

GEOLOGICAL AND ENGINEERING FACTORS
RELATING TO THE DESIGNATION
OF THE INITIAL PARTICIPATING AREA
DAKOTA FORMATION
NORTH KIRTLAND UNIT
SAN JUAN COUNTY, NEW MEXICO

This report is to accompany the application for designation of the initial Dakota Participating Area for the North Kirtland Unit.

The Compass Exploration, Inc., Humble North Kirtland #1-13 (North Kirtland Unit #2) was completed on April 15, 1962 at a total plug back depth of 6455' in the Dakota formation. This well, located 1725' FNL X 800' FEL in Sec. 13-30N-14W, San Juan County, New Mexico, was drilled to a total depth of 6481' after being spudded on March 26, 1962.

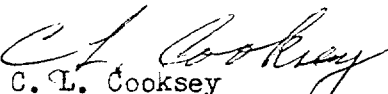
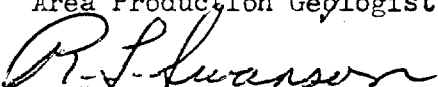
The attached geologic isopach map of the Dakota sandstone formation, productive in the North Kirtland Unit Well #2, is based on subsurface well control. The trapping mechanism is stratigraphic, resulting from a westerly (updip) loss in porosity and permeability in the producing sands. The isopach map indicates all of the E/2 of Section 13 is underlain by productive Dakota sand, with a total of 84' of net pay encountered in this well. 64' of the total 84' is open to production in the well bore.

Completion and test data from the North Kirtland Unit Well #2 has furnished pertinent information on which to base the proposed initial Participating Area.

Surface casing consisting of 8 5/8" pipe was set to a depth of 253' and cemented with 175 sacks of cement. A 4 1/2" OD casing production string was set to total depth and cemented with 175 sacks of cement. This well was completed through 3

perforated intervals in the Dakota formation on April 15, 1962, for an initial potential of 3470 MCF per day on a 3/4" surface choke with a surface flowing pressure of 280 psig. Calculated open flow potential was 4,028 MCF per day. The perforated intervals, 6237-57; 6325-56; 6364-72; were fracture treated with a total of 71,000 pounds of sand and 92,060 gallons of water. Based on the initial potential, the calculated open flow potential, and the amount of net productive sand encountered, this well is considered capable of production of unitized substances in paying quantities and is believed capable of adequately draining the allocated proration block.

As a result of the successful completion described above, it is proposed that an initial Participating Area be established to include all acreage now considered to be reasonably proven productive. The boundary of this proposed initial Participating Area as shown on the attached geological maps, has been placed to coincide with the allocated proration block.


C. L. Cooksey
Area Production Geologist

R. L. Swanson
Area Reservoir Engineer

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE

SCHEDULE

Lease

Record Holder	Humble
Working Interest Owner	(1) Compass Exploration, Inc.
Serial Number	SF-079070
Tract Number	2 (Parcel B)
Participating Acreage	306.78
Percent of Participation	100%
Description:	Lots 1,2,3,4 & W $\frac{1}{2}$ E $\frac{1}{2}$ (E $\frac{1}{2}$) Section 13-30N-14W

	<u>Acres</u>	<u>Percent</u>
Total Federal Lands	306.78	100%
Uncommitted Acreage	<u>-0-</u>	<u>-0-</u>
Total Productive Acreage	306.78	100%

- (1) Under the terms of operating agreement dated May 28, 1962, Compass Exploration, Inc. owns the working interest down to the stratigraphic equivalent of 6577 feet and Humble Oil & Refining Company owns all working interest below said depth.

HUMBLE OIL & REFINING COMPANY

CENTRAL REGION
P. O. Box 120
Denver, Colorado
August 7, 1962

Commissioner of Public Lands
State of New Mexico
Santa Fe, New Mexico

Southern Union Production Company
Fidelity Union Tower
Dallas, Texas

Oil Conservation Commission
✓ State of New Mexico
Santa Fe, New Mexico

Aztec Oil & Gas Company
920 Mercantile Securities
Dallas, Texas

Pan American Petroleum Corporation
P. O. Box 1410
Fort Worth, Texas

Compass Exploration, Inc.
101 University Boulevard
Denver, Colorado

Petro-Atlas, Inc.
2000 National Bank of Tulsa Building
Tulsa, Oklahoma

Mr. John P. Cuccia
1206 West Holt Boulevard
Ontario, California

Texaco, Inc.
P. O. Box 3109
Midland, Texas

Mr. George E. Conley
P. O. Box 611
Santa Fe, New Mexico

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas

Mr. Vincent Cuccia
C/o P. O. Box 367
Corona del Mar, California

California Oil Company
P. O. Box 1249
Houston, Texas

British-American Oil Producing Company
Denver Club Building
Denver, Colorado


Gentlemen:

Re: North Kirtland Unit Well #2
North Kirtland Unit
San Juan County, New Mexico

We have previously furnished each of you a copy of our letter of July 25, 1962, requesting approval of the Regional Oil and Gas Supervisor of the United States Geological Survey of our determination that the North Kirtland Unit Well #2, located in Lot 2 (SE NE) of Section 13-30N-14W, is capable of producing unitized substances in paying quantities as defined in Section 9 of the Unit Agreement. We are enclosing a copy of letter dated August 2, 1962, from the Regional Oil and Gas Supervisor of the United States Geological Survey, stating that the Supervisor concurs in our determination that the well is capable of producing unitized substances in paying quantities, and that a plan of development and an application for approval of an initial Dakota participating area should be submitted pursuant to Sections 10 and 11 of the Unit Agreement. We are now giving consideration to a plan of development and a proposed participating area for filing with the United States Geological Survey. When completed, these will be furnished you.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

By: 
F. E. Dickerson

FED:ma
Enclosure



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico

CK
AUG 6 1962

August 2, 1962

Humble Oil and Refining Co.
P. O. Box 120
Denver, Colorado

Attention: Mr. L. A. Dodd

Gentlemen:

Your notice of July 25, 1962, advises that Humble Oil and Refining Company as unit operator of the North Kirtland unit, has determined that the Humble North Kirtland No. 1-13 (unit well No. 2) on Federal lease SF 079070 in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 30 N., R. 14 W., N.M.P.M. is capable of producing unitized substances in paying quantities from the Dakota formation. This well was completed on April 15, 1962, for an initial absolute open flow potential of 4,028 MCF of gas per day, from the Dakota formation 6,237-6,372 feet.

This office concurs with your determination that the well is capable of producing unitized substances in paying quantities. A plan of development and an application for approval of an initial Dakota participating area should be submitted pursuant to secs. 10 and 11 of the unit agreement.

Very truly yours,

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

HUMBLE OIL & REFINING COMPANY

CENTRAL REGION
P. O. Box 120
Denver, Colorado
July 25, 1962

2140

Mr. John A. Anderson
Regional Oil and Gas Supervisor
United States Geological Survey
P. O. Box 6721
Roswell, New Mexico

Dear Mr. Anderson:

Re: Determination of Producing Status
Well #2
North Kirtland Unit
San Juan County, New Mexico

The North Kirtland Unit Agreement was approved by the Acting Director of the United States Geological Survey on June 30, 1961. As provided in Section 9 of the Unit Agreement, the North Kirtland Unit Well #1, located in the NW SE Section 11-Township 30 North-Range 14 West, was completed, dry and abandoned on October 18, 1961. The second test well, located in the SE NE Section 13-Township 30 North-Range 14 West, was completed on April 15, 1962, by Compass Exploration, Inc., after being drilled to a total depth of 6,481 feet, as a shut-in gas well in the Dakota formation.

Enclosed is a Drilling and Completion Summary pertaining to Unit Well #2. Based on the information shown in this report, it is the opinion of the Unit Operator that this well is capable of producing unitized substances in paying quantities. We will appreciate your early approval of this determination as we have a federal lease with normal expiration date of July 31, 1962.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

By: 

L. A. Dodd

Attorney-in-Fact

LAD(CFS):ma

Enclosure

cc: Commissioner of Public Lands, State of New Mexico, Santa Fe, New Mexico
Oil Conservation Commission, State of New Mexico, Santa Fe, New Mexico
Pan American Petroleum Corporation, P. O. Box 1410, Fort Worth, Texas
Petro-Atlas, Inc., 2000 National Bank of Tulsa Building, Tulsa, Oklahoma
Texaco, Inc., P. O. Box 3109, Midland, Texas
El Paso Natural Gas Company, P. O. Box 1492, El Paso, Texas
California Oil Company, P. O. Box 1249, Houston, Texas
Southern Union Production Company, Fidelity Union Tower, Dallas, Texas
Aztec Oil & Gas Company, 920 Mercantile Securities, Dallas, Texas
Compass Exploration, Inc., 101 University Boulevard, Denver, Colorado
Mr. John P. Cuccia, 1206 West Holt Boulevard, Ontario, California
Mr. George E. Conley, P. O. Box 611, Santa Fe, New Mexico
Mr. Vincent Cuccia, C/o P. O. Box 367, Corona del Mar, California

Drilling and Completion Summary
Compass Exploration, Inc. Humble North Kirtland No. 1-13 (Unit No. 2)
SE NE Section 13-30N-14W, San Juan County, New Mexico

The Compass Exploration, Inc. Humble North Kirtland No. 1-13 (North Kirtland Unit No. 2) was completed April 15, 1962 at total plugback depth of 6,455' in the Dakota formation. The well, located 1,725' FNL and 800' FEL in Section 13-30N-14W, San Juan County, New Mexico, was drilled to total depth of 6,481' after spudding on March 26, 1962 and setting 8 5/8" surface casing to a depth of 253' and cementing with 175 sacks of cement. Production string consists of 4 1/2" OD casing set to total depth (6,481') and cemented with 100 sacks of 8% gel cement and 75 sacks of Incon neat cement. Completion, production and reservoir data include the following:

Casing Perforations: 6237'-57'; 6325'-56'; 6364'-72'

Estimated Total Net Pay: 64'

Stimulation

- 1) 6325'-56' & 6364'-72': Fractured with 50,400 gallons water, 41,000 pounds of 20-40 sand, and 300 pounds of Dowell J-100 additive. Breakdown pressure 3,100 psi; average treating pressure 3,000 psi. Avg. injection rate 42 barrels per minute.
- 2) 6237'-57': Fractured with 41,660 gallons of water, and 30,000 pounds of 20-40 sand. Breakdown pressure 2,500 pounds; average treating pressure 2,500 pounds. Avg. injection rate 42 barrels per minute.

Initial Potential: 3,470 Mcf/day on 3/4" surface choke. Surface flowing pressure 280 psig. Shut-in surface pressure; Tubing 1,994 psig; casing 2,037 psig. Calculated open flow 4,028 mcf per day.

Reservoir Data:

Porosity	10%
Connate water	35%
Specific gravity	0.65
Estimated reservoir press.	2300 psi
Reservoir temperature	135°F

The above well is currently shut-in waiting on pipeline connection. Initial gas sales anticipated by September 1962.


Engineering Representative
HUMBLE OIL & REFINING COMPANY



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

IN REPLY REFER TO:

Drawer 1857
Roswell, New Mexico

August 2, 1962

Humble Oil and Refining Co.
P. O. Box 120
Denver, Colorado

Attention: Mr. L. A. Dodd

Gentlemen:

Your notice of July 25, 1962, advises that Humble Oil and Refining Company as unit operator of the North Kirtland unit, has determined that the Humble North Kirtland No. 1-13 (unit well No. 2) on Federal lease SF 079070 in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 30 N., R. 14 W., N.M.P.M. is capable of producing unitized substances in paying quantities from the Dakota formation. This well was completed on April 15, 1962, for an initial absolute open flow potential of 4,028 MCF of gas per day, from the Dakota formation 6,257-6,572 feet.

This office concurs with your determination that the well is capable of producing unitized substances in paying quantities. A plan of development and an application for approval of an initial Dakota participating area should be submitted pursuant to secs. 10 and 11 of the unit agreement.

Very truly yours,

(Orig. Sgd.) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

Copy to: Washington (w/cy of Notice)
Farmington (w/cy of Notice)
NMOCC, Santa Fe (ltr. only) ✓
Com. of Pub. Lands, Santa Fe (Ltr. only)
Accounts

7-115

C
O
P
Y

May 29, 1962

Humble Oil & Refining Company
P. O. Box 120
Denver 1, Colorado

Re: North Kirtland Unit,
San Juan County,
New Mexico

Attention: Mr. Carl F. Smith

Gentlemen:

We acknowledge receipt of a ratification and joinder to the North Kirtland Unit and Unit Operating Agreement, executed by Vincent and Louise Cuccia.

May we assume that Federal Lease NM 0235870 is dated March 1, 1961 and ratification and joinder is also effective as of such date.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mmr/v
cc: U. S. Geological Survey
Roswell, New Mexico

HUMBLE OIL & REFINING COMPANY

CENTRAL REGION

P. O. Box 120
Denver 1, Colorado
May 24, 1962

2140

Commissioner of Public Lands
State of New Mexico
Santa Fe, New Mexico

California Oil Company
P. O. Box 1249
Houston, Texas

✓ Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

Southern Union Production Company
Fidelity Union Tower
Dallas, Texas

Pan American Petroleum Corporation
P. O. Box 1410
Fort Worth, Texas

Aztec Oil & Gas Company
920 Mercantile Securities
Dallas, Texas

Petro-Atlas, Inc.
2000 National Bank of Tulsa Building
Tulsa, Oklahoma

Compass Exploration, Inc.
101 University Boulevard
Denver, Colorado

Texaco, Inc.
P. O. Box 3109
Midland, Texas

Mr. John P. Cuccia
1206 West Holt Boulevard
Ontario, California

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas

Mr. George E. Conley
P. O. Box 611
Santa Fe, New Mexico

Gentlemen:


Re: North Kirtland Unit
San Juan County, New Mexico

We enclose the following joinders which will commit Tracts 9 and 10 to the unit agreement and operating agreement upon issuance of lease New Mexico 0235870.

1. Ratification and Joinder signed by Vincent Cuccia and wife, the applicant for the above Federal lease.
2. Copy of United States Geological Survey letter dated May 22, 1962.
3. Copy of consent to the above joinder by Vincent Cuccia executed by Humble Oil & Refining Company, Pan American Petroleum Corporation, Petro-Atlas, Inc., Texaco, Inc., El Paso Natural Gas Company, California Oil Company, Southern Union Production Company, Aztec Oil & Gas Company, Compass Exploration, Inc., John P. Cuccia, and George E. Conley.

Yours very truly,

HUMBLE OIL & REFINING COMPANY


Carl F. Smith

CFS/jt

cc: Vincent Cuccia
w/encl.



RECEIVED
MAY 1 1962 PM 1 57

IN REPLY REFER TO:

MAY 24 1962

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico

May 22, 1962

Humble Oil and Refining Company
P. O. Box 120
Denver 1, Colorado

Attention: Mr. Carl F. Smith

Gentlemen:

We hereby acknowledge receipt of a ratification and joinder to the North Kirtland unit and unit operating agreement. Said joinder has been executed by VINCENT and LOUISE CUCCIA, who will become lessees of record and working interest owners in Federal land unit tracts 9 and 10 upon issuance of lease New Mexico 0235870.

Section 29 of the North Kirtland unit agreement requires that copies of the above mentioned ratification and joinder be filed with the Commissioner of Public Lands, State of New Mexico, and the New Mexico Oil and Gas Conservation Commission. Upon receipt of notice from you that such requirement has been met, Federal land unit tracts 9 and 10 will be considered effectively committed to the North Kirtland unit agreement, No. 14-08-0001-7520, New Mexico, as of the date of issuance of lease New Mexico 0235870.

Copies of the ratification and joinder are being distributed to the appropriate Federal offices. All copies surplus to our needs are returned herewith.

Very truly yours,

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

EXTRA

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
BIRMINGHAM, NEW MEXICO

RATIFICATION AND JOINDER
NORTH KIRTLAND UNIT AGREEMENT
AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO
DATED MARCH 1, 1961

The undersigned has filed an offer to lease Federal lands within the North Kirtland Unit Area.

For the consideration stated in the said agreements, the undersigned, as a working interest owner, does hereby join in, ratify and confirm the Unit Agreement for the Development and Operation of the North Kirtland Unit Area and the Unit Operating Agreement, County of San Juan, State of New Mexico, both agreements dated March 1, 1961. The said agreements are incorporated herein and made a part hereof and are adopted, ratified and confirmed to the same extent and effect as if the undersigned had executed the originals of said agreements.

The undersigned acknowledges receipt of copies of said agreements and acknowledges that no representations not incorporated herein or in said Unit Agreement and Unit Operating Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Dated: April 5, 1962


Vincent Cuccia

Address: c/o P. O. Box 367
Corona del Mar, California


Louise Cuccia

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.

The foregoing instrument was acknowledged before me this 5th
day of April, 1962, by Vincent and Louise Cuccia

My commission expires:

Doreen Smith

My Commission Expires Nov. 2, 1965


NOTARY PUBLIC

RECEIVED
APR 30 1962
U. S. GEOLOGICAL SURVEY
DENVER, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: March 27, 1962

HUMBLE OIL & REFINING COMPANY

Address: P. O. Box 120
Denver, Colorado

By: [Signature]
Attorney-in-Fact

~~WITNESSES~~

STATE OF COLORADO)
CITY & DENVER) ss. (Attorney-in-Fact)
COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 27th day of March, 1962, by L. A. DODD, Attorney-in-Fact of Humble Oil & Refining Company, a Delaware corporation, in behalf of said corporation.

My commission expires:
July 25, 1965

[Signature]
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss. (Corporate)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, President of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss. (Individual)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: 4-4-62

PAN AMERICAN PETROLEUM CORPORATION

Address: P. O. Box 1410
Fort Worth, Texas

By: [Signature]
Attorney in Fact

Attest: [Signature]
Assistant Secretary

STATE OF TEXAS)
COUNTY OF TARRANT) ss.

(Attorney-in-Fact)

The foregoing instrument was acknowledged before me this 4th day of April, 1962, by D. B. MASON, JR., Attorney-in-Fact of PAN AMERICAN PETROLEUM CORPORATION, a Delaware corporation, in behalf of said corporation.

My commission expires:

June 1, 1963

[Signature]
NOTARY PUBLIC

VELMA B. CRAFT

STATE OF _____)
COUNTY OF _____) ss.

(Corporate)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, President of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Individual)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: March 29, 1962

PETRO-ATLAS, INC.

Address: 2000 National Bank of
Tulsa Building
Tulsa, Oklahoma

By: F. T. Anderson EXHIBIT # 9
F. T. ANDERSON - PRESIDENT

Attest: H. J. Parks
H. J. Parks - Assistant Secretary

STATE OF _____)

) ss.

(Attorney-in-Fact)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, Attorney-in-Fact of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF OKLAHOMA)

) ss.

(Corporate)

COUNTY OF TULSA)

The foregoing instrument was acknowledged before me this 29th day of MARCH, 1962, by F. T. ANDERSON, President of PETRO-ATLAS, INC., a DELAWARE corporation, in behalf of said corporation.

My commission expires:

March 22, 1966

Merry D. Allen
NOTARY PUBLIC (Merry D. Allen)

STATE OF _____)

) ss.

(Individual)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

RECEIVED
APR 30 1962
U. S. GEOLOGICAL SURVEY
SHELTON, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: April 10, 1962

TEXACO, INC.

Address: P. O. Box 3109
Midland, Texas

APPROVED AS TO

Terms as is

WMB

By: J. L. Sleeper, Jr.

ATTORNEY-IN-FACT

Attest: _____

STATE OF TEXAS)

) ss.

(Attorney-in-Fact)

COUNTY OF MIDLAND)

The foregoing instrument was acknowledged before me this 10th
day of April, 1962, by J. L. Sleeper, Jr.
Attorney-in-Fact of TEXACO Inc.
a Delaware corporation, in
behalf of said corporation.

My commission expires:

June 1, 1963

Betty R. Davis
NOTARY PUBLIC

BETTY R. DAVIS

STATE OF _____)

) ss.

(Corporate)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____
day of _____, 1962, by _____,
President of _____,
a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF _____)

) ss.

(Individual)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____
day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: MAR 29 1962

EL PASO NATURAL GAS COMPANY

Address: P. O. Box 1492
El Paso, Texas

By: *Sam Smith*
ATTORNEY-IN-FACT

Attest: _____

STATE OF TEXAS)
COUNTY OF EL PASO) ss. (Attorney-in-Fact)

The foregoing instrument was acknowledged before me this 29th day of March, 1962, by Sam Smith, Attorney-in-Fact of EL PASO NATURAL GAS COMPANY, a corporation, in behalf of said corporation.

My commission expires:
NATALIE TAYLOR
Notary Public in and for El Paso County, Texas
My Commission Expires June 1, 1966

Natalie Taylor
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss. (Corporate)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, President of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss. (Individual)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
WELL, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: 4/27/62
Address: P. O. Box 1249
Houston, Texas

CALIFORNIA OIL COMPANY
By: T. L. Taylor Attorney in Fact
By: E. V. Cook Attorney in Fact

Attest: _____

STATE OF Texas)
COUNTY OF Harris) ss. (Attorney-in-Fact)

The foregoing instrument was acknowledged before me this 23 day of April, 1962, by T. L. Taylor and J. W. Clark, Attorney-in-Fact of CALIFORNIA OIL COMPANY, a California corporation, in behalf of said corporation.

My commission expires: _____

Peggy Spence
NOTARY PUBLIC
PEGGY SPENCE
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1963

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, President of _____, a _____ corporation, in behalf of said corporation.

My commission expires: _____

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss. (Individual)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires: _____

NOTARY PUBLIC

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
SUNNYSIDE, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: APRIL 3, 1962

SOUTHERN UNION PRODUCTION COMPANY

Address: Fidelity Union Tower
Dallas, Texas

By: A.M. Clierer-Kehr
Vice President

Attest: Emma Bookout
Assistant Secretary

STATE OF _____)
COUNTY OF _____) ss.

(Attorney-in-Fact)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, Attorney-in-Fact of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF TEXAS)
COUNTY OF DALLAS) ss.

(Corporate)

The foregoing instrument was acknowledged before me this 3RD day of APRIL, 1962, by A.M. CLIERER-KEHR, VICE President of SOUTHERN UNION PRODUCTION COMPANY, a DELAWARE corporation, in behalf of said corporation.

My commission expires:

6-1-63

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Individual)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

RECEIVED

APR 30 1962

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

U. S. GEOLOGICAL SURVEY
ALBUQUERQUE, NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: April 5, 1962

AZTEC OIL & GAS COMPANY

Address: 920 Mercantile Securities
Dallas, Texas

By: William R. Davis

VICE PRESIDENT

Attest: Robert L. Hall

SECRETARY

STATE OF _____)

) ss.

(Attorney-in-Fact)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, Attorney-in-Fact of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF Texas)

) ss.

(Corporate)

COUNTY OF Dallas)

The foregoing instrument was acknowledged before me this 5th day of April, 1962, by William R. Davis, President of Aztec Oil & Gas Company, a Texas corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF _____)

) ss.

(Individual)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
POWELL, NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: 3/28/62

COMPASS EXPLORATION, INC.

Address: 101 University Boulevard
Denver, Colorado

By: George Aubrey, President

Attest: Lorraine D. C. Brown
Secretary

STATE OF _____)

) ss.

(Attorney-in-Fact)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, Attorney-in-Fact of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF COLORADO)

) ss.

(Corporate)

COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 28th day of March, 1962, by GEORGE AUBREY, President of COMPASS EXPLORATION, INC., a Colorado corporation, in behalf of said corporation.

My commission expires:

January 4, 1965

Lennie Karnes
NOTARY PUBLIC

STATE OF _____)

) ss.

(Individual)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____.

My commission expires:

NOTARY PUBLIC

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: April 5, 1962

JOHN P. CUCCIA

Address: 1206 West Holt Boulevard
Ontario, California

By: John P. Cuccia

Attest: _____

STATE OF _____)
COUNTY OF _____)

ss.

(Attorney-in-Fact)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, Attorney-in-Fact of _____, a _____ corporation, in behalf of said corporation.

My commission expires: _____

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____)

ss.

(Corporate)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, President of _____, a _____ corporation, in behalf of said corporation.

My commission expires: _____

NOTARY PUBLIC

STATE OF California)
COUNTY OF Orange)

ss.

(Individual)

The foregoing instrument was acknowledged before me this 12th day of April, 1962, by John P. Cuccia

My commission expires: _____

Doreen Smith

My Commission Expires Nov. 2, 1965

NOTARY PUBLIC

RECEIVED

APR 30 1962

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

CONSENT TO RATIFICATION AND JOINDER
IN THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
NORTH KIRTLAND UNIT AREA AND UNIT OPERATING AGREEMENT
COUNTY OF SAN JUAN, STATE OF NEW MEXICO

The undersigned is a party to both the Unit Agreement for the Development and Operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, and the Unit Operating Agreement, North Kirtland Unit Area, both dated March 1, 1961. We understand that Vincent Cuccia has filed an offer for a Federal Oil and Gas Lease on lands within the said unit area and has, or will, ratify, adopt and confirm both the unit agreement and unit operating agreement previously entered into by the parties.

The undersigned, as a working interest owner, hereby consents to such ratification and joinder.

Dated: 4/11/62 GEORGE E. CONLEY

Address: P. O. Box 611
Santa Fe, New Mexico

By: 

TRAIL # 9

Attest: _____

STATE OF _____)
COUNTY OF _____) ss. (Attorney-in-Fact)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, Attorney-in-Fact of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss. (Corporate)

The foregoing instrument was acknowledged before me this _____ day of _____, 1962, by _____, President of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF California)
COUNTY OF Orange) ss. (Individual)

The foregoing instrument was acknowledged before me this thirteenth day of April, 1962, by George E. Conley

My commission expires:

Doreen Smith
My Commission Expires Nov. 2, 1965


NOTARY PUBLIC

HUMBLE OIL & REFINING COMPANY
CENTRAL REGION

P. O. Box 120
Denver, Colorado

July 24, 1961

Commissioner of Public Lands
State of New Mexico
Santa Fe, New Mexico

California Oil Company
P. O. Box 1249
Houston, Texas

Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

Southern Union Production Company
Fidelity Union Tower
Dallas, Texas

Pan American Petroleum Corporation
P. O. Box 1410
Oil and Gas Building
Fort Worth, Texas

Aztec Oil & Gas Company
920 Mercantile Securities
Dallas, Texas

Petro-Atlas, Inc.
2000 National Bank of Tulsa Building
Tulsa, Oklahoma

Compass Exploration, Inc.
101 University Boulevard
Denver, Colorado

Texaco, Inc.
P. O. Box 3109
Midland, Texas

Mr. John P. Cuccia
1206 West Holt Boulevard
Ontario, California

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas

Mr. George E. Conley
P. O. Box 611
Santa Fe, New Mexico

Re: North Kirtland Unit
San Juan County, New Mexico

Gentlemen:

On June 30, 1961, the Acting Director of the United States Geological Survey approved the North Kirtland Unit Agreement, and the Unit Agreement along with the Unit Operating Agreement became effective on that date.

We are enclosing a complete executed and approved copy of the Unit Agreement and a complete executed copy of the Unit Operating Agreement. No additional executed copies of these agreements are available. If you desire additional reproduced or unexecuted copies, they will be furnished you upon request.

