

#2719

COMMISSIONER'S OFFICE

Phone (505) 827-5760
Fax (505) 827-5766

ADMINISTRATION

Phone (505) 827-5700
Fax (505) 827-5853

GENERAL COUNSEL

Phone (505) 827-5713
Fax (505) 827-4262

PUBLIC AFFAIRS

Phone (505) 827-1245
Fax (505) 827-5766



**New Mexico State Land Office
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.**

COMMERCIAL RESOURCES

Phone (505) 827-5724
Fax (505) 827-6157

MINERAL RESOURCES

Phone (505) 827-5744
Fax (505) 827-4739

ROYALTY MANAGEMENT

Phone (505) 827-5772
Fax (505) 827-4739

SURFACE RESOURCES

Phone (505) 827-5793
Fax (505) 827-5711

March 4, 2002

Citation Oil & Gas Corporation
P.O. Box 690688
Houston, Texas 77269-0668

Attn: Mr. Christian D. Morro

2002 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Dear Mr. Morro:

The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the unit area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

If you have any questions or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
xc: Reader File

OCD

BLM

#2719



COMMERCIAL RESOURCES
(505)-827-5724

SURFACE RESOURCES
(505)-827-5795

MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-5765

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5715

PLANNING
(505)-827-5752

September 9, 1998

Citation Oil & Gas Corporation
8223 Willow Place South
Suite 250
Houston, Texas 77070-5623

Attn: Mr. Christian D. Morro

Re: 1998 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Dear Mr. Morro:

The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

If you have any questions or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: *FOL Anthony H. Neal*
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
pc: Reader File



BLM



COMMERCIAL RESOURCES
(505)-827-5724

SURFACE RESOURCES
(505)-827-5795

MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-5765

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5713

PLANNING
(505)-827-5752

March 4, 1997

Citation Oil & Gas Corporation
8223 Willow Place South
Suite 250
Houston, Texas 77070-5623

Attn: Mr. Christian D. Morro

Re: 1997 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Dear Mr. Morro:

The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

If you have any questions or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
cc: Reader File

OCD

BLM



2719

OIL CONSERVATION DIVISION
REC-100

State of New Mexico
Commissioner of Public Lands

96 MAR 22 AM 8 52

RAY POWELL, M.S., D.V.M.
COMMISSIONER

310 OLD SANTA FE TRAIL P.O. BOX 1148

(505) 827-5760
FAX (505) 827-5766

SANTA FE, NEW MEXICO 87504-1148

March 21, 1996

Citation Oil & Gas Corporation
8223 Willow Place South
Suite 250
Houston, Texas 77070-5623

Attn: Mr. Christian D. Morro

Re: 1996 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Dear Mr. Morro:

The Commissioner of Public Lands has this date approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: 
LARRY KEHOE, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/LK/cpm

Enclosure

cc: Reader File Commissioner's File OCD TRD BLM



#2719

State of New Mexico
Commissioner of Public Lands

RAY POWELL, M.S., D.V.M.
COMMISSIONER

310 OLD SANTA FE TRAIL P.O. BOX 1148

(505) 827-5760
FAX (505) 827-5766

April 13, 1994

SANTA FE, NEW MEXICO 87504-1148

Citation Oil and Gas Corp.
8223 Willow Place South, Suite 250
Houston, Texas 77070-5623

Attn: Mr. Christopher E. Cottrell

Re: Vertical Contraction
Antelope Ridge Unit
Lea County, New Mexico

This office is in receipt of your letter of March 21, 1994 wherein you have requested our approval to vertically contract the Antelope Ridge Unit, Lea County, New Mexico. Included with your application is an amendment to the unit agreement and unit operating agreement together with ratifications and joinders from all working interest owners approving said contraction.

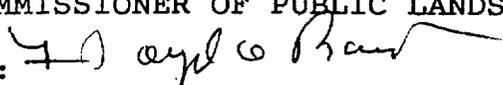
It is our understanding that Section 3, of the Antelope Ridge unit is now amended to contract the formations covered by the agreement from "all" formations to those formations found below the base of the Wolfcamp formation.

Please be advised that the Commissioner of Public Lands has this date approved your amendment of Section 3: UNITIZED LAND AND UNITIZED SUBSTANCES, of the Antelope Ridge Unit Agreement. Our approval is subject to like approval by the Bureau of Land Management and the New Mexico Oil Conservation Division and is effective January 1, 1994.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY B. POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil/Gas and Minerals Division
(505) 827-5744

RBP/FOP/pm

cc: Reader File

OCD-Santa Fe - Attn: Mr. Roy Johnson
BLM-Roswell - Attn: Ms. Alexis C. Swoboda
TRD-Santa Fe - Attn: Mr. Mike Holden



OIL CONSERVATION DIVISION
RECEIVED

MAY 16 AM 8 50

May 12, 1994

New Mexico Oil Conservation Office
P.O. Box 2088
Santa Fe, NM 87501-2088

Attn: Mr. Roy Johnson

RE: Antelope Ridge Deep Unit
Lea County, New Mexico

Dear Roy:

As promised, please find attached a recorded copy of the First Amendment to the Antelope Ridge Unit along with all of the ratifications. Please retain the attached for your records.

Sincerely,

CITATION OIL & GAS CORP.

A handwritten signature in black ink that reads "Christopher E. Cottrell". The signature is written in a cursive style.

Christopher E. Cottrell
Landman

CEC/dk

Attachment

FIRST AMENDMENT TO THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
ANTELOPE RIDGE UNIT AREA
LEA COUNTY, STATE OF NEW MEXICO

No. 14-08-0001-8492

THIS AGREEMENT entered into this 1st day of January,
1994, to be effective as of said date upon
approval by the Secretary of the Interior for the United States of
America and the Commissioner of Public Lands of the State of New
Mexico.

WHEREAS, the undersigned are all of the working interest
owners in the Unit Agreement for the development and operation of
the Antelope Ridge Unit Area, Serial No. 14-08-0001-8492, dated
December 3, 1962, (the "Unit Agreement"); and,

WHEREAS, Section 3 of the Unit Agreement designates and
unitizes all oil and gas in any and all formations of the unitized
land or lands subject to this Agreement; and,

WHEREAS, the parties hereto desire to amend said Section 3 of
the Unit Agreement as hereinafter provided.

NOW THEREFORE, for adequate consideration, the undersigned
hereby alter and amend Section 3 of the Unit Agreement so that said
Section 3 shall hereafter be and read in its entirety as follows:

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 below the base of the Wolfcamp Formation as
found at a depth of 11,435 feet beneath the surface in
the Shell Western Antelope Ridge Unit No. 9 Well, located
in Section 33, T23S, R34E, NMPM, Lea County, New Mexico,
are unitized under the terms of this Agreement and herein
are called "Unitized Substances".

For the same consideration, the undersigned hereby ratify and
adopt the Unit Agreement as herein amended, and do further
stipulate and agree that said Unit Agreement shall hereafter be
denominated and referred to as the "UNIT AGREEMENT FOR THE
DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE DEEP UNIT AREA, LEA
COUNTY, STATE OF NEW MEXICO."

Citation 1987 Investment Limited Partnership is the current Operator of the Antelope Ridge Unit Area and is hereby designated as Unit Operator for the Antelope Ridge Deep Unit Area, and signs this Amendment in its capacity as Operator to evidence its consent hereto and its acceptance of the duties and obligations of Unit Operator for the Antelope Ridge Deep Unit Area pursuant to the Unit Agreement as herein amended.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed effective the date first above written.

UNIT OPERATOR

CITATION 1987 INVESTMENT LIMITED PARTNERSHIP

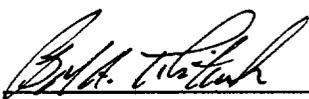
By: CITATION OIL & GAS CORP., its General Partner

By: 
Bob A. Whitworth - Attorney-in-Fact

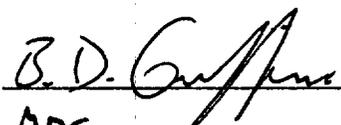
WORKING INTEREST OWNERS

CITATION 1987 INVESTMENT LIMITED PARTNERSHIP

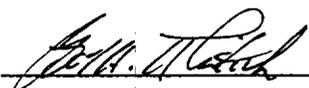
By: CITATION OIL & GAS CORP., its General Partner

By: 
Bob A. Whitworth - Attorney-in-Fact

SHELL WESTERN E & P INC.

By: 
B.D. Guffey, Agent and Attorney-in-Fact

CITATION OIL & GAS CORP.

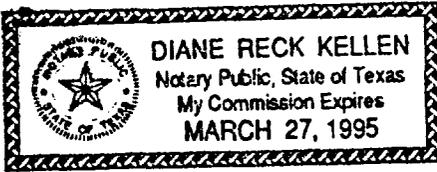
By: 
Bob A. Whitworth - Attorney-in-Fact

STATE OF TEXAS
COUNTY OF HARRIS

§
§

MISC 586 PAGE 199

The foregoing instrument was acknowledged before me this 8th day of December, 1993, by Bob A. Whitworth, Attorney-in-Fact of Citation Oil & Gas Corp., a Delaware corporation, on behalf of said corporation as General Partner of CITATION 1987 INVESTMENT LIMITED PARTNERSHIP, a Limited Partnership.



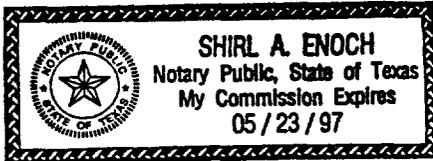
Diane Reck Kellen

Notary Public, State of Texas
Printed Name: Diane Reck Kellen
Commission Expires: 3-27-95

STATE OF TEXAS
COUNTY OF HARRIS

§
§

The foregoing instrument was acknowledged before me this 14th day of December, 1993, by B. D. Griffin, Agent and Attorney in Fact for SHELL WESTERN E & P, INC., a Delaware corporation, on behalf of said corporation.



