently with the filing of the Unit
25 Agreement for final approval shall submit to the Supervisor and
26 Commissioner, a plan of operation for the Unitized Land, and upon
27 approval thereof such plan shall constitute the future operating
28 obligations of the Unit Operator under this Unit Agreement for the
29 period specified therein. Thereafter, from time to time before the
30 expiration of any existing plan, the Unit Operator shall submit for
31 like approval a plan for an additional specified period of operation;

1 said plan or plans shall be modified or supplemented when neces-
2 sary to meet changed conditions, or to protect the interest of
3 all parties to the Unit Agreement. Reasonable diligence shall be
4 exercised in complying with the obligations of any approved plan
5 of operation.

6 Unit Operator shall have the right to inject into the
7 Unitized Formation any substances for secondary recovery or pres-
8 sure maintenance purposes in accordance with a plan of operation
9 approved by the Supervisor and Commissioner, including the right to
10 drill and maintain injection wells on the Unitized Land and completed
11 in the Unitized Formation, and to use abandoned well or wells produc-
12 ing from the Unitized Formation for said purpose, and the parties
13 hereto, to the extent of their rights and interests, hereby grant
14 to the Unit Operator the right to use as much of the surface of the
15 land within the Unit Area as may be reasonably necessary for the
16 operation and the development of the Unit Area hereunder. Unit
17 Operator shall have free use of water from the Unitized Land for
18 operations hereunder and for operations on adjacent lands except
19 water from surface owner's and Royalty Owner's fresh water wells,
20 private lakes, ponds or irrigation ditches.

21 12. PARTICIPATION AND ALLOCATION OF PRODUCTION. On
22 the effective date hereof, the Tract Participation of each Tract
23 shall be based upon the following factors and formula as represented
24 and shown on the tabulation prepared by the Langlie Lynn (Queen) Unit
25 Engineering Committee report (Table No. 5) as revised April 21, 1970.

26 30% $\frac{\text{Tract Estimated Ultimate Primary Recovery}}{\text{Estimated Ultimate Primary Recovery-Unit Area}}$

27 15% $\frac{\text{Tract Current Revenue}}{\text{Current Revenue-Unit Area}}$

28 5% $\frac{\text{Tract Current Oil Producing Rate}}{\text{Current Oil Producing Rate-Unit Area}}$

29 The figure set forth opposite each Tract in Exhibit "C"
30 represents the Tract Participation to which such Tract is entitled
31 if all said Tracts are committed hereto and qualified as of the effective

1 date of this Agreement.

2 Properly after approval of the Unit Agreement, if all Tracts
3 are not qualified hereto, Unit Operator shall revise Exhibit "C" to
4 show all Tracts qualified for participation under this Agreement by
5 setting forth opposite each Tract a revised Tract Participation
6 therefor, which shall be calculated by using the same Tract factors
7 and formulas which were used to arrive at the Tract Participation of
8 each tract as set out in the original Exhibit "C" but applying the
9 same only to those Tracts which are qualified for participation as
10 of the effective date of this Unit Agreement. Said revised Exhibit
11 "C" shall be subject to approval by the Supervisor and Commissioner
12 and shall be effective as of the effective date of this Unit Agreement.

13 If after the effective date of this Agreement any Tract or
14 Tracts are subsequently committed hereto because of expansion of the
15 Unit under Section 3, Expansion of Unit Area, under the provisions
16 of Section 30, Subsequent Joinder, or if any Tract is eliminated
17 from the Unit Agreement as provided in Section 29, Loss of Title,
18 the schedule of participation as shown in Exhibit "C" shall be
19 revised by the Unit Operator to show the new Tract Participations
20 of all the then qualified Tracts, and the revised Exhibit "C",
21 upon approval by the Commissioner and by the Supervisor, shall
22 govern the allocation of production from the effective date thereof
23 until a new schedule is so approved. In any such revised Exhibit
24 "C", pursuant to this paragraph, the Tract Participation of the
25 previously qualified Tracts shall remain in the same ratio one
26 to the other.

27 On the effective date of this Agreement, and thereafter,
28 all Unitized Substances produced hereunder (except any part thereof
29 used in conformity with good operating practices for drilling,

1 operating, camp and other production or development purposes, for
2 pressure maintenance or secondary recovery operations in accordance
3 with a plan of operation approved by the Supervisor and Commissioner,
4 or unavoidably lost), shall be deemed to be produced from the several
5 Tracts of Unitized Land, and for the purpose of determining any benefits
6 accruing under this Agreement each such Tract shall have allocated
7 to it that percentage of said production equal to its Tract Partici-
8 nation effective hereunder during the respective period such Unitized
9 Substances were produced, as set out in Exhibit "C".

10 The amount of Unitized Substances allocated to each Tract
11 shall be deemed to be produced from such Tract irrespective of the
12 location of the wells from which the same is produced and regardless
13 of depletion of wells or Tracts. In the absence of a controlling
14 contract or agreement to the contrary, when two or more leases, or
15 part or parts thereof, have been combined into a single Tract, the
16 percentage participation assigned to such Tract shall for all purposes
17 be divided among the separate leases, or part or parts thereof
18 which has been put into such Tract, in proportion to the number of
19 surface acres of the lease, or part or parts thereof contained in
20 such Tract, to the total surface acres contained in said Tract.

21 13. ROYALTY SETTLEMENT. The State of New Mexico, the
22 United States and all Royalty Owners who, under existing contract,
23 are entitled to take in kind a share of the substances now unitized
24 hereunder produced from any tract, shall hereafter be entitled to the
25 right to take in kind their share of the Unitized Substances allocated
26 to such tract, and Unit Operator shall make deliveries of such
27 royalty share taken in kind in conformity with the applicable con-
28 tracts, laws and regulations. Settlement for Royalty Interest not
29 taken in kind shall be made by Working Interest Owners responsible
30 therefore under existing contracts, laws and regulations on or before
31 the last day of each month for Unitized Substances produced during

1 the preceding calendar month; provided, however, that nothing
2 herein contained shall operate to relieve the lessees of any land
3 from their respective lease obligations for the payment of any
4 royalties due under their leases.

5 If gas obtained from lands or formations not subject to
6 this Agreement is introduced into the Unitized Formation hereunder,
7 for use in repressuring, stimulation of production, or increasing
8 ultimate recovery, which shall be in conformity with a plan first
9 approved by the Supervisor, a like amount of gas less appropriate
10 deduction for loss or depletion from any cause, may be withdrawn
11 from the Unitized Formation, royalty free as to dry gas, but not as
12 to the products extracted therefrom; provided that such withdrawal
13 shall be at such time as may be provided in the approved Plan of Opera-
14 tions or as may otherwise be consented to by the Supervisor and Com-
15 mission as conforming to good petroleum engineering practice; and pro-
16 vided further, that such right of withdrawal shall terminate on the
17 termination of this Unit Agreement.

18 If natural gasoline, liquid petroleum gas fractions or
19 other liquid hydrocarbon substances (herein collectively called
20 "LPG's") which were not extracted from gas produced from the Unitized
21 Formation are injected into the Unitized Formation, which shall be
22 in conformity with a plan of operation first approved as provided
23 above, Working Interest Owners shall be entitled to recover, royalty
24 free, part or all of such "LPG's" pursuant to such conditions and
25 formulas as may be prescribed or approved by the Supervisor and Commission.

26 Royalty due the United States shall be computed as pro-
27 vided in the operating regulations and paid in value or delivered
28 in kind as to all Unitized Substances on the basis of the amounts
29 thereof allocated to unitized Federal land as provided herein at
30 the rates specified in the respective Federal leases, or at such
31 lower rates as may be authorized by law or regulation; provided

1. that for leases on which the royalty rate depends on the daily
2. average production per well, said average production shall be deter-
3. mined in accordance with the operating regulations as though the
4. Unitized Lands were a single consolidated lease.

5. Royalty due the State of New Mexico shall be computed and
6. paid on the basis of the amounts allocated to Unitized State Land as
7. provided herein at the rate specified in the State Oil and Gas Lease.

8. Each Royalty Owner (other than the State of New Mexico and
9. the United States of America) that executes this Agreement represents
10. that it is the owner of a Royalty Interest in the Tract or Tracts
11. within the Unit Area as its interest appears in Exhibit "B" attached
12. hereto. If any Royalty Interest in a Tract or Tracts should be lost
13. by title failure or otherwise, in whole or in part, during the term
14. of this Agreement, then the Royalty Interest of the party representing
15. himself to be the owner thereof shall be reduced proportionately and
16. the interest of all parties in the affected Tract or Tracts shall be
17. adjusted accordingly.

