

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Antelope Ridge Formation Penn. County Lea

Initial x Annual _____ Special _____ Date of Test July 16-20, 1963

Company Shell Oil Company Lease Federal "BE" Well No. 1

Unit B Sec. 4 Twp. 24-S Rge. 34-E Purchaser None

Casing 7 5/8" Wt. 39.0 I.D. 6.625 Set at 11,423' Perf. 12,898' To 13,153'
7 5/8" 33.7 6.765 13,590'

Tubing 2 1/2" Wt. 6.5 I.D. 2.441 Set at 12,129' Perf. _____ To _____
2" 4.7 1.995 12,780'

Gas Pay: From 12,898' To 13,153' L 12,780' xG Mix .619 GL 7911 Bar. Press. 13.2

Producing Thru: Casing _____ Tubing x Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: July 20, 1963 Packer 12,780 Reservoir Temp. _____

OBSERVED DATA

Tested Through (Borehole) (Globe) (Meter) Type Taps Flgs.

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Proven) (Line) Size	(Globe) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						7196	86	Packer		7
1.	4"	3.000	600	8.0	36	6935	90			2
2.	4"	3.000	600	30.0	68	6550	91			2
3.	4"	3.000	600	42.0	58	6320	94			2
4.	4"	3.000	600	60.0	46	5920	97			2
5.	4"	3.000	600	17.0	72	6770	94			21

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	66.67	70.03	613.2	1.0239	1.000	1.064	5.026
2.	66.67	135.63	613.2	.9924	1.000	1.052	9.439
3.	66.67	160.49	613.2	1.0019	1.000	1.055	11.310
4.	66.67	191.81	613.2	1.0137	1.000	1.059	13.728
5.	66.67	102.15	613.2	.9887	1.000	1.051	7.075

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 153.528 cf/bbl.

Gravity of Liquid Hydrocarbons 48.0 API deg.

P_c 6.093 (1-e⁻⁸) .420

Specific Gravity Separator Gas .600

Specific Gravity Flowing Fluid .7883

P_c 7209.2 P_c 51.972

No.	P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ⁻⁸)	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w / P _c
1.	6948.2	48,277	30.989	960.3	403.3	48,680	3292	6977.1	96.8
2.	6563.2	43,075	57.512	3307.6	1389.2	44,464	7508	6668.1	92.5
3.	6333.2	40,109	68.912	4748.9	1994.5	42,103	9869	6488.7	90.0
4.	5933.2	35,203	83.645	6996.5	2938.5	38,141	13831	6175.8	85.7
5.	6783.2	46,012	43.114	1858.8	780.7	46,793	5179	6840.5	94.9