We call your attention to the fact that the Certificate of Approval by the Commissioner of Public Lands, State of New Mexico, exempts the North Half of Section 32, T30N, R14W, from the approval. At the request of the United States Geological Survey, all working interests in this tract which

July 20, 1961

were committed to the Unit Agreement were withdrawn. Therefore, the North Half of Section 32 is fully non-committed to the Unit Agreement and Unit Operating Agreement.

We are enclosing a copy of our letter dated May 25, 1961, to the Director, United States Geological Survey, requesting the final approval of the Unit Agreement. We are unable to determine from our file whether you received copies of the letter at the time it was mailed.

For your information, the initial test well required by Section 9 of the Unit Agreement is now drilling in the NW/4 of the SE/4, Section 11, T30N, R114W. The test well was commenced June 24, 1961, and was drilling on the date the Unit Agreement was approved.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

By: 

F. E. Dickerson

FED:meba

enc.

All enclosures included except the Unit Operating Agreement.



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

JUL 5 1961

Humble Oil & Refining Company
Post Office Box 120
Denver, Colorado

Gentlemen:

On June 30, 1961, Arthur A. Baker, Acting Director of the Geological Survey, approved the North Kirtland unit agreement, San Juan County, New Mexico, filed by your company as unit operator. This agreement has been designated No. 14-08-0001-7520, and is effective as of the date of approval.

Enclosed are three copies of the approved unit agreement for your records. It is requested that you furnish the State of New Mexico or any other interested principal with whatever evidence of this approval is deemed appropriate.

Very truly yours,

For the Director

Enclosures 3

HUMBLE OIL & REFINING COMPANY

~~GARTER DIVISION~~

Box 120

Denver, Colorado

May 25, 1961

To: Director
United States Geological Survey
Department of the Interior
Washington 25, D.C.

Case #2140

Through: Mr. John A. Anderson
Regional Oil and Gas Supervisor
United States Geological Survey
P.O. Box 6721
Roswell, New Mexico

Re: Proposed North Kirtland
Unit Agreement
San Juan County, New Mexico

Dear Sir:

On November 14, 1961, Mr. Arthur A. Baker, Acting Director, approved our application requesting the designation of 11,478.48 acres, more or less, in San Juan County, New Mexico, as logically subject to exploration and development under the unitization provisions of the Mineral Leasing Act, as amended. Approval was also granted for a form of unit agreement which substantially follows the standard unit agreement form (June 1957 reprint) with certain changes referred to in Mr. Baker's approval letter.

Enclosed are seven (7) copies of the North Kirtland Unit Agreement executed by certain parties in interest as shown on Exhibit "B" to the agreement. Also enclosed are three (3) copies of the North Kirtland Unit Operating Agreement executed by those working interest owners who executed the Unit Agreement. Exhibits "A" and "B" to the Unit Agreement show the status of all acreage and record ownership of all leases as well as present royalty, overriding royalty and working interest ownership, insofar as we are able to determine.

The Unit Agreement was approved by the Commissioner of Public Lands of the State of New Mexico on May 22, 1961, however, you will note that the North half of Section 32, Township 30 North, Range 14 West, which is State Land, is excluded from the approval. We have therefore shown this land as fully non-committed to the Unit Agreement.

Enclosed, in triplicate, is a land map, copies of Exhibit "A", showing the status of commitments to the Unit Agreement. 1,520.00 acres, or approximately 13.24% of the unit area is fully non-committed due to refusal of the working interest owners to execute the Unit and Unit Operating Agreements or failure of the Commissioner of Public Lands of the State of New Mexico to include the lands in his approval. 876.52 acres, or approximately 7.64% of the unit area is committed as to all interests except overriding royalty interests. 9,081.96 acres, or approximately 79.12% of the unit area is fully committed to the Unit Agreement as to all interests. (This is based on final approval of the Unit Agreement by the Director). Disregarding the overriding royalty interests which are not committed, upon approval of the Unit Agreement by the Director, 9,958.48 acres

May 25, 1961

or approximately 86.76% of the unit area will be committed to the Unit Agreement. Of the non-committed lands, 160 acres or 1.39% are unleased Federal lands.

Following is the status of the fully non-committed and partially non-committed tracts:

(See also "Summary of Non-Committed Interests", attached)

- Tract 4 - Federal Lease. 320.00 acres, 2.79% of unit area. Tract is fully non-committed. The working interest owner, Pubco Petroleum Corporation, has refused to commit this lease to the unit. (See copy of Pubco's letter of February 10, 1961 enclosed).
- Tract 8 - Federal Lease. 160.00 acres, 1.39% of unit area. 2½% overriding royalty is not committed, remaining interests in the tract are committed. The owner of the non-committed overriding royalty interest is deceased. We have received a Ratification and Joinder to the Unit Agreement executed by the Executor of the Estate but have no evidence that it was authorized so have considered this interest as non-committed for the present.
- Tract 13 - Federal Lease. 320.00 acres, 2.79% of unit area. 5% overriding royalty owned by F.H. Carpenter and Louise Carpenter is not committed, remaining interests are committed. The Carpenters have been contacted several times and invited to commit the interest to the unit but so far have not done so. Efforts to obtain commitment are being continued.
- Tract 16 - Federal Lease. 278.01 acres, 2.42% of unit area. 5% overriding royalty interest owned by Edward Colton Evensen and Harriet F. Evensen is not committed, remaining interests in the tract are committed. The Evensens have been contacted several times and invited to commit the interest to the unit but so far have not done so. Efforts to obtain commitment will be continued.
- Tract 17 - Federal Lease. 38.51 acres, .33% of unit area. 5% overriding royalty interest owned by Edward Colton Evensen and Harriet F. Evensen is not committed. See Tract 16, above.
- Tract 22 - Federal Lease. 40.00 acres, .35% of unit area. 5% overriding royalty interest owned by Edward B. Benjamin, Jr., Adelaide W. Benjamin, W. Mente Benjamin and Joan D. Benjamin is not committed, remaining interests in the tract are committed. The Benjamins have been contacted several times and invited to commit the interest to the unit but so far have not done so. Efforts to obtain commitment will be continued.
- Tract 25 - Federal Tract. 160.00 acres, 1.39% of unit area. This tract is unleased and cannot be committed as to working interest until it is leased. The lands are classified as on a known geologic structure and will require competitive bidding for a lease.
- Tract 26 - State Lease. 40.00 acres, .35% of unit area. Tract is fully non-committed. The tract has been committed by Southern Union

May 25, 1961

Production Company, the working interest owner but this tract was not included in the approval of the Commissioner of Public Lands of the State of New Mexico.

- Tract 27 - (Part) State Lease. (Part in Section 32 only). 40.00 acres, .35% of unit area. Tract, as to part in Section 32, is fully non-committed, remainder of tract in Section 2, is fully committed. Owned by Southern Union Production Company - See Tract 27, above. This part of the tract was also not included in the approval by the Commissioner of Public Lands of the State of New Mexico.
- Tract 28 - State Lease. 80.00 acres, .70% of unit area. This tract is fully non-committed. Pubco Petroleum Corporation, working interest owner, refused to commit this tract (see letter of February 10, 1961, enclosed and Tract 4 above) and the tract was not included in the approval of the State of New Mexico.
- Tract 29 - State Lease. 40.00 acres, .35% of unit area. Same as Tract 28 above.
- Tract 30 - State Lease. 80.00 acres, .70% of unit area. Tract is fully non-committed. EVKO Development Company, working interest owner, refused to ~~commit~~ this tract. Representatives of Humble Oil & Refining Company Unit Operator, have contacted EVKO by mail, telephone and personally and invited them to join the unit but so far EVKO has refused. We also made several attempts to purchase EVKO's acreage but were not successful. Efforts to obtain commitment will be continued.
- Tract 31 - State Lease. 40.00 acres, .35% of unit area. Tract is fully non-committed. Sygmund Haber, working interest owner, has informed us he will commit if EVKO Development Company will commit its Tracts.
- Tract 32 - State Lease. 40.00 acres, .35% of unit area. Tract is fully non-committed. EVKO Development Company is working interest owner. See Tract 30, above.
- Tract 33 - State Lease. 40.00 acres, .35% of unit area. Tract is fully non-committed. EVKO Development Company is working interest owner. See Tract 30, above.
- Tract 34 - State Lease. 320.00 acres, 2.79% of unit area. Tract is fully non-committed. EVKO Development Company is working interest owner. See Tract 30, above.
- Tract 35 - State Lease. 40.00 acres, .35% of unit area. Tract is fully non-committed. EVKO Development Company is working interest owner. See Tract 30, above.
- Tract 38 - State Lease. 40.00 acres, .35% of unit area. 5% overriding royalty owned by Mrs. R. Lucian Hamilton is not committed, remaining interests are committed. Mrs. Hamilton has executed a Ratification and Joinder to the Unit Agreement but it was incorrectly executed and was returned for re-execution. We believe this commitment will be obtained within the next few days.

May 25, 1961

Tract 40 - State Lease. 40.00 acres, .35% of unit area. Tract is fully non-committed. EVKO Development Company is working interest owner. See Tract 30 above.

Tract 41 - State Lease. 120.00 acres, 1.05% of unit area. Tract is fully non-committed. Tract was committed by J. Felix Hickman and Empire States Drilling Corporation and all overriding royalty owners but was not included in the approval by the Commissioner of Public Lands of the State of New Mexico.

Tract 42 - State Lease. 120.00 acres, 1.04% of unit area. Tract is fully non-committed. Pubco Petroleum Corporation is working interest owner. See Tract 4 above.

The percentages shown above are approximate, see detailed "Summary of Non-Committed Interests", attached for more accurate percentages, shown to four decimal places.

We believe we have commitment of sufficient lands to afford reasonably effective control of Unit operations and respectfully request your final approval of the Unit Agreement.

We plan to commence the first test well required by Section 9 of the Unit Agreement within the next few days. Our proposed location is in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 11, T30N, R14W.

Your early consideration and approval of the Unit Agreement will be appreciated.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

By 
F.E. Dickerson

FED:sc

cc: Commissioner of Public Lands - State of New Mexico
Oil Conservation Commission of the State of New Mexico
Each Working Interest Owner (See Attached List)

WORKING INTEREST OWNERS
North Kirtland Unit Area
San Juan County, New Mexico

PAN AMERICAN PETROLEUM CORPORATION
P.O. Box 1410
Oil and Gas Building
Fort Worth, Texas

PETRO-ATLAS, INC.
2000 National Bank of Tulsa Building
Tulsa, Oklahoma

TEXACO, INC.
P.O. Box 3109
Midland, Texas

EL PASO NATURAL GAS COMPANY
P.O. Box 1492
El Paso, Texas

CALIFORNIA OIL COMPANY
P.O. Box 1249
Houston, Texas

SOUTHERN UNION PRODUCTION COMPANY
Fidelity Union Tower
Dallas, Texas

AZTEC OIL & GAS COMPANY
920 Mercantile Securities
Dallas, Texas

EMPIRE STATES DRILLING CORPORATION
1020 Simms Building
Albuquerque, New Mexico

COMPASS EXPLORATION, INC.
101 University Blvd.
Denver, Colorado

MR. J. FELIX HICKMAN
3010 Monte Vista, NE
Albuquerque, New Mexico

NORTH KIRTLAND UNIT AGREEMENT
SAN JUAN COUNTY, NEW MEXICO

SUMMARY OF NON-COMMITTED INTERESTS
(As of 5-25-61)

Partially Non-Committed Tracts

Tract No.	Type of Land	Acres in Tract	Interest Not Committed	Net Acres Not Committed	Percent of Unit Area	Owner of Interest
8	Federal	160.00	2½% overriding royalty	4.0000	.0348%	Estate of Frank Orwitz, Deceased
	Federal	320.00	5% overriding royalty	16.0000	.1394%	F.H. Carpenter
16	Federal	278.01	5% overriding royalty	13.9000	.1211%	Edward Colton Evensen & Harriet F. Evensen
17	Federal	38.51	5% overriding royalty	1.9255	.0168%	Edward Colton Evensen & Harriet F. Evensen
22	Federal	40.00	5% overriding royalty	2.0000	.0174%	Edward B. Benjamin, Jr. & Adelaide W. Benjamin 2½%
						W. Monte Benjamin & Joan D. Benjamin 2½%
38	State	<u>40.00</u>	<u>5% overriding royalty</u>	<u>2.0000</u>	<u>.0174%</u>	Mrs. R. Lucian Hamilton
	Totals	876.52	27½%	39.8255	.3469%	
<u>Fully Non-Committed Tracts</u>						
Tract No.	Type of Land	Acres in Tract	Percent of Unit Area	Working Interest Owner		
4	Federal	320.00	2.7878%	Pubco Petroleum Corp.		
25	Federal	160.00	1.3939%	Unleased Federal Land		

North Kirtland Unit Agreement
San Juan County, New Mexico

Summary of Non-Committed Interests
(As of 5-25-61)

Tract No.	Type of Land	Acres in Tract	Percent of Unit Area	Working Interest Owner
26	State	40.00	.3485%	*Southern Union Production Co.
27	State	40.00 (Part)	.3485%	*Southern Union Production Co.
28	State	80.00	.6969%	Pubco Petroleum Corp.
29	State	40.00	.3485%	Pubco Petroleum Corp.
30	State	80.00	.6969%	EVKO Development Co.
31	State	40.00	.3485%	Sygmund Haber
32	State	40.00	.3485%	EVKO Development Co.
33	State	40.00	.3485%	EVKO Development Co.
34	State	320.00	2.7878%	EVKO Development Co.
35	State	40.00	.3485%	EVKO Development Co.
40	State	40.00	.3485%	EVKO Development Co.
41	State	120.00	1.0454%	*J. Felix Hickman 1/3 *Mountain States 2/3 Drilling Corp.
42	State	<u>120.00</u>	<u>1.0454%</u>	
	Totals	1,520.00	13.5906%	Pubco Petroleum Corp.

* Working Interest in Tracts 26 and 27 was committed by Southern Union Production Company and Working Interest in Tract 41 was committed by Empire States Drilling Corporation and J. Felix Hickman but the Commissioner of Public Lands of the State of New Mexico did not approve the unit agreement as to these lands and these tracts are therefore non-committed.

Total Acreage Fully Committed	9,081.96 Acres	79.12% of Unit Area
Total Acreage Partially Committed	876.52 Acres	7.64% of Unit Area
Total Acreage Fully Non-Committed	<u>1,520.00 Acres</u>	<u>13.24% of Unit Area</u>
Total Unit Area	11,478.48 Acres	100.00% of Unit Area

Case # 7143

May 22, 1961

C
O
P
Y

Mr. F. E. Dickerson
P. O. Box 120
Denver, Colorado

Re: North Kirtland Unit
San Juan County, New Mexico

Dear Mr. Dickerson:

The Commissioner of Public Lands has of this date approved the North Kirtland Unit, San Juan County, New Mexico. The Commissioner's approval exempts the North Half of Section 32, Township 30-North, Range 14-West, which is State Land, from inclusion in this agreement.

We are enclosing the original and six copies of the Certificate of Approval and Official Receipt No. 53907 in the amount of \$110.00 which covers the filing fee.

At such time as this unit is approved by the United States Geological Survey we request this office be furnished a fully confirmed copy.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

ESW/mmr/s
cc:

United States Geological Survey
Reswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

ILLEGIBLE

GOVERNOR
JOHN BURROUGHS
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
MURRAY E. MORGAN
MEMBER

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

P. O. BOX 871
SANTA FE

December 19, 1960

Mr. Howard Bratton
Hervey, Dow & Hinkle
Box 547
Roswell, New Mexico

Re: Case No. 2140
Order No. R-1841

Applicant:

Humble Oil & Refining 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

ir/

Carbon copy of order also sent to:

Hobbs OCC X
Artesia OCC
Aztec OCC X

Other

**BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO**

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

CASE No. 2140
Order No. E-1841

**THE APPLICATION OF HUNTER OIL &
REFINING COMPANY FOR APPROVAL OF
THE NORTH KIRTLAND UNIT AGREEMENT
EMBRACING 11,478 ACRES, MORE OR
LESS, LOCATED IN TOWNSHIP 36 NORTH,
RANGE 14 WEST, HUGH, SAN JUAN COUNTY,
NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on December 12, 1960, at Santa Fe, New Mexico, before Elvis A. Utk, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 17th day of December, 1960, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utk, 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 proposed unit plan will in principle tend to promote the conservation of oil and gas and the prevention of waste.

IT IS THEREFORE ORDERED:

(1) That this order shall be known as the NORTH KIRTLAND UNIT AGREEMENT ORDER.

(2) (a) That the project herein referred to shall be known as the North Kirtland Unit Agreement and shall hereinafter be referred to as the "Project."

(b) That the Plan by which the project shall be operated shall be embodied in the form of a unit agreement for the

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-3-

CASE No. 2140

Order No. R-1841

subscribing to such agreement or counterpart thereof, or by ratifying the same. The unit operator shall file with the Commission within 30 days an original of any such counterpart or ratification.

(7) That this Order shall become effective upon the approval of said unit agreement by the Director of the United States Geological Survey and by the Commissioner of Public Lands for the State of New Mexico, and shall terminate ipso facto upon the termination of said unit agreement. The last unit operator shall immediately notify the Commission in writing of such termination.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

S E A L

esr/

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J. M. HERVEY 1874-1953

HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY, IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD

LAW OFFICES
HERVEY, DOW & HINKLE

HINKLE BUILDING

ROSWELL, NEW MEXICO

November 22, 1960

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
State Capitol
Santa Fe, New Mexico

Re: North Kirtland Unit Agreement
San Juan County, New Mexico

Dear Mr. Porter:

We hand you herewith, in triplicate, application of the Humble Oil & Refining Company for approval of the above Unit Agreement, together with three copies of the proposed form of Unit Agreement. We have heretofore discussed this matter with Mr. Oliver Payne, and it is our understanding that he has arranged to have this matter set for your Examiner's Hearing on December 12, 1960. We would appreciate your furnishing us with a copy of the notice.

The copies of the Unit Agreement which are being filed are not complete insofar as Exhibit "B" is concerned, which is the schedule showing the leasehold interests within the unit area. As soon as this is completed, we will furnish you with the necessary copies to be attached to the copies filed.

Yours very truly,

HERVEY, DOW & HINKLE

By 

CEH:bc

Encls.

cc: Humble Oil & Refining Co.

P.S. I find that we only have one copy of the Unit Agreement, and as Humble is closed today I will send the other two copies to you Monday.

C.E.H.

J. M. HERVEY 1874-1953

HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
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PAUL W. EATON, JR.

CONRAD E. COFFIELD

LAW OFFICES
HERVEY, DOW & HINKLE

HINKLE BUILDING

ROSWELL, NEW MEXICO

November 28, 1960

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

Case 2140

New Mexico Oil Conservation Commission
State Capitol
Santa Fe, New Mexico

Re: North Kirtland Unit Agreement

Gentlemen:

We enclose two additional copies of the proposed form of Unit Agreement for the Development and Operation of the North Kirtland Unit Area to be filed with the Application of Humble Oil & Refining Company for approval of the Unit.

The Exhibit "B" in connection with the agreement is not yet complete, but will be filed prior to the hearing which we understand is to be set for December 12, 1960.

Yours very truly,

HERVEY, DOW & HINKLE

By 

CEH:bc

Encls.

cc: Humble Oil & Refining Co.

Rechecked
mailed
12-5-60
JP

NEW MEXICO 34
BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

APPLICATION FOR APPROVAL OF
NORTH KIRTLAND UNIT AGREEMENT
SAN JUAN COUNTY, NEW MEXICO

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Comes the undersigned, Humble Oil & Refining Company, a corporation with offices at Houston, Texas, and files herewith three copies of the proposed Unit Agreement for the development and operation of the North Kirtland Unit Area, San Juan County, New Mexico, and hereby makes application for the approval of said Unit Agreement as provided by law, and in support thereof, states:

1. That the proposed unit area covered by said agreement embraces 11,478.48 acres, more or less, more particularly described as follows:

NEW MEXICO PRINCIPAL MERIDIAN

Township 30 North, Range 14 West

Sections 1 and 2: All
Section 3: $SE\frac{1}{4}$
Sections 10, 11, 12, 13, 14, 15, 16: All
Section 20: $E\frac{1}{2}$
Sections 21, 22, 23: All
Section 24: $W\frac{1}{2}$
Section 26: $N\frac{1}{2}$
Sections 27, 28, 29: All
Section 32: $N\frac{1}{2}$
Section 33: $N\frac{1}{2}$
Section 34: $NW\frac{1}{4}$

2. That of the lands embraced within the proposed unit area, 9,878.48 acres are Federal lands and 1,600 acres are lands of the State of New Mexico. That said area has heretofore, on November 14, 1960, been designated by the Acting Director of the United States Geological Survey as an area suitable

and proper for unitization, a copy of said designation being attached hereto, made a part hereof and for purposes of identification marked Exhibit "A".

3. That applicant is informed and believes, and upon such information and belief states, that the proposed unit area contains all or a substantial part of the geological feature involved, and that in the event of the discovery of oil or gas thereon, that said Unit Agreement will permit the producing area to be developed and operated in the interest of conservation and the prevention of waste of the unitized substances.

4. That the unit area has heretofore been designated by the United States Geological Survey as an area suitable and proper for unitization, and the form of unit agreement has been approved by the United States Geological Survey and is in substantially the same form as unit agreements heretofore approved involving both Federal and State lands.

5. That the Humble Oil & Refining Company is designated as the Unit Operator in said Unit Agreement, and as such is given authority under the terms thereof to carry on all operations necessary for the development and operation of the unit area for oil and gas, subject to all applicable laws and regulations. That Section 9 of said Unit Agreement provides for the drilling of an initial test well to a depth sufficient to test the Pennsylvanian Madison formation, which is expected to be encountered at approximately 12,000 feet, but that the applicant is not obligated to drill said well in excess of 12,500 feet.

6. That applicant believes that in the event oil or gas in paying quantities is discovered on the lands within the unit area, that the field or area can be developed more economically and efficiently under the terms of said Unit Agreement, to

the end that the maximum recovery will be obtained of unitized substances and that said Unit Agreement is in the interest of conservation and the prevention of waste as contemplated by the New Mexico Oil Conservation Commission statutes.

7. That application is being made for approval of said Unit Agreement by the Commissioner of Public Lands of the State of New Mexico.

8. That upon an order being entered by the New Mexico Oil Conservation Commission approving said Unit Agreement, and after approval thereof by the Commissioner of Public Lands of the State of New Mexico and the Director of the United States Geological Survey, an approved copy thereof will be filed with the New Mexico Oil Conservation Commission.

WHEREFORE, the undersigned applicant respectfully requests that a hearing be held before an examiner on the matter of the approval of said Unit Agreement, and that upon said hearing, said Unit Agreement be approved by the New Mexico Oil Conservation Commission as being in the interest of conservation and the prevention of waste.

DATED this the 22nd day of November, 1960.

Respectfully submitted,

HUMBLE OIL & REFINING COMPANY

By Robert J. Wade Jr.

HERVEY, DOW & HINKLE

By [Signature]

Attorneys for Humble Oil
& Refining Company
Roswell, New Mexico



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

NOV 14 1960

Humble Oil and Refining Company
Post Office Box 1287
Roswell, New Mexico

Attention: Mr. R. M. Richardson

Gentlemen:

Your undated application accompanying your transmittal letter of September 18, filed with the Oil and Gas Supervisor, Roswell, New Mexico, requests the designation of 11,478.48 acres, more or less, San Juan County, New Mexico, as logically subject to exploration and development under the unitization provisions of the Mineral Leasing Act, as amended.

Pursuant to the unit plan regulations of December 22, 1950, (30 CFR 226.3), the land outlined on your plat marked "Exhibit A, North Kirtland unit area, San Juan County, New Mexico" is hereby designated as a logical unit area. Your unit agreement form incorrectly includes the E $\frac{1}{2}$ sec. 24, T. 30 N., R. 14 W., N.M.P.M., as a portion of the unit area.

Your proposed form of unit agreement, which substantially follows the standard unit agreement form (June 1957 reprint) with the addition of the language required by the State of New Mexico and the addition to Section 18(e) specifically conforming the unit agreement terms to the provisions of the Mineral Leasing Act Amendment approved September 2, 1960, covering the two-year extension of Federal leases by the commencement of drilling operations on any lease committed to the unit agreement, will be acceptable; provided the language added onto Section 18(e) is worded as follows:

"* * * or in the event actual drilling operations are commenced on unitized land, in accordance with the provisions of this agreement, prior to the end of the primary term of such lease and are being diligently prosecuted at that time, such lease shall be extended for two years and so long thereafter as oil or gas is produced in paying quantities in accordance with the provisions of the Mineral Leasing Act Revision of 1960.",

and provided further that the following language is inserted after the word "later." in line 2 of section 11 page 14 (Participation After Discovery) of your proposed form:

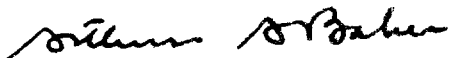
Exhibit A

"The acreages of both Federal and non-Federal lands shall be based upon appropriate computations from the courses and distances shown on the last approved public-land survey as of the effective date of the initial participating area."

One copy of the form so marked is returned, one is being sent to the Supervisor, and one is retained. The provision of your unit agreement form for the initial exploratory well to be drilled to a depth sufficient to test the Madison limestone of Mississippian age or to 12,500 feet also is acceptable.

In the absence of any type of land requiring special provisions or any objections not now apparent, a duly executed unit agreement conformed to the foregoing will be approved if submitted in approvable status within a reasonable period of time. However, the right is reserved to deny approval of any executed agreement which, in our opinion, does not have the full commitment of sufficient lands to assure effective control of unit operations. When the executed agreement is submitted to the Oil and Gas Supervisor for approval include the latest status of all acreage, showing the current record owner of all issued leases and the current status of all lease applications, if any.

Very truly yours,



Acting Director

Enclosure

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 Director of the Geological Survey pursuant to Departmental Order No. 2365 of October 8, 1947, 43 C. F. R. sec. 4.611, 12 F. R. 6784, I do hereby:

A. Approve the attached agreement for the development and operation of the North Kirtland Unit Area, 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.

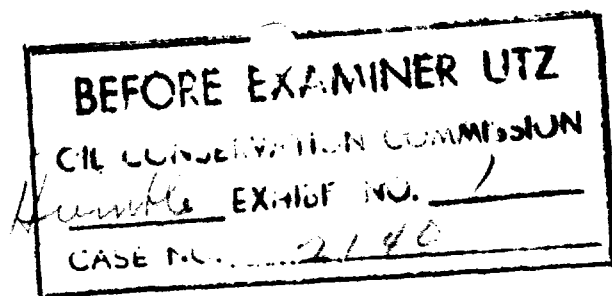
C. Certify and determine that the drilling, producing, rental, minimum royalty, and royalty requirements of all Federal leases committed to said agreement are hereby established, altered, changed, or revoked to conform with the terms and conditions of this agreement.

Date JUN 30 1961.