18. 14. RENTAL SETTLEMENT. Rental or minimum royalties due on
19. leases committed hereto shall be paid by Working Interest Owners
20. responsible therefore under existing contracts, laws and regulations,
21. provided that nothing herein contained shall operate to relieve the
22. lessees of any land from their respective lease obligations for the
23. payment of any rental or minimum royalty in lieu thereof due under
24. their leases. Rental for lands of the State of New Mexico subject
25. to this Agreement shall be paid at the rate specified in the respective
26. leases from the State of New Mexico. Rental and minimum royalty for
27. lands of the United States subject to this Agreement shall be paid
28. at the rate specified in the respective leases from the United States
29. unless such rental or minimum royalty is waived, suspended or reduced
30. by law or by approval of the Secretary of the Interior of the United
31. States hereinafter referred to as "Secretary", or his duly authorized

1 representative.

2 15. CONSERVATION. Operations hereunder and production of
3 Unitized Substances shall be conducted to provide for the most eco-
4 nomical and efficient recovery of said substances without waste, as
5 defined by or pursuant to State or Federal law or regulation.

6 16. DRAINAGE. The Unit Operator shall take appropriate
7 and adequate measures to prevent drainage of Unitized Substances
8 from Unitized Land by wells on land not subject to this Agreement
9 or, with prior consent of the Director pursuant to applicable
10 regulations, pay a fair and reasonable compensatory royalty as
11 determined by the Supervisor. In the event compensatory royalty is
12 so paid, it shall be treated in the same manner as Unitized Substances.

13 17. GAUGE OF MERCHANTABLE OIL. Unit Operator shall make a
14 proper and timely gauge of all leases and other tanks within the Unit
15 Area and associated with the operation of Unitized Land in order
16 to ascertain the amount of merchantable oil above the pipeline
17 connections in such tanks at 7:00 a.m. on the effective date hereof.
18 All such oil shall be and remain the property of the parties entitled
19 thereto the same as if the Unit had not been formed; and such parties
20 shall promptly remove said oil from said tanks. Any such oil not
21 so removed shall be sold by Unit Operator for the account of parties
22 entitled thereto, subject to the payment of all royalties, overriding
23 royalties, production payments, and all other payments under the terms
24 and provisions of the applicable lease, leases, or other contracts.
25 If, as of the effective date hereof, any Tract of Unitized Land is
26 overproduced with respect to the allowable of the wells on such Tract
27 and the amount of overproduction has been sold or otherwise disposed
28 of, such overproduction shall be regarded as a part of the Unitized
29 Substances produced after the effective date hereof and shall be charged
30 to such Tract as having been delivered to the parties entitled to
31 Unitized Substances allocated to such Tract.

1 18 LEASE AND CONTRACTS CONFORMED AND EXTENDED. The terms,
2 conditions, and provisions of all leases, subleases, and other con-
3 tracts relating to exploration, drilling, development, or operation
4 for oil or gas of lands committed to this Agreement are hereby ex-
5 pressly modified and amended to the extent necessary to make the same
6 conform to the provisions hereof, but otherwise to remain in full
7 force and effect; and the parties hereto hereby consent that the
8 Secretary shall and by his approval hereof, or by the approval hereof
9 by his duly authorized representative, does hereby establish, alter,
10 change, or revoke the drilling, producing rental, minimum royalty,
11 and royalty requirements of Federal leases committed hereto and the
12 regulations in respect thereto to conform said requirements to the
13 provisions of this Agreement. Without limiting the generality of
14 the foregoing, all leases, subleases, and contracts are particularly
15 modified in accordance with the following:

16 (a) The development and operation of lands subject to
17 this Agreement under the terms hereof shall be deemed
18 full performance of all obligations for development and
19 operation with respect to each and every part or separately
20 owned Tract subject to this Agreement, regardless of whether
21 there is any development of any particular part or Tract
22 of the Unitized Land, notwithstanding anything to the
23 contrary in any lease, operating agreement or other contract
24 by and between the parties hereto, or their respective pre-
25 decessors in interest, or any of them.

26 (b) Drilling and producing operations performed here-
27 under upon any Tract of Unitized Land will be accepted
28 and deemed to be performed upon and for the benefit of
29 each and every Tract of Unitized Land, and no lease shall
30 be deemed to expire by reason of failure to drill or pro-
31 duce wells situated on the land therein embraced.

1 (c) Suspension of drilling or producing operations on all
2 Unitized Land pursuant to direction or consent of the
3 Secretary or his duly authorized representative shall be
4 deemed to constitute such suspension pursuant to such
5 direction or consent as to each and every Tract of Unitized
6 Land.

7 (d) Each lease, sublease or contract relating to the
8 exploration, drilling, development or operation for oil
9 or gas of lands committed to this Agreement which, by
10 its terms might expire prior to the termination of this
11 Agreement, is hereby extended beyond any such term so
12 provided therein so that it shall be continued in full
13 force and effect for and during the term of this Agreement.

14 (e) Termination of this Agreement shall not affect any lease
15 which, pursuant to the terms thereof or any applicable
16 laws, shall continue in force and effect thereafter.

17 (f) Any lease embracing lands of the State of New Mexico
18 which is made subject to this Agreement shall continue in
19 force beyond the term provided therein as to the lands
20 committed hereto until the termination hereof.

21 (g) Any lease embracing lands of the State of New Mexico
22 having only a portion of its land committed hereto shall be
23 segregated as to that portion committed and that not committed,
24 and the terms of such lease shall apply separately to such
25 segregated portions commencing as of the effective date hereof.
26 It is further provided, however, that notwithstanding any
27 of the provisions of this Agreement to the contrary, such
28 lease shall continue in full force and effect beyond the
29 terms provided therein as to all lands embraced in such
30 lease if oil or gas is, or has heretofore been, discovered
31 in paying quantities on some part of the lands embraced in

1 such lease committed to this Agreement or, so long as a
2 portion of the Unitized Substances produced from the Unit
3 Area is, under the terms of this Agreement, allocated to the
4 portion of the lands covered by such lease committed to this
5 Agreement, or, at any time during the term hereof, as to any
6 lease that is then valid and subsisting and upon which the
7 lessee or the Unit Operator is then engaged in bona fide
8 drilling, reworking, or secondary recovery operations on any
9 part of the lands embraced in such lease: then the same,
10 as to all lands embraced therein, shall remain in full force
11 and effect so long as such operations are diligently prosecuted,
12 and, if they result in the production of oil or gas, said lease
13 shall continue in full force and effect as to all of the lands
14 embraced therein so long thereafter as oil or gas in paying
15 quantities is being produced from any portion of said lands.

16 (h) The segregation of any Federal lease committed to this
17 Agreement is governed by the following provision in the fourth
18 paragraph of Section 17 (j) of the Mineral Leasing Act, as
19 amended by the act of September 2, 1960, (74 Stat. 781-784):

20 "Any (federal) lease heretofore or hereafter committed to any
21 such (unit) plan embracing lands that are in part within and
22 in part outside of the area covered by any such plan shall
23 be segregated into separate leases as to the lands committed
24 and the lands not committed as of the effective date of
25 unitization; Provided, however, that any such lease as to the
26 non-unitized portion shall continue in force and effect for
27 the term thereof but for not less than two years from the
28 date of such segregation and so long thereafter as oil or gas
29 is produced in paying quantities."

30 19. COVENANTS RUN WITH LAND. The covenants herein shall be
31 construed to be covenants running with the land with respect to the interest

1 of the parties hereto and their successors in interest until this
2 Agreement terminates, and any grant, transfer, or conveyance, of
3 interest in land or leases subject hereto shall be and hereby is
4 conditioned upon the assumption of all privileges and obligations
5 hereunder by the grantee, transferee, or other successor in interest.
6 No assignment or transfer of any Working Interest shall be binding
7 upon Unit Operator nor shall any transfer of any Royalty Interest or
8 other interest be binding on the Working Interest Owners responsible
9 for payment or settlement thereof, until the first day of the calendar
10 month after Unit Operator or the responsible Working Interest Owner,
11 as the case may be, is furnished with the original, photostat or
12 certified copy of the instrument of transfer.

13 20. EFFECTIVE DATE. This Agreement shall become binding
14 upon each party who executes or ratifies it as of the date of
15 execution or ratification by such party and shall become effective as
16 of 7:00 a.m. on the first day of the calendar month next following the
17 approval of this Agreement by the Commission, Commissioner and the
18 Secretary or his duly authorized delegate; and provided further, that
19 if the Unit Agreement is not filed for final approval on or before
20 January 1, 1973, this Agreement shall ipso facto expire on said
21 date (hereinafter called "expiration date") and thereafter be of no
22 further force or effect, unless prior thereto this Agreement has been
23 executed or ratified by Working Interest Owners whose voting interest
24 as provided in Section 4.3.1 of the Unit Operating Agreement aggregate at
25 least sixty percent (60%) and Working Interest Owners whose voting
26 interests as above defined aggregate at least sixty percent (60%)
27 of the Unit Area then committed to this Agreement have voted to
28 extend such expiration date for a period not to exceed six (6) months.
29 If said expiration date is so extended and this Unit Agreement is
30 not filed for approval by the Supervisor on or before said extended
31 expiration date this agreement shall ipso facto expire and thereafter
32 be of no further force or effect.