Absolute Potential: 38.000 MCFPD; n .729

COMPANY Shell Oil Company

ADDRESS P. O. Box 1858, Roswell, New Mexico

AGENT and TITLE A. L. Ellard - Gas Tester

WITNESSED _____

COMPANY _____

REMARKS

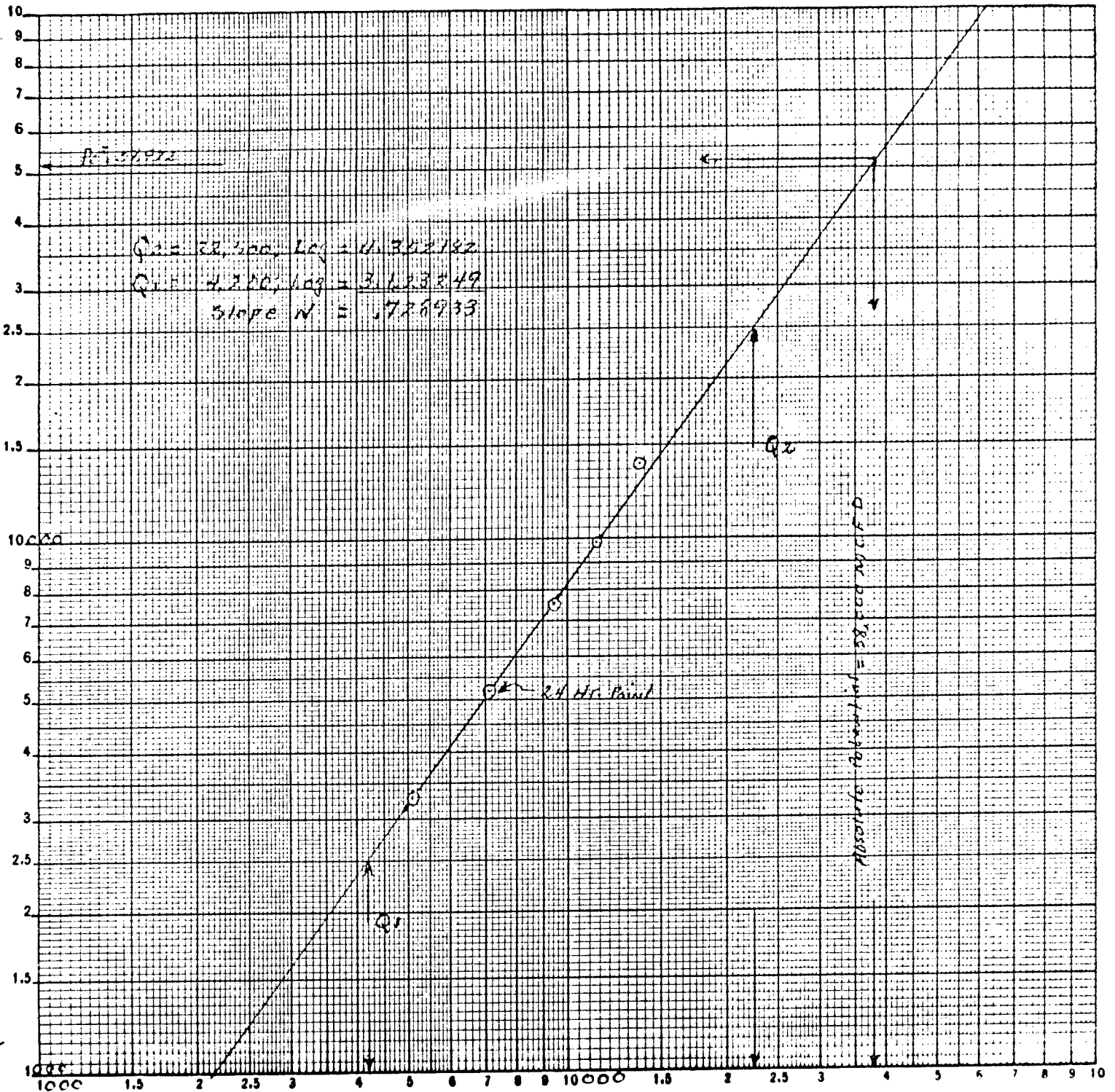
GAS WELL BACK PRESSURE CURVE

County L.A. Field SHALL OIL COMPANY
Operator SHALL OIL COMPANY
Lease LIBERTY BL. Well No. 1
Volume 38,000 MCF/24 hr.
Date JULY 30, 1963