Acting Arthur M. Baker
Director, United States Geological Survey

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UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION
OF THE
NORTH KIRTLAND UNIT AREA
COUNTY OF SAN JUAN
STATE OF NEW MEXICO

NO. 2140

THIS AGREEMENT, entered into as of the _____ day of _____, 1960, by and between the parties subscribing, ratifying, or consenting hereto, and herein referred to as the "parties hereto,"

WITNESSETH:

WHEREAS, the parties hereto are the owners of working, royalty, or other oil and gas interests in the unit area subject to this agreement; and

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

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Chap. 88, Laws 1943) 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 Oil Conservation Commission of the State of New Mexico 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) to approve this agreement, and the conservation provisions hereof; and

WHEREAS, the parties hereto hold sufficient interests in the North Kirtland Unit Area covering the land hereinafter described to give reasonably effective control of operations therein; 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. ENABLING ACT AND REGULATIONS. The Mineral Leasing Act of February 25, 1920, as amended, supra, and all valid pertinent regulations, including operating and unit plan regulations, heretofore issued thereunder or valid, pertinent, and reasonable regulations hereafter issued thereunder are accepted and made a part of this agreement as to Federal lands, provided such regulations are not inconsistent with the terms of this agreement; and as to non-Federal lands, the oil and gas operating regulations in effect as of the effective date hereof governing drilling and producing operations, not inconsistent with the terms hereof or the laws of the State in which the non-Federal land is located, are hereby accepted and made a part of this agreement.

2. UNIT AREA. The following described land is hereby designated and recognized as constituting the unit area:

New Mexico Principal Meridian

Township 30 North, Range 14 West

Sections 1 and 2: All
Section 3: SE $\frac{1}{4}$
Section 10, 11, 12, 13, 14, 15, 16: All
Section 20: E $\frac{1}{2}$
Section 21, 22, 23: All
Section 24: W $\frac{1}{2}$
Section 26: N $\frac{1}{2}$
Section 27, 28, 29: All
Section 32: N $\frac{1}{2}$
Section 33: N $\frac{1}{2}$
Section 34: NW $\frac{1}{4}$

containing 11,478.48 acres, more or less, and
as shown on Exhibit "A" attached hereto.

Exhibit "A" attached hereto is a map showing the unit area and the boundaries and identity of tracts and leases in said area to the extent known to the Unit Operator. Exhibit "B" attached hereto is a schedule showing to the extent known to the Unit Operator the acreage, percentage, and kind of ownership of oil and gas interests in all land in the unit area. However, nothing herein or in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown in said map or schedule as owned by such party. Exhibits "A" and "B" shall be revised by the Unit Operator whenever changes in the unit area render such revision necessary, or when requested by the Oil and Gas Supervisor, hereinafter referred to as "Supervisor," or when requested by the Commissioner of Public Lands of the State of New Mexico, hereinafter referred to as "Commissioner," and not less than seven copies of the revised exhibits shall be filed with the Supervisor and one copy thereof shall be filed with the Commissioner and one copy with the New Mexico Oil Conservation Commission, hereinafter referred to as "Commission."

The above described unit area shall, when practicable, be expanded to include therein any additional tract or tracts regarded as reasonably necessary or advisable for the purposes of this agreement, or shall be contracted to exclude lands not within any

participating area whenever such expansion or contraction is necessary or advisable to conform with the purposes of this agreement. Such expansion or contraction shall be effected in the following manner:

(a) Unit Operator, on its own motion or on demand of the Director of the Geological Survey, hereinafter referred to as "Director," or on demand of the Commissioner, after preliminary concurrence by the Director, shall prepare a notice of proposed expansion or contraction describing the contemplated changes in the boundaries of the unit area, the reasons therefor, and the proposed effective date thereof, preferably the first day of a month subsequent to the date of notice.

(b) Said notice shall be delivered to the Supervisor, the Commissioner and the Commission, and copies thereof mailed to the last known address of each working interest owner, lessee, and lessor whose interests are affected, advising that 30 days will be allowed for submission to the Unit Operator of any objections.

(c) Upon expiration of the 30-day period provided in the preceding item (b) hereof, Unit Operator shall file with the Supervisor, the Commissioner and the Commission, evidence of mailing of the notice of expansion or contraction and a copy of any objections thereto which have been filed with the Unit Operator, together with an application in sufficient number, for approval of such expansion or contraction and with appropriate joinders.

(d) After due consideration of all pertinent information, the expansion or contraction shall, upon approval by the Director, the Commissioner and the Commission, become effective as of the date prescribed in the notice thereof.

(e) All legal subdivisions of unitized lands (i.e., 40 acres by Government survey or its nearest lot or tract equivalent in instances

of irregular surveys, however, unusually large lots or tracts shall be considered in multiples of 40 acres, or the nearest aliquot equivalent thereof, for the purpose of elimination under this sub-section), no parts of which are entitled to be in a participating area within 5 years after the first day of the month following the effective date of the first initial participating area established under this unit agreement, shall be eliminated automatically from this agreement, effective as of the first day thereafter, and such lands shall no longer be a part of the unit area and shall no longer be subject to this agreement, unless at the expiration of said 5 year period diligent drilling operations are in progress on unitized lands not entitled to participation, in which event all such lands shall remain subject hereto for so long as such drilling operations are continued diligently, with not more than 90 days' time elapsing between the completion of one such well and the commencement of the next such well, except that the time allowed between such wells shall not expire earlier than 30 days after the expiration of any period of time during which drilling operations are prevented by a matter beyond the reasonable control of unit operator as set forth in the section hereof entitled "Unavoidable Delay"; provided that all legal subdivisions of lands not in a participating area and not entitled to become participating under the applicable provisions of this agreement within 10 years after said first day of the month following the effective date of said first initial participating area shall be eliminated as above specified. Determination of creditable "Unavoidable Delay" time shall be made by unit operator and subject to approval of the Commissioner and the Director. The unit operator shall, within 90 days after the effective date of any elimination hereunder, describe the area so eliminated to the satisfaction of the Commissioner and the Director and promptly notify all parties in interest.

If conditions warrant extension of the 10-year period specified in this subsection 2(c), a single extension of not to exceed 2 years may be accomplished by consent of the owners of 90% of the current unitized working interests and 60% of the current unitized basic royalty interests (exclusive of the basic royalty interests of the United States), on a total nonparticipating acreage basis, respectively, with approval of the Commissioner and the Director, provided such extension application is submitted to the Commissioner and the Director not later than 60 days prior to the expiration of said 10-year period.

Any expansion of the unit area pursuant to this section which embraces lands theretofore eliminated pursuant to this subsection 2 (e) shall not be considered automatic commitment or re-commitment of such lands.

3. UNITIZED LAND AND UNITIZED SUBSTANCES. All land committed to this agreement shall constitute land referred to herein as "unitized land" or "land subject to this agreement." All oil and gas in any and all formations of the unitized land are unitized under the terms of this agreement and herein are called "unitized substances."

4. UNIT OPERATOR. Humble Oil & Refining Company, a Delaware corporation with offices at Houston, Texas, is hereby designated as Unit Operator and by signature hereto as Unit Operator commits to this agreement all interests in unitized substances vested in it as set forth in Exhibit "B" attached hereto and agrees and consents to accept the duties and obligations of Unit Operator for the discovery, development, and production of unitized substances as herein provided. Whenever reference is made herein to the Unit Operator, such reference means the Unit Operator acting

in that capacity and not as an owner of interest in unitized substances, and the term "working interest owner" when used herein shall include or refer to Unit Operator as the owner of a working interest when such an interest is owned by it.

5. RESIGNATION OR REMOVAL OF UNIT OPERATOR. Unit Operator shall have the right to resign at any time prior to the establishment of a participating area or areas hereunder, but such resignation shall not become effective so as to release Unit Operator from the duties and obligations of Unit Operator and terminate Unit Operator's rights as such for a period of 6 months after notice of intention to resign has been served by Unit Operator on all working interest owners and the Director, the Commissioner and the Commission and until all wells then drilled hereunder are placed in a satisfactory condition for suspension or abandonment which ever is required by the Supervisor as to federal land and the Commission as to state and privately-owned lands, unless a new Unit Operator shall have been selected and approved and shall have taken over and assumed the duties and obligations of Unit Operator prior to the expiration of said period.

Unit Operator shall have the right to resign in like manner and subject to like limitations as above provided at any time a participating area established hereunder is in existence, but, in all instances of resignation or removal, until a successor unit operator is selected and approved as hereinafter provided, the working interest owners shall be jointly responsible for performance of the duties of unitoperator, and shall not later than 30 days before such resignation or removal becomes effective appoint a common agent to represent them in any action to be taken hereunder.

The resignation of Unit Operator shall not release Unit

Operator from any liability for any default by it hereunder occurring prior to the effective date of its resignation.

The Unit Operator may, upon default or failure in the performance of its duties or obligations hereunder, be subject to removal by the same percentage vote of the owners of working interests determined in like manner as herein provided for the selection of a new Unit Operator. Such removal shall be effective upon notice thereof to the Director and the Commissioner.

The resignation or removal of Unit Operator under this agreement shall not terminate its right, title, or interest as the owner of a working interest or other interests in unitized substances, but upon the resignation or removal of Unit Operator becoming effective, such Unit Operator shall deliver possession of all equipment, materials, and appurtenances used in conducting the unit operations and owned by the working interest owners to the new duly qualified successor Unit Operator or to the owners thereof if no such new Unit Operator is elected, to be used for the purpose of conducting unit operations hereunder. Nothing herein shall be construed as authorizing removal of any material, equipment and appurtenances needed for the preservation of any wells.

6. SUCCESSOR UNIT OPERATOR. Whenever the Unit Operator shall tender his or its resignation as Unit Operator or shall be removed as hereinabove provided, the owners of the working interests in the participating area or areas according to their respective acreage interests in such participating area or areas, or, until a participating area shall have been established, the owners of the working interests according to their respective acreage interests in all unitized land, shall by majority vote select a successor Unit Operator: Provided, That, if a majority but less than 75 per cent of the working interests qualified to

vote are owned by one party to this agreement, a concurring vote of sufficient additional working interest owners shall be required so as to constitute in the aggregate not less than 75 per cent of the total working interests in order to select a new operator. Such selection shall not become effective until (a) a Unit Operator so selected shall accept in writing the duties and responsibilities of Unit Operator, and (b) the selection shall have been approved by the Director and Commissioner. If no successor Unit Operator is selected and qualified as herein provided, the Director and Commissioner at their election may declare this Unit Agreement terminated.

7. ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT.

If the Unit Operator is not the sole owner of working interests, costs and expenses incurred by Unit Operator in conducting unit operations hereunder shall be paid in the first instance by Unit Operator and such costs and expenses so paid by Unit Operator shall be apportioned among and borne by the owners of working interests and the Unit Operator reimbursed, all in accordance with the agreement or agreements entered into by and between the Unit Operator and the owners of working interests, whether one or more, separately or collectively. Any agreement or agreements entered into between the working interest owners and the Unit Operator as provided in this section, whether one or more, are herein referred to as the "unit operating agreement." Such unit operating agreement shall also provide the manner in which the working interest owners shall be entitled to receive their respective proportionate and allocated share of the benefits accruing hereto in conformity with their underlying operating agreements, leases, or other independent contracts, and such other rights and obligations as between Unit Operator and the working interest owners as may be

agreed upon by Unit Operator and the working interest owners; however, no such unit operating agreement shall be deemed either to modify any of the terms and conditions of this unit agreement or to relieve the Unit Operator of any right or obligation established under this unit agreement, and in case of any inconsistency or conflict between the unit agreement and the unit operating agreement, this unit agreement shall prevail. Three true copies of any unit operating agreement executed pursuant to this section should be filed with the Supervisor, prior to approval of this unit agreement.

Notwithstanding any provision contained herein to the contrary, each working interest owner shall have the right to take such owner's proportionate share of the unitized substances in kind or to personally sell or dispose of the same, and nothing herein contained shall be construed as giving or granting to the unit operator the right to sell or otherwise dispose of the proportionate share of any working interest owner without specific authorization from time to time so to do.

8. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR. Except as otherwise specifically provided herein, the exclusive right, privilege, and duty of exercising any and all rights of the parties hereto which are necessary or convenient for prospecting for, producing, storing, allocating, and distributing the unitized substances are hereby delegated to and shall be exercised by the Unit Operator as herein provided. Acceptable evidence of title to said rights shall be deposited with said Unit Operator and, together with this agreement, shall constitute and define the rights, privileges, and obligations of Unit Operator. Nothing herein, however, shall be construed to transfer title to any land or to any lease or operating agreement, it being understood that under this agreement the Unit Operator, in its capacity as Unit Operator, shall exercise the rights

of possession and use vested in the parties hereto only for the purposes herein specified.

9. DRILLING TO DISCOVERY. Within 6 months after the effective date hereof, the Unit Operator shall begin to drill an adequate test well at a location approved by the Supervisor if on Federal land, by the Commissioner if on State land, or by the Commission if on privately-owned land, unless on such effective date a well is being drilled conformably with the terms hereof, and thereafter continue such drilling diligently until the Mississippian Madison formation has been tested or until at a lesser depth unitized substances shall be discovered which can be produced in paying quantities (to-wit: quantities sufficient to repay the costs of drilling, and producing operations, with a reasonable profit) or the Unit Operator shall at any time establish to the satisfaction of the Supervisor if on Federal land, by the Commissioner if on State land, or by the Commission if on privately-owned lands, that further drilling of said well would be unwarranted or impracticable, provided, however, that Unit Operator shall not in any event be required to drill said well to a depth in excess of 12,500 feet. Until the discovery of a deposit of unitized substances capable of being produced in paying quantities, the Unit Operator shall continue drilling diligently one well at a time, allowing not more than 6 months between the completion of one well and the beginning of the next well, until a well capable of producing unitized substances in paying quantities is completed to the satisfaction of said Supervisor if on Federal land, by the Commissioner if on State land, or by the Commission if on privately-owned lands, or until it is reasonably proved that the unitized land is incapable of producing unitized substances in paying quantities in the formations drilled hereunder. Nothing in this section shall be deemed to limit the right of the Unit Operator to resign as

provided in Section 5 hereof, or as requiring Unit Operator to commence or continue any drilling during the period pending such resignation becoming effective in order to comply with the requirements of this section. The Director and Commissioner may modify the drilling requirements of this section by granting reasonable extensions of time when, in their opinion, such action is warranted.

Upon failure to comply with the drilling provisions of this section, the Director and the Commissioner may, after reasonable notice to the Unit Operator, and each working interest owner, lessee, and lessor at their last known addresses, declare this unit agreement terminated.

10. PLAN OF FURTHER DEVELOPMENT AND OPERATION. Within six (6) months after the completion of a well capable of producing unitized substances in paying quantities, the Unit Operator shall submit for the approval of the Supervisor and the Commissioner an acceptable plan of development and operation for the unitized land, which, when approved by the Supervisor and the Commissioner, shall constitute the further drilling and operating obligations of the Unit Operator under this agreement for the period specified therein. Thereafter, from time to time before the expiration of any existing plan, the Unit Operator shall submit for the approval of the Supervisor and the Commissioner a plan for an additional specified period for the development and operation of the unitized land. Any plans submitted pursuant to this section shall provide for the exploration of the unitized area and for the diligent drilling necessary for determination of the area or areas thereof capable of producing unitized substances in paying quantities in each and every productive formation and shall be as complete and adequate as the Supervisor and the Commissioner may determine to be necessary for timely development and proper conservation

of the oil and gas resources of the unitized area and shall:

(a) specify the number and locations of any wells to be drilled and the proposed order and time for such drilling; and,

(b) to the extent practicable, specify the operating practices regarded as necessary and advisable for proper conservation of natural resources. Separate plans may be submitted for separate productive zones, subject to the approval of the Supervisor and the Commissioner. Said plan or plans shall be modified or supplemented when necessary to meet changed conditions or to protect the interests of all parties to this agreement. Reasonable diligence shall be exercised in complying with the obligations of the approved plan of development.

The Supervisor and Commissioner are authorized to grant a reasonable extension of the six (6) month period herein prescribed for submission of an initial plan of development where such action is justified because of unusual conditions or circumstances. After completion hereunder of a well capable of producing any unitized substance in paying quantities, no further wells, except such as may be necessary to afford protection against operations not under this agreement, or such as may be specifically approved by the Supervisor and the Commissioner shall be drilled except in accordance with a plan of development approved as herein provided.

11. PARTICIPATION AFTER DISCOVERY. Upon completion of a well capable of producing unitized substances in paying quantities, or as soon thereafter as required by the Supervisor or Commissioner, submit for approval by the Director and Commissioner a schedule based on subdivision of the public land survey or aliquot parts thereof, of all unitized land then regarded as reasonably proved to be productive of unitized substances in paying quantities; all land in said schedule, on approval of the Director and Commissioner, to constitute a participating area, effective as of the date of

completion of such well, or the effective date of this unit agreement, whichever is later. The acreages of both Federal and non-Federal lands shall be based upon appropriate computations from the courses and distances shown on the last approved public-land survey as of the effective date of the initial participating area. Said schedule also shall set forth the percentage of unitized substances to be allocated as herein provided, to each unitized tract in the participating area so established, and shall govern the allocation of production from and after the date the participating area becomes effective. A separate participating area shall be established in like manner for each separate pool or deposit of unitized substances, or for any group thereof produced as a single zone or pool, and any two or more participating areas so established may be combined into one with the consent of the owners of all working interest in the lands within the participating area so to be combined on approval of the Director and the Commissioner. The participating area or areas so established shall be revised from time to time, subject to like approval, whenever such action appears proper as a result of further drilling operations or otherwise to include additional land then regarded as reasonably proved to be productive in paying quantities, or to exclude land then regarded as reasonably proved not to be productive in paying quantities, and the percentage of allocation shall also be revised accordingly. The effective date of any revision shall be the first of the month in which is obtained the knowledge or information on which such revision is predicated; provided, however, that a more appropriate effective date may be used if justified by the Unit Operator and approved by the Director and Commissioner. No land shall be excluded from a participating area on account of depletion of the unitized substances.

It is the intent of this section that a participating area shall represent the area known or reasonably estimated to be productive in paying quantities, but regardless of any revision of the participating area, nothing herein contained shall be

construed as requiring any retroactive adjustment for production obtained prior to the effective date of revision of the participating area.

In the absence of agreement at any time between the Unit Operator, the Director and the Commissioner as to the proper definition or redefinition of a participating area, or until a participating area has, or areas have, been established as provided herein, the portion of all payments affected thereby may be impounded in a manner mutually acceptable to the owners of working interests, except royalties due to the United States and the State of New Mexico, which shall be determined by the Supervisor for Federal lands, the Commissioner as to State lands, and the Commission as to privately-owned lands, and the amount thereof deposited as directed by the Supervisor and the Commissioner respectively to be held as unearned money until a participating area is finally approved and then applied as earned or returned in accordance with a determination of the sum due as federal and state royalty on the basis of such approved participating area.

Whenever it is determined, subject to the approval of the Supervisor as to wells drilled on Federal lands and of the Commissioner as to wells drilled on State lands, and the Commission as to wells drilled on privately-owned lands, that a well drilled under this agreement is not capable of production in paying quantities and inclusion of the land on which it is situated in a participating area is unwarranted, production from such well shall, for the purposes of settlement among all parties other than working interest owners, be allocated to the land on which the well is located so long as such land is not within a participating area established for the pool or deposit from which such production is obtained. Settlement for working interest benefits from such a well shall be made as provided in the unit operating agreement.

12. ALLOCATION OF PRODUCTION. All unitized substances produced from each participating area established under this agreement, except any part thereof used in conformity with good operating practices within the unitized area for drilling, operating, camp and other production or development purposes, for repressuring or recycling in accordance with a plan of development approved by the Supervisor, the Commissioner and the Commission, or unavoidably lost, shall be deemed to be produced equally on an acreage basis from the several tracts of unitized land of the participating area established for such production and, for the purpose of determining any benefits accruing under this agreement, each such tract of unitized land shall have allocated to it such percentage of said production as the number of acres of such tract included in said participating area bears to the total acres of unitized land in said participating area, except that allocation of production hereunder for purposes other than for settlement of the royalty, overriding royalty, or payment out of production obligations of the respective working interest owners, shall be on the basis prescribed in the unit operating agreement whether in conformity with the basis of allocation herein set forth or otherwise. It is hereby agreed that production of unitized substances from a participating area shall be allocated as provided herein regardless of whether any wells are drilled on any particular part or tract of said participating area. If any gas produced from one participating area is used for repressuring or recycling purposes in another participating area, the first gas withdrawn from such last mentioned participating area for sale during the life of this agreement shall be considered to be the gas so transferred until an amount equal to that transferred shall be so produced for sale and such gas shall be allocated to the participating area from which initially produced as constituted

at the time of such final production.

13. DEVELOPMENT OR OPERATION OF NON-PARTICIPATING LAND OR FORMATIONS. Any party or parties hereto owning or controlling the working interests or a majority of the working interests in any unitized land having thereon a regular well location may, with the approval of the Supervisor as to Federal land, the Commissioner as to State land, and the Commission as to privately-owned land, and subject to the provisions of the unit operating agreement, at such party's sole risk, costs, and expense, drill a well to test any formation for which a participating area has not been established or to test any formation for which a participating area has been established if such location is not within said participating area, or drill any well not mutually agreed to by all interested parties, unless within ninety (90) days of receipt of notice from said party of his intention to drill the well the Unit Operator elects and commences to drill such a well in like manner as other wells are drilled by the Unit Operator under this agreement.

If any well drilled as aforesaid by a working interest owner results in production such that the land upon which it is situated may properly be included in a participating area, such participating area shall be established or enlarged as provided in this agreement, and the party or parties paying the cost of drilling such well shall be reimbursed as provided in the unit operating agreement for the cost of drilling such well, and the well shall thereafter be transferred to and operated by Unit Operator in accordance with the terms of this agreement and the unit operating agreement.

If any well drilled as aforesaid by a working interest owner obtains production in quantities insufficient to justify the inclusion in a participating area of the land upon which such

well is situated, such well may be operated and produced by the party drilling the same subject to the conservation requirements of this agreement. The royalties in amount or value of production from any such well shall be paid as specified in the underlying lease and agreements affected.

14. ROYALTY SETTLEMENT. The United States and the State of New Mexico and all royalty owners who, under existing contracts, are entitled to take in kind a share of the substances now unitized hereunder produced from any tract, shall hereafter be entitled to the right to take in kind their share of the unitized substances allocated to such tract, and Unit Operator, or in case of the operation of a well by a working interest owner as herein in special cases provided for, such working interest owner shall make deliveries of such royalty share taken in kind in conformity with the applicable contracts, laws, and regulations. Settlement for royalty interest not taken in kind shall be made by working interest owners responsible therefor under existing contracts, laws, and regulations, on or before the last day of each month for unitized substances produced during the preceding calendar month; provided, however, that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any royalties due under their leases.

If gas obtained from lands not subject to this agreement is introduced into any participating area of the lands being operated hereunder, for use in repressuring, stimulation of production, or increasing ultimate recovery, which shall be in conformity with a plan first approved by the Supervisor, the Commissioner and the Commission, a like amount of gas, after settlement as herein provided for any gas transferred from any other participating area and with due allowance for loss or depletion

from any cause, may be withdrawn from the formation into which the gas was introduced, royalty free as to dry gas, but not as to the products extracted therefrom; provided that such withdrawal shall be at such time as may be provided in the plan of operations or as may otherwise be consented to by the Supervisor, the Commissioner and the Commission as conforming to good petroleum engineering practice; and provided further, that such right of withdrawal shall terminate on the termination of this unit agreement.

Royalty due the United States shall be computed as provided in the operating regulations and paid in value or delivered in kind as to all unitized substances on the basis of the amounts thereof allocated to unitized federal land as provided herein at the rates specified in the respective federal leases, or at such lower rate or rates as may be authorized by law or regulation; provided, that for leases on which the royalty rate depends on the daily average production per well, said average production shall be determined in accordance with the operating regulations as though each participating area were a single consolidated lease.

Royalty due on account of state and privately owned lands shall be computed and paid on the basis of all unitized substances allocated to such lands.

15. RENTAL SETTLEMENT. Rental or minimum royalties due on leases committed hereto shall be paid by working interest owners responsible thereof under existing contracts, laws, and regulations, provided that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any rental or minimum royalty in lieu thereof due under their leases. Rental or minimum royalty for lands of the United States subject to this agreement shall be paid at the rate specified in the respective leases from the United States unless such rental or minimum royalty is waived, suspended, or reduced by law or by approval of the

Secretary or his duly authorized representative.

Rentals on State of New Mexico lands subject to this agreement shall be paid at the rates specified in the respective leases.

With respect to any committed lease on privately owned land containing provisions which would terminate such lease unless drilling operations were within the time therein specified commenced upon the land covered thereby or rentals paid for the privilege of deferring such drilling operations, the rentals required thereby shall, notwithstanding any other provision of this agreement, be deemed to accrue and become payable during the term thereof as extended by this agreement and thereafter until the required drilling operations are commenced upon the land covered thereby or some portion of such land is included in a participating area.

16. CONSERVATION. Operations hereunder and production of unitized substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by or pursuant to state or federal law or regulation.

17. DRAINAGE. The Unit Operator shall take appropriate and adequate measures to prevent drainage of unitized substances from unitized land by wells on land not subject to this agreement, including wells on adjacent unit areas, or with the consent of the Director or the Commissioner, respectively, pursuant to applicable regulations pay a fair and reasonable compensatory royalty as determined by the Supervisor for federal lands or as approved by the Commissioner for state lands.

18. LEASES AND CONTRACTS CONFORMED AND EXTENDED. The terms, conditions, and provisions of all leases, subleases, and other contracts relating to exploration, drilling, development or operation for oil or gas of lands committed to this agreement are hereby expressly modified and amended to the extent necessary to make the same conform to the provisions hereof, but otherwise to remain in full force and effect; and the parties hereto hereby consent that the Secretary as to federal

leases and the Commissioner as to state leases shall and each by his approval hereof, or by the approval hereof by his duly authorized representative, does hereby establish, alter, change or revoke the drilling, producing, rental, minimum royalty, and royalty requirements of federal and state leases committed hereto and the regulations in respect thereto to conform said requirements to the provisions of this agreement, and, without limiting the generality of the foregoing, all leases, subleases, and contracts are particularly modified in accordance with the following:

(a) The development and operation of lands subject to this agreement under the terms hereof shall be deemed full performance of all obligations for development and operation with respect to each and every part or separately owned tract subject to this agreement, regardless of whether there is any development of any particular tract or part of the unit area, notwithstanding anything to the contrary in any lease, operating agreement or other contract by and between the parties hereto, or their respective predecessors in interest, or any of them.

(b) Drilling and producing operations performed hereunder upon any tract of unitized lands will be accepted and deemed to be performed upon and for the benefit of each and every tract of unitized land, and no lease shall be deemed to expire by reason of failure to drill or produce wells situated on the land therein embraced.

(c) Suspension of drilling or producing operations on all unitized lands pursuant to direction or consent of the Secretary and the Commissioner (or their duly authorized representative) shall be deemed to constitute such suspension pursuant to such direction or consent as to each and every tract of unitized land.

(d) Each lease, sublease or contract relating to the exploration, drilling, development or operation for oil or gas of lands other than those of the United States committed to this agreement,

which, by its terms might expire prior to the termination of this agreement, is hereby extended beyond any such term so provided therein so that it shall be continued in full force and effect for and during the term of this agreement.