1 Unit Operator shall within thirty (30) days after the effective
2 date of this Agreement file for record in the office or offices where a
3 counterpart of this Agreement is recorded, a certificate to the effect
4 that this Agreement has become effective according to its terms and
5 stating further the effective date.

6 21. TERM. The term of this Agreement shall be for and during
7 the time that Unitized Substances can be produced in quantities sufficient
8 to pay for the cost of producing same from wells on Unitized Land and
9 for as long thereafter as drilling, reworking or other operations are
10 prosecuted on Unitized Land without cessation of more than ninety (90)
11 consecutive days, and so long thereafter as Unitized Substances can be
12 produced as aforesaid, unless sooner terminated by Working Interest
13 Owners, the Commissioner, or by the Director as provided in Section 8,
14 Successor Unit Operator, and Section 22, Termination by Working Interest
15 Owners.

16 22. TERMINATION BY WORKING INTEREST OWNERS. This Agreement
17 may be terminated at any time by Working Interest Owners owning ninety
18 percent (90%) or more of the participation percentage in the Unitized
19 Land with the approval of the Supervisor and Commissioner. Notice of any
20 such termination shall be given by the Unit Operator to all parties
21 hereto.

22 Upon termination of this Agreement, the parties hereto shall
23 be governed by the terms and provisions of the leases and contracts
24 affecting the separate Tracts.

25 If not specified otherwise by the leases unitized under this
26 Agreement, basic Royalty Owners hereby grant Working Interest Owners
27 a period of six (6) months after termination of this Agreement in which
28 to salvage, sell, distribute or otherwise dispose of the personal
29 property and facilities used in connection with Unit operations.

30 Unit Operator shall, within thirty (30) days after the ter-
31 mination of this Agreement has been determined, pursuant to Section 8

1 and 22 hereof, file for record in the office or offices where
2 a counterpart of this Agreement is recorded, a certificate
3 setting forth the fact of such termination and the date thereof.

4 23. RATE OF PROSPECTING, DEVELOPMENT AND PRODUCTION. The
5 Director is hereby vested with authority to alter or modify from
6 time to time in his discretion the quantity and rate of production
7 under this Agreement when such quantity and rate is not fixed pursuant
8 to Federal or State law or does not conform to any statewide voluntary
9 conservation or allocation program, which is established, recognized
10 and generally adhered to by the majority of operators in such State,
11 such authority being hereby limited to alteration or modification in
12 the public interest, the purpose thereof and the public interest to
13 be served thereby to be stated in the order of alteration or modification.
14 Without regard to the foregoing, the Director is also hereby vested
15 with authority to alter or modify from time to time in his discretion
16 the rate of prospecting and development and within the limits made or
17 fixed by the Commission, the quantity and rate of production under
18 this Agreement when such alteration or modification is in the interest
19 of attaining the conservation objectives stated in this Agreement and
20 is not in violation of any applicable Federal or State law; provided
21 that no such alteration or modification shall be effective as to any
22 land of the State of New Mexico as to the rate of prospecting and
23 development in the absence of the specific written approval thereof
24 by the Commissioner and as to any lands of the State of New Mexico
25 or privately owned lands subject to this Agreement as to the quantity
26 and rate of production in the absence of specific written approval
27 thereof by the Commission.

28 Powers in this section vested in the Director and Commissioner
29 shall only be exercised after notice to Unit Operator and opportunity
30 for hearing to be held no less than fifteen (15) days from notice.

31 24. APPEARANCES. Unit Operator shall, after notice to

1 other parties affected, have the right to appear for and on be-
2 half of any and all interests affected hereby before the Department
3 of the Interior and to appeal from orders issued under the regulations
4 of said Department or to apply for relief from any of said regulations
5 or in any proceedings relative to operations before the Department
6 of the Interior or any other legally constituted authority; provided,
7 however, that any other interested party shall also have the right
8 at his own expense to be heard in any such proceeding.

9 25. NOTICES. All notices, demands or statements required
10 hereunder to be given or rendered to the parties hereto shall be
11 deemed fully given, if given in writing or personally delivered
12 to the party or sent by postpaid registered or certified mail,
13 addressed to such party at the address such party has furnished to
14 the party sending the notice, demand or statement.

15 26. NO WAIVER OF CERTAIN RIGHTS. Nothing in this Agreement
16 contained shall be construed as a waiver by any party hereto of the
17 right to assert any legal or constitutional right or defense as to
18 the validity or invalidity of any law of the State of New Mexico,
19 or of the United States, or regulations issued thereunder in any way
20 affecting such party, or as a waiver by any such party of any right
21 beyond his or its authority to waive; provided, however, each party
22 hereto except the United States covenants that during the existence
23 of this Agreement, such party shall not resort to any action at law
24 or in equity to partition the Unitized Land or the facilities used in
25 the development or operation thereof and to that extent waives the
26 benefits of all laws authorizing such partition.

27 27. UNAVOIDABLE DELAY. All obligations under this Agreement,
28 except the payment of money, shall be suspended while, but only so
29 long as, the Unit Operator despite the exercise of due care and
30 diligence is prevented from complying with such obligations, in whole
31 or in part, by strikes, acts of God, Federal, State or municipal law

1 or agencies, unavoidable accidents, uncontrollable delays in
2 transportation, inability to obtain necessary materials in open
3 market, or other matters beyond the reasonable control of the Unit
4 Operator whether similar to matters herein enumerated or not.

5 28. NON-DISCRIMINATION. In connection with the performance
6 of work under this Agreement, the Unit Operator agrees to comply
7 with all the provisions of Section 202(1) to (7) inclusive, of
8 Executive Order 11246, 30 F.R. 12319, which are hereby incorporated
9 by reference in this Agreement.

10 29. LOSS OF TITLE. In the event title to a Tract of
11 Unitized Land shall fail so as to render the Tract inoperable under
12 this Agreement and the true owner cannot be induced to join this Unit
13 Agreement, such Tract shall be regarded automatically as not committed
14 hereto effective as of 7:00 a.m. on the first day of the calendar month
15 in which such title failure is determined, and there shall be such
16 readjustment of future costs and benefits as may be required on account
17 of the loss of such title. In the event of a dispute as to title as
18 to any Royalty, Working Interest or other interest subject thereto,
19 payment or delivery on account thereof may be withheld without
20 liability or interest until the dispute is finally settled; provided
21 that, as to State and Federal land or leases, no payment of funds due
22 the State of New Mexico or the United States of America shall be with-
23 held, but such funds shall be deposited as directed by the Commissioner
24 or the Supervisor, to be held as unearned money pending final settle-
25 ment of the title dispute, and then applied as earned or returned in
26 accordance with such final settlement.

27 Unit Operator as such is relieved from any responsibility
28 for any defect or failure of any title hereunder.

29 30. SUBSEQUENT JOINDER. After the effective date of this
30 Agreement, the commitment of any interest in any Tract within the Unit
31 Area shall be upon such equitable terms as may be negotiated by Working

Interest Owners and the owner of such interest. After the effective date hereof, Joinder by a Royalty Owner must be consented to in writing by the Working Interest Owner committed hereto and responsible for the payment of any benefits that may accrue hereunder in behalf of such Royalty Interest. Joinder by any Royalty Owner at any time must be accompanied or preceded by appropriate Joinder by the Owner of the corresponding Working Interest in order for the interest to be regarded as effectively committed. Joinder to the Unit Agreement by a Working Interest Owner at any time must be accompanied by appropriate Joinder to the Unit Operating Agreement in order for the interest to be regarded as committed to this Unit Agreement. Except as may otherwise herein be provided, subsequent Joinders to this Agreement shall be effective as of the first day of the month following the filing with the Supervisor and Commissioner of duly executed counterparts of all or any papers necessary to establish commitment of any Tract to this Agreement unless objection to such Joinder is made within sixty (60) days by the Supervisor or Commissioner.

31. COUNTERPARTS. This Agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties, or may be ratified or consented to by separate instrument in writing specifically referring hereto and shall be binding upon all those parties who have executed such a counterpart, ratification or consent hereto with the same force and effect as if all such parties had signed the same document and regardless of whether or not it is executed by all other parties owning or claiming an interest in the lands within the above-described Unit Area.