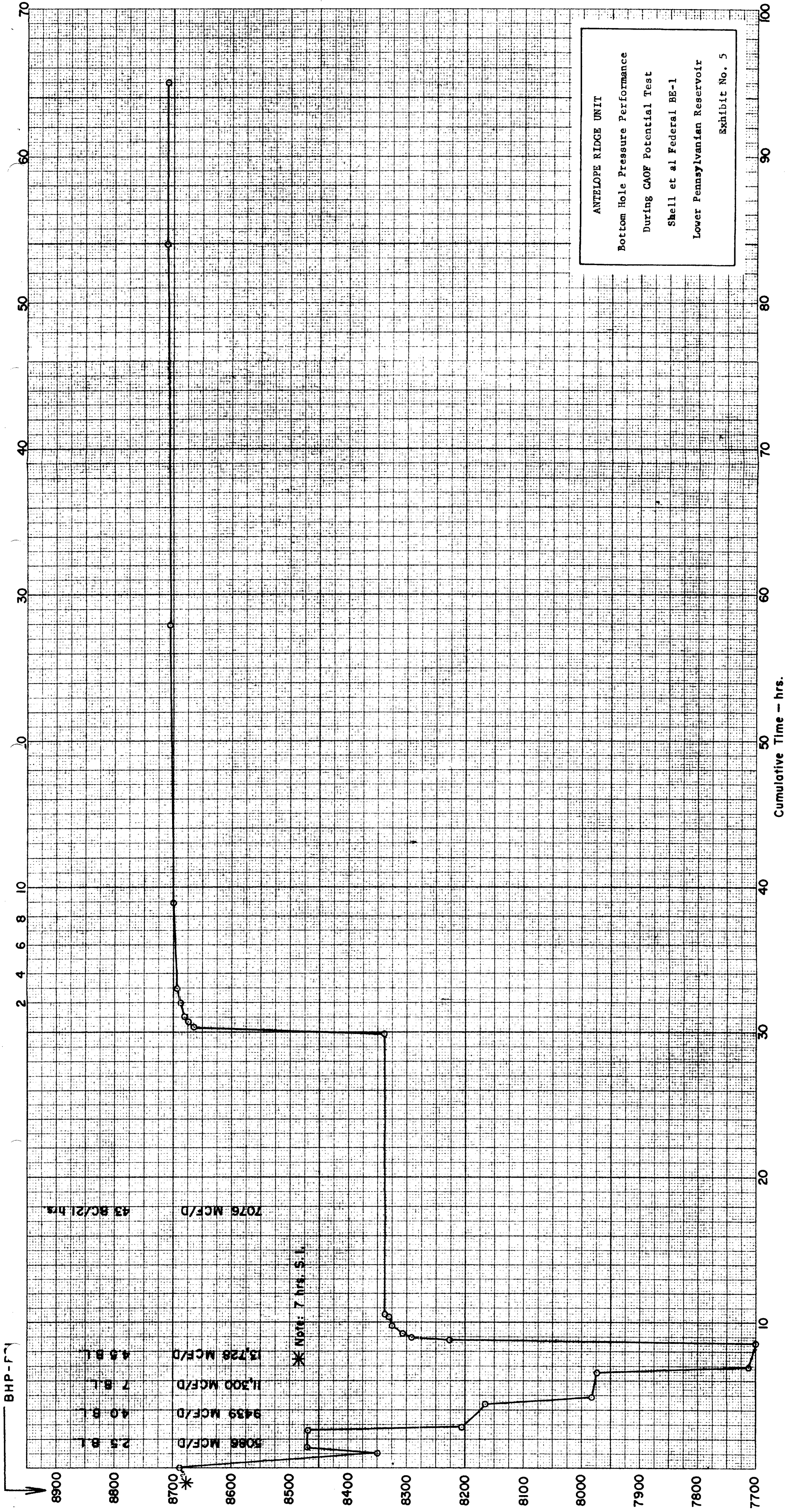
PC - PW² (7134505)

LOGARITHMIC 300-110
KEUFFEL & ESSER CO. MADE IN U.S.A.
2 X 2 CYCLES

R-2



Q - MCFD - 15.025 psia





SHELL OIL COMPANY

P. O. Box 1858
Roswell, New Mexico

April 29, 1963

Subject: Lea County, New Mexico
Antelope Ridge Unit
No. 14-08-0001-8492

MAIL OFFICE CCC
1963 MAY 1 PM 12 54

2719

United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

Attention: Mr. Carl Trayvick

Gentlemen:

You have requested that we furnish three additional copies of the Consent and Ratification Agreements executed by George H. Carter, (Tract 3) Channing Brown, et ux, (Tract 7) J. Hiram Moore, et ux, (Tract 15) and Paul J. Stout, et ux, (Tract 15) and they are enclosed.

You also asked that we explain what interest Moore and Stout acquired under Tract 15 so you may amend Exhibit B accordingly. Howell and Elsie Spears conveyed a $1/64$ th (1.5625%) interest to J. Hiram Moore. Thomas W. and Elsie L. Harriman conveyed a $5/64$ th (7.8125%) interest to Paul J. Stout. Since our letter of February 8, 1963, Spears, et ux, conveyed a $1/64$ th (1.5625%) interest to Roy Barton Jr. (We are enclosing four copies of Barton's Consent and Ratification for your files as this agreement has not previously been furnished.) All of these conveyances were made before we could record the grantors Consent and Ratification Agreements and consequently the new owners had to be contacted after the unit agreement was prepared and being approved. The royalty ownership under Tract 15 should therefore be changed to read as follows:

Ervin E. and Elsie L. Harriman --	15.6250%
Howell and Elsie Spears --	9.3750%
J. Hiram and Betty Moore --	1.5625%
Paul J and Betty J. Stout --	7.8125%
Roy Barton, Jr. --	1.5625%

We now have obtained joinder of George H. Hunter, et ux, under Tract 16 and four copies of their Ratification are enclosed. Shell Oil Company purchased the minerals owned by L. B. Hodges under their tract and four copies of the Consent and Ratification executed by Shell are also enclosed which now makes this tract fully committed.

If there is anything further that you need in this regard,
please do not hesitate to call on us.

Yours very truly,



O. V. Lawrence
Roswell Division Land Manager

cc: Commissioner of Public Lands

P. O. Box 791

Santa Fe, New Mexico

Attention: Mrs. Marion M. Rhea, Supervisor, Unit Division

(Copies of Consent and Ratification Agreements by Shell, Humker
and Burton are enclosed and they will complete your file.)

cc: New Mexico Oil Conservation Commission

P. O. Box 871

Santa Fe, New Mexico

(Copies of Consent and Ratification Agreements by Carter, Brown,
Moore, Stout, Shell, Humker, and Burton are enclosed and they will
complete your file.)

cc: Continental Oil Company

Petroleum Building

Roswell, New Mexico

(Copies of Consent and Ratification Agreements by Moore, Stout,
Shell, Humker and Burton are enclosed and they will complete your
file.)

CONSENT AND RATIFICATION

STATE OF NEW MEXICO)
COUNTY OF LEA)

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, under date of December 3, 1962, that certain unit agreement for the development and operation of the Antelope Ridge unit area was entered into by and between the owners of certain oil and gas interests, and said agreement was recorded on the 11th day of December, 1962, in Volume 193, at Page 181 of the Lea Records of Lea County, New Mexico, and reference is hereby made to the same for all purposes, and the undersigned hereby acknowledge receipt of a copy of said agreement, and

WHEREAS, the undersigned are the owners of an oil and gas interest in and to the following described land, to-wit:

Lot 1, Southeast 1/4 Northeast 1/4 and East 1/2 Southeast 1/4 of Section 3, Township 34-South, Range 34-East

which land is described as Tract No. 3 in Exhibit "B" to said unit agreement, and the undersigned are desirous of committing said interest to said unit agreement as provided by Section 28 thereof, and of ratifying said unit agreement;

NOW, THEREFORE, the undersigned do hereby consent to and ratify and confirm all of the terms and provisions of said unit agreement, and do hereby commit said interest to said unit agreement exactly as if the undersigned had originally executed said unit agreement or a counterpart thereof.

EXECUTED this 26th day of December, 1962.

George H. Carter
George H. Carter

STATE OF COLORADO)
COUNTY OF Denver)

The foregoing instrument was acknowledged before me this 26th day of December, 1962, by George H. Carter, a single man

My Commission Expires

My Commission expires April 3, 1963.

Paul J. Raby
Notary Public in and for Denver
County, Colorado

ACCEPTANCE AND APPROVAL BY WORKING
INTEREST OWNER AND UNIT OPERATOR

The undersigned CONTINENTAL OIL COMPANY, ENELL, ~~working interest~~ owner with respect to the above committed interest, and ENELL, unit operator, do hereby accept and approve the above and foregoing Consent and Ratification.

Dated this 26th day of December, 1962.

UNIT OPERATOR:

By: O. V. Lawrence

WORKING-INTEREST OWNER:
CONTINENTAL OIL COMPANY

By: Kay M. Hays
Attorney-in-Fact

John
Starr

CONSENT AND RATIFICATION

STATE OF NEW MEXICO)
COUNTY OF LEA)

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, under date of December 3, 1962, that certain unit agreement for the development and operation of the Antelope Ridge unit area was entered into by and between the owners of certain oil and gas interests, and said agreement was recorded on the 11th day of December, 1962, in Volume 193, at Page 121 of the Lea Records of Lea County, New Mexico, and reference is hereby made to the same for all purposes, and the undersigned hereby acknowledge receipt of a copy of said agreement, and