(e) Any federal lease for a fixed term of twenty (20) years or any renewal thereof or any portion of such lease which is made subject to this agreement shall continue in force beyond the term provided therein until the termination hereof. Any other federal lease committed hereto shall continue in force beyond the term so provided therein or by law as to the land committed so long as such lease remains subject hereto; provided, that production is had in paying quantities under this agreement prior to the expiration date of the term of such lease, or in the event actual drilling operations are commenced on unitized land, in accordance with the provisions of this agreement, prior to the end of the primary term of such lease and are being diligently prosecuted at that time, such lease shall be extended for two years and so long thereafter as oil or gas is produced in paying quantities in accordance with the provisions of the Mineral Leasing Act Revision of 1960.

(f) Each sublease or contract relating to the operation and development of oil and gas from lands of the United States, committed to this agreement, which by its terms would expire prior to the time at which the underlying lease, as extended by the immediately preceding paragraph, will expire, is hereby extended beyond any such term so provided therein so that it shall be continued in full force and effect for and during the term of the underlying lease as such term is herein extended.

(g) The segregation of any federal lease committed to this agreement is governed by the following provision in the fourth paragraph of Section 17(j) of the Federal Mineral Leasing Act, as amended

by the Act approved September 9, 1960: "Any (federal) lease heretofore or hereafter committed to any such plan embracing lands that are in part within and in part outside of the area covered by any such plan shall be segregated into separate leases as to the lands committed and the lands not committed as of the effective date of unitization: Provided, however, That any such lease as to the non-unitized portion shall continue in force and effect for the term thereof but for not less than two years from the date of such segregation and so long thereafter as oil or gas is produced in paying quantities."

(h) Any lease embracing lands of the State of New Mexico having only a portion of its lands committed hereto, shall be segregated as to the portion committed and the portion not committed, and the terms of such lease shall apply separately to such segregated portions commencing as of the effective date hereof. Provided, however, notwithstanding any of the provisions of this agreement to the contrary, any lease embracing lands of the State of New Mexico having only a portion of its lands committed hereto shall continue in full force and effect beyond the term provided therein as to all lands embraced in such lease, if oil and gas, or either of them, are discovered and are capable of being produced in paying quantities from some part of the lands (either within or without the unit area) embraced in such lease committed to this agreement at the expiration of the secondary term of such lease; or if, at the expiration of the secondary term, the lessee or the Unit Operator is then engaged in bona fide drilling or re-working operations on some part of the lands embraced in such lease, the same as to all lands embraced therein shall remain in full force and effect so long as such operations are being diligently prosecuted, and if they result in the production of unitized substances, said lease shall continue in full force and effect as to all of the lands embraced therein, so long thereafter as oil and

gas, or either of them, in paying quantities, are being produced from any portion of said lands.

19. COVENANTS RUN WITH LAND. The covenants herein shall be construed to be covenants running with the land with respect to the interest of the parties hereto and their successors in interest until this Agreement terminates, and any grant, transfer, or conveyance, of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee, or other successor in interest. No assignment or transfer of any working interest, royalty, or other interest subject hereto shall be binding upon Unit Operator until the first day of the calendar month after Unit Operator is furnished with the original, photostatic, or certified copy of the instrument of transfer.

20. EFFECTIVE DATE AND TERM. This Agreement shall become effective upon approval by the Commissioner, and the Director, or their duly authorized representatives, as of the date of approval by the Director, and shall terminate five years after such date, unless (a) such date of expiration is extended by the Director and Commissioner, or (b) it is reasonably determined prior to the expiration of the fixed term or any extensions thereof that the unitized land is incapable of production of unitized substances in paying quantities in the formations tested hereunder and after notice of intention to terminate the Agreement on such ground is given by the Unit Operator to all parties in interest at their last known addresses, the Agreement is terminated with the approval of the Director and Commissioner, or (c) a valuable discovery of unitized substances has been made on unitized land during said initial term or any extension thereof, in which event the Agreement shall remain in effect for such term and so long as unitized substances can be produced in paying quantities, i.e., in this particular instance in quantities sufficient to pay for

the cost of producing same from wells on unitized land within any participating area established hereunder and, should production cease, so long thereafter as diligent operations are in progress for the restoration of production or discovery of new production and so long thereafter as the unitized substances so discovered can be produced as aforesaid, or (d) it is terminated as heretofore provided in this Agreement.

This Agreement may be terminated at any time by not less than seventy-five per centum (75%), on an acreage basis, of the owners of working interests signatory hereto, with the approval of the Director and Commissioner; notice of any such approval to be given by the Unit Operator to all parties hereto.

21. RATE OF PROSPECTING, DEVELOPMENT, AND PRODUCTION.

All production and the disposal thereof shall be in conformity with allocations and quotas made or fixed by any duly authorized person or regulatory body under any federal or state statute. The Director is hereby vested with authority to alter or modify from time to time, in his discretion, the rate of prospecting and development and within the limits made or fixed by the Commission to alter or modify the quantity and rate of production under this agreement, such authority being hereby limited to alteration or modification in the public interest, the purpose thereof and the public interest to be served thereby to be stated in the order of alteration or modification; provided, further, that no such alteration or modification shall be effective as to any land of the State of New Mexico as to the rate of prospecting and development in the absence of the specific written approval thereof by the Commissioner and as to any lands of the State of New Mexico or privately owned lands subject to this agreement as to the quantity and rate of production in the absence of specific written approval thereof by the Commission.

Powers in this section vested in the Director shall only be exercised after notice to Unit Operator and opportunity for hearing to be held not less than fifteen (15) days from notice.

22. CONFLICT OF SUPERVISOR. Neither the Unit Operator nor the working interest owners nor any of them shall be subject to any forfeiture, termination or expiration of any rights hereunder or under any leases or contracts subject hereto, or to any penalty or liability on account of delay or failure in whole or in part to comply with any applicable provision thereof to the extent that the said Unit Operator, working interest owners or any of them are hindered, delayed or prevented from complying therewith by reason of failure of the Unit Operator to obtain, in the exercise of due diligence, the concurrence of proper representatives of the United States and proper representatives of the State of New Mexico in and about any matters or things concerning which it is required herein that such concurrence be obtained. The parties hereto, including the Commission, agree that all powers and authority vested in the Commission in and by any provisions of this contract are vested in the Commission and shall be exercised by it pursuant to the provisions of the laws of the State of New Mexico and subject in any case to appeal or judicial review as may now or hereafter be provided by the laws of the State of New Mexico.

23. APPEARANCES. Unit Operator shall, after notice to other parties affected, have the right to appear for and on behalf of any and all interests affected hereby before the Department of the Interior, the Commissioner of Public Lands and the New Mexico Oil Conservation Commission and to appeal from orders issued under the regulations of said Department, the Commission or the Commissioner, or to apply for relief from any of said regulations or in any proceedings relative to operations before the Department of the Interior, the Commissioner or Commission, or any other legally constituted authority;

provided, however, that any other interested party shall also have the right at his own expense to be heard in any such proceeding.

24. NOTICES. All notices, demands or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given if given in writing and personally delivered to the party or sent by postpaid registered mail, addressed to such party or parties at their respective addresses set forth in connection with the signatures hereto or to the ratification or consent hereof or to such other address as any such party may have furnished in writing to party sending the notice, demand or statement.

25. NO WAIVER OF CERTAIN RIGHTS. Nothing in this agreement contained shall be construed as a waiver by any party hereto of the right to assert any legal or constitutional right or defense as to the validity or invalidity of any law of the State wherein said unitized lands are located, or of the United States, or regulations issued thereunder in any way affecting such party, or as a waiver by any such party of any right beyond his or its authority to waive.

26. UNAVOIDABLE DELAY. All obligations under this agreement requiring the Unit Operator to commence or continue drilling or to operate on or produce unitized substances from any of the lands covered by this agreement shall be suspended while, but only so long as, the Unit Operator, despite the exercise of due care and diligence, is prevented from complying with such obligations, in whole or in part, by strikes, acts of God, federal, state, or municipal law or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market, or other matters beyond the reasonable control of the Unit Operator whether similar in nature to the matters herein enumerated or not.

27. FAIR EMPLOYMENT. In connection with the performance of work under this agreement, the Unit Operator agrees not to discriminate against any employee or applicant for employment because of race,

religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Unit Operator agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause.

The Unit Operator agrees to insert to the foregoing provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

28. LOSS OF TITLE. In the event title to any tract of unitized land shall fail and the true owner cannot be induced to join in this unit agreement, so that such tract is not committed to this unit agreement, or the operation thereof hereunder becomes impractical as a result thereof, such tract shall be automatically regarded as not committed hereto and there shall be such readjustment of future costs and benefits as may be required on account of the loss of such title. In the event of a dispute as to title as to any royalty, working interest, or other interests subject thereto, payment or delivery on account thereof may be withheld without liability for interest until the dispute is finally settled; provided, that, as to federal or state land or leases, no payments of funds due the United States or the State of New Mexico should be withheld, but such funds of the United States shall be deposited as directed by the Supervisor, and such funds of the State shall be deposited as directed by the Commissioner, to be held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

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

29. NON-JOINDER AND SUBSEQUENT JOINDER. If the owner of any substantial interest in a tract within the unit area fails or refuses to subscribe or consent to this agreement, the owner of the committed working interest in that tract may withdraw said tract from this agreement by written notice to the Director, the Commissioner and the Unit Operator prior to the approval of this agreement by the Director. Any such tract not so withdrawn shall be considered as unitized, and any necessary adjustments of royalty occasioned by failure of the non-working interest owner to join will be for the account of the corresponding working interest owner. Any oil or gas interests in lands within the unit area not committed hereto prior to submission of this agreement for final approval may thereafter be committed hereto by the owner or owners thereof subscribing or consenting to this agreement, and if the interest is a working interest, by the owner of such interest also subscribing to the unit operating agreement. After operations are commenced hereunder, the right of subsequent joinder, as provided in this section, by a working interest owner is subject to such requirements or approvals, if any, pertaining to such joinder, as may be provided for in the unit operating agreement. After final approval hereof joinder by a non-working interest 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 non-working interest. Joinder by any owner of a nonworking interest at any time must be accompanied by appropriate joinder by the owner of the corresponding working interest in order for the interest to be regarded as effectively committed hereto. Joinder to the unit agreement by a working interest owner, at any time, must be accompanied by appropriate joinder to the unit operating agreement, if more than

one committed working interest owner is involved, in order for the interest to be regarded as effectively 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, the Commissioner and the Commission of duly executed counterparts of all or any papers necessary to establish effective commitment of any tract to this agreement unless objection to such joinder is duly made within sixty (60) days by the Director or Commissioner.

30. 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 WITNESS WHEREOF, the parties hereto have caused this agreement to be executed and have set opposite their respective names the date of execution.

HUMBLE OIL & REFINING COMPANY

By: _____

Address: _____

UNIT OPERATOR AND WORKING INTEREST OWNER

DATE: _____

CERTIFICATE OF APPROVAL
BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
OF UNIT AGREEMENT FOR DEVELOPMENT AND OPERATION
OF NORTH KIRTLAND UNIT AREA, SAN JUAN COUNTY, NEW MEXICO

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, an agreement for the development and operation of the North Kirtland Unit Area, San Juan County, New Mexico, dated _____ day of _____, 1960, in which the Humble Oil & Refining Company, a corporation, is designated as Operator, and which has been executed by various parties owning and holding oil and gas leases embracing lands within the Unit Area and upon examination of said Agreement, the Commissioner finds:

- (a) That such Agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said field;
- (b) That under the operations proposed, the State will receive its fair share of the recoverable oil or gas in place under its land in the area affected;
- (c) That the Agreement is in other respects for the best interest of the State;
- (d) That the Agreement provides for the unit operation of the field, for the allocation of production, and the sharing of proceeds from a part of the area covered by the Agreement on an acreage basis as specified in the Agreement.

NOW, THEREFORE, by virtue of the authority conferred upon me by the Laws of the State of New Mexico, I, the undersigned Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the above referred to North Kirtland Unit Agreement as to the lands of the State of New Mexico committed thereto, and all oil and gas leases embracing lands of the State of New Mexico committed to said Agreement shall be and the same are hereby amended so that the provisions thereof will conform to the provisions of said Unit Agreement and so that the length of the secondary term of each such lease as to the lands within the unit area will be extended, insofar as necessary, to coincide with the term of said Unit Agreement, and in the event the term of said Unit Agreement shall be extended as provided therein, such extension shall also be effective to extend the term of each oil and gas lease embracing lands of the State of New Mexico committed to said Unit Agreement which would otherwise expire, so as to coincide with the extended term of such Unit Agreement.

IN WITNESS WHEREOF, this certificate of approval is executed as of this the _____ day of _____, 1960.

Commissioner of Public Lands
of the State of New Mexico

CERTIFICATION - DETERMINATION

Pursuant to the authority vested in the Secretary of the Interior, under the Act approved February 25, 1920, 41 Stat. 437, 30 U.S.C., Secs. 181, et seq., as amended by the Act of August 8, 1946, 60 Stat. 950, and delegated to the Director of the Geological Survey pursuant to Departmental Order 2365 of October 8, 1947, 43 C.F.R. Sec. 4.611, 12 F.R. 6784, I do hereby:

A. Approve the attached Agreement for the development and operation of the North Kirtland Unit Area, State of New Mexico.

B. Certify and determine that the unit plan of development and operation set forth in the attached Agreement is necessary and advisable in the public interest and is 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.

Director
United States Geological Survey

Date _____

Oil Conservation,
STATE of N.M.
Case # 2140

Rev.
3-1-61

UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION
OF THE
NORTH KIRTLAND UNIT AREA
COUNTY OF SAN JUAN
STATE OF NEW MEXICO

RECEIVED
MAY 29 1961

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

NO. _____

THIS AGREEMENT, entered into as of the 1st day of March, 1961, by and between the parties subscribing, ratifying, or consenting hereto, and herein referred to as the "parties hereto,"

WITNESSETH:

WHEREAS, the parties hereto are the owners of working, royalty, or other oil and gas interests in the unit area subject to this agreement; and

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

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Chap. 7, Art. 11, Secs. 39, 40 and 41, New Mexico Statutes, 1953, Annotated) 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 Oil Conservation Commission of the State of New Mexico 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) to approve this agreement, and the conservation provisions hereof; and

WHEREAS, the parties hereto hold sufficient interests in the North Kirtland Unit Area covering the land hereinafter described to give reasonably effective control of operations therein; 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. ENABLING ACT AND REGULATIONS. The Mineral Leasing Act of February 25, 1920, as amended, supra, and all valid pertinent regulations, including operating and unit plan regulations, heretofore issued thereunder or valid, pertinent, and reasonable regulations hereafter issued thereunder are accepted and made a part of this agreement as to Federal lands, provided such regulations are not inconsistent with the terms of this agreement; and as to non-Federal lands, the oil and gas operating regulations in effect as of the effective date hereof governing drilling and producing operations, not inconsistent with the terms hereof or the laws of the State in which the non-Federal land is located, are hereby accepted and made a part of this agreement.

2. UNIT AREA. The following described land is hereby designated and recognized as constituting the unit area:

New Mexico Principal Meridian

Township 30 North, Range 14 West

Sections 1 and 2: All
Section 3: SE $\frac{1}{4}$
Sections 10, 11, 12, 13, 14, 15, 16: All
Section 20: E $\frac{1}{2}$
Sections 21, 22, 23: All
Section 24: W $\frac{1}{2}$
Section 26: N $\frac{1}{2}$
Sections 27, 28, 29: All
Section 32: N $\frac{1}{2}$
Section 33: N $\frac{1}{2}$
Section 34: NW $\frac{1}{4}$

containing 11,478.48 acres, more or less, and
as shown on Exhibit "A" attached hereto.

Exhibit "A" attached hereto is a map showing the unit area and the boundaries and identity of tracts and leases in said area to the extent known to the Unit Operator. Exhibit "B" attached hereto is a schedule showing to the extent known to the Unit Operator the acreage, percentage, and kind of ownership of oil

and gas interests in all land in the unit area. However, nothing herein or in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown in said map or schedule as owned by such party. Exhibits "A" and "B" shall be revised by the Unit Operator whenever changes in the unit area render such revision necessary, or when requested by the Oil and Gas Supervisor, herein-after referred to as "Supervisor," or when requested by the Commissioner of Public Lands of the State of New Mexico, hereinafter referred to as "Commissioner," and not less than seven copies of the revised exhibits shall be filed with the Supervisor and one copy thereof shall be filed with the Commissioner and one copy with the New Mexico Oil Conservation Commission, hereinafter referred to as "Commission."

The above described unit area shall, when practicable, be expanded to include therein any additional tract or tracts regarded as reasonably necessary or advisable for the purposes of this agreement, or shall be contracted to exclude lands not within any participating area whenever such expansion or contraction is necessary or advisable to conform with the purposes of this agreement. Such expansion or contraction shall be effected in the following manner:

(a) Unit Operator, on its own motion or on demand of the Director of the Geological Survey, hereinafter referred to as "Director," or on demand of the Commissioner, after preliminary concurrence by the Director, shall prepare a notice of proposed expansion or contraction describing the contemplated changes in the boundaries of the unit area, the reasons therefor, and the proposed effective date thereof, preferably the first day of a month subsequent to the date of notice.

(b) Said notice shall be delivered to the Supervisor, the Commissioner and the Commission, and copies thereof mailed to the last known address of each working interest owner, lessee, and lessor whose interests are affected, advising that 30 days will be allowed for submission to the Unit Operator of any objections.

(c) Upon expiration of the 30-day period provided in the preceding item (b) hereof, Unit Operator shall file with the Supervisor, the Commissioner and the Commission, evidence of mailing of the notice of expansion or contraction and a copy of any objections thereto which have been filed with the Unit Operator, together with an application in sufficient number, for approval of such expansion or contraction and with appropriate joinders.

(d) After due consideration of all pertinent information, the expansion or contraction shall, upon approval by the Director, the Commissioner and the Commission, become effective as of the date prescribed in the notice thereof.

(e) All legal subdivisions of unitized lands (i.e., 40 acres by Government survey or its nearest lot or tract equivalent in instances of irregular surveys, however, unusually large lots or tracts shall be considered in multiples of 40 acres, or the nearest aliquot equivalent thereof, for the purpose of elimination under this sub-section), no parts of which are entitled to be in a participating area within 5 years after the first day of the month following the effective date of the first initial participating area established under this unit agreement, shall be eliminated automatically from this agreement, effective as of the first day thereafter, and such lands shall no longer be a part of the unit area and shall no longer be subject to this agreement, unless at the expiration of said 5 year period diligent drilling operations are in progress on unitized lands not entitled to participation, in which event all such lands shall remain subject hereto for so long as such drilling operations are continued diligently, with not more than 90 days' time elapsing between the completion of one such well and the commencement of the next such well, except that the time allowed between such wells shall not expire earlier than 30 days after the expiration of any period of time during which drilling operations are prevented by a matter beyond the reasonable control of unit operator as set forth in the section hereof entitled "Unavoidable Delay"; provided that all legal subdivisions of lands not in a participating area and not entitled to become participating under the applicable provisions of this agreement within 10 years after said first day of the month following the effective date of said first initial participating area shall be eliminated as above specified. Determination of creditable "Unavoidable Delay" time shall be made by unit operator and subject to approval of the Commissioner and the Director. The unit operator shall, within 90 days after the effective date of any elimination hereunder, describe the area so eliminated to the satisfaction of the Commissioner and the Director and promptly notify all parties in interest.

If conditions warrant extension of the 10-year period specified in this subsection 2(e), a single extension of not to exceed 2 years may be accomplished

by consent of the owners of 90% of the current unitized working interests and 60% of the current unitized basic royalty interests (exclusive of the basic royalty interests of the United States), on a total nonparticipating acreage basis, respectively, with approval of the Commissioner and the Director, provided such extension application is submitted to the Commissioner and the Director not later than 60 days prior to the expiration of said 10-year period.

Any expansion of the unit area pursuant to this section which embraces lands theretofore eliminated pursuant to this subsection 2(e) shall not be considered automatic commitment or recommitment of such lands.

3. UNITIZED LAND AND UNITIZED SUBSTANCES. All land committed to this agreement shall constitute land referred to herein as "unitized land" or "land subject to this agreement." All oil and gas in any and all formations of the unitized land are unitized under the terms of this agreement and herein are called "unitized substances."

4. UNIT OPERATOR. Humble Oil & Refining Company is hereby designated as Unit Operator and by signature hereto as Unit Operator commits to this agreement all interests in unitized substances vested in it as set forth in Exhibit "B" attached hereto and agrees and consents to accept the duties and obligations of Unit Operator for the discovery, development, and production of unitized substances as herein provided. Whenever reference is made herein to the Unit Operator, such references means the Unit Operator acting in that capacity and not as an owner of interest in unitized substances, and the term "working interest owner" when used herein shall include or refer to Unit Operator as the owner of a working interest when such an interest is owned by it.

5. RESIGNATION OR REMOVAL OF UNIT OPERATOR. Unit Operator shall have the right to resign at any time prior to the establishment of a participating area or areas hereunder, but such resignation shall not become effective so as to release Unit Operator from the duties and obligations of Unit Operator and terminate Unit Operator's rights as such for a period of 6 months after notice of intention to resign has been served by Unit Operator on all working interest owners and the Director, the Commissioner and the Commission and until all wells then drilled

hereunder are placed in a satisfactory condition for suspension or abandonment which ever is required by the Supervisor as to federal land and the Commission as to state and privately-owned lands, unless a new Unit Operator shall have been selected and approved and shall have taken over and assumed the duties and obligations of Unit Operator prior to the expiration of said period.

Unit Operator shall have the right to resign in like manner and subject to like limitations as above provided at any time a participating area established hereunder is in existence, but in all instances of resignation or removal, until a successor unit operator is selected and approved as hereinafter provided, the working interest owners shall be jointly responsible for performance of the duties of unit operator, and shall not later than 30 days before such resignation or removal becomes effective appoint a common agent to represent them in any action to be taken hereunder.

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

The Unit Operator may, upon default or failure in the performance of its duties or obligations hereunder, be subject to removal by the same percentage vote of the owners of working interests determined in like manner as herein provided for the selection of a new Unit Operator. Such removal shall be effective upon notice thereof to the Director and the Commissioner.

The resignation or removal of Unit Operator under this agreement shall not terminate its right, title, or interest as the owner of a working interest or other interests in unitized substances, but upon the resignation or removal of Unit Operator becoming effective, such Unit Operator shall deliver possession of all equipment, materials, and appurtenances used in conducting the unit operations and owned by the working interest owners to the new duly qualified successor Unit Operator or to the owners thereof if no such new Unit Operator is elected, to be used for the purpose of conducting unit operations hereunder. Nothing herein shall be construed as authorizing removal of any material, equipment and appurtenances needed for the preservation of any wells.

6. SUCCESSOR UNIT OPERATOR. Whenever the Unit Operator shall tender his or its resignation as Unit Operator or shall be removed as hereinabove provided, the owners of the working interests in the participating area or areas according to their respective acreage interests in such participating area or areas, or, until a participating area shall have been established, the owners of the working interests according to their respective acreage interests in all unitized land, shall by majority vote select a successor Unit Operator; provided, that, if a majority but less than 75 per cent of the working interests qualified to vote are owned by one party to this agreement, a concurring vote of sufficient additional working interest owners shall be required so as to constitute in the aggregate not less than 75 per cent of the total working interests in order to select a new operator. Such selection shall not become effective until (a) a Unit Operator so selected shall accept in writing the duties and responsibilities of Unit Operator, and (b) the selection shall have been approved by the Director and Commissioner. If no successor Unit Operator is selected and qualified as herein provided, the Director and Commissioner at their election may declare this Unit Agreement terminated.

7. ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT. If the Unit Operator is not the sole owner of working interests, costs and expenses incurred by Unit Operator in conducting unit operations hereunder shall be paid in the first instance by Unit Operator and such costs and expenses so paid by Unit Operator shall be apportioned among and borne by the owners of working interests and the Unit Operator reimbursed, all in accordance with the agreement or agreements entered into by and between the Unit Operator and the owners of working interests, whether one or more, separately or collectively. Any agreement or agreements entered into between the working interest owners and the Unit Operator as provided in this section, whether one or more, are herein referred to as the "unit operating agreement." Such unit operating agreement shall also provide the manner in which the working interest owners shall be entitled to receive their respective proportionate and allocated share of the benefits accruing hereto in conformity with their underlying operating agreements, leases, or other independent contracts, and such other rights and obligations as between Unit Operator and the working interest owners as may be agreed upon by Unit Operator and the working interest owners; however, no such unit operating agreement shall be deemed either to modify any of the terms and conditions of this unit agreement

or to relieve the Unit Operator of any right or obligation established under this unit agreement, and in case of any inconsistency or conflict between the unit agreement and the unit operating agreement, this unit agreement shall prevail. Three true copies of any unit operating agreement executed pursuant to this section should be filed with the Supervisor, prior to approval of this unit agreement.

Notwithstanding any provision contained herein to the contrary, each working interest owner shall have the right to take such owner's proportionate share of the unitized substances in kind or to personally sell or dispose of the same and nothing herein contained shall be construed as giving or granting to the unit operator the right to sell or otherwise dispose of the proportionate share of any working interest owner without specific authorization from time to time so to do.

8. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR. Except as otherwise specifically provided herein, the exclusive right, privilege, and duty of exercising any and all rights of the parties hereto which are necessary or convenient for prospecting for, producing, storing, allocating, and distributing the unitized substances are hereby delegated to and shall be exercised by the Unit Operator as herein provided. Acceptable evidence of title to said rights shall be deposited with said Unit Operator and, together with this agreement, shall constitute and define the rights, privileges, and obligations of Unit Operator. Nothing herein, however, shall be construed to transfer title to any land or to any lease or operating agreement, it being understood that under this agreement the Unit Operator, in its capacity as Unit Operator, shall exercise the rights of possession and use vested in the parties hereto only for the purposes herein specified.

9. DRILLING TO DISCOVERY. Within 6 months after the effective date hereof, the Unit Operator shall begin to drill an adequate test well at a location approved by the Supervisor if on Federal land, by the Commissioner if on State land, or by the Commission if on privately-owned land, unless on such effective date a well is being drilled conformably with the terms hereof, and thereafter continue such drilling diligently until the Mississippian Madison formation has been tested or until at a lesser depth unitized substances shall be discovered which can be produced in paying quantities (to-wit: quantities sufficient to repay the costs of drilling, and producing operations, with a reasonable profit) or the Unit Operator shall at any time establish to the satisfaction of the Supervisor if on Federal land, by the Commissioner if on State land, or by the Commission if on privately-owned lands, that further drill-

ing of said well would be unwarranted or impracticable, provided, however, that Unit Operator shall not in any event be required to drill said well to a depth in excess of 12,500 feet. Until the discovery of a deposit of unitized substances capable of being produced in paying quantities, the Unit Operator shall continue drilling diligently one well at a time, allowing not more than 6 months between the completion of one well and the beginning of the next well, until a well capable of producing unitized substances in paying quantities is completed to the satisfaction of said Supervisor if on Federal land, by the Commissioner if on State land, or by the Commission if on privately-owned lands, or until it is reasonably proved that the unitized land is incapable of producing unitized substances in paying quantities in the formations drilled hereunder. Nothing in this section shall be deemed to limit the right of the Unit Operator to resign as provided in Section 5 hereof, or as requiring Unit Operator to commence or continue any drilling during the period pending such resignation becoming effective in order to comply with the requirements of this section. The Director and Commissioner may modify the drilling requirements of this section by granting reasonable extensions of time when, in their opinion, such action is warranted.