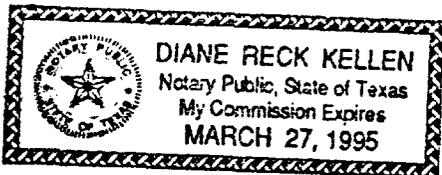
Shirl A. Enoch

Notary Public, State of Texas
Printed Name: Shirl A. Enoch
Commission Expires: 5/23/97

STATE OF TEXAS
COUNTY OF HARRIS

§
§

The foregoing instrument was acknowledged before me this 8th day of December, 1993, by Bob A. Whitworth, Attorney-in-Fact of CITATION OIL & GAS CORP., a Delaware corporation, on behalf of said corporation.



Diane Reck Kellen

Notary Public, State of Texas
Printed Name: Diane Reck Kellen
Commission Expires: 3-27-95

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 13th day of December, 1993.

ELLIOTT OIL COMPANY

By: [Signature]

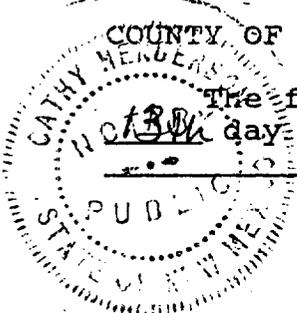
Attest

TRACT(S) 1, 2

Address: P.O. Box 1355
Roswell, NM 88201

STATE OF New Mexico
COUNTY OF Chaves

The foregoing instrument was acknowledged before me this 13th day of December, 1993, by _____.



Cathy Henderson
Notary Public, State of New Mexico
Notary's Printed Name: CATHY HENDERSON
Notary's Commission Expires: 3/2/96

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 15 day of December, 1993.

HELEN O. WATSON

By: Helen O. Watson

Attest

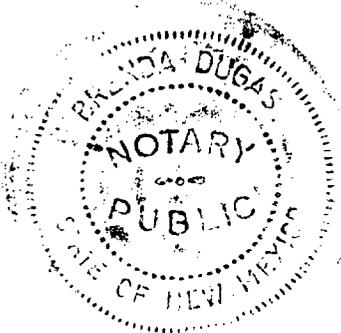
TRACT(S) 1

Address: 911 Richard Street
Carlsbad, NM 88220

STATE OF New Mexico)

COUNTY OF Eddy)

The foregoing instrument was acknowledged before me this 15 day of December, 1993, by Helen O. Watson.



Brenda Dugas
Notary Public, State of New Mexico
Notary's Printed Name: Brenda Dugas
Notary's Commission Expires: 3-1-95

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, , redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 23 day of December, 1993.

EDNA IONE HALL

By: Edna Ione Hall

Attest

TRACT(S) 4

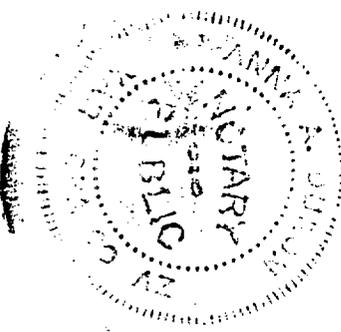
Address: P.O. Box 1231
Ogden, UT 84402

STATE OF (Arizona)
COUNTY OF Maricopa

23 The foregoing instrument was acknowledged before me this 23 day of December, 1993, by EDNA IONE HALL.

(Signature)
Notary Public, State of Arizona
Notary's Printed Name: ANNA A. DURON
Notary's Commission Expires: _____

My Commission Expires Sept. 29, 1994



RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 13th day of December, 1993.

FRANK O. ELLIOTT

Alvin H. Harrison
Attest

By: [Signature]

TRACT(S) 5

Address: Box 703
Roswell, NM 88201

STATE OF New Mexico)
COUNTY OF Chaves)

The foregoing instrument was acknowledged before me this 13th day of December, 1993, by Frank O. Elliott.



Cathy Henderson
Notary Public, State of New Mexico
Notary's Printed Name: CATHY HENDERSON
Notary's Commission Expires: 3/2/96

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 31 day of JANUARY 1994, 1993.

CHANNING M. BROWN, JR.

By: Channing M. Brown Jr.

Attest

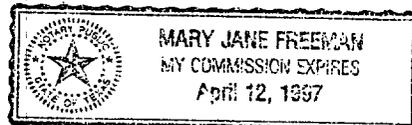
TRACT(S) 7

Address: P.O. Box 785
Santa Teresa, NM 88008

STATE OF _____)
COUNTY OF _____)

The foregoing instrument was acknowledged before me this 31st day of January, 1993, by Channing M. Brown Jr.

Mary Jane Freeman
Notary Public, State of Texas
Notary's Printed Name: _____
Notary's Commission Expires: _____



RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 14th day of December, 1993.

ROBERT H. BROWN

By: Robert H Brown

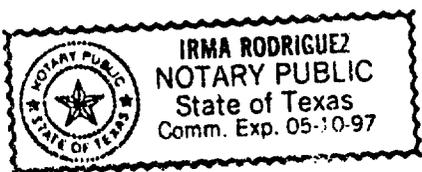
Irma Rodriguez
Attest

TRACT(S) 7

Address: P.O. Box 1288
Canutillo, TX 79835

STATE OF Texas
COUNTY OF El Paso

The foregoing instrument was acknowledged before me this 14 day of December, 1993, by _____.



Irma Rodriguez
Notary Public, State of Texas
Notary's Printed Name: Irma Rodriguez
Notary's Commission Expires: 5/10/97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 4th day of JANUARY, 1994.

UNIVERSITY OF ROCHESTER

Roseanne Waterstraat
Attest

By: Thomas F. McBrien Thomas F. McBrien

TRACT(S) 8, 15, 16

Address: Attn: Roseanne Waterstraat
1325 MT. Hope Ave.
Towne House 260
Rochester, NY 14620

STATE OF NEW YORK
COUNTY OF MONROE

The foregoing instrument was acknowledged before me this 4th day of JANUARY, 1994, by Thomas F. McBrien, Controller of University of Rochester, a State of New York Corporation, on behalf of said Corporation.

Linda S. Gleason
Notary Public, State of NEW YORK
Notary's Printed Name: Linda S. Gleason
Notary's Commission Expires: 2/28/95

LINDA S. GLEASON
Notary Public in the State of New York
MONROE COUNTY
Commission Expires Feb. 28, 1995

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, , redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 10th day of March, 1993.

CHRIS LAURITZEN

By: Chris Lauritzen

Attest

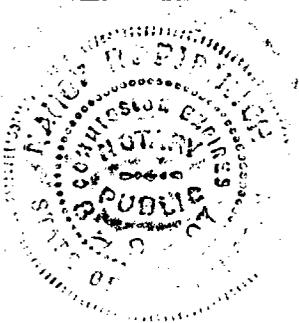
TRACT(S) 9

Address: 4608 NE 103rd Street
Seattle, WA 98125

STATE OF WASHINGTON

COUNTY OF KING

The foregoing instrument was acknowledged before me this 10th day of March, 1993, by Chris Lauritzen.



Nancy R. Pipinich
Notary Public, State of WASHINGTON
Notary's Printed Name: NANCY R. PIPINICH
Notary's Commission Expires: 8-9-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, , redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 10th day of March, 1993.

FREDERICK ALLEN LAURITZEN

By: Fred Lauritzen

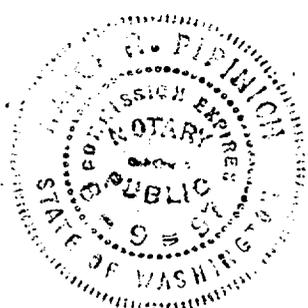
Attest _____

TRACT(S) 9

Address: 4608 NE 103rd Street
Seattle, WA 98125

STATE OF WASHINGTON)
)
COUNTY OF King)

10th The foregoing instrument was acknowledged before me this 10th day of MARCH, 1993, by Frederick Allen Lauritzen.



Nancy L. Pipinich
Notary Public, State of WASHINGTON
Notary's Printed Name: Nancy Pipinich
Notary's Commission Expires: 8-9-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 18th day of Dec, 1993.

THE CHARLES E. STRANGE TRUST

By: C. E. Strange (trustee)

Attest

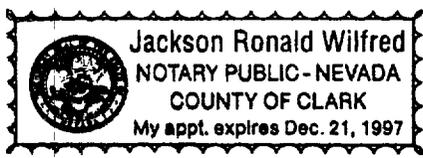
TRACT(S) 9

Address: Charles E. Strange, Trustee
c/o Horning, Holmberg & Co., CP
3500 Lakeside Court, Suite 101
Reno, NV 89509

STATE OF Nevada
COUNTY OF Clark

The foregoing instrument was acknowledged before me this 30th day of Dec, 1993, by RONALD WILFRED JACKSON.

Notary Public, State of _____
Notary's Printed Name: _____
Notary's Commission Expires: _____



RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 14th day of December, 1993.

ROY G. BARTON, JR.

By: [Signature]

Attest

TRACT(S) 15

Address: P.O. Box 978
Hobbs, NM 88240

STATE OF NEW MEXICO

COUNTY OF LEA

The foregoing instrument was acknowledged before me this 14th day of December, 1993, by Roy G. Barton, Jr.



OFFICIAL SEAL
Name of Notary Public Joan Isbell
NOTARY PUBLIC STATE OF NEW MEXICO
My commission expires 1-14-97

[Signature]
Notary Public, State of New Mexico
Notary's Printed Name: Joan Isbell
Notary's Commission Expires: 1-14-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 7th day of January,
1993.
1994.

LESLEY L. GREGORY

By: Lesley L. Gregory

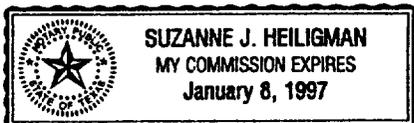
Attest

TRACT(S) 15

Address: 1650 Highway 90 West
Castorville, TX 78009

STATE OF Texas)
COUNTY OF Medina)

The foregoing instrument was acknowledged before me this 7th day of JANUARY, 1994, by Suzanne J. Heiligman SH.



Suzanne J. Heiligman
Notary Public, State of Texas
Notary's Printed Name: Suzanne J. Heiligman
Notary's Commission Expires: 1-8-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 3rd day of February 1994, 1993.

H. HILTON KADERLI, JR.

Attest John Orofino

By: H. Hilton Kaderli, Jr.