WHEREAS, the undersigned are the owners of an oil and gas interest in and to the following described land, to-wit:

**Northwest 1/4 Southwest 1/4 of Section 4, Township 24-South,
Range 34-East**

which land is described as Tract No. 7 in Exhibit "B" to said unit agreement, and the undersigned are desirous of committing said interest to said unit agreement as provided by Section 28 thereof, and of ratifying said unit agreement;

NOW, THEREFORE, the undersigned do hereby consent to and ratify and confirm all of the terms and provisions of said unit agreement, and do hereby commit said interest to said unit agreement exactly as if the undersigned had originally executed said unit agreement or a counterpart thereof.

EXECUTED this 3th day of December, 1962.

Channing Brown
Channing Brown

Amae Brown
Amae Brown

STATE OF TEXAS)
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 12 day of December, 1962, by Channing Brown and wife Amae Brown

My Commission Expires

6/1/63

Ed Brown
Notary Public in and for El Paso County, Texas

ACCEPTANCE AND APPROVAL BY WORKING
INTEREST OWNER AND UNIT OPERATOR

The undersigned Continental Oil Company, working interest owner with respect to the above committed interest, and Shell Oil Company, unit operator, do hereby accept and approve the above and foregoing Consent and Ratification.

Dated this 19th day of December, 1962.

UNIT OPERATOR:

By: C. V. Lawrence

WORKING INTEREST OWNER:
CONTINENTAL OIL COMPANY

By: Ray M. Hayes
ATTORNEY IN FACT

Attm
op

CONSENT AND RATIFICATION

STATE OF NEW MEXICO)
COUNTY OF LEA)

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, under date of December 3, 1962, that certain unit agreement for the development and operation of the Antelope Ridge unit area was entered into by and between the owners of certain oil and gas interests, and said agreement was recorded on the _____ day of _____, 19____, in Volume _____, at Page _____ of the _____ Records of _____ County, New Mexico, and reference is hereby made to the same for all purposes, and the undersigned hereby acknowledge receipt of a copy of said agreement, and

WHEREAS, the undersigned are the owners of an oil and gas interest in and to the following described land, to-wit:

**Lots 3 and 4, South 1/2 Northeast 1/4, Southwest 1/4 of
Section 3, Township 24-South, Range 34-East**

which land is described as Tract No. 15 in Exhibit "B" to said unit agreement, and the undersigned are desirous of committing said interest to said unit agreement as provided by Section 29 thereof, and of ratifying said unit agreement;

NOW, THEREFORE, the undersigned do hereby consent to and ratify and confirm all of the terms and provisions of said unit agreement, and do hereby commit said interest to said unit agreement exactly as if the undersigned had originally executed said unit agreement or a counterpart thereof.

EXECUTED this 8th day of January, 1963.
~~XXXXXX~~

J. Hiram Moore
J. Hiram Moore
Betty Moore
Betty Moore

STATE OF NEW MEXICO
COUNTY OF LEA)

The foregoing instrument was acknowledged before me this 8th day of January, 1963, by J. Hiram Moore and wife, Betty Moore

My Commission Expires

June 4, 1964

Charlene James
Notary Public in and for Lea
County, New Mexico

ACCEPTANCE AND APPROVAL BY WORKING
INTEREST OWNER AND UNIT OPERATOR

The undersigned Shell Oil Company, working interest owner with respect to the above committed interest, and Shell Oil Company, unit operator, do hereby accept and approve the above and foregoing Consent and Ratification.

Dated this 9th day of January, 1963.

UNIT OPERATOR:

By:

C. V. Lawrence

WORKING INTEREST OWNER:

By:

C. V. Lawrence

CONSENT AND RATIFICATION

STATE OF NEW MEXICO)
 COUNTY OF LEA)

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, under date of December 3, 1962, that certain unit agreement for the development and operation of the Antelope Ridge unit area was entered into by and between the owners of certain oil and gas interests, and said agreement was recorded on the 11 day of December, 1962, in Volume 193, at Page 121 of the Lea Records of Lea County, New Mexico, and reference is hereby made to the same for all purposes, and the undersigned hereby acknowledge receipt of a copy of said agreement, and