Upon failure to comply with the drilling provisions of this section, the Director and the Commissioner may, after reasonable notice to the Unit Operator, and each working interest owner, lessee, and lessor at their last known addresses, declare this unit agreement terminated.

10. PLAN OF FURTHER DEVELOPMENT AND OPERATION. Within six (6) months after the completion of a well capable of producing unitized substances in paying quantities, the Unit Operator shall submit for the approval of the Supervisor and the Commissioner an acceptable plan of development and operation for the unitized land, which, when approved by the Supervisor and the Commissioner, shall constitute the further drilling and operating obligations of the Unit Operator under this agreement for the period specified therein. Thereafter, from time to time before the expiration of any existing plan, the Unit Operator shall submit for the approval of the Supervisor and the Commissioner a plan for an additional specified period for the development and operation of the unitized land. Any plans submitted pursuant to this section shall provide for the exploration of the unitized area and for the diligent drilling necessary for determination of the area or areas thereof capable of producing unitized substances in paying quantities in each and every productive

formation and shall be as complete and adequate as the Supervisor and the Commissioner may determine to be necessary for timely development and proper conservation of the oil and gas resources of the unitized area and shall:

(a) specify the number and locations of any wells to be drilled and the proposed order and time for such drilling, and,

(b) to the extent practicable, specify the operating practices regarded as necessary and advisable for proper conservation of natural resources. Separate plans may be submitted for separate productive zones, subject to the approval of the Supervisor and the Commissioner. Said plan or plans shall be modified or supplemented when necessary to meet changed conditions or to protect the interests of all parties to this agreement. Reasonable diligence shall be exercised in complying with the obligations of the approved plan of development.

The Supervisor and Commissioner are authorized to grant a reasonable extension of the six (6) month period herein prescribed for submission of an initial plan of development where such action is justified because of unusual conditions or circumstances. After completion hereunder of a well capable of producing any unitized substance in paying quantities, no further wells, except such as may be necessary to afford protection against operations not under this agreement, or such as may be specifically approved the Supervisor and the Commissioner shall be drilled except in accordance with a plan of development approved as herein provided.

11. PARTICIPATION AFTER DISCOVERY. Upon completion of a well capable of producing unitized substances in paying quantities, or as soon thereafter as required by the Supervisor or Commissioner, the unit operator shall submit for approval by the Director and Commissioner a schedule based on subdivision of the public land survey or aliquot parts thereof, of all unitized land then regarded as reasonably proved to be productive of unitized substances in paying quantities; all land in said schedule, on approval of the Director and Commissioner, to constitute a participating area, effective as of the date of completion of such well, or the effective date of this unit agreement, whichever is later. The acreages of both Federal and non-Federal lands shall be based upon appropriate computations from the courses and distances shown on the last approved public-land survey as of the effective date of the initial participating area. Said schedule also shall set forth the percentage of unitized substances to be allocated as herein provided, to each unitized tract in the participating area so established, and shall govern the allocation of production from and after the date the participating area becomes effective

A separate participating area shall be established in like manner for each separate pool or deposit of unitized substances, or for any group thereof produced as a single zone or pool, and any two or more participating areas so established may be combined into one with the consent of the owners of all working interest in the lands within the participating area so to be combined on approval of the Director and the Commissioner. The participating area or areas so established shall be revised from time to time, subject to like approval, whenever such action appears proper as a result of further drilling operations or otherwise to include additional land then regarded as reasonably proved to be productive in paying quantities, or to exclude land then regarded as reasonably proved not to be productive in paying quantities, and the percentage of allocation shall also be revised accordingly. The effective date of any revision shall be the first of the month in which is obtained the knowledge or information on which such revision is predicated; provided, however, that a more appropriate effective date may be used if justified by the Unit Operator and approved by the Director and Commissioner. No land shall be excluded from a participating area on account of depletion of the unitized substances.

It is the intent of this section that a participating area shall represent the area known or reasonably estimated to be productive in paying quantities but regardless of any revision of the participating area, nothing herein contained shall be construed as requiring any retroactive adjustment for production obtained prior to the effective date of the revision of the participating area.

In the absence of agreement at any time between the Unit Operator, the Director and the Commissioner as to the proper definition or redefinition of a participating area, or until a participating area has, or areas have, been established as provided herein, the portion of all payments affected thereby may be impounded in a manner mutually acceptable to the owners of working interests, except royalties due to the United States and the State of New Mexico, which shall be determined by the Supervisor for Federal lands, the Commissioner as to State lands, and the Commission as to privately-owned lands, and the amount thereof deposited as directed by the Supervisor and the Commissioner respectively to be held as unearned money until a participating area is finally approved and then applied as earned or returned in accordance with a determination of the sum due as federal and state royalty on the basis of such approved participating area.

Whenever it is determined, subject to the approval of the Supervisor as to wells drilled on Federal lands and of the Commissioner as to wells drilled on State lands, and the Commission as to wells drilled on privately-owned lands, that a well drilled under this agreement is not capable of production in paying quantities and inclusion of the land on which it is situated in a participating area is unwarranted, production from such well shall, for the purposes of settlement among all parties other than working interest owners, be allocated to the land on which the well is located so long as such land is not within a participating area established for the pool or deposit from which such production is obtained. Settlement for working interest benefits from such a well shall be made as provided in the unit operating agreement.

12. ALLOCATION OF PRODUCTION. All unitized substances produced from each participating area established under this agreement, except any part thereof used in conformity with good operating practices within the unitized area for drilling, operating, camp and other production or development purposes, for repressuring or recycling in accordance with a plan of development approved by the Supervisor, the Commissioner and the Commission, or unavoidably lost, shall be deemed to be produced equally on an acreage basis from the several tracts of unitized land of the participating area established for such production and, for the purpose of determining any benefits accruing under this agreement, each such tract of unitized land shall have allocated to it such percentage of said production as the number of acres of such tract included in said participating area bears to the total acres of unitized land in said participating area, except that allocation of production hereunder for purposes other than for settlement of the royalty, overriding royalty, or payment out of production obligations of the respective working interest owners, shall be on the basis prescribed in the unit operating agreement whether in conformity with the basis of allocation herein set forth or otherwise. It is hereby agreed that production of unitized substances from a participating area shall be allocated as provided herein regardless of whether any wells are drilled on any particular part or tract of said participating area. If any gas produced from one participating area is used for repressuring or recycling purposes in another participating area, the first gas withdrawn from such last mentioned participating area for sale during the life of this agreement shall be considered to be the gas so transferred until an amount equal to

that transferred shall be so produced for sale and such gas shall be allocated to the participating area from which initially produced as constituted at the time of such final production.

13. DEVELOPMENT OR OPERATION OF NON-PARTICIPATING LAND OR FORMATIONS.

Any party or parties hereto owning or controlling the working interests or a majority of the working interests in any unitized land having thereon a regular well location may, with the approval of the Supervisor as to Federal land, the Commissioner as to State land, and the Commission as to privately-owned land, and subject to the provisions of the unit operating agreement, at such party's sole risk, costs, and expense, drill a well to test any formation for which a participating area has not been established or to test any formation for which a participating area has been established if such location is not within said participating area, or drill any well not mutually agreed to by all interested parties, unless within ninety (90) days or receipt of notice from said party of his intention to drill the well the Unit Operator elects and commences to drill such a well in like manner as other wells are drilled by the Unit Operator under this agreement.

If any well drilled as aforesaid by a working interest owner results in production such that the land upon which it is situated may properly be included in a participating area, such participating area shall be established or enlarged as provided in this agreement, and the party or parties paying the cost of drilling such well shall be reimbursed as provided in the unit operating agreement for the cost of drilling such well, and the well shall thereafter be transferred to and operated by Unit Operator in accordance with the terms of this agreement and the unit operating agreement.

If any well drilled as aforesaid by a working interest owner obtains production in quantities insufficient to justify the inclusion in a participating area of the land upon which such well is situated, such well may be operated and produced by the party drilling the same subject to the conservation requirements of this agreement. The royalties in amount or value of production from any such well shall be paid as specified in the underlying lease and agreements affected.

14. ROYALTY SETTLEMENT. The United States and the State of New Mexico and all royalty owners who, under existing contracts, are entitled to take in kind a share of the substances now unitized hereunder produced from any tract, shall hereafter be entitled to the right to take in kind their share of the unitized substances allocated

to such tract, and Unit Operator, or in case of the operation of a well by a working interest owner as herein in special cases provided for, such working interest owner shall make deliveries of such royalty share taken in kind in conformity with the applicable contracts, laws, and regulations. Settlement for royalty interest not taken in kind shall be made by working interest owners responsible therefor under existing contracts, laws, and regulations, on or before the last day of each month for unitized substances produced during the preceding calendar month; provided, however, that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any royalties due under their leases.

If gas obtained from lands not subject to this agreement is introduced into any participating area of the lands being operated hereunder, for use in repressuring, stimulation of production, or increasing ultimate recovery, which shall be in conformity with a plan first approved by the Supervisor, the Commissioner and the Commission, a like amount of gas, after settlement as herein provided for any gas transferred from any other participating area and with due allowance for loss or depletion from any cause, may be withdrawn from the formation into which the gas was introduced, royalty free as to dry gas, but not as to the products extracted therefrom; provided, that such withdrawal shall be at such time as may be provided in the plan of operations or as may otherwise be consented to by the Supervisor, the Commissioner and the Commission as conforming to good petroleum engineering practice; and provided further, that such right of withdrawal shall terminate on the termination of this unit agreement.

Royalty due the United States shall be computed as provided in the operating regulations and paid in value or delivered in kind as to all unitized substances on the basis of the amounts thereof allocated to unitized federal land as provided herein at the rates specified in the respective federal leases, or at such lower rate or rates as may be authorized by law or regulation; provided, that for leases on which the royalty rate depends on the daily average production per well, said average production shall be determined in accordance with the operating regulations as though each participating area were a single consolidated lease.

Royalty due on account of state and privately-owned lands shall be computed and paid on the basis of all unitized substances allocated to such lands.

15. RENTAL SETTLEMENT. Rental or minimum royalties due on leases committed hereto shall be paid by working interest owners responsible thereof under

existing contracts, laws, and regulations, provided that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any rental or minimum royalty in lieu thereof due under their leases. Rental or minimum royalty for lands of the United States subject to this agreement shall be paid at the rate specified in the respective leases from the United States unless such rental or minimum royalty is waived, suspended, or reduced by law or by approval of the Secretary or his duly authorized representative.

Rentals on State of New Mexico lands subject to this agreement shall be paid at the rates specified in the respective leases.

With respect to any committed lease on privately owned land containing provisions which would terminate such lease unless drilling operations were within the time therein specified commenced upon the land covered thereby or rentals paid for the privilege of deferring such drilling operations, the rentals required thereby shall, notwithstanding any other provision of this agreement, be deemed to accrue and become payable during the term thereof as extended by this agreement and thereafter until the required drilling operations are commenced upon the land covered thereby or some portion of such land is included in a participating area.

16. CONSERVATION. Operations hereunder and production of unitized substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by or pursuant to state or federal law or regulation.

17. DRAINAGE. The Unit Operator shall take appropriate and adequate measures to prevent drainage of unitized substances from unitized land by wells on land not subject to this agreement, including wells on adjacent unit areas, or with the consent of the Director or the Commissioner, respectively, pursuant to applicable regulations pay a fair and reasonable compensatory royalty as determined by the Supervisor for Federal lands or as approved by the Commissioner for State lands.

18. LEASES AND CONTRACTS CONFORMED AND EXTENDED. The terms, conditions, and provisions of all leases, subleases, and other contracts relating to exploration, drilling, development or operation for oil or gas or lands committed to this agreement are hereby expressly modified and amended to the extent necessary to make the same conform to the provisions hereof, but otherwise to remain in full force and effect: and

the parties hereto hereby consent that the Secretary as to Federal leases and the Commissioner as to State leases shall and each by his approval hereof, or by the approval hereof by his duly authorized representative, does hereby establish, alter, change or revoke the drilling, producing, rental, minimum royalty, and royalty requirements of federal and state leases committed hereto and the regulations in respect thereto to conform said requirements to the provisions of this agreement, and without limiting the generality of the foregoing, all leases, subleases, and contracts are particularly modified in accordance with the following:

(a) The development and operation of lands subject to this agreement under the terms hereof shall be deemed full performance of all obligations for development and operation with respect to each and every part or separately owned tract subject to this agreement, regardless of whether there is any development of any particular part or tract of the unit area, notwithstanding anything to the contrary in any lease, operating agreement or other contract by and between the parties hereto, or their respective predecessors in interest, or any of them.

(b) Drilling and producing operations performed hereunder upon any tract of unitized lands will be accepted and deemed to be performed upon and for the benefit of each and every tract of unitized land, and no lease shall be deemed to expire by reason of failure to drill or produce wells situated on the land therein embraced.

(c) Suspension of drilling or producing operations on all unitized lands pursuant to direction or consent of the Secretary and the Commissioner (or their duly authorized representative) shall be deemed to constitute such suspension pursuant to such direction or consent as to each and every tract of unitized land.

(d) Each lease, sublease or contract relating to the exploration, drilling, development or operation for oil or gas of lands other than those of the United States committed to this agreement, which, by its terms might expire prior to the termination of this agreement, is hereby extended beyond any such term so provided therein so that it shall be continued in full force and effect for and during the term of this agreement.

(e) Any federal lease for a fixed term of twenty (20) years or any renewal thereof or any portion of such lease which is made subject to this agreement shall continue in force beyond the term provided therein until the termination hereof.

Any other federal lease committed hereto shall continue in force beyond the term so provided therein or by law as to the land committed so long as such lease remains subject hereto; provided, that production is had in paying quantities under this unit agreement prior to the expiration date of the term of such lease, or in the event actual drilling operations are commenced on unitized land, in accordance with the provisions of this agreement, prior to the end of the primary term of such lease and are being diligently prosecuted at that time, such lease shall be extended for two years and so long thereafter as oil or gas is produced in paying quantities in accordance with the provisions of the Mineral Leasing Act Revision of 1960.

(f) Each sublease or contract relating to the operation and development of oil and gas from lands of the United States, committed to this agreement, which by its terms would expire prior to the time at which the underlying lease, as extended by the immediately preceding paragraph, will expire, is hereby extended beyond any such term so provided therein so that it shall be continued in full force and effect for and during the term of the underlying lease as such term is herein extended.

(g) The segregation of any federal lease committed to this agreement is governed by the following provision in the fourth paragraph of Section 17(j) of the Mineral Leasing Act, as amended by the Act of September 2, 1960 (74 Stat. 781-784): "Any (federal) lease heretofore or hereafter committed to any such unit plan embracing lands that are in part within and in part outside of the area covered by any such plan shall be segregated into separate leases as to the lands committed and the lands not committed as of the effective date of unitization: Provided, however, That any such lease as to the non-unitized portion shall continue in force and effect for the term thereof but for not less than two years from the date of such segregation and so long thereafter as oil or gas is produced in paying quantities."

(h) Any lease embracing lands of the State of New Mexico having only a portion of its lands committed hereto, shall be segregated as to the portion committed and the portion not committed, and the terms of such lease shall apply separately to such segregated portions commencing as of the effective date hereof. Provided, however, notwithstanding any of the provisions of this agreement to the contrary, any lease embracing lands of the State of New Mexico having only a portion of its lands committed hereto shall continue in full force and effect beyond the term provided therein as to all lands embraced in such lease, if oil and gas, or either of them,

are discovered and are capable of being produced in paying quantities from some part of the lands (either within or without the unit area) embraced in such lease committed to this agreement at the expiration of the secondary term of such lease; or if, at the expiration of the secondary term, the lessee or the Unit Operator is then engaged in bona fide drilling or re-working operations on some part of the lands embraced in such lease, the same as to all lands embraced therein shall remain in full force and effect so long as such operations are being diligently prosecuted, and if they result in the production of unitized substances, said lease shall continue in full force and effect as to all of the lands embraced therein, so long thereafter as oil and gas, or either of them, in paying quantities, are being produced from any portion of said lands.

19. COVENANTS RUN WITH LAND. The covenants herein shall be construed to be covenants running with the land with respect to the interest of the parties hereto and their successors in interest until this agreement terminates, and any grant, transfer, or conveyance, of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee, or other successor in interest. No assignment or transfer of any working interest, royalty, or other interest subject hereto shall be binding upon Unit Operator until the first day of the calendar month after Unit Operator is furnished with the original, photostatic or certified copy of the instrument of transfer.

20. EFFECTIVE DATE AND TERM. This agreement shall become effective upon approval by the Commissioner, and the Director, or their duly authorized representatives, as of the date of approval by the Director, and shall terminate five years after such date, unless (a) such date of expiration is extended by the Director and Commissioner, or (b) it is reasonably determined prior to the expiration of the fixed term of any extensions thereof that the unitized land is incapable of production of unitized substances in paying quantities in the formations tested hereunder and after notice of intention to terminate the agreement on such ground is given by the Unit Operator to all parties in interest at their last known addresses, the agreement is terminated with the approval of the Director and Commissioner, or (c) a valuable discovery of unitized substances has been made on unitized land during said initial term or any extension thereof, in which event the agreement shall remain in effect for such term and so long as unitized substances can be produced in paying quantities, i.e.,

in this particular instance in quantities sufficient to pay for the cost of producing same from wells on unitized land within any participating area established hereunder and, should production cease, so long thereafter as diligent operations are in progress for the restoration of production or discovery of new production and so long thereafter as the unitized substances so discovered can be produced as aforesaid, or (d) it is terminated as heretofore provided in this agreement.

This agreement may be terminated at any time by not less than seventy-five per centum (75%), on an acreage basis, of the owners of working interests signatory hereto, with the approval of the Director and Commissioner; notice of any such approval to be given by the Unit Operator to all parties hereto.

21. RATE OF PROSPECTING, DEVELOPMENT, AND PRODUCTION. All production and the disposal thereof shall be in conformity with allocations and quotas made or fixed by any duly authorized person or regulatory body under any federal or state statute. The Director is hereby vested with authority to alter or modify from time to time, in his discretion, the rate of prospecting and development and within the limits made or fixed by the Commission to alter or modify the quantity and rate of production under this agreement, such authority being hereby limited to alteration or modification in the public interest, the purpose thereof and the public interest to be served thereby to be stated in the order of alteration or modification; provided, further that no such alteration or modification shall be effective as to any land of the State of New Mexico as to the rate of prospecting and development in the absence of the specific written approval thereof by the Commissioner and as to any lands of the State of New Mexico or privately owned lands subject to this agreement as to the quantity and rate of production in the absence of specific written approval thereof by the Commission.

Powers in this section vested in the Director shall only be exercised after notice to Unit Operator and opportunity for hearing to be held not less than fifteen (15) days from notice.

22. CONFLICT OF SUPERVISION. Neither the Unit Operator nor the working interest owners nor any of them shall be subject to any forfeiture, termination or expiration of any rights hereunder or under any leases or contracts subject hereto, or to any penalty or liability on account of delay or failure in whole or in part to comply with any applicable provision thereof to the extent that the said Unit Operator, working interest owners or any of them are hindered, delayed or prevented from complying therewith by

reason of failure of the Unit Operator to obtain, in the exercise of due diligence, the concurrence of proper representatives of the United States and proper representatives of the State of New Mexico in and about any matters or things concerning which it is required herein that such concurrence be obtained. The parties hereto, including the Commission, agree that all powers and authority vested in the Commission in and by any provisions of this contract are vested in the Commission and shall be exercised by it pursuant to the provisions of the laws of the State of New Mexico and subject in any case to appeal or judicial review as may now or hereafter be provided by the laws of the State of New Mexico.

23. APPEARANCES. Unit Operator shall, after notice to other parties affected, have the right to appear for and on behalf of any and all interests affected hereby before the Department of the Interior, the Commissioner of Public Lands and the New Mexico Oil Conservation Commission and to appeal from orders issued under the regulations of said Department, the Commission or the Commissioner, or to apply for relief from any of said regulations or in any proceedings relative to operations before the Department of the Interior, the Commissioner or Commission, or any other legally constituted authority; provided, however, that any other interested party shall also have the right at his own expense to be heard in any such proceeding.

24. NOTICES. All notices, demands or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given if given in writing and personally delivered to the party or sent by postpaid registered mail, addressed to such party or parties at their respective addresses set forth in connection with the signatures hereto or to the ratification or consent hereof or to such other address as any such party may have furnished in writing to party sending the notice, demand or statement.

25. NO WAIVER OF CERTAIN RIGHTS. Nothing in this agreement contained shall be construed as a waiver by any party hereto of the right to assert any legal or constitutional right or defense as to the validity or invalidity of any law of the State wherein said unitized lands are located, or of the United States, or regulations issued thereunder in any way affecting such party, or as a waiver by any such party of any right beyond his or its authority to waive.

26. UNAVOIDABLE DELAY. All obligations under this agreement requiring the Unit Operator to commence or continue drilling or to operate on or produce unitized substances from any of the lands covered by this agreement shall be suspended while, but only so long as, the Unit Operator, despite the exercise of due care and diligence, is prevented from complying with such obligations, in whole or in part, by strikes, acts of God, federal, state, or municipal law or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market, or other matters beyond the reasonable control of the Unit Operator whether similar in nature to the matters herein enumerated or not.

27. FAIR EMPLOYMENT. In connection with the performance of work under this agreement, the Unit Operator agrees not to discriminate against any employee or applicant for employment because of race, religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Unit Operator agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause.

The Unit Operator agrees to insert to the foregoing provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

28. LOSS OF TITLE. In the event title to any tract of unitized land shall fail and the true owner cannot be induced to join in this unit agreement, so that such tract is not committed to this unit agreement, or the operation thereof hereunder becomes impractical as a result thereof, such tract shall be automatically regarded as not committed hereto and there shall be such readjustment of future costs and benefits as may be required on account of the loss of such title. In the event of a dispute as to title as to any royalty, working interest, or other interests subject thereto, payment or delivery on account thereof may be withheld without liability for interest until the dispute is finally settled; provided, that, as to federal or state land or leases, no payments of funds due the United States or the State of New Mexico should be withheld, but such funds of the United States shall be deposited as directed by

the Supervisor, and such funds of the State shall be deposited as directed by the Commissioner, to be held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

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

29. NON-JOINDER AND SUBSEQUENT JOINDER. If the owner of any substantial interest in a tract within the unit area fails or refuses to subscribe or consent to this agreement, the owner of the committed working interest in that tract may withdraw said tract from this agreement by written notice to the Director, the Commissioner and the Unit Operator prior to the approval of this agreement by the Director. Any such tract not so withdrawn shall be considered as unitized, and any necessary adjustments of royalty occasioned by failure of the non-working interest owner to join will be for the account of the corresponding working interest owner. Any oil or gas interests in lands within the unit area not committed hereto prior to submission of this agreement for final approval may thereafter be committed hereto by the owner or owners thereof subscribing or consenting to this agreement, and if the interest is a working interest, by the owner of such interest also subscribing to the unit operating agreement. After operations are commenced hereunder, the right of subsequent joinder, as provided in this section, by a working interest owner is subject to such requirements or approvals, if any, pertaining to such joinder, as may be provided for in the unit operating agreement. After final approval hereof joinder by a non-working interest 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 non-working interest. Joinder by any owner of a non-working interest at any time must be accompanied by appropriate joinder by the owner of the corresponding working interest in order for the interest to be regarded as effectively committed hereto. Joinder to the unit agreement by a working interest owner, at any time, must be accompanied by appropriate joinder to the unit operating agreement, if more than one committed working interest owner is involved, in order for the interest to be regarded as effectively 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, the Commissioner and the Commission of duly executed counterparts of all or any papers necessary to establish effective commitment of any tract to this agreement unless objection to such joinder is duly made within sixty (60) days by the Director or Commissioner.

30. SURRENDER. Nothing in this agreement shall prohibit the exercise by any working interest owner of the right to surrender vested in such party in any lease, sub-lease, or operating agreement as to all or any part of the lands covered thereby, provided that each party who will or might acquire such working interest by such surrender or by forfeiture as hereafter set forth, is bound by the terms of this agreement.

If as a result of any such surrender, the working interest rights as to such lands become vested in any party other than the fee owner of the unitized substances, said party shall forfeit such rights and no further benefits from operations hereunder as to said lands shall accrue to such party, unless within ninety (90) days thereafter said party shall execute this agreement and the unit operating agreement as to the working interest acquired through such surrender, effective as though such land had remained continuously subject to this agreement and the unit operating agreement. And in the event such agreements are not so executed, the party next in the chain of title shall be and become the owner of such working interest at the end of such ninety (90) day period, with the same force and effect as though such working interest had been surrendered to such party.

If as the result of any such surrender or forfeiture the working interest rights as to such lands become vested in the fee owner of the unitized substances, such owner may:

(1) Execute this agreement and the unit operating agreement as a working interest owner, effective as though such lands had remained continuously subject to this agreement and the unit operating agreement.

(2) Again lease such lands but only under the condition that the holder of such lease shall within thirty (30) days after such lands are so leased execute this agreement and the unit operating agreement as to each participating area theretofore established hereunder, effective as though such land had remained continuously subject to this agreement and the unit operating agreement.

(3) Operate or provide for the operation of such land independently of this agreement as to any part thereof or any oil or gas deposits therein not then included within a participating area.

If the fee owner of the unitized substances does not execute this agreement and the unit operating agreement as a working interest owner or again lease such lands as above provided with respect to each existing participating area, within six (6) months after any such surrender or forfeiture, such fee owner shall be deemed to have waived the right to execute the unit operating agreement or lease such lands as to each such participating area, and to have agreed, in consideration for the compensation hereinafter provided, that operations hereunder as to any such participating area or areas shall not be affected by such surrender.

For any period the working interest in any lands are not expressly committed to the unit operating agreement as the result of any such surrender or forfeiture, the benefits and obligations of operations accruing to such lands under this agreement and the unit operating agreement shall be shared by the remaining owners of unitized working interests in accordance with their respective participating working interest ownerships in any such participating area or areas, and such owners of working interests shall compensate the fee owner of unitized substances in such lands by paying sums equal to the rentals, minimum royalties, and royalties applicable to such lands under the lease in effect when the lands were unitized, as to such participating area or areas.

Upon commitment of a working interest to this agreement and the unit operating agreement as provided in this section, an appropriate accounting and settlement shall be made, to reflect the retroactive effect of the commitment, for all benefits accruing to or payments and expenditures made or incurred on behalf of such surrendered working interest during the period between the date of surrender and the date of recommitment, and payment of any moneys found to be owing by such an accounting shall be made as between the parties then signatory to the unit operating agreement and this agreement within thirty (30) days after the recommitment. The right to become a party to this agreement and the unit operating agreement as a working interest owner by reason of a surrender or forfeiture as provided in this section shall not be defeated by the non-existence of a unit operating agreement and in the event no unit operating agreement is in existence and a mutually acceptable agreement between the proper parties thereto cannot be consummated, the Supervisor may prescribe such reasonable and equitable agreement as he deems warranted under the circumstances.

Nothing in this section shall be deemed to limit the right of joinder or subsequent joinder to this agreement as provided elsewhere in this agreement.

The exercise of any right vested in a working interest owner to reassign such working interest to the party from whom obtained shall be subject to the same conditions as set forth in this section in regard to the exercise of a right to surrender.