TRACT(S) 15

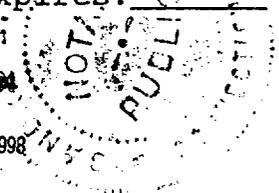
Address: 4 Caryn Lane
Weatoque, CT 06089

STATE OF Connecticut)
)
COUNTY OF Hartford)

The foregoing instrument was acknowledged before me this 3rd day of February, 1994, by H. Hilton Kaderli.

Sandra L. Jacobson
Notary Public, State of CT
Notary's Printed Name: Sandra L. Jacobson
Notary's Commission Expires: 03/31/98

SANDRA L. JACOBSON
NOTARY PUBLIC
MY COMMISSION EXPIRES MARCH 31, 1998



RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 14th day of March, 1993.

1994
Sylvia Roberts
Attest

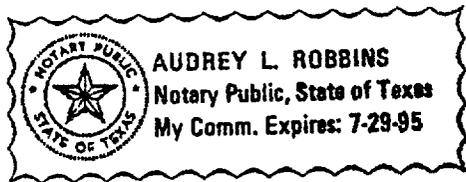
MOORE TRUST
By: Richard L. Moore
Attorney-in-Fact

TRACT(S) 15

Address: J.H. Moore, B.J. Moore & M.H. Moore, Trustees
P.O. Box 10908
Midland, TX 79702

STATE OF TEXAS)
COUNTY OF MIDLAND)

The foregoing instrument was acknowledged before me this 14th day of March, 1994, by Richard L. Moore



Audrey L. Robbins
Notary Public, State of TEXAS
Notary's Printed Name: Audrey L. Robbins
Notary's Commission Expires: 7-29-95

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 20th day of December 1993, 1993.

ROMIE SEVIER TRUST

Gene Bezzant
Attest

By: [Signature]

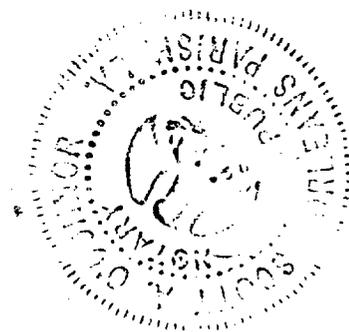
TRACT(S) 15

Address: Gilbert J. Sevier & Marion S. Jobe, Co-Trustees
2143 45th Avenue
Greeley, CO 80634

STATE OF Louisiana)
Louisiana)
COUNTY OF Orleans)

The foregoing instrument was acknowledged before me this 20th day of December, 1993, by _____

Scott A. O'Connor
Notary Public, State of LOUISIANA
Notary's Printed Name: SCOTT A. O'CONNOR
Notary's Commission Expires: AT DEATH



27

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 13th day of December, 1993.

ROMIE SEVIER TRUST
Romie Sevier Trust
By: *Marion S. Jobe*

Attest

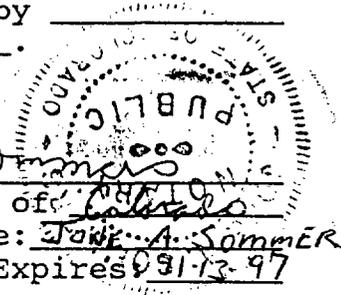
TRACT(S) 15

Address: Gilbert J. Sevier & Marion S. Jobe, Co-Trustees
2143 45th Avenue
Greeley, CO 80634

STATE OF Colorado
COUNTY OF Weld

The foregoing instrument was acknowledged before me this 13th day of December, 1993, by MARION S. JOBE

Jane A. Sommers
Notary Public, State of Colorado
Notary's Printed Name: Jane A. Sommers
Notary's Commission Expires 03/13/97



RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 31st day of January, 1994, ~~1993~~.

JEFFREY E. BARKER

By: [Signature]

Attest

TRACT(S) 16

Address: 118 Richview Ave.
South Hadley, MA 01075

STATE OF _____)
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1993, by _____.



ALL PURPOSE CERTIFICATE

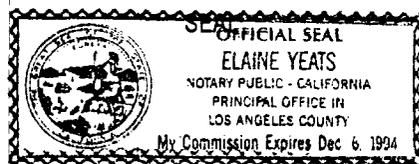
STATE OF CALIFORNIA
COUNTY OF Los Angeles SS.

On January 31, 1994 before me, the undersigned, a Notary Public in and for said State, personally appeared Jeffrey E. Barker

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

[Signature]
NOTARY'S SIGNATURE



THIS CERTIFICATE IS TO BE ATTACHED TO THE DOCUMENT DESCRIBED AT RIGHT:

Title or Type of Document Ratification and Joinder of Amendment to Unit Agreement
Number of Pages 1 Date of Document 1/31/94
Signer(s) Other than Named Above n/a



OIL CONSERVATION DIVISION
RECEIVED
'94 APR 7 AM 8 49

April 4, 1994

New Mexico Oil Conservation Office
P.O. Box 2088
Santa Fe, NM 87501-2088

Attention: Mr. Roy Johnson

RE: Antelope Ridge Deep Unit
Lea County, New Mexico

Dear Roy:

Attached please find a copy of the March 28, 1994 letter from the Bureau of Land Management granting approval of our Antelope Ridge Unit contraction application. We hope that the BLM approval will now enable your office to approve our application. Please forward your approval to the attention of the undersigned at your earliest convenience.

If you have any questions or require any additional information, please advise. My telephone number is (713)469-9664 Ext. 235. Thank you for your assistance regarding this matter.

Sincerely,

CITATION OIL & GAS CORP.


Christopher E. Cottrell
Landman

CEC/dk

Attachment



IN REPLY
REFER TO:

NMNM68289X
14-08-0001-8492
3180 (065)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Roswell District Office
1717 West Second Street
Roswell, New Mexico 88201-2019

APR 4 1994

MAR 28 1994

Citation Oil & Gas Corp.
Attention: Mr. Christopher E. Cottrell
8223 Willow Place South, Suite 250
Houston, TX 77070-5623

RE: Antelope Ridge Unit
Lea County, New Mexico

Dear Mr. Cottrell:

This office is in receipt of your application dated March 21, 1994, requesting approval of an amendment to the unit agreement for the Antelope Ridge Unit Area to amend Section 3: UNITIZED LAND AND UNITIZED SUBSTANCES, to contract the formations covered by the agreement from "all" formations to those formations found below the base of the Wolfcamp Formation. This amendment is hereby approved.

The effective date of the amendment will be the first day of January 1994.

The name of the Antelope Ridge Unit is also modified to become the Antelope Ridge Deep Unit area.

An approved copy of this application is attached. You are requested to furnish all interested principals with the appropriate evidence of this approval.

If you have any questions, please contact Alexis C. Swoboda, or the Division of Minerals at 505-627-0272.

Sincerely,

Tony L. Ferguson
Assistant District Manager,
Minerals

2719

D-Unit letter
Tax Ry



March 21, 1994

New Mexico Oil Conservation Office
P.O. Box 2088
Santa Fe, NM 87504-2088

Attention: Mr. Roy Johnson

RE: { Antelope Ridge Unit
Lea County, New Mexico
No. 14-08-0001-8492
Application For Contraction
Dear Roy:

In accordance with Citation 1987 Investment Limited Partnership's desire to amend the Antelope Ridge Unit, please find attached the following documents:

1. Application for Approval Contraction of the Antelope Ridge Unit Area.
2. First Amendment to the Unit Agreement for the Development and Operation of the Antelope Ridge Unit Area.
3. Second Amendment to the Unit Operating Agreement for the Development and Operation of the Antelope Ridge Unit Area.
4. Notice of Proposed Contraction for the Antelope Ridge Unit Area.
5. Ratification and Joinder of Amendment to Unit Agreement from the Antelope Ridge Unit owners.

Please be advised that a complete set of the documents attached will also be provided to the Bureau of Land Management and the Commissioner of Public Lands.

Page 2
Antelope Ridge Unit
Mr. Roy Johnson

If you have any questions or require any additional information,
please advise. My telephone number is (713) 469-9664 Ext. 235.
Thank you for your assistance regarding this matter.

Sincerely,

CITATION OIL & GAS CORP.


Christopher E. Cottrell
Landman

/cec
Attachments

APPLICATION FOR APPROVAL
CONTRACTION OF THE
ANTELOPE RIDGE UNIT AREA
LEA COUNTY, NEW MEXICO

SERIAL NO. 14-08-0001-8492

In accordance with the Unit Agreement for the Antelope Ridge Unit Area, dated December 3, 1962, (the Unit Agreement), CITATION 1987 INVESTMENT LIMITED PARTNERSHIP, Unit Operator, makes this Application for Contraction of the Antelope Ridge Unit Area, and represents that:

1. Notice of the proposed contraction of the Unit Area has been furnished to all parties entitled to receive such notice and proof of mailing the notice is attached hereto as Exhibit "A".
2. The time for filing objections has expired and complete copies of all objections to the proposed contraction of the Unit Area are attached hereto as Exhibit "B".
3. Complete executed counterparts of (a) the First Amendment to the Unit Agreement for the Antelope Ridge Unit Area, (b) the Second Amendment to the Unit Operating Agreement for the Antelope Ridge Unit Area, and (c) any required or necessary Ratifications and Joinder of Amendment to Unit Agreement, are enclosed with this Application.
4. No revision to the Exhibits to the Unit Agreement are necessary.

Counterparts of this Application are being filed simultaneously with:

- (1) Bureau of Land Management
Oil & Gas Supervisor
Room A212, Building 85, Denver Federal Center
Denver, CO 80226
- (2) Commissioner of Public Lands
Attention: Pete Martinez
P.O. Box 1148, Santa Fe, New Mexico 87504-1148
- (3) New Mexico Oil Conservation Commission
Attention: Roy Johnson
P.O. Box 2088, Santa Fe, New Mexico 87504-2088

NOW THEREFORE, to prevent waste and promote the conservation of oil and gas, Unit Operator requests approval of the proposed Contraction of the Antelope Ridge Unit Area, and redesignation of said Unit as the Antelope Ridge Deep Unit Area, in accordance with the First Amendment to the Unit Agreement, and Second Amendment to the Unit Operating Agreement submitted with this Application.