In the event any of the parties hereto own both Working Interests and Royalty Interests, as such interests are shown on Exhibit "B", it shall not be necessary for such party to execute this Agreement in both capacities in order to commit both classes of

1 Interest. Execution hereof by any such party in one capacity shall
2 also constitute execution in the other capacity, provided said party
3 also executes the Unit Operating Agreement as a Working Interest Owner.

4 32. ROYALTY OWNERS TAXES. Each party hereto shall, for its own
5 account, render and pay its share of any taxes levied against or
6 measured by the amount or value of the Unitized Substances produced
7 from the Unitized Land; provided, however, that, if it is required
8 or if it be determined that the Unit Operator or the several Working
9 Interest Owners must pay or advance said taxes for the account of the
10 parties hereto, it is hereby expressly agreed that the parties so
11 paying or advancing said taxes shall be reimbursed therefore by the
12 parties hereto, including Royalty Owners, who may be responsible for
13 the taxes on their respective allocated share of said Unitized Substances.
14 No taxes shall be charged to the United States, the State of New Mexico,
15 or to any lessor who has a contract with a lessee which requires his
16 lessee to pay such taxes.

17 33. NO PARTNERSHIP. It is expressly agreed that the relation
18 of the parties hereto is that of independent contractors and nothing
19 in this Agreement contained, expressed or implied, nor any operations
20 conducted hereunder, shall create or be deemed to have created a
21 partnership or association between the parties hereto or any of them.

22 34. BORDER AGREEMENTS. Unit Operator, with concurrence of
23 Working Interest Owners having a combined Unit Participation of sixty-
24 five (65%) percent or more, may, subject to approval of the Supervisor,
25 and Commissioner, enter into an agreement or agreements with the Working
26 Interest Owners of adjacent lands with respect to the operations designed
27 to increase ultimate recovery, conserve natural resources and to protect
28 the parties and interest.

29 35. CORRECTION OF ERRORS. It is hereby agreed by all parties
30 to this Agreement that Unit Operator is empowered to correct any mathe-
31 matical or clerical errors which may exist in the pertinent exhibits

1 to this Agreement; provided, however, that correction of any error
2 other than mathematical or clerical shall be made by Unit Operator
3 only after first having obtained approval of Working Interest Owners,
4 the Commissioner and the Supervisor. If any such corrections are
5 made, Unit Operator shall file the required number of copies of the
6 corrected pages of this Agreement or of the Exhibits hereto with the
7 Supervisor and Commissioner. Unit Operator shall also provide, in
8 conformance with Section 25, Notices, such corrected pages to the
9 parties hereto.

10 IN WITNESS WHEREOF, the parties hereto have caused this
11 Agreement to be executed and have set opposite their respective
12 names the date of execution.

UNIT OPERATOR AND WORKING INTEREST OWNER

Date:

BY

Wolfson

Texas Pacific

4

2

65

75

90

103

3

72

27

64

105

22

23

Shell
"JK"

A. Gackle

2

1

3

4

5

(2)

(3)

"Sinclair A State"

4

3

8

6

7

9

State

(160.00 Ac.)

(240.00 Ac.)

State

Conoco et al
"B-1"

Conoco et al
"B-1"

8

6

5

9

(IA)

(1)

(40.00 Ac.)

Lynn
US

27

Skelly

A. Gackle
"Etz"

26

N

15

11

12

(320.00 Ac.)

13

TA

T
23
S

R36E

UNIT BOUNDARY

Lynn
US

Combest

① TRACT NO.

conoco

PRODUCTION DEPARTMENT

HOBBS DIVISION

LANGLIE LYNN (QUEEN) AREA
LEA COUNTY, NEW MEXICO

EXHIBIT "A"
TO UNIT AGREEMENT

SCALE

0 1000 1000'

VTL 6-72

ORW

EXHIBIT "B"
TO UNIT AGREEMENT FOR LANGLEY LYNN (QUEEN) UNIT, LEA COUNTY, NEW MEXICO

| TRACT NO. | DESCRIPTION OF LAND (ALL IN T-23S, R-36E) | NO. OF ACRES | SERIAL NUMBER AND EXP. DATE | BASIC ROYALTY & PERCENTAGE | RECORD LESSEE AND PERCENTAGE | OVERRIDING ROYALTY AND PERCENTAGE | WORKING INTEREST OWNER AND PERCENTAGE | |
|-----------|--|--------------|-----------------------------|----------------------------|--|-----------------------------------|---|--|
| 1 | Sec. 26: NW/4, W/2 NE/4, N/2 SW/4 | 320.00 | LC 030139(b) HBP | USA - All (Sched. "D") | J. Roger Lynn Patrick Lynn William R. Lynn Est./Theresa M. Lynn | None 25% 25% 25% 25% | Amoco Prod. Co. Atlantic Richfield Co. Chevron Oil Company Continental Oil Co. | 25% 25% 25% 25% |
| 1(a) | Sec. 27: NE/4 NE/4 | 40.00 | LC 030139(b) HBP | USA - All 12.5% | J. Roger Lynn Patrick Lynn William R. Lynn Est./Theresa M. Lynn | None 25% 25% 25% 25% | Amoco Prod. Co. Atlantic Richfield Co. Chevron Oil Company Continental Oil Co. | 25% 25% 25% 25% |
| 2 | Sec. 22: SE/4 | 160.00 | 8-1167 HBP | State of New Mexico - All | Shell Oil Company | None | Shell Oil Company | 100% |
| 3 | Sec. 23: SW/4, W/2 SE/4 | 240.00 | 8-1506 HBP | State of New Mexico - All | Atlantic Richfield Co. | None | Atlantic Richfield Co. Clay Trusts Margaret B. Clay Management Trust Co. Gackie Oil Co. | .50000 .14167 .14167 .05000 .16667 |

TWO FEDERAL TRACTS CONTAINING 360.00 ACRES, OR 47.37% OF THE UNIT AREA
TWO STATE TRACTS CONTAINING 400.00 ACRES, OR 52.63% OF THE UNIT AREA

EXHIBIT "C" TO UNIT AGREEMENT
LANGLIE LYNN (QUEEN) UNIT
LEA COUNTY, NEW MEXICO

| <u>TRACT NO.</u> | <u>DESCRIPTION</u> | <u>PARTICIPATION</u> |
|----------------------|--------------------------------------|----------------------|
| 1 | Section 26: NW/4, W/2 NE/4, N/2 SW/4 | 39.83201 |
| 1(a) | Section 27: NE/4 NE/4 | 4.40547 |
| 2 | Section 22: SE/4 | 19.58633 |
| 3 | Section 23: SW/4, W/2 SE/4 | 36.17619 |

SCHLUMBERGER

| | | |
|--|--------------------------|---|
| COUNTY FIELD LOCATION WELL COMPANY | COMPANY ELSI | Other Surveys N. 111 |
| | WELL W2538H | Location of Well 660' FROM S/E 1480' FROM W/E |
| | FIELD ARLINGTON | |
| | LOCATION 22 33 34 | |
| | COUNTY TEXAS | Elevation: K.D. 1335 D.F. 1335 or G.A. 1335 |
| STATE TEXAS | | |

Log Depth Measured From **FL. ABOVE**

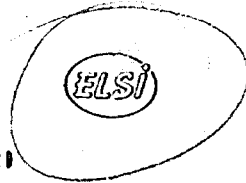
| | | | | |
|---------|---------|-------|---------------------|---------|
| LOG No. | DATE | TIME | LOGGERS | WITNESS |
| 1 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 2 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 3 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 4 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
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| 27 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
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| 49 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 50 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 51 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 52 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 53 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
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| 56 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 57 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
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| 60 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 61 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
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| 93 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 94 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 95 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 96 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 97 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 98 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 99 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |
| 100 | 10/1/50 | 10:00 | J. H. H. & S. J. H. | |

BEST AVAILABLE COPY

Reproduced By
West Texas Electrical Log Service
Dallas 8, Texas

REFERENCE W2538H

COMPLETION RECORD



SPUD DATE _____

COMP DATE _____

DST RECORD _____

CASING RECORD _____

PERFORATING RECORD **1 1/2" C 3607, 3612, 3617, 3623, 3628, 3633, 3640, 3648, & 3652**

ACID FRAC SHOT **750 gal. Acid**

SE **20,000 gal. - 30,000 gal. S.E.**

WELL 112 B.S. 112 B.S. 112 B.S.