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 WITNESS WHEREOF, the parties hereto have caused this agreement to be executed and have set opposite their respective names the date of execution.

Date of Execution:

Address: P.O. Box 120
Denver, Colorado

HUMBLE OIL & REFINING COMPANY

By Ronald W. Sloan
Attorney-in-Fact

UNIT OPERATOR AND WORKING INTEREST OWNER

Date of Execution:

4/14/61
Address: P. O. Box 1410
Oil & Gas Building
Fort Worth, Texas

Date of Execution:

April 19, 1961
Address: 2000 National Bank of
Tulsa Building
Tulsa, Oklahoma

PAN AMERICAN PETROLEUM CORPORATION

By D. B. Mason, Jr.
Attorney-in-Fact

ATTEST [Signature]
PETRO-ATLAS, INC. Assistant Secretary

By F. T. Anderson
President

Attest: W. J. Parks
Secretary



Date of Execution:

4-21-61
Address: P.O. Box 3109
Midland, Texas

TEXACO, INC.

By J. L. Sleeper
Attorney-in-Fact

WORKING INTEREST OWNERS

North Kirtland Unit Agreement
Dated March 1, 1961
San Juan County, New Mexico

Date of Execution:

APR 24 1961

Address: P.O. Box 1492
El Paso, Texas

Date of Execution:

April 20th 1961
Address: P.O. Box 1249
Houston, Texas

Date of Execution:

Address: P.O. Box 1419
Albuquerque, New Mexico

Date of Execution:

April 18, 1961
Address: Fidelity Union Tower
~~Bank Building~~
Dallas, Texas

Date of Execution:

April 21, 1961
Address: 920 Mercantile Securities
Dallas, Texas

Date of Execution:

Address: 166 Geary Street
San Francisco, California

EL PASO NATURAL GAS COMPANY

By *Sam Smith*
Attorney-in-Fact *TUB ea*

CALIFORNIA OIL COMPANY

by Z. V. Clark
Attorney-in-Fact

By *V. L. Taylor*
Attorney-in-Fact

PUBCO PETROLEUM CORPORATION

By _____
President

Attest: _____
Secretary

PRODUCTION
SOUTHERN UNION ~~GAS~~ COMPANY

By *W. L. Fisher*
Vice President

Attest: *Emma Bookout*
Asst. Secretary

APPROVED	
Legal	<i>WLF</i>
Engr.	
Expt.	
Land	<i>WLF</i>
Geol.	

AZTEC OIL & GAS COMPANY

By *William L. Davis*
Vice President

Attest: *Arland L. Reed*
Secretary

APPROVED	
Legal	<i>KAS</i>
Land	<i>WLS</i>
Geol.	
Prod.	
Acct.	<i>WLS</i>

EVKO DEVELOPMENT COMPANY

By _____
President

Attest: _____
Secretary

WORKING INTEREST OWNERS

North Kirtland Unit Agreement
Dated March 1, 1961
San Juan County, New Mexico

Date of Execution:

4/28/61

Address: 1020 Simms Building
Albuquerque, New Mexico

EMPIRE STATES DRILLING CORPORATION

By *John P. Hindesmer*
President

Attest: *W. C. Stagg*
Secretary

Date of Execution:

May 9, 1961

Address: 101 University Blvd.
Denver, Colorado

COMPASS EXPLORATION, INC.

By *James E. Jensen*
Vice President

Attest: *Lorraine M. O'Brien*
Secretary

Date of Execution:

4-25-61

Address: 3010 Monte Vista, NE
Albuquerque, New Mexico

J. Felix Hickman
J. Felix Hickman

Date of Execution:

Address: 166 Geary Street
San Francisco, California

Sygmund Haber

Date of Execution:

Address: 9325 Grand River Avenue
Detroit, Michigan

Todson's Interest Now Owned by Humble
Dr. G. I. Todson

WORKING INTEREST OWNERS

North Kirtland Unit Agreement
Dated March 1, 1961
San Juan County, New Mexico

STATE OF COLORADO)
City and) ss.
COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 5th day
of April, 1961, by RAYMOND D. SLOAN, Attorney-in-Fact of HUMBLE OIL &
REFINING COMPANY, a Delaware corporation, in behalf of said corporation.

My commission expires:

A. Sharon Cameron
NOTARY PUBLIC

STATE OF Texas)
COUNTY OF Tarrant) ss.

The foregoing instrument was acknowledged before me this 17 day
of April, 1961, by D. B. Mason, Jr., Attorney-in-Fact
of PAN AMERICAN PETROLEUM CORPORATION, a Delaware corporation, in behalf
of said corporation.

My commission expires:

6-1-61

Thora Prater THORA PRATER
NOTARY PUBLIC in and
for Tarrant County, Texas

STATE OF Oklahoma)
COUNTY OF LeFlore) ss.

The foregoing instrument was acknowledged before me this 19th day
of April, 1961, by F. T. Anderson, President
of PETRO-ATLAS, INC., a Delaware corporation, in behalf of said
corporation.

My commission expires:

JUNE 29, 1962

7467 Haines
NOTARY PUBLIC

STATE OF Texas)
COUNTY OF Midland) ss.

The foregoing instrument was acknowledged before me this 21st day
of April, 1961, by J. L. Steeper, Jr., Attorney-in-Fact
of TEXACO, INC., a Delaware corporation, in behalf of said corporation.

My commission expires:

6-1-61

J. H. Busby
NOTARY PUBLIC

North Kirtland Unit Agreement
Dated March 1, 1961
San Juan County, New Mexico

STATE OF TEXAS)
COUNTY OF El Paso) ss.

The foregoing instrument was acknowledged before me this 2nd day
of April, 1961, by Sam Smith, Attorney-in-Fact
of EL PASO NATURAL GAS COMPANY, a Texas corporation, in behalf of
said corporation.

My commission expires:
NATALIE TAYLOR
Notary Public in and for El Paso County, Texas
My Commission Expires June 1, 1961

Natalie Taylor
NOTARY PUBLIC

STATE OF Texas)
COUNTY OF Harris) ss.

The foregoing instrument was acknowledged before me this 30 day
of April, 1961, by N.L. Taylor and L.M. Clark, Attorneys-in-Fact
of CALIFORNIA OIL COMPANY, a Calif corporation, in behalf of said
corporation.

My commission expires:

Peggy Spence
NOTARY PUBLIC

PEGGY SPENCE
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1961

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____, _____ President
of PUBCO DEVELOPMENT, INC., a _____ corporation, in behalf of said
corporation.

My commission expires:

NOTARY PUBLIC

STATE OF TEXAS)
COUNTY OF DALLAS) ss.

The foregoing instrument was acknowledged before me this 18th day
of April, 1961, by A. M. Wiederkehr, Vice President
of SOUTHERN UNION ~~GAS~~ PRODUCTION COMPANY, a Delaware corporation, in behalf of said
corporation.

My commission expires:
June 1, 1961

James Conner
NOTARY PUBLIC

North Kirtland Unit Agreement
Dated March 1, 1961
San Juan County, New Mexico

STATE OF Texas)
COUNTY OF Dallas) ss.

The foregoing instrument was acknowledged before me this 21st day of April, 1961, by William B. Davis, Vice President of AZTEC OIL & GAS COMPANY, a Delaware corporation, in behalf of said corporation.

My commission expires:

6-1-61

Mary Jay Salant
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____, _____ President of EVKO DEVELOPMENT COMPANY, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

STATE OF New Mexico)
COUNTY OF Bernalillo) ss.

The foregoing instrument was acknowledged before me this 28th day of April, 1961, by John I. Tidmer, _____ President of EMPIRE STATES DRILLING CORPORATION, a New Mexico corporation, in behalf of said corporation.

My commission expires:

3-13-65

Beth Cobler
NOTARY PUBLIC

STATE OF New Mexico)
COUNTY OF Bernalillo) ss.

The foregoing instrument was acknowledged before me this 25th day of April, 1961, by J. FELIX HICKMAN.

My commission expires:

JUL 12 1961

George P. Roman
NOTARY PUBLIC

North Kirtland Unit Agreement
Dated March 1, 1961
San Juan County, New Mexico

STATE OF Colorado)
COUNTY OF Denver) ss.

The foregoing instrument was acknowledged before me this 9th day of May, 1961, by James E. Menon, Vice President of COMPASS EXPLORATION, INC., a Colorado corporation, in behalf of said corporation.

My commission expires:

January 9, 1965

Connie Karnes
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by SYGMUND HABER.

My commission expires:

NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by DR. G.I. TODSON.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 13, 1961

E. H. Pipkin
E. H. Pipkin
Pearl O. Pipkin
Address: Pearl O. Pipkin
Box 1174
Roswell, New Mexico

Tr 1,5,6

Date: April 13, 1961

James Q. Marshall
James Q. Marshall
Virginia C. Marshall
Address: Virginia C. Marshall
Box 206
Roswell, New Mexico

Tr 5,6

STATE OF New Mexico)
COUNTY OF Chaves) ss.

(Individual)

The foregoing instrument was acknowledged before me this 13th day of April, 1961, by E. H. Pipkin & Pearl O. Pipkin, his wife.

My commission expires:

1-1-64

Shirley (Linn) Barnett
NOTARY PUBLIC

STATE OF New Mexico)
COUNTY OF Chaves) ss.

(Individual)

The foregoing instrument was acknowledged before me this 13th day of April, 1961, by James Q. Marshall & Virginia C. Marshall, his wife.

My commission expires:

1-1-64

Shirley (Linn) Barnett
NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 14, 1961

x *J. B. Chase* Tr. 2, 14th par B
J. B. Chase
Nancy C. Chase
Address: Nancy C. Chase
401 Oil & Gas Bldg.
Midland, Texas

Date: _____

Address: _____

STATE OF Texas)
) ss.
COUNTY OF Midland)

(Individual)

The foregoing instrument was acknowledged before me this 25th day
of April, 1961, by J. B. Chase & Nancy C. Chase, his wife.

My commission expires:

J. B. Chase

J. B. Chase
NOTARY PUBLIC

STATE OF _____)
) ss.
COUNTY OF _____)

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,

_____ of _____,

a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961
EXECUTED AS ROYALTY OWNER

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 14, 1961

Mary C. Hagood

7-10
FBI
AFB

MARY C. HAGOOD

Address: P. O. Box 966
Casper, Wyoming

Date: _____

Address: _____

STATE OF WYOMING)
COUNTY OF NATRONA) ss.

(Individual)

NOTARY PUBLIC
The foregoing instrument was acknowledged before me this 14th day
of April, 1961, by Mary C. Hagood, a married woman dealing in her separate
estate.

My commission expires:

My Commission expires February 14, 1963

Patricia J. Hagel
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 17, 1961

Kathryn B. Richardson T-2.14
E. R. Richardson Par
B.
Address: 2929 Monte Vista NE
Albuquerque, New Mexico

Date: _____

Address: _____

STATE OF New Mexico)
COUNTY OF Bernalillo) ss.

(Individual)

The foregoing instrument was acknowledged before me this 17th day

of April, 1961, by E. R. Richardson and Kathryn B. Richardson, his wife.

My commission expires:

Mellie R. Collins
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day

of _____, 1961, by _____,

_____ of _____,

a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 13, 1961

Ernest A. Hanson
Ernest A. Hanson

Bulah Irene Hanson T-3, 4
Address: Bulah Irene Hanson
Box 832 1315
Roswell, New Mexico

Date: April 13, 1961

E. B. Todhunter
E. B. Todhunter

Irene Todhunter T-18
Address: Irene Todhunter
Box 832 1315
Roswell, New Mexico

STATE OF New Mexico)
COUNTY OF Chaves) ss.

(Individual)

The foregoing instrument was acknowledged before me this 14th day

of April, 1961, by Ernest A. Hanson & Bulah Irene Hanson, his wife.

My commission expires:

April 13, 1963

Opal Brown
NOTARY PUBLIC

STATE OF New Mexico)
COUNTY OF Chaves) ss.

~~X Incorporated~~
(Individual)

The foregoing instrument was acknowledged before me this 14th day

of April, 1961, by E. B. Todhunter & Irene Todhunter, his wife.

_____ of _____,

~~My commission expires: X Incorporated, not a husband and wife~~

My commission expires:

April 13, 1963

Opal Brown
NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 13, 1961

Ora R. Hall, Jr.
Ora R. Hall, Jr.

Edna Ione Hall
Address: Edna Ione Hall
Box 1007-1757
Roswell, New Mexico

Tr. 14-B
Par. B

Date: April 13, 1961

John A. Barnett
John A. Barnett

Maurine Barnett
Address: Maurine Barnett
Box 670
Roswell, New Mexico

Tr. 7

STATE OF New Mexico)
COUNTY OF Chaves) ss.

(Individual)

The foregoing instrument was acknowledged before me this 13th day of April, 1961, by Ora R. Hall, Jr. & Edna Ione Hall, his wife.

My commission expires:

April 11, 1962

Bernille Goodwin
NOTARY PUBLIC

STATE OF New Mexico)
COUNTY OF Chaves) ss.

~~(Individual)~~
(Individual)

The foregoing instrument was acknowledged before me this 13th day of April, 1961, by John A. Barnett & Maurine Barnett, his wife.

at

~~My commission expires:~~

My commission expires:

JUN 28 1961

Jack Lusk
NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: 4-1-61

John N. Eddy
John N. Eddy
Consuelo B. Eddy
Address: Consuelo B. Eddy
P.O. Box 2104
Santa Fe, New Mexico

Date: _____

Address: _____

STATE OF New Mexico)
COUNTY OF Santa Fe) ss.

(Individual)

The foregoing instrument was acknowledged before me this 19th day of April, 1961, by John N. Eddy and Consuelo B. Eddy.

My commission expires:

July 31, 1964

Velma W. Sullivan
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____, _____ of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

70 "

9-10

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 19, 1961

Nathan C. Greer
Nathan C. Greer

Joan T. Greer
Address: Joan T. Greer
P.O. Box 1501
Santa Fe, New Mexico

Date: _____

Address: _____

STATE OF New Mexico)
COUNTY OF Santa Fe) ss.

(Individual)

The foregoing instrument was acknowledged before me this 19th day of April, 1961, by Nathan C. Greer and Joan T. Greer, husband & wife

My commission expires: Feb 14 - 1963

James A. Greer
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____, of _____, a _____ corporation, in behalf of said corporation.

My commission expires: _____

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: May 9, 1961

F. R. Powers & Mary Louise Powers
F. R. Powers & Mary Louise Powers
1089 MacArthur Blvd., San Leandro, California

Address: ~~Coronado Building~~
~~1000 Broadway~~

Date: _____

Address: _____

STATE OF CALIFORNIA)
) ss.
COUNTY OF Alameda)

(Individual)

The foregoing instrument was acknowledged before me this 9th day
of May, 1961, by F. R. Powers and Mary Louise Powers, his wife
My commission expires:
May 13, 1961

Carl P. Thor
NOTARY PUBLIC
Carl P. Thor

STATE OF _____)
) ss.
COUNTY OF _____)

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.
My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 24, 1961

Thomas B. Catron, III
Thomas B. Catron, III
Tr 11

June Catron
Address: June Catron
P.O. Box 788 and Blatt Bldg.
Santa Fe, New Mexico

Date: _____

Address: _____

STATE OF New Mexico)
COUNTY OF Santa Fe) ss.

(Individual)

The foregoing instrument was acknowledged before me this 24th day of April, 1961, by Thomas B. Catron, III & June Catron, husband & wife.

My commission expires:

July 31, 1964
NOTARY PUBLIC

Velma W. Sullivan
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____ of _____ a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 13 - 1961

F. R. Bryan 7-11-5-19
Jo Claire Bryan
Address: 1619 Bernalillo Dr. N.E.
Albuquerque N.M.

Date: _____

Address: _____

STATE OF New Mexico)
COUNTY OF Bernalillo) ss.

(Individual)

The foregoing instrument was acknowledged before me this 13th day
of April, 1961, by F. R. Bryan and Jo Claire Bryan, his wife.

My commission expires:

4/11/64

Nellie R. Collins
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

North Kirtland Unit Agreement

Tract 11 (as described in Exhibit "B")
Lease SF-081231

2½% overriding royalty interest of F.H. Carpenter and Louise Carpenter was created by a reservation in the attached "Assignment of Oil and Gas Lease" by and between F.H. Carpenter and Louise Carpenter, as Assignor and F.R. Bryan, as Assignee, dated September 1, 1956, which contains the following provision:

"The assignor's interest in said overriding royalty shall be subject to any cooperative or unit plan of operation or development approved by the Secretary of the Interior, or any communitization or other agreement for the purpose of forming a well spacing or a proration unit under the rules or regulations of the New Mexico Oil Conservation Commission to which said lease may have heretofore or may hereafter be committed by the assignee, his successors or assigns, and in such event, said overriding royalty shall be computed and paid on the basis of the oil and gas allocated to the above described lands under and pursuant to the terms of any such agreement or plan of operation."

Oil payment of Tom Bolack was created by a reservation in the attached "Assignment of Oil and Gas Lease" by and between F.H. Carpenter and Louise Carpenter, as Assignor and F.R. Bryan, as Assignee, dated October 2, 1956, which contains the following provision:

"The assignor's interest in said obligation shall be subject to any cooperative or unit plan of operation or development approved by the Secretary of the Interior, or any communitization or other agreement for the purpose of forming a well spacing or a proration unit under the rules or regulations of the New Mexico Oil Conservation Commission to which said lease may have heretofore or may hereafter be committed by the assignee, his successors or assigns, and in such event, said obligation shall be computed and paid on the basis of the oil and gas allocated to the above described lands under and pursuant to the terms of any such agreement or plan of operation."

By reason of these provisions and commitment of the lease to the agreement by F.R. Bryan, Lessee of Record, Tract 11, Lease SF-081231 will be fully committed to the North Kirtland Unit Agreement upon final approval of the Unit Agreement for the Secretary of the Interior.

North Kirtland Unit Agreement

Tract 14, Parcels A and B
Federal Lease SF-081231-C

5% overriding royalty of F.H. Carpenter and Louise Carpenter was created by a reservation in the attached "Assignment of Oil and Gas Lease" by and between F.H. Carpenter and Louise Carpenter, as Assignor, and F.R. Bryan, as Assignee, dated September 1, 1956, which contains the following provision:

"The assignor's interest in said overriding royalty shall be subject to any cooperative or unit plan of operation or development approved by the Secretary of the Interior, or any communitization or other agreement for the purpose of forming a well spacing or a proration unit under the rules or regulations of the New Mexico Oil Conservation Commission to which said lease may have heretofore or may hereafter be committed by the assignee, his successors or assigns, and in such event, said overriding royalty shall be computed and paid on the basis of the oil and gas allocated to the above described lands under and pursuant to the terms of any such agreement or plan of operation."

By reason of this provision and commitment of the lease to the Unit Agreement by Humble Oil & Refining Company, Lessee of Record, Tract 14, Parcels A and B, Lease SF-081231-C, will be fully committed to the North Kirtland Unit Agreement upon final approval of the agreement for the Secretary of the Interior.

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 13th, 1961

ELLIOTT PRODUCTION COMPANY

BY: [Signature]
President

WITNESSES: Edna M Elliott
Secretary

Address: Box 1355
Roswell, New Mexico

Date: April 13, 1961

[Signature]
Frank O. Elliott

Elizabeth Ann Elliott
Address: Elizabeth Ann Elliott
Box 703
Roswell, New Mexico

STATE OF New Mexico)
COUNTY OF Chaves) ss.

(Individual)

The foregoing instrument was acknowledged before me this 13th day
of April, 1961, by Frank O. Elliott & Elizabeth Ann Elliott, his wife.

My commission expires:

Dec. 20, 1963

[Signature]
NOTARY PUBLIC

STATE OF New Mexico)
COUNTY OF Chaves) ss.

(Corporation)

The foregoing instrument was acknowledged before me this 13th day
of April, 1961, by L. E. Elliott,
President of ELLIOTT PRODUCTION COMPANY,
a New Mexico corporation, in behalf of said corporation.

My commission expires:

Dec. 20, 1963

[Signature]
NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 15, 1961

Arthur B. Johnson
Arthur B. Johnson
Margaret C. Johnson
Margaret C. Johnson
Address: 1114 Laurel Drive
Lafayette, California

Date: _____

Address: _____

STATE OF CALIFORNIA)
COUNTY OF Alameda) ss.

(Individual)

The foregoing instrument was acknowledged before me this 24th day
of April, 1961, by Arthur B. Johnson and Margaret C. Johnson, his wife
My commission expires:

June 26, 1962

S. Lermont Cederborg
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.

My commission expires:


NOTARY PUBLIC

HAM

RATIFICATION AND JOINDER

For the consideration stated in the Unit Agreement for the development and operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, dated March 1, 1961, the undersigned hereby ratifies, confirms and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement, expressly including within the effect of this ratification and joinder all interests which the undersigned now has or may hereafter acquire. And for the same consideration and the consideration stated in the Unit Operating Agreement for the same area, dated as of the same day, the undersigned hereby ratifies, confirms and joins in the execution of said Unit Operating Agreement, which is also hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Operating Agreement, expressly including within the effect of this ratification and joinder all interests which the undersigned now has or may hereafter acquire.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally. The undersigned likewise acknowledges receipt of a copy of said Unit Operating Agreement.

Dated: 5-1-61 
Address: P.O. Box 411
Santa Fe, New Mexico

Tr 18

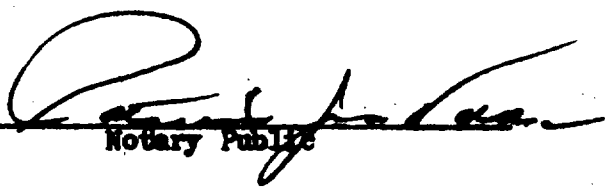
Dated: _____
Address: _____

STATE OF NEW MEXICO)
COUNTY OF Santa Fe) ss.

The foregoing instrument was acknowledged before me this
1st day of May, 1961, by George E. Conley, a single man



Commission Expires:
Commission expires April 16, 1962


Notary Public

RATIFICATION AND JOINDER

For the consideration stated in the Unit Agreement for the development and operation of the North Kirtland Unit Area, County of San Juan, State of New Mexico, dated March 1, 1961, the undersigned hereby ratifies, confirms and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement, expressly including within the effect of this ratification and joinder all interests which the undersigned now has or may hereafter acquire. And for the same consideration and the consideration stated in the Unit Operating Agreement for the same area, dated as of the same day, the undersigned hereby ratifies, confirms and joins in the execution of said Unit Operating Agreement, which is also hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Operating Agreement, expressly including within the effect of this ratification and joinder all interests which the undersigned now has or may hereafter acquire.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally. The undersigned likewise acknowledges receipt of a copy of said Unit Operating Agreement.

Dated: April 28, 1961

John P. Cuccia
Address: 1206 W. Holt Blvd.
Ontario, California

Tr 18

Dated: April 28, 1961

Victoria L. Cuccia
Address: 1206 W. Holt Blvd.
Ontario, California

STATE OF California)
COUNTY OF San Bernardino)

ss.

The foregoing instrument was acknowledged before me this

day of April, 1961, by John P. Cuccia and

Victoria L. Cuccia, his wife.

My Commission Expires:

October 14, 1961



Doreen Smith
Notary Public, in and for
Los Angeles County,
State of California.

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: 5-1-61

7-19

Claude Bate
Claude Bate
Eugenia Bate
Address: Eugenia Bate
P. O. Box 86
Mayer, Arizona

Date: _____

Address: _____

STATE OF Arizona)
COUNTY OF Yavapai) ss.

(Individual)

The foregoing instrument was acknowledged before me this 1st day of May, 1961, by Claude Bate and Eugenia Bate, husband and wife
My commission expires:

Oct. 25, 1962

Laura R. Lepton
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____, _____ of _____, a _____ corporation, in behalf of said corporation.
My commission expires:

NOTARY PUBLIC

7-12-19

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: 4-19-61

Hoover H. Wright Betty Ruth Wright ^{Wright}
Hoover H. Wright Betty Ruth Wright

Address: P.O. Box 2124
Santa Fe, New Mexico

Date: _____

Address: _____

STATE OF NEW MEXICO
COUNTY OF SANTA FE) ss.

(Individual)

The foregoing instrument was acknowledged before me this 19TH day
_____, 1961, by Hoover H. Wright, and Betty Ruth Wright.

husband and wife

My commission expires:

18-1965

NOTARY PUBLIC

ELOY F. SANCHEZ

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: May 8, 1961.

Thomas Connell
THOMAS CONNELL

Address: 538 Whitney Bank Building
New Orleans, Louisiana

T-20


Date: May 8, 1961.

Emily K. Connell
EMILY K. CONNELL

Address: Same as above

STATE OF Louisiana)
COUNTY OF ORLEANS) ss.

(Individual)

 The foregoing instrument was acknowledged before me this 8th day of May, 1961, by THOMAS CONNELL and EMILY K. CONNELL, his wife.
My commission expires: May 1962.

Ernest Z. Blanks
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____, _____ of _____, a _____ corporation, in behalf of said corporation.
My commission expires: _____

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: May 8, 1961

Irwin Rubenstein *Fr 20*
Irwin Rubenstein

Address: 500 Deerfield
Silver Springs, Maryland

Date: _____

Address: _____

STATE OF District of Columbia)
COUNTY OF Columbia) ss.

(Individual)

The foregoing instrument was acknowledged before me this 8th day
May, 1961, by Irwin Rubenstein.

My commission expires:

May 31, 1961

[Signature]
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER

IN THE NORTH KIRTLAND UNIT AGREEMENT

COUNTY OF SAN JUAN

STATE OF NEW MEXICO

Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 17, 1961

Peggy E. Baetz

Address: Bertrand O. Baetz

119 Gunter Bldg.
San Antonio, Texas

Date: _____

Address: _____

STATE OF Texas)
) ss.
COUNTY OF Bexar)

(Individual)

The foregoing instrument was acknowledged before me this 28th day of April, 1961, by Peggy E. Baetz & Bertrand O. Baetz, her husband.

My commission expires:

May 31, 1961

NOTARY PUBLIC

919 E. TERRA LIA
SAN ANTONIO, TEXAS

STATE OF _____)
) ss.
COUNTY OF _____)

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 17, 1961

Donna M. Reiley 23
Donna M. Reiley

Charles W. Reiley
Address: Charles W. Reiley
227 E. Hildebrand
San Antonio, Texas

BOXER CORPORATION

By: R. L. Thompson Tr. 23
PRESIDENT

Address: 604 NBC Building
San Antonio, Texas

Date: April 17, 1961

Attest: L. M. Bracewell

STATE OF Texas)
) ss.
COUNTY OF Bexar)

(Individual)

The foregoing instrument was acknowledged before me this 17th day
of April, 1961, by Donna M. Reiley & Charles W. Reiley, her husband,
My commission expires:

6-1-61

Douglas A. Morganroth
NOTARY PUBLIC

DOUGLAS A. MORGANROTH
Notary Public, Bexar County, Texas

STATE OF Texas)
) ss.
COUNTY OF Bexar)

(Corporation)

The foregoing instrument was acknowledged before me this 17th day
of April, 1961, by R. L. Thompson,
President of Boxer Corporation,
a Texas corporation, in behalf of said corporation.