UNIT OPERATOR

CITATION 1987 INVESTMENT LIMITED
PARTNERSHIP
By: Citation Oil & Gas Corp., its
General Partner

By: 

Bob A. Whitworth, Attorney-in-Fact

EXHIBIT "A"

Attached to Application for Approval Contraction of the
Antelope Ridge Unit Area
Lea County, New Mexico

PROOF OF MAILING NOTICE

(Address List of parties receiving notice and photocopies of return receipt.)

Elliott Oil Company
P.O. Box 1355
Roswell, NM 88201

New Mexico State Land Office
Oil & Gas Department
P.O. Box 1148
Santa Fe, NM 87504-1148

Minerals Management Service
P.O. Box 27115
Santa Fe, NM 87502-0115

Helen O. Watson
911 Richard Street
Carlsbad, NM 88220

Edna Ione Hall
P.O. Box 1231
Ogden, UT 84402

Frank O. Elliott
Box 703
Roswell, NM 88201

Lucille H. Pipkin
P.O. Box 1174
Roswell, NM 88202

Channing M. Brown, Jr.
P.O. Box 785
Santa Teresa, NM 88008

Robert H. Brown
P.O. Box 1288
Canutillo, TX 79835

University of Rochester
Attn: Roseanne Waterstraat
1325 MT. Hope Ave.
Towne House 260
Rochester, NY 14620

Chris Lauritzen
4608 NE 103rd Street
Seattle, WA 98125

Frederick Allen Lauritzen
4608 NE 103rd Street
Seattle, WA 98125

The Charles E. Strange, Trust
Charles E. Strange, Trustee
c/o Horning, Holmberg & Co., CPA
3500 Lakeside Court, Suite 101
Reno, NV 89509

Roy G. Barton, Jr.
P.O. Box 978
Hobbs, NM 88240

Lesley L. Gregory
1650 Highway 90 West
Castorville, TX 78009

H. Hilton Kaderli, Jr.
4 Caryn Lane
Weatogue, CT 06089

David L. Lunt
P.O. Box 1537
Santa Fe, NM 87501

Moore Trust
J.H. Moore, B.J. Moore &
M.H. Moore, Trustees
P.O. Box 10908
Midland, TX 79702

Romie Sevier Trust
Gilbert J. Sevier & Marion S.
Jobe, Co-Trustees
2143 45th Avenue
Greeley, CO 80634

Judith Kaderli Thomas
3708 Yacht Club Dr.
Arlington, TX 76016

Jeffrey E. Barker
118 Richview Ave.
South Hadley, MA 01075

Charles R. Wiggins
P.O. Box 10862
Midland, TX 79702

Ken Kamon
P.O. Box 10589
Midland, TX 79702

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Elliott Oil Company
P.O. Box 1355
Roswell, NM 88201

4a. Article Number
P 422 464 849

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
12-13-93

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
New Mexico State Land Office
Oil & Gas Department
P.O. Box 1148
Santa Fe, NM 87504-1148

4a. Article Number
P 422 464 848

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
DEC 15 1993

5. Signature (Addressee)
M. Lucero

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Minerals Management Service
P.O. Box 27115
Santa Fe, NM 87502-0115

4a. Article Number
P 422 464 847

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
DEC 15 1993

5. Signature (Addressee)

6. Signature (Agent)
J. J. [unclear] 1998

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Helen O. Watson
911 Richard Street
Carlsbad, NM 88220

4a. Article Number
P 422 464 850

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
12-11-93

5. Signature (Addressee)
Helen Watson

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address

2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Edna Ione Hall
P.O. Box 1231
Ogden, UT 84902

4a. Article Number
P 422 414 851

4b. Service Type

Registered Insured

Certified COD

Express Mail Return Receipt for Merchandise

7. Date of Delivery
DEC 28 1993

5. Signature (Addressee)
[Signature]

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address

2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Frank O. Elliott
Box 703
Roswell, NM 88201

4a. Article Number
P 422 464 852

4b. Service Type

Registered Insured

Certified COD

Express Mail Return Receipt for Merchandise

7. Date of Delivery
12-13-93

5. Signature (Addressee)

6. Signature (Agent)
[Signature]

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address

2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Lucille H. Pipkin
P.O. Box 1174
Roswell, NM 88202

4a. Article Number
P 422 464 853

4b. Service Type

Registered Insured

Certified COD

Express Mail Return Receipt for Merchandise

7. Date of Delivery
DEC 28 1993

5. Signature (Addressee)
[Signature]

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address

2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Channing M. Brown, Jr.
P.O. Box 785
Santa Teresa, NM 88008

4a. Article Number
P 422 464 854

4b. Service Type

Registered Insured

Certified COD

Express Mail Return Receipt for Merchandise

7. Date of Delivery
DEC 28 1993

5. Signature (Addressee)
[Signature]

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service

P 422 464 855

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)



Street and No.	
P.O., State and ZIP Code	
Postage	\$
Certified fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, June 1991

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
 Attn: Roseanne Waterstreet
 University of Rochester
 1325 Mt Hope Avenue
 Towne House 260
 Rochester, NY 14620

4a. Article Number
 D 422 464 856

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 12-13-93

5. Signature (Addressee)
 Claire Hamilton

6. Signature (Agent)

I also wish to receive the following services (for an extra fee):

1. Addressee's Address

2. Restricted Delivery

Consult postmaster for fee.

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
 Chris Lauritzen
 4608 NE 103rd St.
 Seattle, WA 98125

4a. Article Number
 P 422 464

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 DEC 13 1993

5. Signature (Addressee)
 C Lauritzen

6. Signature (Agent)

I also wish to receive the following services (for an extra fee):

1. Addressee's Address

2. Restricted Delivery

Consult postmaster for fee.

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 DOMESTIC RETURN RECEIPT

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
 Frederick Allen Lauritzen
 4608 NE 103rd St.
 Seattle, WA 98125

4a. Article Number
 P 422 464 858

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 DEC 13 1993

5. Signature (Addressee)
 Fred Lauritzen

6. Signature (Agent)

I also wish to receive the following services (for an extra fee):

1. Addressee's Address

2. Restricted Delivery

Consult postmaster for fee.

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
The Charles E. Strange Trust
Charles E. Strange, Trustee
40 Horning, Holmberg & Co
3500 Lakeside Ct. Ste. 101
Reno, NV 89509

4a. Article Number
P 422 464 859

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
12/13

5. Signature (Addressee)
C. Phillips

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Roy G. Barton Jr.
P.O. Box 978
Hobbs, NM 88240

4a. Article Number
P 422 464 860

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)
Roy G. Barton

6. Signature (Agent)
12/13

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Lesley L. Gregory
1650 Highway 90 West
Castorville, TX 78009

4a. Article Number
P 422 464 801

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
12/13

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
H. Hilton Kaderli, Jr.
4 Caryn Lane
Weatogue, CT 06089

4a. Article Number
P 422 464 802

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
12/14/93

5. Signature (Addressee)
H. Hilton Kaderli, Jr.

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
David L. Lunt
P.O. Box 1537
Santa Fe, NM 87501

4a. Article Number
P 422 464 863

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
DEC 16 1991

5. Signature (Addressee)
K. Ellen Adams

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Moore Trust
J.H. Moore, B.J. Moore
M.H. Moore, Trustees
P.O. Box 10908
Midland, TX 79702

4a. Article Number
P 422 464 864

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
DEC 16 1991

5. Signature (Addressee)
RC

6. Signature (Agent)
L. Roberts

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Romie Sevier Trust
Gilbert J. Sevier &
Marion S. Jobl Co-Trustees
2143 45th Avenue
Greeley, CO 80634

4a. Article Number
P 422 464 865

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)
Charles J. Jobl

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Judith Haderli Thomas
3708 Yacht Club Dr.
Arlington, TX 76016

4a. Article Number
P 422 464 866

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
12-16-91

5. Signature (Addressee)
K. Adams

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

- Complete items 3, 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
 Jeffrey E. Barker
 118 Richview Ave.
 South Hadley, MA 01075

4a. Article Number:
 P 422 464 867

4b. Service Type:
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery:
 12/13/93

5. Signature (Addressee):
 [Signature]

6. Signature (Agent):
 [Signature]

8. Addressee's Address (Only if requested and fee is paid):

following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

Thank you for using Return Receipt Service.

P 422 464 868



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to Charles Diggins
 Street and No.

P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

P 422 464 869



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to Ken Hamm
 Street and No.

P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

EXHIBIT "B"

**Attached to Application for Approval Contraction of the
Antelope Ridge Unit Area
Lea County, New Mexico**

OBJECTIONS TO PROPOSED CONTRACTION

No objections received by Citation 1987 Investment Limited Partnership.

**FIRST AMENDMENT TO THE UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
ANTELOPE RIDGE UNIT AREA
LEA COUNTY, STATE OF NEW MEXICO**

No. 14-08-0001-8492

THIS AGREEMENT entered into this 1st day of January,
1994 , to be effective as of said date upon approval by the Secretary of the Interior for the United States of America and the Commissioner of Public Lands of the State of New Mexico.

WHEREAS, the undersigned are all of the working interest owners in the Unit Agreement for the development and operation of the Antelope Ridge Unit Area, Serial No. 14-08-0001-8492, dated December 3, 1962, (the "Unit Agreement"); and,

WHEREAS, Section 3 of the Unit Agreement designates and unitizes all oil and gas in any and all formations of the unitized land or lands subject to this Agreement; and,

WHEREAS, the parties hereto desire to amend said Section 3 of the Unit Agreement as hereinafter provided.

NOW THEREFORE, for adequate consideration, the undersigned hereby alter and amend Section 3 of the Unit Agreement so that said Section 3 shall hereafter be and read in its entirety as follows:

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 below the base of the Wolfcamp Formation as found at a depth of 11,435 feet beneath the surface in the Shell Western Antelope Ridge Unit No. 9 Well, located in Section 33, T23S, R34E, NMPM, Lea County, New Mexico, are unitized under the terms of this Agreement and herein are called "Unitized Substances".

For the same consideration, the undersigned hereby ratify and adopt the Unit Agreement as herein amended, and do further stipulate and agree that said Unit Agreement shall hereafter be denominated and referred to as the "UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE DEEP UNIT AREA, LEA COUNTY, STATE OF NEW MEXICO."