CON _____

REMARKS _____

MARKS VIC No. 22 69.8 30 150 32 250

VIS No. 12

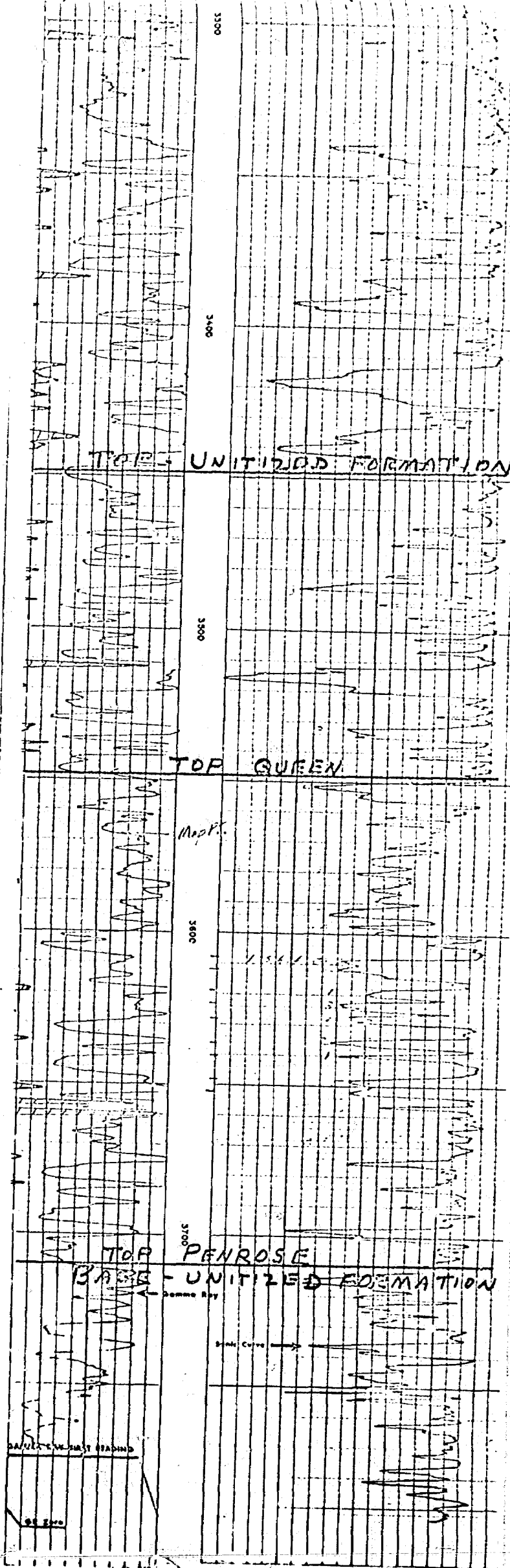
VIP No. 12

Velocity (feet per second) = $\frac{1,500,000}{\text{Interval Transit Time (microseconds per foot)}}$

SPONTANEOUS-POTENTIAL
millivolts

GAMMA RAY
API UNITS 100

INTERVAL TRANSIT TIME
microseconds per foot
100 70



BEFORE EXAMINATION
OIL CONSERVATION COMMISSION

EXHIBIT NO. 1-A

CASE NO. 4839-4840

Submitted by Conoco

Date of Exam. Oct. 4, 1972

LYNN 1-1 #8
TD 3730'

3600

T/QUEEN

3700

GAMMA RAY

ACQUISITION LOG

100
44

100 45

1' SPACING

40

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 3-A

CASE NO. 4839-4840

Submitted by Conoco

Hearing Date Oct. 4, 1972

L.W.F.R. 3714'

--- 7730

BEST AVAILABLE COPY

EXHIBIT NO. 3-A

LYNN H-1 #9
TD 13730'

T/QUEEN

3500

map pt

(13730')

3600

3700

GAMMA RAY

SONIC LOG

EXHIBIT NO. 3-B

| | |
|-----------------------------|--------------|
| BEFORE EXAMINER LITZ | |
| OIL CONSERVATION COMMISSION | |
| EXHIBIT NO. | 3-13 |
| CASE NO. | 4839-4840 |
| Submitted by | CONOCO |
| Exhibit Date | Oct. 4, 1972 |

LYNN B-1 #10
TD 3/25

3550

3600

3650

3700

16
14

12

T/QUEEN

11

22

21

24

22

16

11

GAMMA RAY

TY, BASED
T/SEC.

ACOUSTI LOG

LAPVLEKAA .06025

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 3-C

CASE NO. 4839-4840

Produced by Corneo

Dated Oct. 4, 1972

EXHIBIT NO. 3-C

LYNN B-1 #11
TD 3725'

3500

T/QUEEN

3600

3700

4-1/2"

Cog. at 3725'

GAMMA RAY

NEUTRON

EXHIBIT NO. 3-D

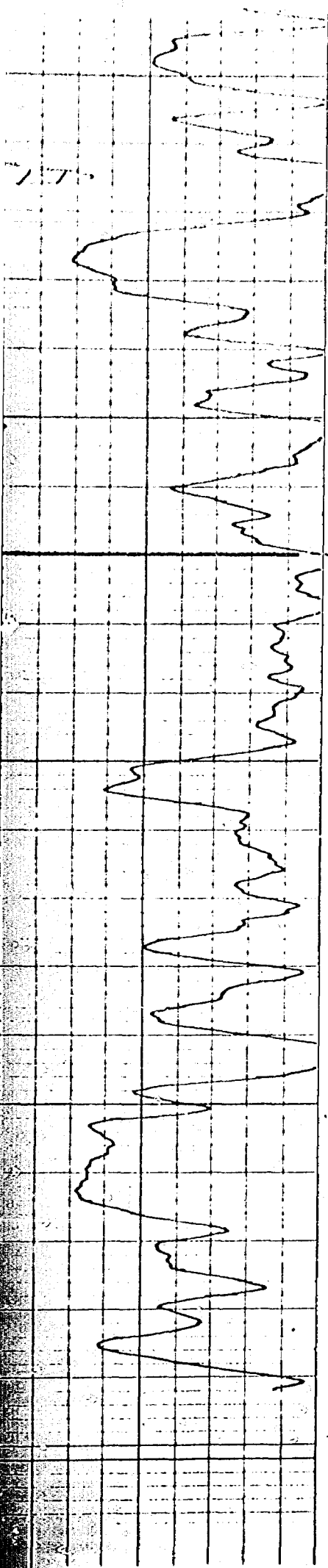
BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 3-D