My commission expires:

6-1-61

Douglas A. Morganroth
NOTARY PUBLIC
DOUGLAS A. MORGANROTH
Notary Public, Bexar County, Texas

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: 5-3-61

Carroll T. Payne T-23
Carroll T. Payne

Edith H. Payne
Address: Edith H. Payne, his wife
1018 Idlewild Lane, S.E.
Albuquerque, New Mexico


Date: 5-3-61

Address: _____

STATE OF New Mexico)
COUNTY OF Bernalillo) ss.

(Individual)

The foregoing instrument was acknowledged before me this 3rd day of May, 1961, by Carroll T. Payne and Edith H. Payne, his wife
My commission expires:

Aug 12, 61


James T. Rivera
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____, _____ of _____, a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINER
IN THE NORTH KINTLAND UNIT AGREEMENT
COUNTY OF SAN JOAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 17, 1961

Allen R. True T-24
Allen R. True
Cynthia True
Address: 1111 1/2 Main Building
Denver, Colorado

Date: _____

Address: _____

STATE OF COLORADO)
City & County of Denver) ss.

(Individual)

The foregoing instrument was acknowledged before me this 14th day
of April, 1961, by Allen R. True and Cynthia True, husband and wife
My Commission expires: _____
My Commission expires June 1, 1963

Richard L. Disher
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.
My commission expires: _____

NOTARY PUBLIC

ILLEGIBLE

North Kirtland Unit Agreement

Tract 36
State of New Mexico Lease E-1542-3

5% overriding royalty interest of Edward J. Johnson (now deceased) was created by the attached "Assignment of Overriding Royalty" by and between F.R. Bryan and Jo Clair Bryan, as Assignors, and Edward J. Johnson, as Assignee, dated the 14th day of August, 1956, which contains the following provision:

"Assignors hereby except and reserve to themselves and their successors and assigns the power from time to time to commit said land and said overriding royalty or any part or horizon or mineral substance therein to any cooperative, pooling or unit plan of operation or development approved by the Commissioner or Public Lands of the State of New Mexico, or to any communitization or other agreement for the purpose of forming a well spacing or proration unit fixed by law or by the New Mexico Oil Conservation Commission or by other lawful authority."

By reason of this provision and commitment of the lease to the Unit Agreement by Humble Oil & Refining Company, assignee of F.R. Bryan and Jo Clair Bryan and present owner of the lease, Tract 36, New Mexico State Lease E-1542-3, will be fully committed to the North Kirtland Unit Agreement upon approval of the agreement by the Commissioner of Public Lands of the State of New Mexico.

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: April 18, 1961

H. A. Jacobson
H. A. Jacobson, Capt. M.J. Fr 37
Ethel R. Jacobson
Address: 1111 La Brea Ave.
Fresno, California

Date: _____

Address: _____

STATE OF CALIFORNIA)
COUNTY OF Fresno) ss.

(Individual)

The foregoing instrument was acknowledged before me this 18th day of April, 1961, by H. A. Jacobson and Ethel R. Jacobson.

My commission expires:

ETHA M. RILEY

MY COMMISSION EXPIRES MARCH 17, 1963

Etha M. Riley
NOTARY PUBLIC



STATE OF _____)
COUNTY OF _____) ss,

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____ of _____ a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

RECEIVED

JUN 26 1961

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally. Mrs. R. Lucian Hamilton, a/k/a Dewey Culp Hamilton, individually and as Executrix of the Estate of R. Lucian Hamilton, deceased.

Date: 5/25/61

Consented to and Accepted by:

HUMBLE OIL & REFINING COMPANY
Working Interest Owner

By

L. A. Dodd
Attorney-in-Fact

Mrs. R. Lucian Hamilton Tr 38

Address: Mrs. R. Lucian Hamilton
965 Orange Street
Yuba City, California

Address: _____

STATE OF Calif.)
COUNTY OF Sutter) ss.

(Individual)

The foregoing instrument was acknowledged before me this 5 day

of June, 1961, by Mrs. R. Lucian Hamilton

My commission expires:

8/62

Ernest Curry Walton
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss,

(Corporation)

The foregoing instrument was acknowledged before me this _____ day

of _____, 1961, by _____,

_____ of _____,

a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER

IN THE NORTH KIRTLAND UNIT AGREEMENT

COUNTY OF SAN JUAN

STATE OF NEW MEXICO

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

Date: May 3, 1961

Jay J. Martyn

Address: Miss Fay J Harris

801 Ridgecrest Dr. S
Albuquerque, New Mexico

Date: .

Address: _____

(Individual)

of , 1961, by Jay J. Harris and Mrs. Jay J. Harris.

1964

NOTARY PUBLIC

(Corporation)

of _____, 1961, by _____.

_____ of _____.

My commission expires:

-58-

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: May 9, 1961

First National Bank in Albuquerque
Trustee of Jeffrey Leigh Hickman Trust
By Kenneth A. Kruhm T-41
Vice President & Trust Officer

Address: _____

Date: _____

Address: _____

STATE OF _____) (Individual)
COUNTY OF _____) ss.

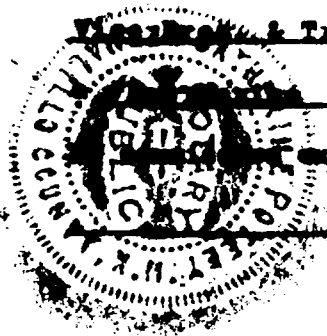
The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____.
My commission expires:

NOTARY PUBLIC

STATE OF New Mexico) (Corporation)
COUNTY OF Bernalillo) ss.

The foregoing instrument was acknowledged before me this 9th day
of May, 1961, by Kenneth A. Kruhm,
Vice President & Trust Officer of First National Bank in Albuquerque,
corporation, in behalf of said corporation.

My commission expires: 6/19/61



Catherine P. Pate
NOTARY PUBLIC

-59-

RATIFICATION AND JOINDER
IN THE NORTH KIRTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: May 4, 1961

Floyd H. Schroeder
Floyd H. Schroeder

Dorothy May Schroeder
Address: 1310 Calle Del Ranchero, N.E.
Albuquerque, New Mexico

Date: _____

Address: _____

STATE OF New Mexico)
COUNTY OF Bernalillo) ss.

(Individual)

The foregoing instrument was acknowledged before me this 4th day of May, 1961, by Floyd H. Schroeder and Dorothy May Schroeder, his wife.
My commission expires: July 12, 1961

Larry P. Rembert
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss,

(Corporation)

The foregoing instrument was acknowledged before me this _____ day of _____, 1961, by _____ of _____ a _____ corporation, in behalf of said corporation.

My commission expires:

NOTARY PUBLIC

RATIFICATION AND JOINDER
IN THE NORTH KINTLAND UNIT AGREEMENT
COUNTY OF SAN JUAN
STATE OF NEW MEXICO
Dated March 1, 1961

For the consideration stated in the above described Unit Agreement, the undersigned hereby ratifies, confirms, and joins in the execution of said Unit Agreement, which is hereby incorporated herein and made a part hereof, to the same extent and effect as if the undersigned had executed the original of said Unit Agreement.

The undersigned acknowledges receipt of a copy of said Unit Agreement and acknowledges that no representations not incorporated herein or in said Unit Agreement have been made to the undersigned, and that this instrument has been signed and delivered unconditionally.

Date: May 8, 1961

D. G. I. Todson 7-46
Dr. G. I. Todson

Address: 8325 Grand River Avenue
Detroit, Michigan

Date: _____

Address: _____

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

(Individual)

The foregoing instrument was acknowledged before me this 9th day
of May, 1961, by Dr. G. I. Todson, a single man.

My commission expires:

MY COMMISSION EXPIRES APRIL 7, 1964

Signe M. Exum
NOTARY PUBLIC

STATE OF _____)
COUNTY OF _____) ss.

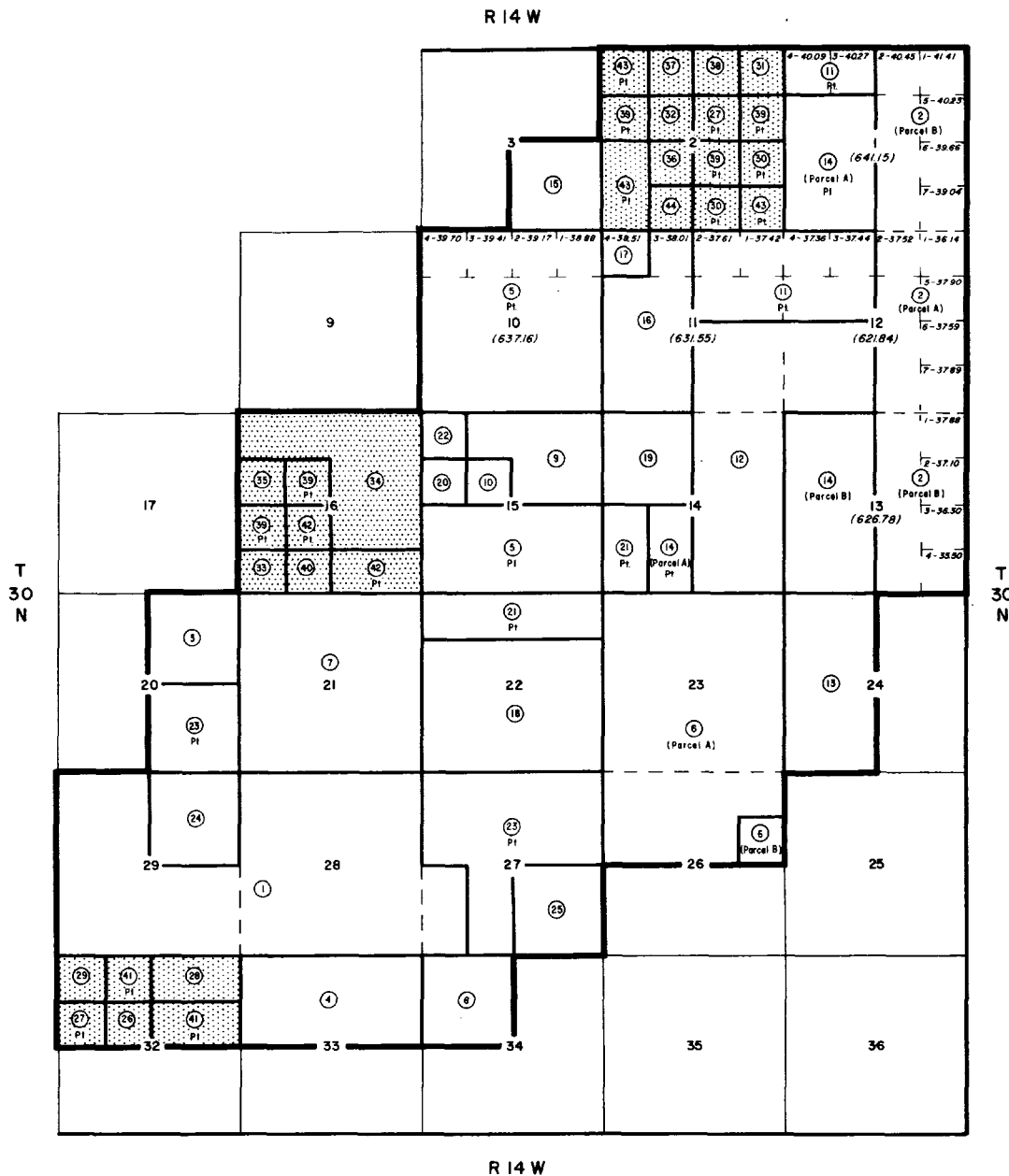
(Corporation)

The foregoing instrument was acknowledged before me this _____ day
of _____, 1961, by _____,
_____ of _____,
a _____ corporation, in behalf of said corporation.



My commission expires:

NOTARY PUBLIC

EXHIBIT "A"
NORTH KIRTLAND UNIT
SAN JUAN COUNTY, NEW MEXICO



LAND TYPES

	FEDERAL	9,878.48 ACRES	86.0608 %
	STATE	1,600.00 ACRES	13.9392 %
	TOTAL	11,478.48 ACRES	100.0000 %

④ TRACT NUMBERS AS LISTED ON EXHIBIT B
UNIT OUTLINE

MAP SOURCE
GOVERNMENT LAND OFFICE PLATS

T30N-R14W NMPM APPROVED 6-25-1910 BY SURVEYOR GENERAL
T30N-R14W NMPM APPROVED 7-27-1937 BY ASSISTANT COMMISSIONER

FEDERAL LANDS

TRACT NO.	SERIAL NO.	WORKING INTEREST OWNER
1	SF-078619	Humble Oil & Refining Company
2-Parcel A	SF-079070	Humble Oil & Refining Company
2-Parcel B	SF-079070	Humble Oil & Refining Company
3	SF-079894-A	Humble Oil & Refining Company
4	SF-079968	Pubco Petroleum Corporation
5	SF-080361	Humble Oil & Refining Company
6-Parcel A	SF-080361-B	Pan American Petroleum Corporation
6-Parcel B	SF-080361-B	Humble Oil & Refining Company
7	SF-080429	Humble Oil & Refining Company
8	SF-080466	Aztec Oil & Gas Company (Below 6195')
		Compass Exploration, Inc. (Above 6195')
9	SF-080637-B	Humble Oil & Refining Company
10	SF-080637-C	Humble Oil & Refining Company
11	SF-081231	Humble Oil & Refining Company
12	SF-081231-A	Humble Oil & Refining Company (!)
13	SF-081231-B	Pan American Petroleum Corporation
14-Parcel A	SF-081231-C	Humble Oil & Refining Company
14-Parcel B	SF-081231-C	Humble Oil & Refining Company
15	NM-02416	Humble Oil & Refining Company
16	NM-03623	Humble Oil & Refining Company (!)
17	NM-03623-A	Humble Oil & Refining Company (!)
18	NM-016998	Humble Oil & Refining Company (!)
19	NM-018720	Humble Oil & Refining Company
20	NM-022569	Humble Oil & Refining Company
21	NM-070740	Humble Oil & Refining Company
22	NM-073155	Humble Oil & Refining Company
23	NM-095075	Humble Oil & Refining Company
24	NM-0122158	Humble Oil & Refining Company
25		Unleased Federal

STATE LANDS

TRACT NO.	SERIAL NO.	WORKING INTEREST OWNER
26	B-10803-18	Southern Union Production Company
27	B-10803-19	Southern Union Production Company
28	B-10803-24	Pubco Petroleum Corporation
29	B-10803-25	Pubco Petroleum Corporation
30	B-10803-26	EVKO Development Company
31	B-11124-23	Sygmund Haber
32	B-11124-37	EVKO Development Company
33	B-11242-37	EVKO Development Company
34	B-11242-38	EVKO Development Company
35	B-11571-40	EVKO Development Company
36	E-1542-3	Humble Oil & Refining Company
37	E-1544-5	Humble Oil & Refining Company
38	E-1545	Humble Oil & Refining Company
39	E-3149	Texaco, Inc.
40	E-7029	EVKO Development Company
41	E-7751-2	J. Felix Hickman - 1/3
		Empire States Drilling Corporation - 2/3
42	E-7826	Pubco Petroleum Corporation
43	OG-349	California Oil Company
44	OG-3832	Humble Oil & Refining Company

(!) See notes on Exhibit "B"

EXHIBIT "B"
NORTH KIRTLAND UNIT AREA
SAN JUAN COUNTY, NEW MEXICO
Township 30 North, Range 14 West, NMPM

Rev.
5-15-61

Tract No.	Description of Land	Number of Acres	Serial No. & Expiration Date of Lease	Basic Royalty & Percentage (Based on 12 $\frac{1}{2}$ %)	Lessee of Record	Overriding Royalty and Percentage	Working Interest and Percentage
<u>FEDERAL LANDS</u>							
1.	<u>T30N, R14W, NMPM</u> Sec. 27: W $\frac{1}{2}$ SW $\frac{1}{4}$ Sec. 28: All Sec. 29: W $\frac{1}{2}$, SE $\frac{1}{4}$	1200.00	SF-078619 6-30-58 HBP (Footnote C)	USA - All	E.H. Pipkin	E.H. Pipkin & Pearl O. Pipkin - 5%	*Humble - All
2.	<u>Parcel A</u> <u>T30N, R14W, NMPM</u> Sec. 12: Lots 1,2,5,6, 7, SW $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ (E $\frac{1}{2}$)	307.04	SF-079070 9-30-59 HBP (Footnote C)	USA - All	Humble	Mary C. Hagood - 5% Following are down through depth of 6489' only: E.R. Richardson - 1% J.B. Chase - 1%	Humble - All
	<u>Parcel B</u> <u>T30N, R14W, NMPM</u> Sec. 1: Lots 1,2,5,6, 7, SW $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ (E $\frac{1}{2}$) Sec. 13: Lots 1,2,3,4, W $\frac{1}{2}$ E $\frac{1}{2}$ (E $\frac{1}{2}$)	627.57	SF-079070 9-30-59 HBP (Footnote C)	USA - All	Humble	Mary C. Hagood - 5%	Humble - All
3.	<u>T30N, R14W, NMPM</u> Sec. 20: NE $\frac{1}{4}$	160.00	SF-079894-A 3-31-63	USA - All	Humble	Ernest A. Hanson & Beulah Irene Hanson - 5%	Humble - All
4.	<u>T30N, R14W, NMPM</u> Sec. 33: N $\frac{1}{2}$	320.00	SF-079968 6-30-61	USA - All	Pubco	Ernest A. Hanson - 2 $\frac{1}{2}$ % Olen F. Featherstone - 2 $\frac{1}{2}$ % John N. Eddy - $\frac{1}{4}$ % Nathan C. Greer - $\frac{1}{4}$ %	Pubco - All

* Leases held by options for full leasehold record title, which will be exercised promptly upon approval of the Unit Agreement.

Exhibit "B"

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5.	<u>T30N, R14W, N4PM</u> Sec. 10: <u>lots 1,2,3,4,</u> <u>S4N4, S4 (A11)</u> Sec. 15: <u>S4</u>	957.16	SF-080361 6-30-61	USA - A11	James Q. Marshall (3/4) E.H. Pipkin (3/4)	James Q. Marshall & Virginia C. Marshall - 2 3/4% E.H. Pipkin & Pearl O. Pipkin - 2 3/4%	*Humble - A11
6.	<u>Parcel A</u> <u>T30N, R14W, N4PM</u> Sec. 23: <u>A11</u> Sec. 26: <u>NW4, NE4NE4, W4NE4</u>	920.00	SF-080361-B 6-30-61	USA - A11	Pan American	E.H. Pipkin - 2 3/4% James Q. Marshall & Virginia C. Marshall - 2 3/4%	Pan American - A11
	<u>Parcel B</u> <u>T30N, R14W, N4PM</u> Sec. 26: <u>SE4NE4</u>	40.00	SF-080361-B 6-30-61	USA - A11	Pan American (Humble) (1)	E.H. Pipkin - 2 3/4% James Q. Marshall & Virginia C. Marshall - 2 3/4% Pan American - 7 3/4%	Humble - A11
7.	<u>T30N, R14W, N4PM</u> Sec. 21: <u>A11</u>	640.00	SF-080429 7-31-61	USA - A11	John A. Barnett	John A. Barnett & Maurine Barnett - 5%	*Humble - A11
8.	<u>T30N, R14W, N4PM</u> Sec. 34: <u>NW4</u>	160.00	SF-080466 6-30-60 HBP (Footnote C)	USA - A11	Aztec	Estate of Frank Orvitz, Deceased - 2 3/4% Following is through a depth of 6195' only: Aztec Oil & Gas. Co. - 12 3/4%	Aztec - A11 (below 6195') Compass - A11 (above 6195')
9.	<u>T30N, R14W, N4PM</u> Sec. 15: <u>NE4, NE4NW4</u>	200.00	SF-080637-B 11-30-61	USA - A11	Humble	John N. Eddy & Consuelo B. Eddy - .375% F.R. Powers - 3 3/4% Nathan C. Greer & Joan T. Greer - 1 1/8% John N. Eddy & Consuelo B. Eddy - 3 1/8% (2)	Humble - A11
10.	<u>T30N, R14W, N4PM</u> Sec. 15: <u>SE4NW4</u>	40.00	SF-080637-C 11-30-61	USA - A11	Humble	Thomas B. Catron, III & June Catron - .375% F.R. Powers - 3 3/4% Nathan C. Greer & Joan T. Greer - 1 1/8% Thomas B. Catron, III & June Catron - 3 1/8% (2)	Humble - A11

* Leases held by options for full leasehold record title, which will be exercised promptly upon approval of the Unit Agreement.
 (1) Assignment of lands in Tract 6, Parcel B, lease SF-080361-B, from Pan American Petroleum Corporation to Humble Oil & Refining Company, dated April 26, 1961, not yet approved by the BLM.
 (2) Interests are production payments of \$100.00 per acre out of 1/32 of production.

Exhibit "B"

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5-15-61
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11.	T30N, R14W, NMPM Sec. 1: Lots 3,4 Sec. 11: Lots 1,2, S $\frac{1}{2}$ NE $\frac{1}{4}$ Sec. 12: Lots 3,4, S $\frac{1}{2}$ NW $\frac{1}{4}$	390.19	SF-081231 8-31-61	USA - All	F.R. Bryan	F.H. Carpenter & Louise Carpenter - 2 $\frac{1}{2}$ % Oil Payment of \$1,000 per acre payable out of 2 $\frac{1}{2}$ % of undivided $\frac{1}{2}$ interest to Tom Bolack	*Humble - All
12.	T30N, R14W, NMPM Sec. 11: SE $\frac{1}{4}$ Sec. 12: SW $\frac{1}{4}$ Sec. 14: E $\frac{1}{2}$	640.00	SF-081231-A 8-31-61	USA - All	Petro-Atlas, Inc.	Petro-Atlas, Inc. - 12 $\frac{1}{2}$ %	Humble (1) - All (1)
13.	T30N, R14W, NMPM Sec. 24: W $\frac{1}{2}$	320.00	SF-081231-B 8-31-61	USA - All	Pan American	F.H. Carpenter & Louise Carpenter - 5%	Pan American - All
14.	Parcel A T30N, R14W, NMPM Sec. 1: S $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ Sec. 14: E $\frac{1}{2}$ SW $\frac{1}{4}$	320.00	SF-081231-C 8-31-61	USA - All	Humble	F.H. Carpenter & Louise Carpenter - 5%	Humble - All
	Parcel B T30N, R14W, NMPM Sec. 13: W $\frac{1}{2}$	320.00	SF-081231-C 8-31-61	USA - All	Humble	F.H. Carpenter & Louise Carpenter - 5% Following are down through a depth of 6489' only: Elliott Production Co. - 2 3/4% Frank O. Elliott & Elizabeth Ann Elliott - 1 3/8% Ora R. Hall, Jr. & Edna Ione Hall - 1 3/8% E.R. Richardson - 1% J.B. Chase - 1%	Humble - All
15.	T30N, R14W, NMPM Sec. 3: SE $\frac{1}{4}$	160.00	NM-02416 7-31-62	USA - All	F.R. Bryan	Margaret C. Johnson & Arthur B. Johnson - 5%	*Humble - All
16.	T30N, R14W, NMPM Sec. 11: Lot 3, S $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$	278.01	NM-03623 2-28-63	USA - All	El Paso	Edward Colton Evensen & Harriet F. Evensen - 5% El Paso - 8.5389%	Humble (2) - All (2)

* Leases held by options for full leasehold record title, which will be exercised promptly upon approval of the Unit Agreement.

(1) Humble, Optionee, will earn full record title and full working interest upon completion of the first unit well, except as to all rights in the E $\frac{1}{2}$ of Section 14 above the base of the Dakota formation, which rights Humble, Optionee, may earn by drilling an additional test well. Under certain conditions, Petro-Atlas, Inc. may convert its overriding royalty interest to a 25.00% working interest in rights down through the Dakota formation.

(2) Humble, Optionee, will earn full record title and full working interest upon completion of the first unit well; but El Paso will have an option to convert its overriding royalty interest to a 27.0778% working interest.

Exhibit "B"

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5-15-61
Page 4

17.	<u>T30N, R14W, NMEPM</u> Sec. 11: Lot 4	38.51	NM-03623-A 2-28-63	USA - All	Humble	Edward Colton Evensen & Harriet F. Evensen - 5%	Humble - All
18.	<u>T30N, R14W, NMEPM</u> Sec. 22: S $\frac{1}{2}$ N $\frac{1}{2}$, S $\frac{1}{2}$	480.00	NM-016998 (1) 6-30-65	USA - All	E.B. Todhunter (2) (Humble) (2)	E.B. Todhunter & Irene Todhunter - 5%	Humble - All (1)
19.	<u>T30N, R14W, NMEPM</u> Sec. 14: NW $\frac{1}{4}$	160.00	NM-018720 8-31-61	USA - All	F.R. Bryan	Eugenia Bate & Claude Bate - 2 $\frac{3}{4}$ % Hoover H. Wright - 2 $\frac{3}{4}$ %	*Humble - All
20.	<u>T30N, R14W, NMEPM</u> Sec. 15: SW $\frac{1}{4}$ NW $\frac{1}{4}$	40.00	NM-022569 6-30-61	USA - All	Kathryn B. Richardson	Thomas Connell & Emily K. Connell - 4 $\frac{3}{4}$ % Irwin Rubenstein - 3/4%	*Humble - All
21.	<u>T30N, R14W, NMEPM</u> Sec. 14: W $\frac{1}{2}$ SW $\frac{1}{4}$ Sec. 22: N $\frac{1}{2}$ N $\frac{1}{2}$	240.00	NM-070740 12-31-64	USA - All	Peggy E. Baetz	Peggy E. Baetz & Bertrand O. Baetz - 3%	*Humble - All
22.	<u>T30N, R14W, NMEPM</u> Sec. 15: NW $\frac{1}{4}$ NW $\frac{1}{4}$	40.00	NM-073155 8-31-65	USA - All	Edward B. Benjamin, Jr. & W. Mente Benjamin (3) (Humble) (3)	Edward B. Benjamin, Jr. & Adelaide Wisdom Benjamin - 2 $\frac{3}{4}$ % W. Mente Benjamin & Joan Durland Benjamin - 2 $\frac{3}{4}$ %	Humble - All
-	<u>T30N, R14W, NMEPM</u> Sec. 22: S $\frac{1}{2}$ N $\frac{1}{2}$, S $\frac{1}{2}$	480.00	NM-011398 Application	USA - All	Victoria L. Cuccia	None	Humble(a) - All

* Leases held by options for full leasehold record title, which will be exercised promptly upon approval of the Unit Agreement.

(1) Lease NM-016998 is involved in a contest with NM-011398, as to the lands in Tract 18; and the Secretary's Decision A-28197, decided May 23, 1960, directing the issuance of lease NM-016998, is being contested in the U.S. District Court for the District of Columbia by Victoria L. Cuccia, the applicant under NM-011398 in Civil Action No. 3921-60. In the event that Cuccia in finally determined to be the lessee of Tract 18 under NM-011398, ownership and pertinent data of that lease will be as follows:

- (2) Assignment of lease NM-016998, E.B. Todhunter, et ux, to Humble dated February 9, 1961 filed but not yet approved by BIM.
(3) Assignment of lease NM-073155, Edward B. Benjamin, Jr., et ux and W. Mente Benjamin, et ux, to Humble dated March 5, 1961 filed but not yet approved by BIM.
- (a) lease held by option for full leasehold record title which will be exercised promptly upon final judicial determination in favor of applicant under NM-011398 and issuance of a lease to said applicant. The full working interest of Humble may be reduced under the terms of said option after certain costs are recovered from production proceeds applicable to said Tract 18. After this has occurred, the working interest ownership will be as follows: Humble - 50%, Victoria L. Cuccia & John P. Cuccia - 40%, George E. Conley - 10%.