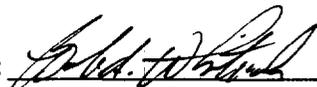
Citation 1987 Investment Limited Partnership is the current Operator of the Antelope Ridge Unit Area and is hereby designated as Unit Operator for the Antelope Ridge Deep Unit Area, and signs this Amendment in its capacity as Operator to evidence its consent hereto and its acceptance of the duties and obligations of Unit Operator for the Antelope Ridge Deep Unit Area pursuant to the Unit Agreement as herein amended.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed effective the date first above written.

UNIT OPERATOR

CITATION 1987 INVESTMENT
LIMITED PARTNERSHIP

By: CITATION OIL & GAS CORP., its
General Partner

By: 
Bob A. Whitworth - Attorney-in-Fact

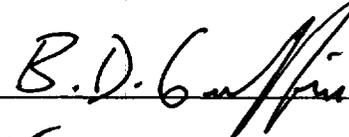
WORKING INTEREST OWNERS

CITATION 1987 INVESTMENT LIMITED
PARTNERSHIP

By: CITATION OIL & GAS CORP., its
General Partner

By: 
Bob A. Whitworth - Attorney-in-Fact

SHELL WESTERN E & P INC.

By: 
 , Agent and Attorney-in-Fact

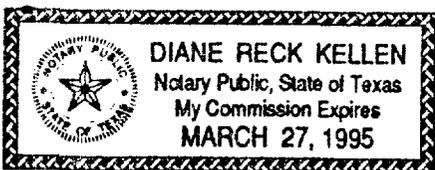
CITATION OIL & GAS CORP.

By: 
Bob A. Whitworth - Attorney-in-Fact

STATE OF TEXAS
COUNTY OF HARRIS

§
§

The foregoing instrument was acknowledged before me this 8th day of December, 1993, by Bob A. Whitworth, Attorney-in-Fact of Citation Oil & Gas Corp., a Delaware corporation, on behalf of said corporation as General Partner of CITATION 1987 INVESTMENT LIMITED PARTNERSHIP, a Limited Partnership.

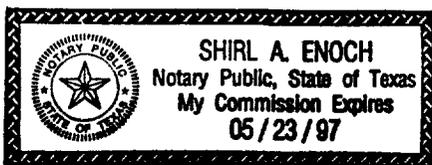


Diane Reck Kellen
Notary Public, State of Texas
Printed Name: Diane Reck Kellen
Commission Expires: 3-27-95

STATE OF TEXAS
COUNTY OF HARRIS

§
§

The foregoing instrument was acknowledged before me this 14th day of December, 1993, by B. D. Griffin, Agent and Attorney in Fact for SHELL WESTERN E & P, INC., a Delaware corporation, on behalf of said corporation.

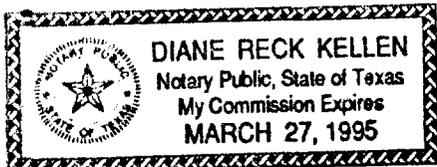


Shirl A Enoch
Notary Public, State of Texas
Printed Name: Shirl A Enoch
Commission Expires: 5/23/97

STATE OF TEXAS
COUNTY OF HARRIS

§
§

The foregoing instrument was acknowledged before me this 8th day of December, 1993, by Bob A. Whitworth, Attorney-in-Fact of CITATION OIL & GAS CORP., a Delaware corporation, on behalf of said corporation.



Diane Reck Kellen
Notary Public, State of Texas
Printed Name: Diane Reck Kellen
Commission Expires: 3-27-95

**SECOND AMENDMENT TO UNIT OPERATING AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
ANTELOPE RIDGE UNIT AREA,
LEA COUNTY, STATE OF NEW MEXICO**

THIS AGREEMENT made and entered into this ____1st____ day of
____January____, 1994 by and between CITATION 1987 INVESTMENT
LIMITED PARTNERSHIP, a _____Texas_____ Limited Partnership,
hereinafter referred to as "Unit Operator", and SHELL WESTERN E &
P, INC., a _____Delaware_____ corporation, and CITATION OIL
& GAS CORP., all with offices at Houston, Texas;

WHEREAS, on the 3rd day of December, 1962, SHELL OIL COMPANY
and CONTINENTAL OIL COMPANY entered into a certain Unit Agreement
("Unit Agreement") and a certain Unit Operating Agreement
("Operating Agreement"), for the development and operation of the
Antelope Ridge Unit Area, which unit area embraces as to all
formations the following described lands, to-wit:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T-23-S, R-34-E

Section 27:	All
Section 28:	All
Section 33:	All
Section 34:	All

T-24-S, R-34-E

Section 3:	All
Section 4:	All

situated in Lea County, New Mexico,
and containing 3,839.80 acres, more
or less;

AND, WHEREAS, said Unit Agreement has been amended by
elimination of depths from the surface to the base of the Wolfcamp
Formation in the unitized lands, and by redesignating the unit as
the "Antelope Ridge Deep Unit Area"; and,

WHEREAS, the parties hereto desire to amend the said Operating
Agreement so that it will conform to the lands and depths covered
by the Unit Agreement as amended.

NOW THEREFORE, for adequate consideration, the undersigned CITATION 1987 INVESTMENT LIMITED PARTNERSHIP and Shell Western E & P, Inc., do hereby agree as follows:

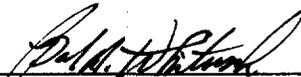
1. The Operating Agreement shall hereafter be denominated and referred to as the UNIT OPERATING AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE DEEP UNIT AREA, LEA COUNTY, STATE OF NEW MEXICO.
2. The Operating Agreement shall hereafter govern and apply only to those lands and depths covered by the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE DEEP UNIT AREA, LEA COUNTY, STATE OF NEW MEXICO, as amended.
3. CITATION 1987 INVESTMENT LIMITED PARTNERSHIP shall continue to serve as, and is hereby designated, Operator of the Antelope Ridge Deep Unit Area, in accordance with the terms of the Operating Agreement. CITATION 1987 INVESTMENT LIMITED PARTNERSHIP signs this amendment in its capacity as Unit Operator to evidence its consent hereto, and its acceptance of the duties and obligations as Unit Operator of the Antelope Ridge Deep Unit Area.

IN WITNESS WHEREOF, this Amendment is executed ^{effective} the date above first written.

UNIT OPERATOR

CITATION INVESTMENT 1987 LIMITED PARTNERSHIP

By: CITATION OIL & GAS CORP., its General Partner

By: 
Bob A. Whitworth - Attorney-in fact

WORKING INTEREST OWNERS

SHELL WESTERN E & P INC.

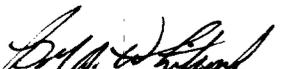
By: 
BD, Agent and Attorney-in-Fact

CITATION OIL & GAS CORP.

By: 
Bob A. Whitworth - Attorney-in-Fact

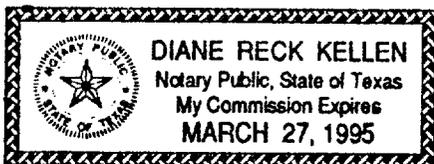
CITATION INVESTMENT 1987 LIMITED PARTNERSHIP

By: CITATION OIL & GAS CORP., its General Partner

By: 
Bob A. Whitworth - Attorney-in-Fact

STATE OF TEXAS §
COUNTY OF HARRIS §

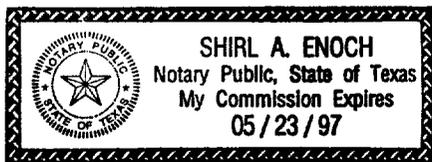
This foregoing instrument was acknowledged before me this 8th day of December, 1993, by Bob A. Whitworth Attorney-in-Fact of Delaware Citation Oil & Gas Corp., a corporation, on behalf of said corporation as General Partner of CITATION INVESTMENT 1987 LIMITED PARTNERSHIP, a Limited Partnership.



Diane Reck Kellen
Notary Public, State of Texas
Notary's Printed Name: Diane Reck Kellen
Notary's Commission Expires: 3-27-95

STATE OF TEXAS §
COUNTY OF HARRIS §

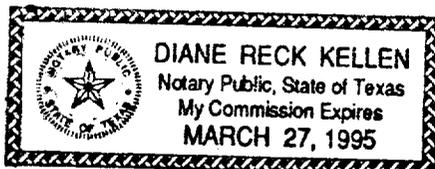
The foregoing instrument was acknowledged before me this 14th day of December, 1993, by B. D. Griffin, Agent and Attorney in Fact for SHELL WESTERN E & P, INC., a Delaware corporation, on behalf of said corporation.



Shirl A. Enoch
Notary Public, State of Texas
Notary's Printed Name: Shirl A. Enoch
Notary's Commission Expires: 5/23/97

STATE OF TEXAS §
COUNTY OF HARRIS §

The foregoing instrument was acknowledged before me this 8th day of December, 1993, by Bob A. Whitworth Attorney-in-Fact of Delaware CITATION OIL & GAS CORP., a corporation, on behalf of said corporation.



Diane Reck Kellen
Notary Public, State of Texas
Notary's Printed Name: Diane Reck Kellen
Notary's Commission Expires: 3-27-95

NOTICE OF PROPOSED CONTRACTION
ANTELOPE RIDGE UNIT AREA
LEA COUNTY, NEW MEXICO

SERIAL NO. 14-08-0001-8492

CITATION 1987 INVESTMENT LIMITED PARTNERSHIP, Unit Operator for the Antelope Ridge Unit Area (the Unit), in accordance with the provisions of the Unit Agreement for the Antelope Ridge Unit Area, dated December 3, 1962, (the Unit Agreement), proposes to contract the Unit as follows:

1. The Unit Agreement shall be amended so that the "Unit Substances" will include only oil and gas in any and all formations below the base of the Wolfcamp Formation as found at a depth of 11,435 feet beneath the surface in the Shell Western Antelope Ridge Unit No. 9 Well, located in Section 33, T23S, R34E, NMPM, Lea County, New Mexico. All oil and gas in formations lying between the surface and the base of the Wolfcamp Formation, as herein identified, will be eliminated from "Unit Substances."
2. The effective date of the Unit Contraction will be the first day of January, 1994.
3. From and after the effective date, the Unit shall be designated as the "Antelope Ridge Deep Unit Area."
4. This Contraction of the Unit is proposed to promote the development of oil and gas formations lying between the surface and the base of the Wolfcamp Formation, which in the Unit Operator's opinion will be best accomplished on a lease basis, to prevent waste, and to promote the conservation of oil and gas.