WHEREAS, the undersigned are the owners of an oil and gas interest in and to the following described land, to-wit:

**Lots 3 and 4, South 1/2 Northwest 1/4, Southwest 1/4 of
 Section 3, Township 24-South, Range 34-East**

which land is described as Tract No. 15 in Exhibit "B" to said unit agreement, and the undersigned are desirous of committing said interest to said unit agreement as provided by Section 29 thereof, and of ratifying said unit agreement;

NOW, THEREFORE, the undersigned do hereby consent to and ratify and confirm all of the terms and provisions of said unit agreement, and do hereby commit said interest to said unit agreement exactly as if the undersigned had originally executed said unit agreement or a counterpart thereof.

EXECUTED this 12th day of December, 1962

Paul J. Stout
 Paul J. Stout

Betty J. Stout
 Betty J. Stout

STATE OF NEW MEXICO)
 COUNTY OF Lea)

The foregoing instrument was acknowledged before me this 12th day of December, 1962, by Paul J. Stout and wife, Betty J. Stout

My Commission Expires

9-9-64

Micie Stout
 Notary Public in and for Lea
 County, New Mexico

ACCEPTANCE AND APPROVAL BY WORKING
 INTEREST OWNER AND UNIT OPERATOR

The undersigned Shell Oil Company, working interest owner with respect to the above committed interest, and Shell Oil Company, unit operator, do hereby accept and approve the above and foregoing Consent and Ratification.

Dated this 21st day of December, 1962.

UNIT OPERATOR:

By: C. V. Lawrence

WORKING INTEREST OWNER:

By: C. V. Lawrence

CONSENT AND RATIFICATION

STATE OF NEW MEXICO §
COUNTY OF LEA §

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, under date of December 3, 1962, that certain unit agreement for the development and operation of the Antelope Ridge unit area was entered into by and between the owners of certain oil and gas interests, and said agreement was recorded on the 11th day of December, 1962, in Volume 193, at Page 121 of the _____ Records of Lea County, New Mexico, and reference is hereby made to the same for all purposes, and the undersigned hereby acknowledges receipt of a copy of said agreement, and

WHEREAS, by virtue of that certain mineral deed dated March 21, 1963, executed by L. B. Hodges and wife, Willie G. Hodges, the undersigned is the owner of a one-fourth mineral interest in and to the following described land, to wit:

Lot 3, S-1/2 NW-1/4, NE-1/4 SW-1/4 Sec. 4, T-24-S, R-34-E

which land is described as Tract No. 16 in Exhibit "B" to said unit agreement, and the undersigned is desirous of committing said interest to said unit agreement as provided by Section 29 thereof, and of ratifying said unit agreement:

NOW, THEREFORE, the undersigned does hereby consent to and ratify and confirm all of the terms and provisions of said unit agreement, and does hereby commit said interest to said unit agreement exactly as if the undersigned had originally executed said unit agreement or a counterpart thereof.

EXECUTED this 21 day of March, 1963.

SHELL OIL COMPANY

By _____

J. V. Lindsey
Attorney in Fact

STATE OF TEXAS §
COUNTY OF MIDLAND §

Before me, the undersigned authority, on this day personally appeared J. V. Lindsey, known to me to be the person whose name is subscribed to the foregoing instrument as Attorney in Fact for Shell Oil Company and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and as the free act and deed of said Shell Oil Company in the capacity therein stated.

Given under my hand and seal of office this 1st day of April, 1963.

My Commission Expires:
June 1, 1963

Jean Akins
Notary Public in and for
Midland County, Texas

Jean Akins
Notary Public in and for
Midland County, Texas

ACCEPTANCE AND APPROVAL BY WORKING
INTEREST OWNER AND UNIT OPERATOR

The undersigned SHELL OIL COMPANY, working interest owner with respect to the above committed interest, and SHELL OIL COMPANY, unit operator, does hereby accept and approve the above and foregoing Consent and Ratification.

Dated this 21 day of March, 1963.