23.	<u>T30N, R14W, NMPM</u> Sec. 20: SE $\frac{1}{4}$ Sec. 27: N $\frac{1}{2}$, E $\frac{1}{2}$ SW $\frac{1}{4}$	560.00	NM-095075 1-31-71	USA - All	Donna M. Reiley (1) (Humble) (1)	Boxer Corporation - 6 $\frac{1}{2}$ %	Humble - All
24.	<u>T30N, R14W, NMPM</u> Sec. 29: NE $\frac{1}{4}$	160.00	NM-0122158 4-1-71	USA - All	Allen R. True (2) (Humble) (2)	Allen R. True & Cynthia True - 5%	Humble - All
25.	<u>T30N, R14W, NMPM</u> Sec. 27: SE $\frac{1}{4}$	160.00	Unleased				

25 Federal Tracts containing 9,878.48 acres or 86.0608% of the Unit Area.

- (1) Assignments of Lease NM-095075, Donna M. Reiley to Boxer Corporation dated 1-28-61, Boxer Corporation to Carol T. Payne dated 1-30-61, Carol T. Payne, et ux, to Humble Oil & Refining Company dated 2-3-61 filed but not yet approved by BLM.
- (2) Assignment of Lease NM-0122158, Allen R. True, et ux, to Humble dated 2-15-61 filed but not yet approved by BLM.

Exhibit "g"

Rev.
5-15-61
Page 6

Tract No.	Description of Land	No. of Acres	Serial No. & Expiration Date of Lease	Basic Royalty & Percentage (Based on 12½%)	Lessee of Record	Overriding Royalty & Percentage	Working Interest & Percentage
<u>STATE LANDS</u>							
26.	<u>T30N, R14W, NMPM</u> Sec. 32: <u>SE¼NW¼</u>	40.00	B-10803-18 11-12-53 HBP (Footnote C)	State of New Mexico - All	Southern Union	James H. Reid - 2½%	Southern Union - All
27.	<u>T30N, R14W, NMPM</u> Sec. 2: <u>SW¼NE¼</u> Sec. 32: <u>SW¼NW¼</u>	80.00	B-10803-19 11-12-53 HBP (Footnote C)	State of New Mexico - All	Southern Union	None	Southern Union - All
28.	<u>T30N, R14W, NMPM</u> Sec. 32: <u>N½NE¼</u>	80.00	B-10803-24 11-12-53 HBP (Footnote C)	State of New Mexico - All	Pubco	None	Pubco - All
29.	<u>T30N, R14W, NMPM</u> Sec. 32: <u>NW¼NW¼</u>	40.00	B-10803-25 11-12-53 HBP (Footnote C)	State of New Mexico - All	Pubco	N.S. Bowles & Clyde L. Bowles - 2½%	Pubco - All
30.	<u>T30N, R14W, NMPM</u> Sec. 2: <u>NE¼SE¼</u> , <u>SW¼SE¼</u>	80.00	B-10803-26 11-12-53 HBP (Footnote C)	State of New Mexico - All	EVKO	None	EVKO - All
31.	<u>T30N, R14W, NMPM</u> Sec. 2: <u>NE¼NE¼</u>	40.00	B-11124-23 3-21-54 HBP (Footnote C)	State of New Mexico - All	Sygmund Haber	None	Sygmund Haber - All
32.	<u>T30N, R14W, NMPM</u> Sec. 2: <u>SE¼NW¼</u>	40.00	B-11124-37 3-21-54 HBP (Footnote C)	State of New Mexico - All	EVKO	None	EVKO - All
33.	<u>T30N, R14W, NMPM</u> Sec. 16: <u>SW¼SW¼</u>	40.00	B-11242-37 5-26-54 HBP (Footnote C)	State of New Mexico - All	EVKO	None	EVKO - All

34.	<u>T30N, R14W, N41W</u> Sec. 16: <u>N41W1/2,</u> <u>NE1/4, N41SE1/4</u>	320.00	B-11242-38 5-26-54 HBP (Footnote C)	State of New Mexico - All	EVKO	None	EVKO - All
35.	<u>T30N, R14W, N41W</u> Sec. 16: <u>SW1/4NW1/2</u>	40.00	B-11571-40 10-21-54 HBP (Footnote C)	State of New Mexico - All	EVKO	None	EVKO - All
36.	<u>T30N, R14W, N41W</u> Sec. 2: <u>NE1/4SW1/4</u>	40.00	E-1542-3 10-22-57 HBP (Footnote C)	State of New Mexico - All	Humble	Estate of Edward J. Johnson, Deceased - 5%	Humble - All
37.	<u>T30N, R14W, N41W</u> Sec. 2: <u>NE1/4NW1/4</u>	40.00	E-1544-5 10-22-57 HBP (Footnote C)	State of New Mexico - All	Humble	H.A. Jacobson & Ethel R. Jacobson - 5%	Humble - All
38.	<u>T30N, R14W, N41W</u> Sec. 2: <u>N41/2NE1/4</u>	40.00	E-1545 10-22-57 HBP (Footnote C)	State of New Mexico - All	Estate of R. Lucian Hamilton, Deceased (Humble) (1)	Mrs. R. Lucian Hamilton aka Devey Culp Hamilton - 5%	Humble - All
39.	<u>T30N, R14W, N41W</u> Sec. 16: <u>N41/2SW1/4,</u> Sec. 2: <u>SW1/4NW1/4,</u> <u>SE1/4NE1/4,</u> <u>N41/2SE1/4</u>	200.00	E-3149 6-16-59 HBP (Footnote C)	State of New Mexico - All	Texaco, Inc.	None	Texaco, Inc. - All
40.	<u>T30N, R14W, N41W</u> Sec. 16: <u>SE1/4SW1/4</u>	40.00	E-7029 2-1-55 HBP (Footnote C)	State of New Mexico - All	EVKO	None	EVKO - All
41.	<u>T30N, R14W, N41W</u> Sec. 32: <u>NE1/4NW1/4,</u> <u>S1/2NE1/4</u>	120.00	E-7751-2 1-19-64	State of New Mexico - All	J. Felix Hickman (1/3) Empire States (2/3)	Hondo Oil & Gas Co. - 12 3/4%, Floyd H. Schroeder - 1 3/4%, Jay J. Harris - 1 1/2%, First National Bank of Albuquerque, New Mexico as Trustee of Jeffrey Leigh Hickman Trust - 1%, J. Felix Hickman - 1%	J. Felix Hickman 33.33%, Empire States 66.67%
42.	<u>T30N, R14W, N41W</u> Sec. 16: <u>NE1/4SW1/4,</u> <u>S1/2SE1/4</u>	120.00	E-7826 2-16-64	State of New Mexico - All	Pubco	None	Pubco - All

(1) Tract 38, Lease E-1545 has been assigned to Humble Oil & Refining Company by assignment dated February 28, 1961 from Mrs. R. Lucian Hamilton, also known as Devey Culp Hamilton, heir of Dr. R. Lucian Hamilton, Deceased.

43.	<u>T30N, R14W, NMPM</u> Sec. 2: <u>NW$\frac{1}{4}$NW$\frac{1}{4}$, W$\frac{1}{2}$SW$\frac{1}{4}$, SE$\frac{1}{4}$SE$\frac{1}{4}$</u>	160.00	OG-349 11-20-66	State of New Mexico - All	California	None	California - All
44.	<u>T30N, R14W, NMPM</u> Sec. 2: <u>SE$\frac{1}{4}$SW$\frac{1}{4}$</u>	40.00	OG-3832 5-20-68	State of New Mexico - All	G.I. Todson (Humble) (1)	G.I. Todson - 12 $\frac{1}{2}$ %	Humble - All
(1) Tract 44, lease OG-3832 has been assigned to Humble Oil & Refining Company by assignment from G.I. Todson dated May 9, 1961.							

19 State of New Mexico Tracts containing 1,600.00 acres or 13.9392% of the Unit Area.

- A. The above schedule is a statement of the ownership of the oil and gas interests in the North Kirtland Unit Area based upon information furnished the Operator by other Working Interest Owners and upon examination of the records of the Land and Survey Office of the Bureau of Land Management in Santa Fe, New Mexico, and of the records of the State of New Mexico Land Office in Santa Fe, New Mexico.
- B. Execution of the North Kirtland Unit Agreement or consent thereto shall not be construed in any manner as an admission or agreement that the above schedule is a correct statement of ownership of oil and gas interests in the North Kirtland Unit Area. The execution of said agreement or consent thereto by the parties hereto shall be construed only as a commitment of their oil and gas interests in the North Kirtland Unit Area to the terms of said agreement and shall not prejudice any adverse claim which any of them may have to any oil and gas interests therein.
- C. These leases (Tracts 1,2-A,2-B,8 and 26 through 40) are held by production beyond the expiration dates shown by wells producing from lands in said leases, which lands are not included in the North Kirtland Unit Area, or from wells on Communitized or Unitized lands in said leases, which Communitized or Unitized lands are not included in the North Kirtland Unit Area.
- D. As used in this Exhibit, Humble refers to Humble Oil & Refining Company, Pubco refers to Pubco Petroleum Corporation, Pan American refers to Pan American Petroleum Corporation, Aztec refers to Aztec Oil & Gas Company, Compass refers to Compass Exploration, Inc., El Paso refers to El Paso Natural Gas Company, Southern Union refers to Southern Union Production Company, EVKO refers to EVKO Development Company, Empire States refers to Empire States Drilling Corporation and California refers to California Oil Company.

RECAPITULATION

<u>Type of Acreage</u>	<u>Acres</u>	<u>Percent of Unit Area</u>
25 Federal Tracts	9,878.48	86.0608%
19 State Tracts	1,600.00	13.9392%
44 Total	11,478.48	100.0000%

CERTIFICATE OF APPROVAL

BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO



NORTH KIRTLAND UNIT

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated March 1, 1961, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes. The Commissioner of Public Lands exempts the North Half of Section 32, Township 30-North, Range 14-West, which is State Land, from inclusion in this agreement.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 22nd. day of May 19 61.



Commissioner of Public Lands
of the State of New Mexico



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

NOV 14 1960

FILE	312
BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	B
CASE NO.	2140

Humble Oil and Refining Company
Post Office Box 1287
Roswell, New Mexico

Attention: Mr. R. M. Richardson

Gentlemen:

Your undated application accompanying your transmittal letter of September 18, filed with the Oil and Gas Supervisor, Roswell, New Mexico, requests the designation of 11,478.48 acres, more or less, San Juan County, New Mexico, as logically subject to exploration and development under the unitization provisions of the Mineral Leasing Act, as amended.

Pursuant to the unit plan regulations of December 22, 1950, (30 CFR 226.3), the land outlined on your plat marked "Exhibit A, North Kirtland unit area, San Juan County, New Mexico" is hereby designated as a logical unit area. Your unit agreement form incorrectly includes the E $\frac{1}{2}$ sec. 24, T. 30 N., R. 14 W., N.M.P.M., as a portion of the unit area.

Your proposed form of unit agreement, which substantially follows the standard unit agreement form (June 1957 reprint) with the addition of the language required by the State of New Mexico and the addition to Section 18(e) specifically conforming the unit agreement terms to the provisions of the Mineral Leasing Act Amendment approved September 8, 1960, covering the two-year extension of Federal leases by the continuance of drilling operations on any lease committed to the unit agreement, will be acceptable; provided the language added unto Section 18(e) is worded as follows:

"* * * or in the event actual drilling operations are commenced on unitized land, in accordance with the provisions of this agreement, prior to the end of the primary term of such lease and are being diligently prosecuted at that time, such lease shall be extended for two years and so long thereafter as oil or gas is produced in paying quantities in accordance with the provisions of the Mineral Leasing Act Revision of 1960."

and provided further that the following language is inserted after the word "later." in line 2 of section 11 page 14 (Participation After Discovery) of your proposed form:

ILLEGIBLE

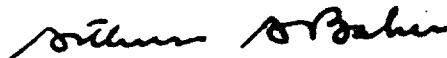
Ex 3

"The acreages of both Federal and non-Federal lands shall be based upon appropriate computations from the courses and distances shown on the last approved public-land survey as of the effective date of the initial participating area."

One copy of the form so marked is returned, one is being sent to the Supervisor, and one is retained. The provision of your unit agreement form for the initial exploratory well to be drilled to a depth sufficient to test the Madison limestone of Mississippian age or to 12,500 feet also is acceptable.

In the absence of any type of land requiring special provisions or any objections not now apparent, a duly executed unit agreement conformed to the foregoing will be approved if submitted in approvable status within a reasonable period of time. However, the right is reserved to deny approval of any executed agreement which, in our opinion, does not have the full commitment of sufficient lands to assure effective control of unit operations. When the executed agreement is submitted to the Oil and Gas Supervisor for approval include the latest status of all acreage, showing the current record owner of all issued leases and the current status of all lease applications, if any.

Very truly yours,



Acting Director

Enclosure

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE

LARGE FORMAT
EXHIBIT HAS
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GEOLOGIC REPORT ON THE NORTH KIRTLAND
AREA, SAN JUAN COUNTY, NEW MEXICO

Humble Oil & Refining Company
Exploration Department
Roswell, New Mexico

PERMIAN	5,320-7,125'	1805 feet. Red shales, sandstones, and conglomerates.
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Rico formation

Cutler formation

DeChelly sandstone

TRIASSIC	4,215-5,320'	1105 feet. Red shales and sandstones.
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Moenkopi formation

Shinarump formation

Chinle formation

Wingate formation

JURASSIC	3,055-4,215'	1160 feet. Red and tan sandstones, red and green shales, and some black limestone.
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Carmel formation

Entrada formation

Todilto formation

Morrison formation

Compass Exploration, Inc.
No. 1-35 Federal
Section 35, T30N, R14W
San Juan County, New Mexico
Elevation: 5592 feet, Derrick Floor
Total Depth: 6,095 feet, Jurassic Morrison
Completion: I.P. 6.71 MMCFGPD,
April 11, 1960

CRETACEOUS

Dakota sandstone:	5,795-6,050'	255 feet. Gray, fine to coarse-grained sandstone and carbonaceous shale.
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BEFORE EXAMINER UTZ	
FEL CONSERVATION COMMISSION	
EXHIBIT NO.	6
FILE NO.	2746

97

TO: DIRECTOR, UNITED STATES GEOLOGICAL SURVEY,
WASHINGTON, D. C.

FROM: HUMBLE OIL & REFINING COMPANY, EXPLORATION DEPARTMENT,
ROSWELL, NEW MEXICO

SUBJECT: REPORT OF THE GEOLOGY OF THE NORTH KIRTLAND AREA,
SAN JUAN COUNTY, NEW MEXICO

PURPOSE: THIS REPORT IS SUBMITTED TO SHOW THE SUBSURFACE GEOLOGY
AND TO DEMONSTRATE THE NEED OF FORMING A FEDERAL
EXPLORATION UNIT TO TEST THE NORTH KIRTLAND AREA. IT IS
BELIEVED THAT THE GEOLOGIC CONDITIONS ARE SUCH THAT THE
ONLY REASONABLE METHOD OF EXPLORATION AND DEVELOPMENT
IS BY MEANS OF AN APPROVED FEDERAL UNIT.

DATE: SEPTEMBER, 1960

REPORT ON THE NORTH KIRTLAND AREA,
SAN JUAN COUNTY,
NEW MEXICO

INTRODUCTION

The proposed North Kirtland Unit encloses approximately 11,520 acres in northwest San Juan County, New Mexico, seven miles northwest of the town of Farmington. The general location is shown on the plat attached hereto as Exhibit "A".

The recommended outline includes all of Sections 1, 2, the $SE\frac{1}{4}$ of Section 3, all of Sections 10, 11, 12, 13, 14, 15, and 16, the $E\frac{1}{2}$ of Section 20, all of Sections 21, 22, and 23, the $W\frac{1}{2}$ of Section 24, the $N\frac{1}{2}$ of Section 26, all of Sections 27, 28, and 29, the $N\frac{1}{2}$ of Section 32, the $N\frac{1}{2}$ of Section 33, and the $NW\frac{1}{4}$ of Section 34, all in Township 30 North, Range 14 West, San Juan County, New Mexico. The 11,520 acres within the proposed unit consists of 9,920 acres of Federal and 1,600 acres of State land.

The North Kirtland area is located in the northwestern part of the San Juan Basin. The proposed unit outline encloses an anticlinal trend mapped by reflection seismograph methods, shown on the accompanying structural contour map, marked Exhibit "B". This trend has two separate closures aligned in a northeast-southwest direction, parallel to the Hogback monocline some six miles to the northwest.

Tentative location for the test well is in Section 11, Township 30 North, Range 14 West. The well is scheduled as a 12,500 foot Mississippian test, with the Pennsylvanian Paradox formation the primary objective expected at a depth of approximately 11,000 feet.

It is believed that petroleum exploration and field development of this anticlinal trend could best be undertaken within an approved unit. Therefore, it is requested that a Federal Exploratory Unit be formed to further oil and gas exploration, development, and conservation in the North Kirtland area.

SUBSURFACE STRATIGRAPHY

The general stratigraphic relationships of the formations in the proposed unit area are shown on the accompanying cross section, marked Exhibit "C".

The Cretaceous stratigraphy of the North Kirtland area can best be described from the section encountered by the Compass No. 1-35 Federal, a recently completed Dakota gas well located in Section 35, Township 30 North, Range 14 West. The pre-Dakota section to be encountered should be similar to that penetrated by the Pan American No. 1-"D", Ute Mountain, Paradox gas well in the Ute Dome field.

Pan American Petroleum Corporation
No. 1 "D" Ute Mountain Tribal
Section 10, T31N, R14W
San Juan County, New Mexico
Elevation: 6369 feet, Derrick Floor
Total Depth: 9810 feet, Basement
Completion: I.P. 28.15 MMCFGPD \neq 7 $\frac{1}{2}$ BCPD,
August 15, 1958

DEVONIAN

Elbert formation:	9,550-9,710'	160 feet. Thin-bedded sandy dolomite with gray to green shale.
Ouray formation:	9,500-9,550'	50 feet. Tan to brown, finely-crystalline limestone and dolomite.

MISSISSIPPIAN

Madison dolomite:	9,430-9,500'	70 feet. Light brown, finely crystalline dolomite.
Leadville limestone:	9,320-9,430'	110 feet. Tan to gray chalky limestone.

PENNSYLVANIAN

Molas formation:	9,070-9,320'	250 feet. Red and green shale.
Paradox formation:	7,955-9,070'	1115 feet. Tan to brown, medium crystalline limestone with some green and black shale.
Hermosa formation:	7,125-7,955'	830 feet. Tan, finely crystalline limestone with red and gray shales.

Mancos shale:	3,965-5,795'	1830 feet.
Graneros shale member:	5,750-5,795'	45 feet. Black carbonaceous shale.
Greenhorn limestone member:	5,700-5,750'	50 feet. Gray, finely crystalline limestone and gray calcareous siltstone.
Lower Mancos shale:	5,460-5,700'	240 feet. Dark gray carbonaceous, calcareous shale.
Gallup sandstone member:	4,930-5,460'	530 feet. Gray, fine-grained sandstone and dark gray, carbonaceous shale.
Upper Mancos shale:	3,965-4,930'	965 feet. Gray, silty shale.
Point Lookout sandstone:	3,625-3,965'	340 feet. Gray, fine- to medium-grained sandstone.
Menefee formation:	2,860-3,625'	765 feet. Gray to brown carbonaceous shale with some gray fine-grained sandstone.
Cliff House sandstone:	2,695-2,860'	165 feet. Light gray fine-grained sandstone.
Lewis shale:	1,410-2,695'	1280 feet. Gray to brown sandy shale.
Pictured Cliffs sandstone:	1,180-1,410'	230 feet. Gray, fine-grained, soft sandstone.
Undifferentiated Upper Cretaceous sediments:	0-1,180'	1180 feet. Sandstones, shales, conglomerates, and coal beds of the Fruitland and Kirtland formations.

OBJECTIVES

Mississippian: The Madison dolomite and Leadville limestone are secondary objectives for the proposed North Kirtland wildcat. Although the expected thickness of the combined units is only some 180 feet, it is felt that this section may be productive on the indicated anticlinal structure.

Pennsylvanian: The Paradox formation is considered the primary objective for the proposed North Kirtland Unit test because of the combination of structural and stratigraphic conditions believed to exist in this area. The structural prospect outlined by seismic methods is enhanced by the likelihood of good porosity development in the Paradox section.

The possibility of structurally-controlled fracture porosity developing in the Hermosa formation makes this unit a valid secondary objective.

Cretaceous: Recent Dakota gas completions are drawing increased attention to this formation as a drilling objective in the San Juan Basin. This fact, along with the indicated structural closure in the North Kirtland area makes the Dakota sandstone rank alongside the Paradox formation as an important objective for the proposed wildcat.

The Gallup sandstone member of the Mancos formation is a secondary objective in this area. The tight shaly sands may contain sufficient fracture porosity to make commercial production possible from this zone.

Results of Mesaverde and Pictured Cliffs tests in the North Kirtland area have been disappointing. However, these formations are listed as secondary objectives, as hydrocarbon accumulation in these zones may be influenced by local structural features.

STRUCTURE

The proposed North Kirtland Unit area covers a reflection seismograph anomaly as shown on the attached map marked Exhibit "B". The 150 feet of closure mapped on a deep anticlinal trend is reflected to a lesser extent in the shallower horizons. The crests of the two indicated structures on this trend center in Sections 2 and 11, and Sections 21 and 28, Township 30 North, Range 14 West. The general quality of the records obtained is considered good. The proposed unit outline is drawn to include the lowest closed contour and includes all locations which would probably be productive from the pre-Cretaceous beds.

PROPOSED DEVELOPMENT

If the North Kirtland Unit is approved and unitization accomplished to completion, the Humble Oil & Refining Company proposes to drill a deep wildcat, probably to be located in Section 11, Township 30 North, Range 14 West. The test will be drilled to the Mississippian Leadville limestone or to a total depth of 12,500 feet, whichever is shallower, and all shows of oil and gas encountered will be thoroughly tested.

The location of the initial test well, and that of any subsequent wells drilled within the North Kirtland Unit, will be made subject to the approval of the State of New Mexico and the United States Geological Survey.

If production is established, Humble will develop and produce the field in an orderly manner consistent with modern drilling and production techniques.

In the event of an initial dry hole, Humble will continue with additional exploration work, using information derived from the test. This work will consist of further geological studies and/or geophysical surveying. If the results of these studies are encouraging, an additional exploratory well or wells will be drilled.

RECOMMENDATIONS

It is proposed that the United States Geological Survey and the State of New Mexico approve the formation of the North Kirtland Unit, including the area outlined on Exhibit "B" and on Page 1; it is also proposed that the Humble Oil & Refining Company be designated as unit operator.

The approval of the requested unit will be in the interest of conservation and of the scientific and orderly development of oil and/or gas reservoirs that might be found in the unit area.

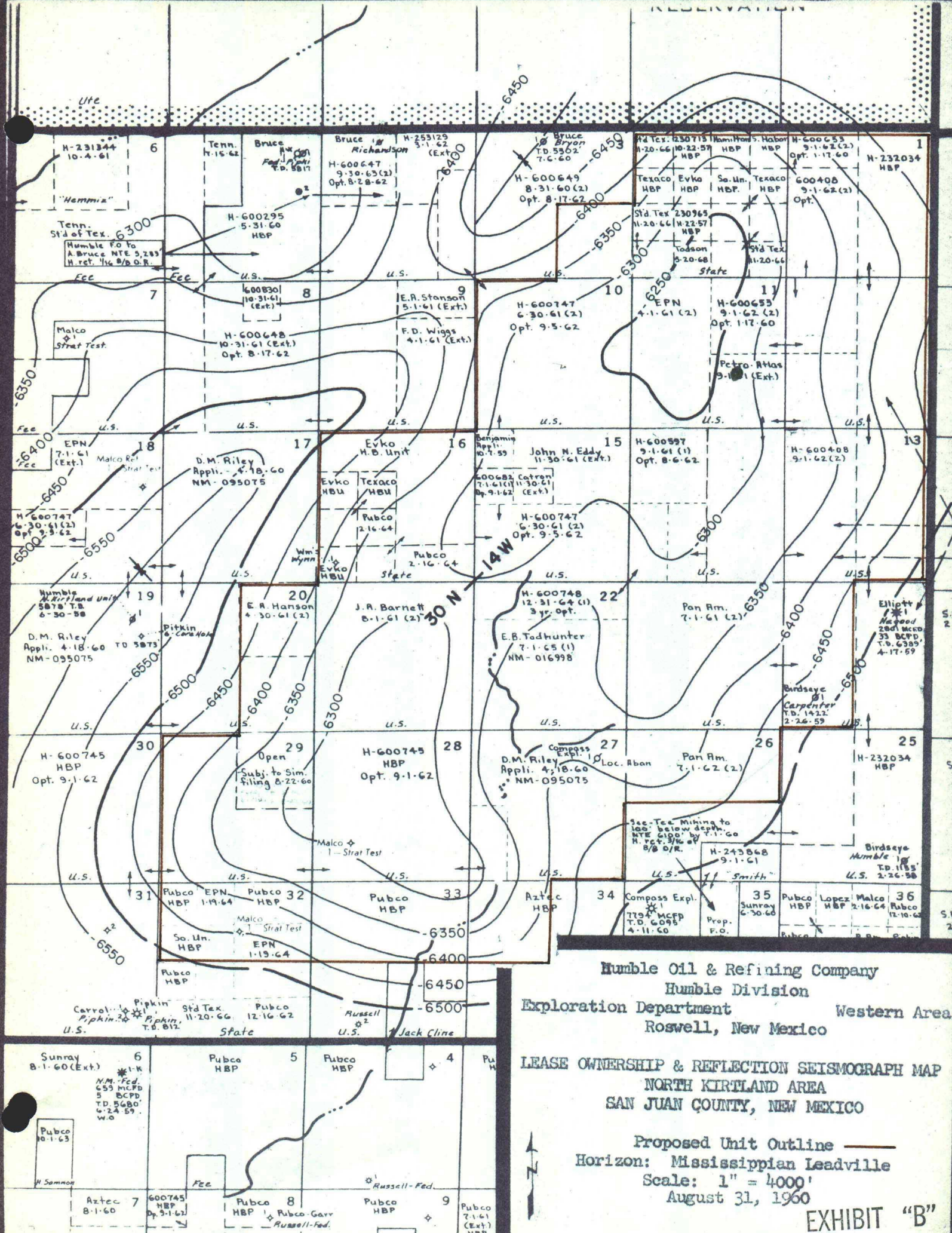
Respectfully submitted,

HUMBLE OIL & REFINING COMPANY



By Aubrey Owen

AO:lm



Humble Oil & Refining Company
Humble Division
Exploration Department Western Area
Roswell, New Mexico

LEASE OWNERSHIP & REFLECTION SEISMOGRAPH MAP
NORTH KIRTLAND AREA
SAN JUAN COUNTY, NEW MEXICO

Proposed Unit Outline _____
Horizon: Mississippian Leadville
Scale: 1" = 4000'
August 31, 1960

EXHIBIT "B"