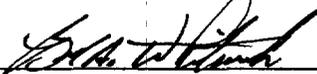
This Notice is being furnished to the Oil & Gas Supervisor for the Bureau of Land Management, the Commissioner of Public Lands, all Working Interest owners, Lessees, and Lessors, whose interest may be affected, at the last known address for each such party. Any objections to the proposed contraction should be submitted in writing to the Unit Operator within 30 days of the date hereof.

IN WITNESS WHEREOF, this Notice is signed, dated and mailed the 8th day of December, 1993.

UNIT OPERATOR

CITATION 1987 INVESTMENT LIMITED PARTNERSHIP

By: Citation Oil & Gas Corp., its General Partner

By: 
Bob A. Whitworth, Vice-President

8223 Willow Place South, Suite 250,
Houston, Texas 77070
Attn.: Chris Cottrell, Landman
(713) 469-9664, (713) 469-9667 Fax

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 13th day of December, 1993.

ELLIOTT OIL COMPANY

By: [Signature]

Attest

TRACT(S) 1, 2

Address: P.O. Box 1355
Roswell, NM 88201

STATE OF New Mexico

COUNTY OF Chaves

The foregoing instrument was acknowledged before me this 13th day of December, 1993, by _____.

Cathy Henderson
Notary Public, State of New Mexico
Notary's Printed Name: CATHY HENDERSON
Notary's Commission Expires: 3/2/96

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 15 day of December, 1993.

HELEN O. WATSON

By: Helen O. Watson

Attest

TRACT(S) 1

Address: 911 Richard Street
Carlsbad, NM 88220

STATE OF New Mexico

COUNTY OF Eddy

The foregoing instrument was acknowledged before me this 15 day of December, 1993, by Helen O. Watson.

Brenda Dugas
Notary Public, State of New Mexico
Notary's Printed Name: Brenda Dugas
Notary's Commission Expires: 3-1-95

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 23 day of December, 1993.

EDNA IONE HALL

By: Edna Ione Hall

Attest

TRACT(S) 4

Address: P.O. Box 1231
Ogden, UT 84402

STATE OF (Utah))
COUNTY OF (Wasatch))

23 The foregoing instrument was acknowledged before me this 23 day of December, 1993, by EDNA IONE HALL.

(Signature)
Notary Public, State of Utah
Notary's Printed Name: ANNA A. DURAN
Notary's Commission Expires: _____

My Commission Expires Sept. 24, 1997

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 13th day of December, 1993.

FRANK O. ELLIOTT

Alvin H. Hargrove
Attest

By: [Signature]

TRACT(S) 5

Address: Box 703
Roswell, NM 88201

STATE OF New Mexico)
COUNTY OF Chaves)

The foregoing instrument was acknowledged before me this 13th day of December, 1993, by Frank O. Elliott.

Cathy Henderson
Notary Public, State of New Mexico
Notary's Printed Name: CATHY HENDERSON
Notary's Commission Expires: 3/2/96

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 31 day of JANUARY 1994, 1993.

CHANNING M. BROWN, JR.

By: *Channing M. Brown Jr.*

Attest

TRACT(S) 7

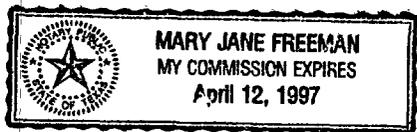
Address: P.O. Box 785
Santa Teresa, NM 88008

STATE OF _____)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this 31st day of January, 1994, by Channing M. Brown Jr.

Mary Jane Freeman
Notary Public, State of Texas
Notary's Printed Name: _____
Notary's Commission Expires: _____



RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 14th day of December, 1993.

ROBERT H. BROWN

By: Robert H Brown

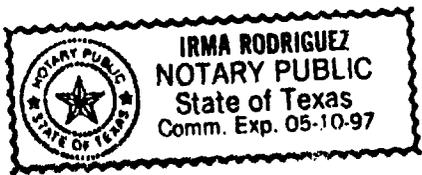
Irma Rodriguez
Attest

TRACT(S) 7

Address: P.O. Box 1288
Canutillo, TX 79835

STATE OF Texas)
COUNTY OF El Paso)

The foregoing instrument was acknowledged before me this 14 day of December, 1993, by _____.



Irma Rodriguez
Notary Public, State of Texas
Notary's Printed Name: Irma Rodriguez
Notary's Commission Expires: 5/10/97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 10th day of March, 1993.

CHRIS LAURITZEN

By: Chris Lauritzen

Attest

TRACT(S) 9

Address: 4608 NE 103rd Street
Seattle, WA 98125

STATE OF WASHINGTON

COUNTY OF KING

The foregoing instrument was acknowledged before me this 10th day of March, 1993, by Chris Lauritzen.

Nancy R. Pipinich
Notary Public, State of WASHINGTON
Notary's Printed Name: NANCY R. PIPINICH
Notary's Commission Expires: 8-9-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, , redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 10th day of March, 1993.

FREDERICK ALLEN LAURITZEN

By: Frederick Lauritzen

Attest _____

TRACT(S) 9

Address: 4608 NE 103rd Street
Seattle, WA 98125

STATE OF WASHINGTON)
COUNTY OF King)

The foregoing instrument was acknowledged before me this 10th day of MARCH, 1993, by Frederick Allen Lauritzen.

Nancy L. Pipinich
Notary Public, State of WASHINGTON
Notary's Printed Name: Nancy Pipinich
Notary's Commission Expires: 3-9-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 18th day of Dec, 1993.

THE CHARLES E. STRANGE TRUST

By: C. E. Strange (trustee)

Attest

TRACT(S) 9

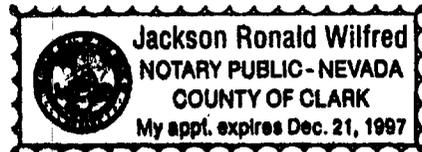
Address: Charles E. Strange, Trustee
c/o Horning, Holmberg & Co., CP
3500 Lakeside Court, Suite 101
Reno, NV 89509

STATE OF Nevada

COUNTY OF Clark

The foregoing instrument was acknowledged before me this 30th day of Dec, 1993, by RONALD WILFRED JACKSON.

Notary Public, State of _____
Notary's Printed Name: _____
Notary's Commission Expires: _____



RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

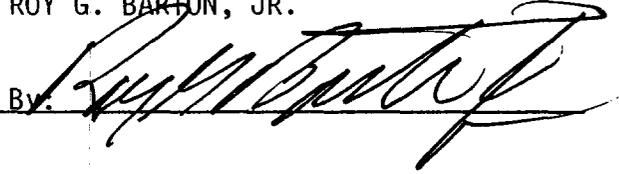
In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 14th day of December, 1993.

ROY G. BARTON, JR.

By: 

Attest

TRACT(S) 15

Address: P.O. Box 978
Hobbs, NM 88240

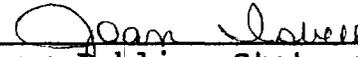
STATE OF NEW MEXICO)

COUNTY OF LEA)

The foregoing instrument was acknowledged before me this 14th day of December, 1993, by Roy G. Barton, Jr.



OFFICIAL SEAL
Name of Notary Public Joan Isbell
NOTARY PUBLIC STATE OF NEW MEXICO
My commission expires: 1-14-97


Notary Public, State of New Mexico
Notary's Printed Name: Joan Isbell
Notary's Commission Expires: 1-14-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 7th day of January, 1993.
1994.

LESLEY L. GREGORY

By: Lesley L. Gregory

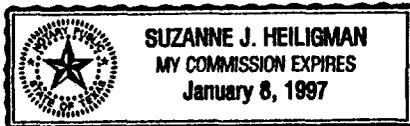
Attest

TRACT(S) 15

Address: 1650 Highway 90 West
Castorville, TX 78009

STATE OF Texas)
COUNTY OF Medina)

The foregoing instrument was acknowledged before me this 7th day of January, 1994, by Suzanne J. Heiligman SA.



Suzanne J. Heiligman
Notary Public State of TEXAS
Notary's Printed Name Suzanne J. Heiligman
Notary's Commission Expires: 1-8-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 14th day of December, 1993.

DAVID L. LUNT

Luene Romero
Attest

By: David L. Lunt

TRACT(S) 15

Address: P.O. Box 1537
Santa Fe, NM 87501

STATE OF NEW MEXICO)
COUNTY OF SANTA FE)

The foregoing instrument was acknowledged before me this 14th day of December, 1993, by David L. Lunt.

Ellen Adams
Notary Public, State of New Mexico
Notary's Printed Name: Ellen Adams
Notary's Commission Expires: 10/31/97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 20th day of December 1993, 1993.

ROMIE SEVIER TRUST

By: [Signature]

[Signature]
Attest

TRACT(S) 15

Address: Gilbert J. Sevier & Marion S. Jobe, Co-Trustees
2143 45th Avenue
Greeley, CO 80634

STATE OF Louisiana)
Pasadena)
COUNTY OF Orleans)

The foregoing instrument was acknowledged before me this 20th day of December, 1993, by _____.

[Signature]
Notary Public, State of LOUISIANA
Notary's Printed Name: SCOTT A. O'CONNOR
Notary's Commission Expires: AT DEATH

27

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 13th day of December, 1993.

ROMIE SEVIER TRUST

Romie Sevier Trust
By: *Marion S. Jobe & Jobe Trustee*

Attest

TRACT(S) 15

Address: Gilbert J. Sevier & Marion S. Jobe, Co-Trustees
2143 45th Avenue
Greeley, CO 80634

STATE OF Colorado
COUNTY OF Weld

The foregoing instrument was acknowledged before me this 13th day of December, 1993, by MARION S. JOBE.

Jane A. Sommers
Notary Public, State of Colorado
Notary's Printed Name: JANE A. SOMMERS
Notary's Commission Expires: 11-13-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 25 day of February, 1993.