CASE NO. 4839-4840

Produced by Conoco

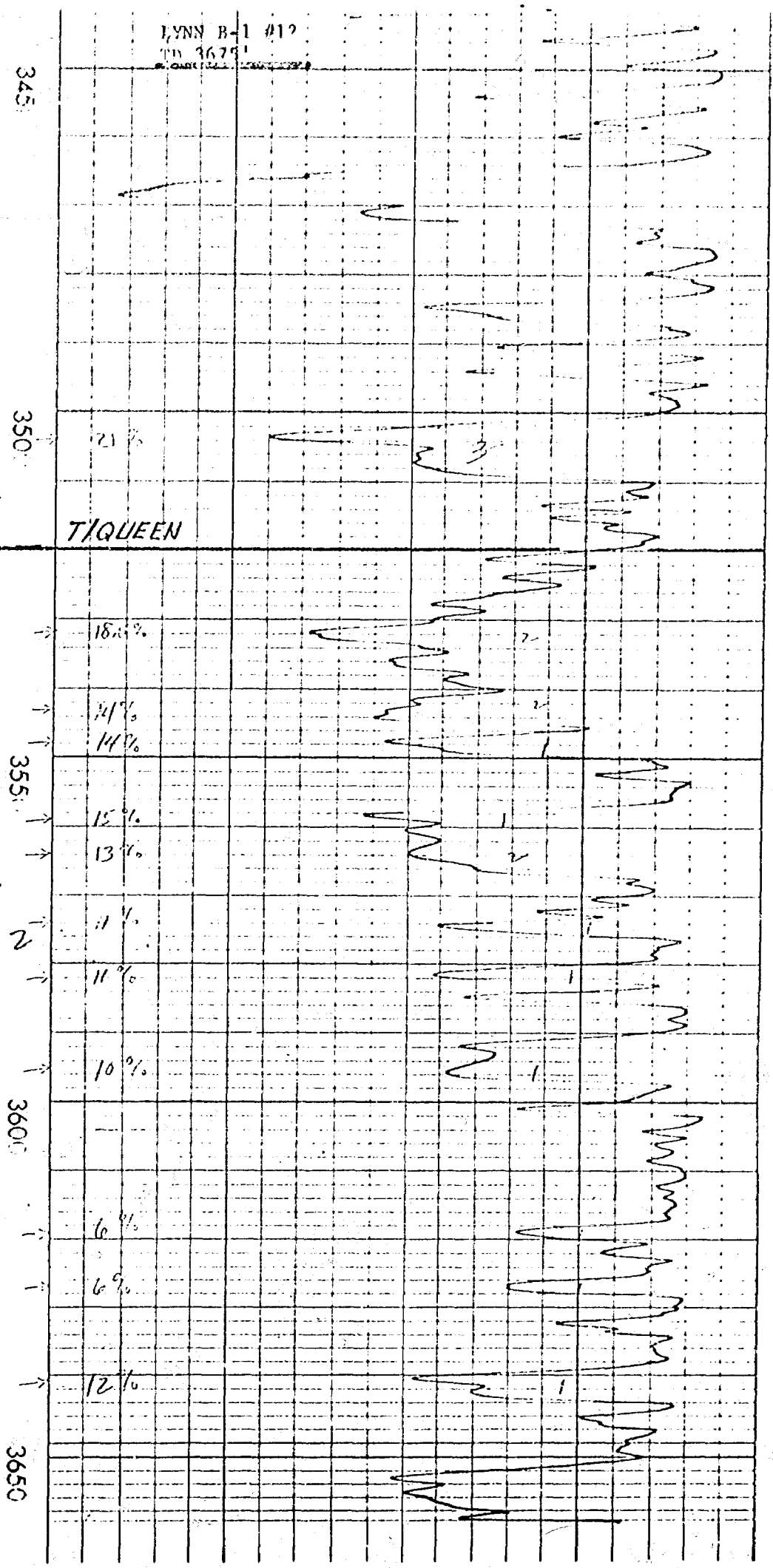
Admitted Date Oct. 4, 1972



GAMMA RAY

30CITY, BASED
100 FT/SEC.