UNIT OPERATOR: SHELL OIL COMPANY

By _____

J. V. Lindsey
Attorney in Fact

WORKING INTEREST OWNER: SHELL OIL COMPANY

By _____

J. V. Lindsey
Attorney in Fact

CONSENT AND RATIFICATION

STATE OF NEW MEXICO
COUNTY OF LEA

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, under date of December 3, 19 62, that certain unit agreement for the development and operation of the Antelope Ridge unit area was entered into by and between the owners of certain oil and gas interests, and said agreement was recorded on the 11th day of December, 19 62, in Volume 193, at Page 121 of the _____ Records of Lea County, New Mexico, and reference is hereby made to the same for all purposes, and the undersigned hereby acknowledge receipt of a copy of said agreement, and

WHEREAS, the undersigned are the owners of an oil and gas interest in and to the following described land, to-wit:

Lot 3, South 1/2 Northwest 1/4 and Northeast 1/4 Southwest 1/4 of Section 4, Township 24-South, Range 34-East

which land is described as Tract No. 16 in Exhibit "B" to said unit agreement, and the undersigned are desirous of committing said interest to said unit agreement as provided by Section 29 thereof, and of ratifying said unit agreement;

NOW, THEREFORE, the undersigned do hereby consent to and ratify and confirm all of the terms and provisions of said unit agreement, and do hereby commit said interest to said unit agreement exactly as if the undersigned had originally executed said unit agreement or a counterpart thereof.

EXECUTED this 28th day of February, 19 63.

George H. Hunker
George H. Hunker
Margaret K. Hunker
Margaret K. Hunker

STATE OF NEW MEXICO
COUNTY OF CHAVEZ

The foregoing instrument was acknowledged before me this 20th day of March, 19 63, by George H. Hunker and wife, Margaret K. Hunker

My Commission Expires

Eileen M. Vandermaas (nee Coker)
Notary Public in and for Chaves
County, New Mexico

ACCEPTANCE AND APPROVAL BY WORKING
INTEREST OWNER AND UNIT OPERATOR

The undersigned SHELL OIL COMPANY, working interest owner with respect to the above committed interest, and SHELL OIL COMPANY, unit operator, do hereby accept and approve the above and foregoing Consent and Ratification.

Dated this 20th day of March, 1963.

UNIT OPERATOR

WORKING INTEREST OWNER:

By:

E. V. Lawrence

By:

E. V. Lawrence

CONSENT AND RATIFICATION

STATE OF NEW MEXICO)
COUNTY OF LEA

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, under date of December 3, 1962, that certain unit agreement for the development and operation of the Antelope Ridge unit area was entered into by and between the owners of certain oil and gas interests, and said agreement was recorded on the _____ day of _____, 19____, in Volume _____, at Page _____ of the _____ Records of _____ County, New Mexico, and reference is hereby made to the same for all purposes, and the undersigned hereby acknowledge receipt of a copy of said agreement, and

WHEREAS, the undersigned are the owners of an oil and gas interest in and to the following described land, to-wit:

Lots 3 and 4, S-1/2 NW-1/4, SW-1/4 of Section 3, T-24-S, R-34-E

which land is described as Tract No. _____ in Exhibit "B" to said unit agreement, and the undersigned are desirous of committing said interest to said unit agreement as provided by Section 29 thereof, and of ratifying said unit agreement;

NOW, THEREFORE, the undersigned do hereby consent to and ratify and confirm all of the terms and provisions of said unit agreement, and do hereby commit said interest to said unit agreement exactly as if the undersigned had originally executed said unit agreement or a counterpart thereof.

EXECUTED this 26th day of Feb., 1963.

X Ray L Barton Jr

STATE OF NEW MEXICO
COUNTY OF LEA

The foregoing instrument was acknowledged before me this 26th day of Feb, 1963, by Ray L Barton, Jr.

My Commission Expires

MY COMMISSION EXPIRES DEC. 8, 1963

Thelma Bryan
Notary Public in and for Lea
County, New Mexico

ACCEPTANCE AND APPROVAL BY WORKING
INTEREST OWNER AND UNIT OPERATOR

The undersigned SHELL OIL COMPANY, working interest owner with respect to the above committed interest, and SHELL OIL COMPANY, unit operator, do hereby accept and approve the above and foregoing Consent and Ratification.

Dated this 28th day of February, 1963.

UNIT OPERATOR:

WORKING INTEREST OWNER:

By:

O. V. Lawrence

By:

O. V. Lawrence