JUDITH KADERLI THOMAS

By: Judith Kaderli Thomas

Attest

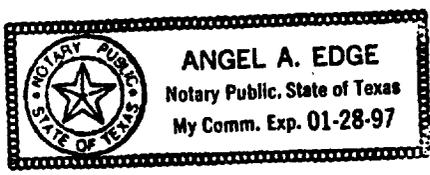
TRACT(S) 15

Address: 3708 Yacht Club Dr.
Arlington, TX 76016

STATE OF Texas

COUNTY OF Tarrant

The foregoing instrument was acknowledged before me this 25 day of February, 1993, by Judith Kaderli Thomas.



Angel A. Edge
Notary Public, State of Texas
Notary's Printed Name: ANGEL A. EDGE
Notary's Commission Expires: 1-28-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, , redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 31st day of January, 1994, ~~1993~~.

JEFFREY E. BARKER

By: [Signature]

Attest

TRACT(S) 16

Address: 118 Richview Ave.
South Hadley, MA 01075

STATE OF _____)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1993, by _____.



ALL PURPOSE CERTIFICATE

STATE OF CALIFORNIA

SS.

COUNTY OF Los Angeles

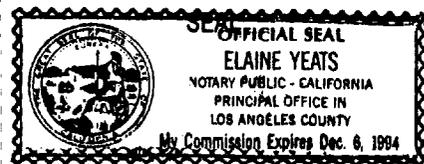
On January 31, 1994 before me, the undersigned, a Notary Public in and for said State, personally appeared

Jeffrey E. Barker

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

[Signature]
NOTARY'S SIGNATURE



THIS CERTIFICATE IS TO BE ATTACHED TO THE DOCUMENT DESCRIBED AT RIGHT:

Title or Type of Document Ratification and Joinder of Amendment to Unit Agreement
Number of Pages 1 Date of Document 1/31/94
Signer(s) Other than Named Above n/a

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering the lands within the Unit Area, as amended, in which the undersigned may be found to have an oil and gas interest.

This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 15th day of January, 199~~3~~⁴.

CHARLES R. WIGGINS

By: Charles R. Wiggins

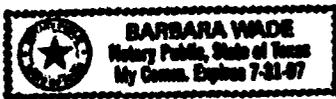
Attest

TRACT(S) 9

Address: P.O. Box 10862
Midland, TX 79702

STATE OF Texas)
COUNTY OF Midland)

The foregoing instrument was acknowledged before me this 15th day of January, 199~~3~~⁴ by Charles R. Wiggins.



Barbara Wade
Notary Public, State of Texas
Notary's Printed Name: Barbara Wade
Notary's Commission Expires: 7-31-97

RATIFICATION AND JOINDER OF AMENDMENT TO UNIT AGREEMENT

In consideration of the execution of an Amendment to the UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE ANTELOPE RIDGE UNIT AREA, County of Lea, State of New Mexico, dated January 1, 1994, , redesignating said unit as the ANTELOPE RIDGE DEEP UNIT AREA, and amending the lands and depths unitized, in form approved on behalf of the Secretary of the Interior and the Commissioner of Public Lands, and for adequate consideration, the undersigned hereby expressly ratifies, approves and adopts said Unit Agreement as amended as fully as though the undersigned had executed said agreement and amendment.

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This Ratification and Joinder of Amendment to Unit Agreement shall be binding upon the undersigned, his, her or its heirs, devisees, executors, assigns or successors in interest.

EXECUTED this 22nd day of December, 1993.

KEN KAMON

By: [Signature]

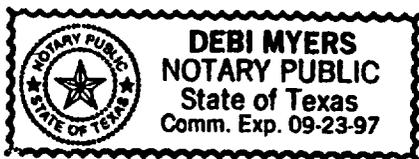
Attest _____

TRACT(S) 9

Address: P.O. Box 10589
Midland, TX 79702

STATE OF Texas)
COUNTY OF Midland)

The foregoing instrument was acknowledged before me this 22nd day of December, 1993, by Ken Kamon.



[Signature]
Notary Public, State of Texas
Notary's Printed Name: Debi Myers
Notary's Commission Expires: 9-23-97

ANTELOPE RIDGE UNIT

	RATIFICATION RT.
Elliott Oil Company	Received 12-17-93
New Mexico State Land Office Minerals Management Service	
Helen O. Watson	Received 12-20-93
Edna Ione Hall	Received 1-4-94
Frank O. Elliott	Received 12-17-93
Lucille H. Pipkin	Received 12-17-93
Channing M. Brown, Jr.	Received 2-14-94
Robert H. Brown	Received 12-16-93
University of Rochester	Received 1-13-94
Chris Lauritzen	Received 3-15-94
Frederick Allen Lauritzen	Received 3-15-94
The Charles E. Strange Trust	Received 1-4-94
Roy G. Barton, Jr.	Received 12-17-93
Lesley L. Gregory	Received 1-24-94
H. Hilton Kaderli, Jr.	Received 2-7-94
David L. Lunt	Received 12-20-93
Moore Trust	Received 3-17-94
Romie Sevier Trust	Received 1-31-94
Judith Kaderli Thomas	Received 3-7-94
Jeffrey E. Barker	Received 2-2-94
Charles R. Wiggins	Received 1-24-94
Ken Kamon	Received 1-27-94



RAY B. POWELL
COMMISSIONER

State of New Mexico
OFFICE OF THE
Commissioner of Public Lands
Santa Fe

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

SLO REF NO. OG-1323

September 7, 1993

Citation Oil & Gas Corporation
8223 Willow Place South
Suite 250
Houston, Texas 77070-5623

Attn: Mr. K. C. Charlie Adams

Re: 1993 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

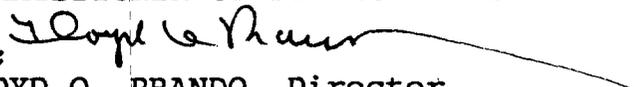
The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY B. POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

RBP/FOP/pm/cpm
cc: OCD
BLM

1993 MAR 23 AM 9 46

AMCO



March 11, 1993

U. S. Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88202-139

Re: Antelope Ridge Unit
Lea County, New Mexico

Attn: Mr. Joe G. Lara

In compliance with federal regulations, Citation Oil & Gas Corp., as operator of the subject unit, submits in triplicate for your information and approval, its plan of development for the calendar year.

Review of 1992 Operations

There was no significant activity in the unit during the year.

Production Statistics

	Cum. Volume		1992 Volume	
	<u>Oil</u>	<u>Gas</u>	<u>Oil</u>	<u>Gas</u>
#1	3,124	185,201	---	11,686
#10	482	385,824	---	47,351
#2 (Dev)	463,174	23,277,613	2,113	219,237
#3	662,188	31,213,464	1,990	72,560
#4	327,656	17,358,158	---	46,194
#6	34,305	2,502,111	---	60,532
#7	16,536	351,497	1,657	49,103
#8	140,771	9,998,717	464	67,556
#9	66,117	3,388,762	2,383	188,927
	-----	-----	-----	-----
	1,714,353	88,661,347	8,607	763,146

Mr. Joe G. Lara
March 11, 1993

- 2 -

Antelope Ridge Unit
Lea County, New Mexico

Well Statistics

Oil	9
Gas	9
Injector	1

1993 Plan of Development

There are no additional developmental plans for the year.

Sincerely,

Mark D. Bing

Mark D. Bing
Area Drilling and Production Manager

/wb
pc: Unit File & Pat Johnson

Plan of Development
APPROVED

MAR 26 1993

Armando A. Lopez

DISTRICT MANAGER
BUREAU OF LAND MANAGEMENT

CONCESSION DIVISION
RECEIVED
93 DE 21 AM 9 19

**NOTICE OF PROPOSED CONTRACTION
ANTELOPE RIDGE UNIT AREA
LEA COUNTY, NEW MEXICO**

SERIAL NO. 14-08-0001-8492

CITATION 1987 INVESTMENT LIMITED PARTNERSHIP, Unit Operator for the Antelope Ridge Unit Area (the Unit), in accordance with the provisions of the Unit Agreement for the Antelope Ridge Unit Area, dated December 3, 1962, (the Unit Agreement), proposes to contract the Unit as follows:

1. The Unit Agreement shall be amended so that the "Unit Substances" will include only oil and gas in any and all formations below the base of the Wolfcamp Formation as found at a depth of 11,435 feet beneath the surface in the Shell Western Antelope Ridge Unit No. 9 Well, located in Section 33, T23S, R34E, NMPM, Lea County, New Mexico. All oil and gas in formations lying between the surface and the base of the Wolfcamp Formation, as herein identified, will be eliminated from "Unit Substances."
2. The effective date of the Unit Contraction will be the first day of January, 1994.
3. From and after the effective date, the Unit shall be designated as the "Antelope Ridge Deep Unit Area."
4. This Contraction of the Unit is proposed to promote the

LAND DIVISION
1993 DE 21 AM 9 19

**NOTICE OF PROPOSED CONTRACTION
ANTELOPE RIDGE UNIT AREA
LEA COUNTY, NEW MEXICO**

SERIAL NO. 14-08-0001-8492

CITATION 1987 INVESTMENT LIMITED PARTNERSHIP, Unit Operator for the Antelope Ridge Unit Area (the Unit), in accordance with the provisions of the Unit Agreement for the Antelope Ridge Unit Area, dated December 3, 1962, (the Unit Agreement), proposes to contract the Unit as follows:

1. The Unit Agreement shall be amended so that the "Unit Substances" will include only oil and gas in any and all formations below the base of the Wolfcamp Formation as found at a depth of 11,435 feet beneath the surface in the Shell Western Antelope Ridge Unit No. 9 Well, located in Section 33, T23S, R34E, NMPM, Lea County, New Mexico. All oil and gas in formations lying between the surface and the base of the Wolfcamp Formation, as herein identified, will be eliminated from "Unit Substances."
2. The effective date of the Unit Contraction will be the first day of January, 1994.
3. From and after the effective date, the Unit shall be designated as the "Antelope Ridge Deep Unit Area."
4. This Contraction of the Unit is proposed to promote the development of oil and gas formations lying between the surface and the base of the Wolfcamp Formation, which in the Unit Operator's opinion will be best accomplished on a lease basis, to prevent waste, and to promote the conservation of oil and gas.

This Notice is being furnished to the Oil & Gas Supervisor for the Bureau of Land Management, the Commissioner of Public Lands, all Working Interest owners, Lessees, and Lessors, whose interest may be affected, at the last known address for each such party. Any objections to the proposed contraction should be submitted in writing to the Unit Operator within 30 days of the date hereof.