Dolomites {



ACOUSTIC LOG

LAPVLEKAA .06025



EXHIBIT NO. 3-E

BEFORE EXAMINER UYZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 3-E

CASE NO. 4839-4840

Submitted by Conoco

Hearing Date Oct. 4, 1972

BEFORE EXAMINER-LEIZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 3-F

CASE NO. 4839-4840

Submitted by Conoco

Heard on Oct. 4, 1972

BEFORE EXAMINER USE
OIL CONSERVATION COMMISSION

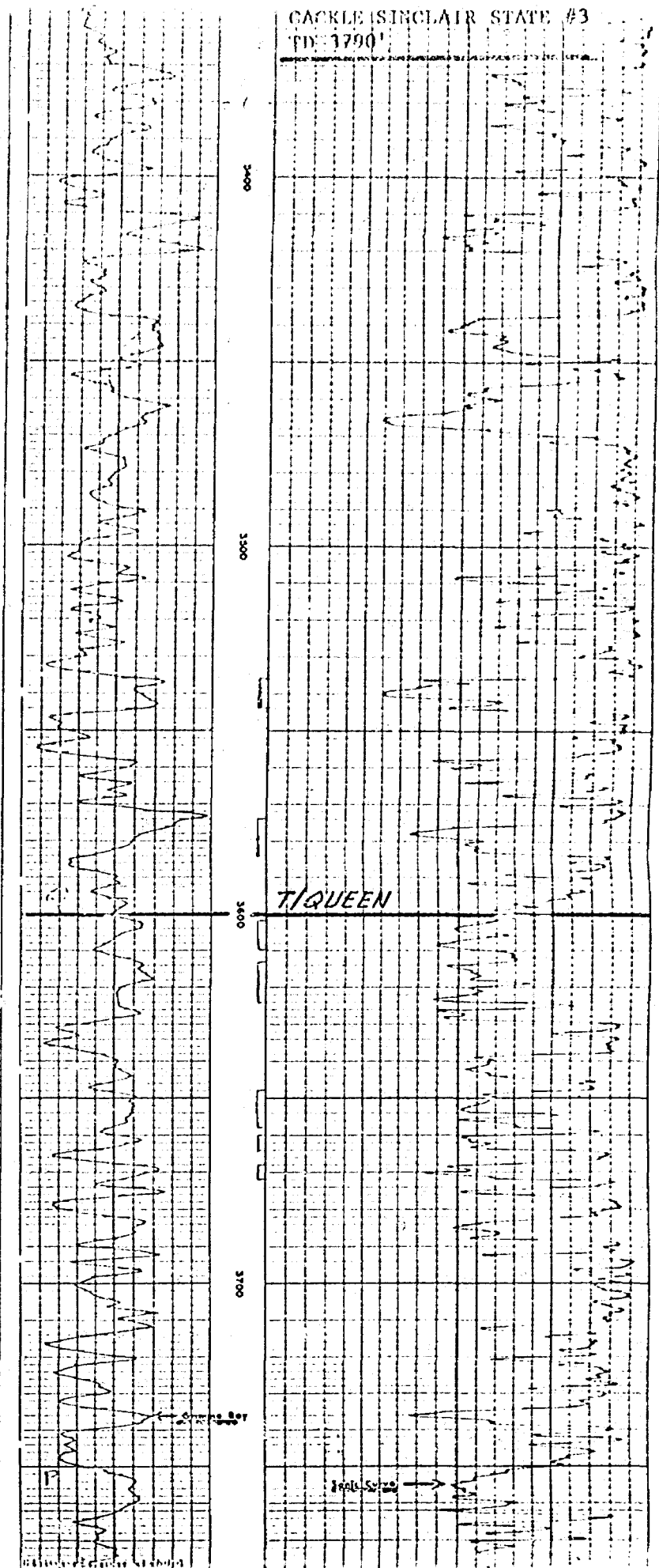
EXHIBIT NO. 3-6

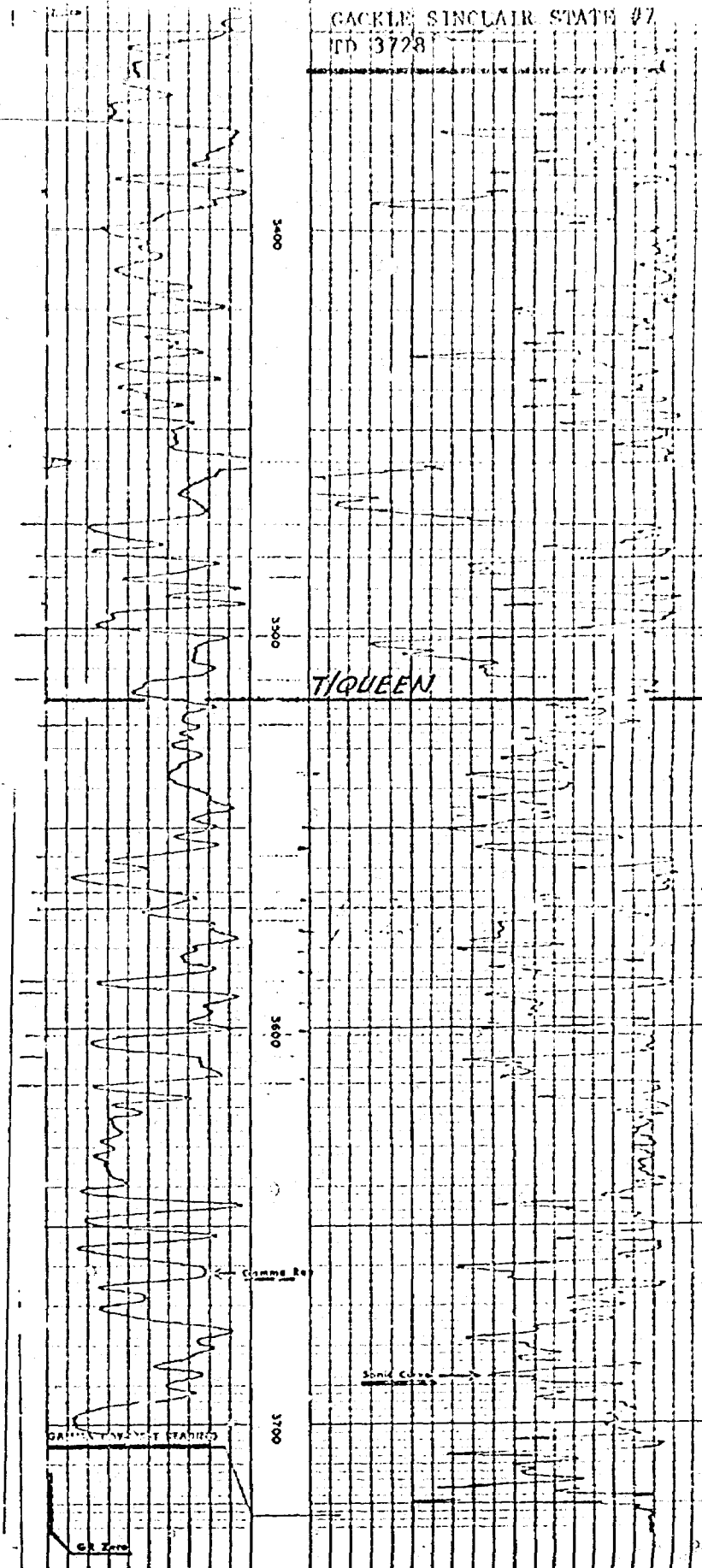
CASE NO. 4839-4840

Initiated by Conoco

Hearing Date Oct. 4, 1972

EXHIBIT NO. 3-G





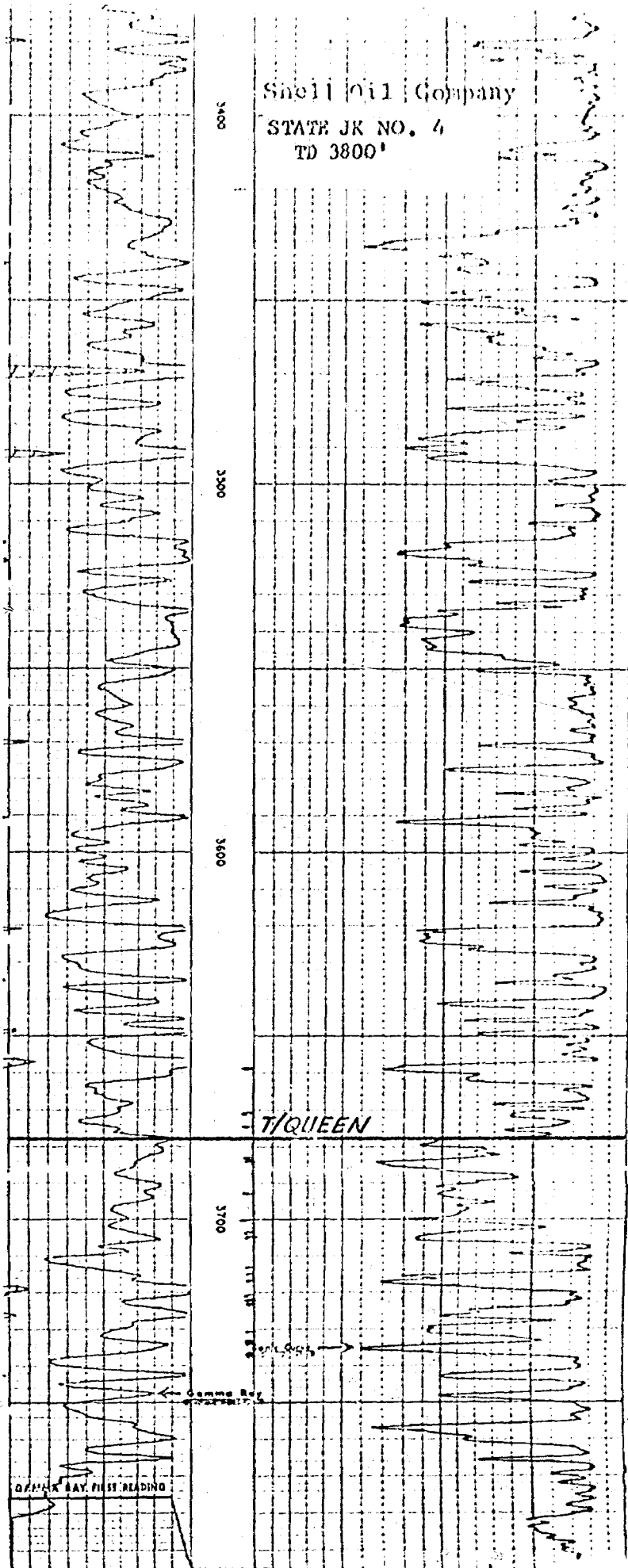
BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3-14
CASE NO. 4839-4840
Submitted by Conoco
Hearing Date Oct. 4, 1972

EXHIBIT NO. 3-II

EXHIBIT NO. 3-I
CASE NO. 4839-4840
Submitted to Conoco
Hearing Date Oct. 4, 1972

EXHIBIT NO. 3-I
CASE NO.
Submitted to
Hearing Date

EXHIBIT NO. 3-I



please

CONTINENTAL OIL COMPANY
LYNN B-1 NO. 8
EL: 3386 D.F.

NSM 9-11-72 erw

663/11.0 E 27
2436
S.I.

7 5/8" CSG @ 323' W/200 SX

2" I.D. TBG. (CORROSION RESISTANT INTERNAL LINED)
W/TENSION PKR. @ 3530'

Good find

3580-82, 3584-86, 3602-04, 3620-22',
3641-42, 3644-46, 3656-58, 3664-66,
3676-79, 3686-88, 3690-92', 3696-98'
W/2 SPF

4 1/2" CSG @ 3730' W/250 SX
TD 3730'

NO REMEDIAL WORK DONE

BEFORE EXAMINED BY
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4-A
CASE NO. 4839-#840
PRODUCED BY Conoco
DATE Oct. 4, 1972

EXHIBIT NO. 4-A

CONTINENTAL OIL COMPANY
LYNN B-1 NO. 9
EL: 3374' DF

NSM 9-11-72 erw

7 5/8" CSG @ 302' W/200 SX

2" I.D. TBG. (CORROSION RESISTANT INTERNAL LINED)
W/TENSION PKR @ 3500'

3550-52', 3558-60', 3569-71',
3584-86', 3620-22', 3634'-36',
3653-55' W/1 SPF

4 1/2" CSG. @ 3720' W/250 SX
T.D. 3720'

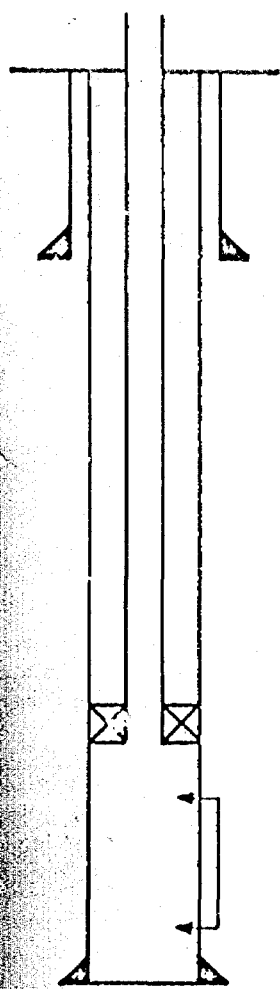
NO REMEDIAL WORK DONE.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4-13
CASE NO. 4839-4840
FILED BY Conoco
DATE Oct. 4, 1972

EXHIBIT NO. 4-B

CONTINENTAL OIL COMPANY
LYNN B-1 NO. 10
EL: 3377' K.B.
NSM 9-11-72 erw

1980/11/660/w-26



7 5/8" CSG @ 300' W/150 SX.

2" I.D. TBG. (CORROSION RESISTANT INTERNAL LINED)
W/TENSION PKR. @ 3510'

3560, 3564, 3580, 3601, 3611,
3618, 3630, 3642, 3661, 3673,
3678, 3687' W/1 SPF

4 1/2" CSG. @ 3725' W/120 SX
TD 3725'

FIELD EXHIBIT NO. 4-C
OIL CONSERVATION DISTRICT
CASE NO. 4839-4840
SUBJECT: Conoco
DATE: Oct. 4, 1972

EXHIBIT NO. 4-C

CONTINENTAL OIL COMPANY
LYNN B-1 No. 11
EL: 3366' K.B.

1980/54 W. 26

NSM 9-11-72 erw

7 5/8" CSG @ 315' W/250 SX

2" I.D. TBG (CORROSION RESISTANT INTERNAL
LINED W/TENSION PKR @ 3450'

3503, 3523, 3534, 3536, 3571,
3590, 3608, 3613, 3630, 3637,
3645, 3659 w/1 SPF

4 1/2" CSG @ 3725' W/225
TD 3725'

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4-D

CASE NO. 4839-4840

Submitted by Conoco

Hearing Date Oct. 4, 1972

EXHIBIT NO. 4-D

CONTINENTAL OIL COMPANY
LYNN B-1 NO. 12
EL: 3355' K.B.

NSM 9-11-72 erw

198 / 4-E-26

7 5/8" CSG @ 300' W/312 SX.

2" I.D. TBG (CORROSION RESISTANT INTERNAL
LYNED W/TENSION PKR @ 3450'

3504, 3532, 3543, 3548, 3559, 3564, 3574,
3582, 3595, 3619, 3627, 3641, w/1 JSPF

4 1/2" CSG @ 3675' W/200 SX
T.D. 3675'

SEAL & EXTENSION
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4-E

CASE NO. 4839-4840

Submitted to Conoco

Heeding Date Oct. 4, 1972

EXHIBIT NO. 4-E

CONTINENTAL OIL COMPANY
LYNN B-1 NO. 15
EL: 3372' K.B.

NSM 9-11-72 erw

7 5/8" CSG. @ 312' W/98 SX.

2" I.D. TBG (CORROSION RESISTANT INTERNAL
LINED W/TENSION PKR @ 3490'

3540, 3555, 3589, 3625,
3652, 3664, 3671, 3681'

4 1/2" CSG @ 3710' W/100 SX.
T.D. 3710'

NO REMEDIAL WORK DONE.

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4-F

CASE NO. 4839-4840

Submitted by Conoco

Hearing Date Oct. 4, 1972

EXHIBIT NO. 4-F

GACKLE OIL COMPANY
Sinclair "A" State No. 3
EL: 3380' D.F.

NSM 9-11-72 erw

8 5/8" CSG @ 241' W/200 SX

2" I.D. TBG. (corrosion resistant
internal lined) W/TENSION PKR @ 3480'

3536-44', 3571-84', 3602-10',
3613-24', 3648-58, 3660-64',
3668'-72'

PB 3760'
4 1/2" CSG @ 3790' W/1100 SX.
TD 3790'

BEFORE EXAMINER USE
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4-G

CASE NO. 4839-4840

Submitted by Conoco

Hearing Date Oct. 4, 1972

EXHIBIT NO. 4-G

GACKLE OIL COMPANY
Sinclair "A" State No. 7
EL: 3365' D.F.

NSM 9-11-72 erw

8 5/8" CSG @ 250' W/150 SX.

2" I.D. TBG (CORROSION RESISTANT INTERNAL
LINED) W/TENSION PKR @ 3500'

3550, 3555, 3568, 3576, 3581, 3586,
3594, 3601, 3611'

PB 3704'
4 1/2" CSG @ 3728' W/1400 SX
TD 3728'

BEFORE EXAMINER
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4-11

CASE NO. 4839-4840

Submitted by Conoco

Hearing Date Oct. 4, 1972

EXHIBIT NO. 4-II

SHELL OIL COMPANY
STATE "JK" NO. 4
Sec. 22, T-23S, R-36E
Elev: 3400' D.F.
NSM 9-17-72 crw

646/21/5/15-22

7 5/8" CSG. @ 307' W/225 SX.

2" I.D. TBG. (CORROSION RESISTANT INTERNAL LINED)
W/TENSION PKR @ 3600'

3659, 3671, 3675, 3684, 3685
3693, 3700, 3704, 3705, 3713,
3715, 3717, 3721, 3722, 3723,
3731, 3735, 3734'

SQUEEZED 3770' 3793'

PB 3799'

TD 3800' 4 1/2" CSG @ 3800' W/200 SX.

BEFORE EXAMINED BY
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4-I

CASE NO. 4839-4840

Submitted by Continental Oil Co

Hearing Date Oct. 4, 1972

EXHIBIT NO. 4-I

RESERVOIR DATA & VOLUMETRIC RESERVE CALCULATIONS

| | |
|--|------------|
| Primary Area (A_p) | 760 acres |
| Floodable Area (A_{wf}) | 530 acres |
| Porosity (ϕ) | 18.2% |
| Average HEP (h) | 6.5 feet |
| Water Saturation (S_w) | 35.7% |
| Initial Oil Formation Volume Factor (B_{oi}) | 1.23 |
| Waterflood Formation Volume Factor (B_{owf}) | 1.09 |
| Sweep Efficiency (S.E.) | 70% |
| Estimated Total Primary Production (N_p) | 633,000 BO |

$$\begin{aligned} \text{Initial Oil-in-place (N)} &= (7758)(\phi)(h)(A_p)(1-S_w)(1/B_{oi}) \\ &= (7758)(.182)(6.5)(760)(.643)(1/1.23) \\ &= 3,646,000 \text{ BO} \end{aligned}$$

$$\begin{aligned} \text{Primary Recovery Percent} &= (N_p/N)(100) \\ &= (633,000/3,646,000)(100) \\ &= 17.4\% \end{aligned}$$

$$\begin{aligned} \text{Oil Saturation at Start of Flood (S}_{owf}) &= (1-N_p/N)(B_{owf}/B_{oi})(1-S_w)(100) \\ &= (.826)(.886)(.643)(100) \\ &= 47.1\% \end{aligned}$$

$$\begin{aligned} \text{Secondary Oil to be Recovered (N}_{wf}) &= (7758)(\phi)(h)(A_{wf})(S_{owf}-S_{or})(S.E.)(1/B_{owf}) \\ &= (7758)(.182)(6.5)(530)(.471-.300)(.70)(1/1.09) \\ &= 534,000 \text{ BO} \end{aligned}$$

$$\begin{aligned} \text{Secondary Percent of Primary} &= (N_{wf}/N_p)(100) \\ &= (534,000/633,000)(100) \\ &= 84.4\% \end{aligned}$$

$$\begin{aligned} \text{Secondary Percent of Initial Oil-in-place} &= (N_{wf}/N)(100) \\ &= (534,000/3,646,000)(100) \\ &= 14.6\% \end{aligned}$$

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 5

CASE NO. 4839-4840

Submitted by Continental Oil Co

Hearing Date Oct. 4, 1972

EXHIBIT NO. 5

UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEACH

P. O. BOX 1499

HOUSTON, TEXAS 77001

Company **Continental Oil Company**

Field

Location **Lynn A #1**

Sampling Date **7-31-72**

Type of Sample **Disposal System**

WATER ANALYSIS

IONIC FORM

| | |
|---------------------|-------|
| 39.12 | 784 |
| 55.27 | 672 |
| (Calculated) 192.64 | 4,429 |

| | |
|-----------|-----------|
| 23.99 | 1,464 |
| NOT FOUND | NOT FOUND |
| 17.70 | 850 |
| 245.34 | 8700 |

BEST AVAILABLE COPY

7.4

68

Evap. at 102°-105° C

CaCO₃

(Temporary)

(Permanent)

CaCO₃

CaCO₃

1.012

| | |
|-------|-------|
| 94.39 | 4,720 |
| 23.99 | 1,200 |
| 70.40 | 3,520 |
| 23.99 | 1,200 |

mg/l = milligrams per liter

meq/l = milliequivalents per liter

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. **6**

CASE NO. **4839-4840**

Submitted by **Continental Oil Co**

Receiving Date **Oct. 4, 1972**

EXHIBIT NO. **6**

DRAFT

GMH/dr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 4840

Order No. R- 4417

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 4, 1972
at Santa Fe, New Mexico, before Examiner Richard E. Stamets

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

FINDS:

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

(2) That the applicant, Continental Oil Company,
seeks authority to institute a waterflood project in the Langlie
Langlie Lym. (Queen)
Mattix Pool Unit Area, Langlie-Mattix Pool,
by the injection of water into the Seven Rivers and Queen formations
through nine injection wells in Sections 22, 23, 26 and 27,
Township 23 XXXX North, South, Range 36 XXXX East,
NMPM, Lea County, New Mexico.

(3) That the wells in the project area are in an advanced
state of depletion and should properly be classified as "stripper"
wells.

(4) That the proposed waterflood project should result in
the recovery of otherwise unrecoverable oil, thereby preventing
waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company,

is hereby authorized to institute a waterflood project in the

Langlie Lynn (Queen) Unit Area, Langlie-Mattix Pool, Queen by the injection of water into the Seven Rivers and / formations

through the following-described wells in Township 23

NORTH, South, Range 36 West, East, NMPM, Lea

County, New Mexico:

| <u>Well Name</u> | <u>unit</u> | <u>Section</u> |
|--|-------------|----------------|
| Shell Oil Company State "JK" well No. 4 - O | - | 22 |
| Hockle Oil Company Sinclair "A" State well No. 7 - O | - | 23 |
| Hockle Oil Company Sinclair "A" State well No. 3 - L | - | 23 |
| Continental Oil Company Lynn B-1 well No. 15 - L | - | 26 |
| Continental Oil Company Lynn B-1 well No. 12 - G | - | 26 |
| Continental Oil Company Lynn B-1 well No. 11 - K | - | 26 |
| Continental Oil Company Lynn B-1 well No. 10 - E | - | 26 |
| Continental Oil Company Lynn B-1 well No. 9 - B | - | 26 |
| Continental Oil Company Lynn B-1 well No. 8 - A | - | 27 |

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(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.

Vichyon
+
Jaron Kelleher

9-22-72

CASE 4840: Appli. of CONTINENTAL
FOR A WATERFLOOD PROJECT, LEA
COUNTY, NEW MEXICO.