IN WITNESS WHEREOF, this Notice is signed, dated and mailed the 8th day of December, 1993.

UNIT OPERATOR

CITATION 1987 INVESTMENT LIMITED PARTNERSHIP

By: Citation Oil & Gas Corp., its General Partner

By: *Bob A. Whitworth*
Bob A. Whitworth, Vice-President

8223 Willow Place South, Suite 250,
Houston, Texas 77070
Attn.: Chris Cottrell, Landman
(713) 469-9664, (713) 469-9667 Fax



OIL CONSERVATION DIVISION
RECEIVED

1994 MAR 24 AM 8 49

March 24, 1994

New Mexico Oil Conservation Office
P.O. Box 2088
Santa Fe, NM 87501-2088

Attn: Mr. Roy Johnson

RE: Antelope Ridge Unit
Lea County, New Mexico

Dear Roy:

Attached per your request, please find three (3) plats evidencing the boundaries of the Antelope Ridge Unit. If you have any questions or require any additional information, please advise. My telephone number is (713)469-9664 Ext. 235.

Thanks again for allowing me to meet with you earlier this week.

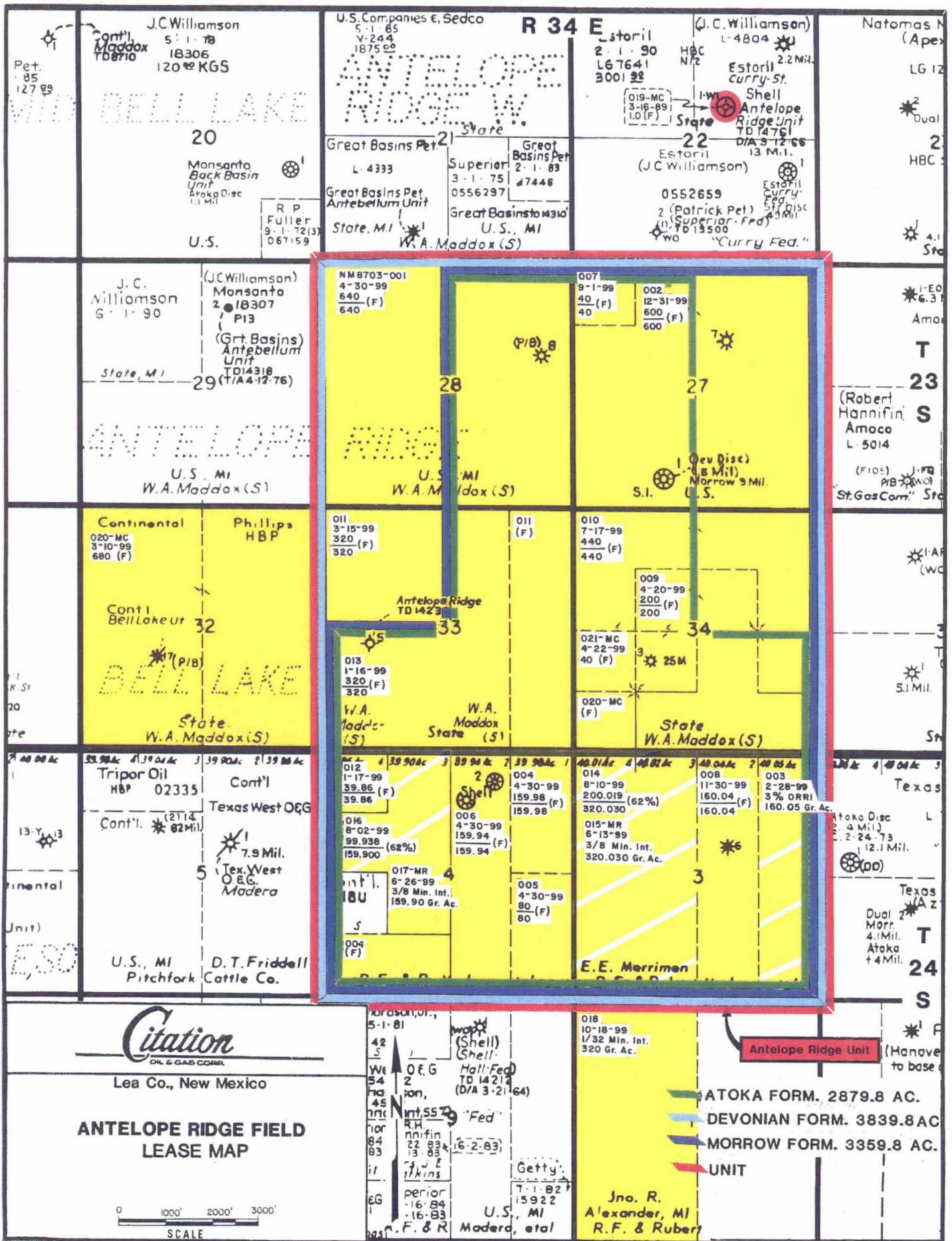
Sincerely,

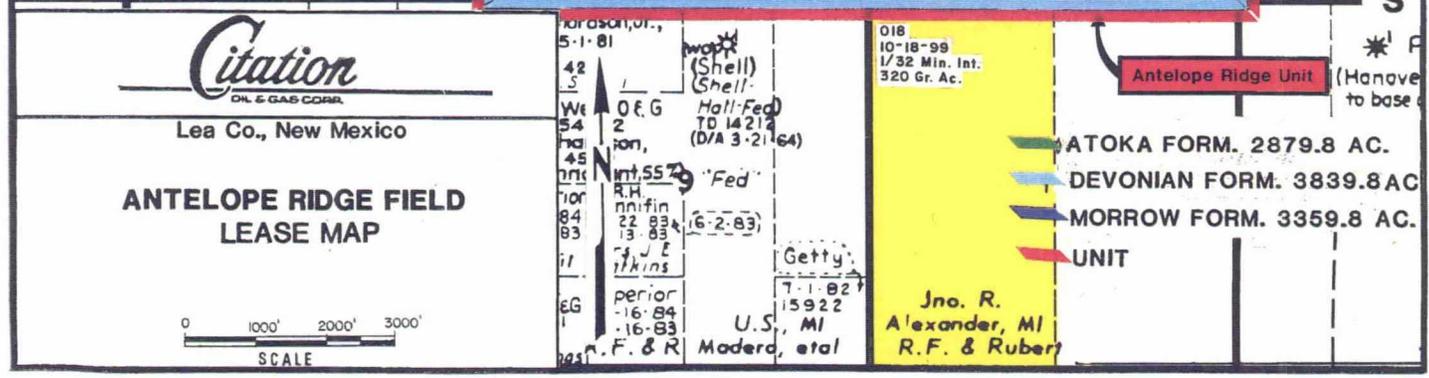
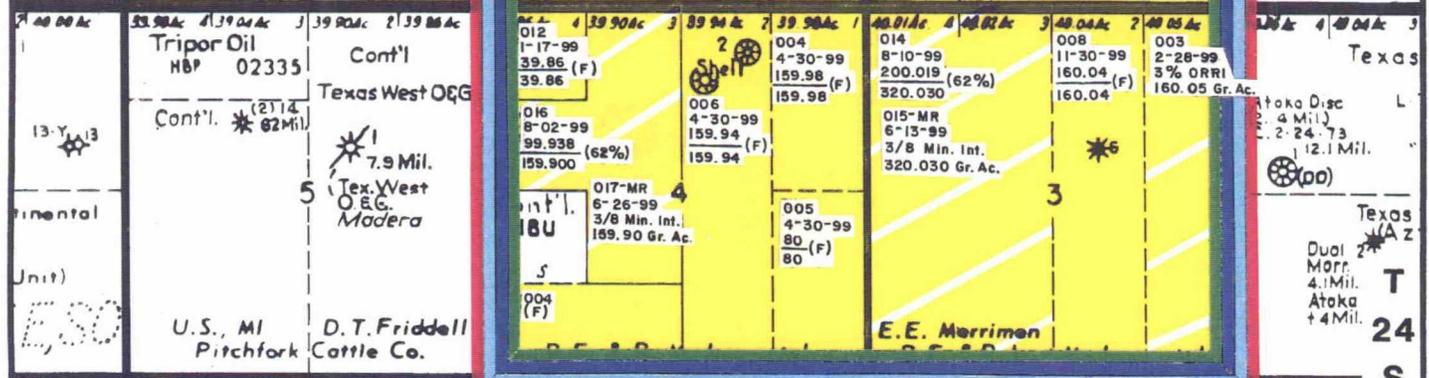
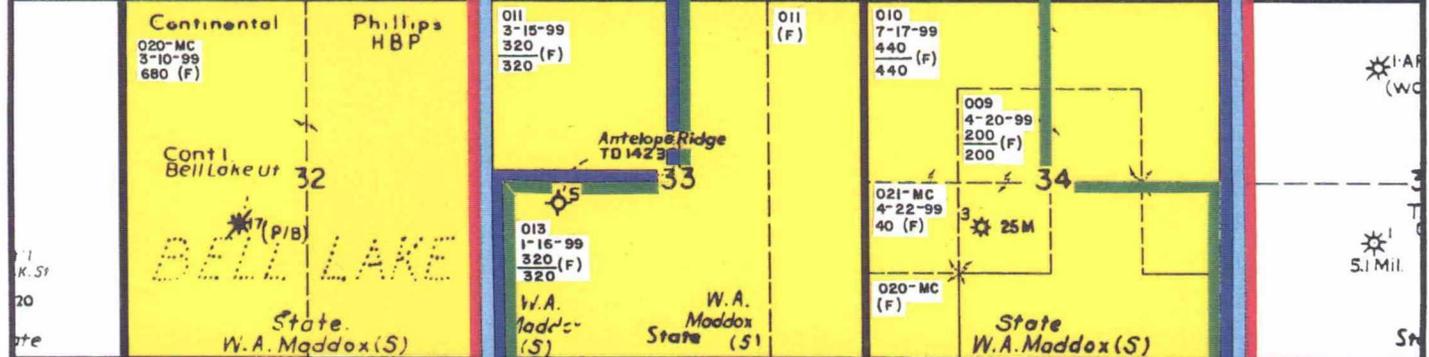
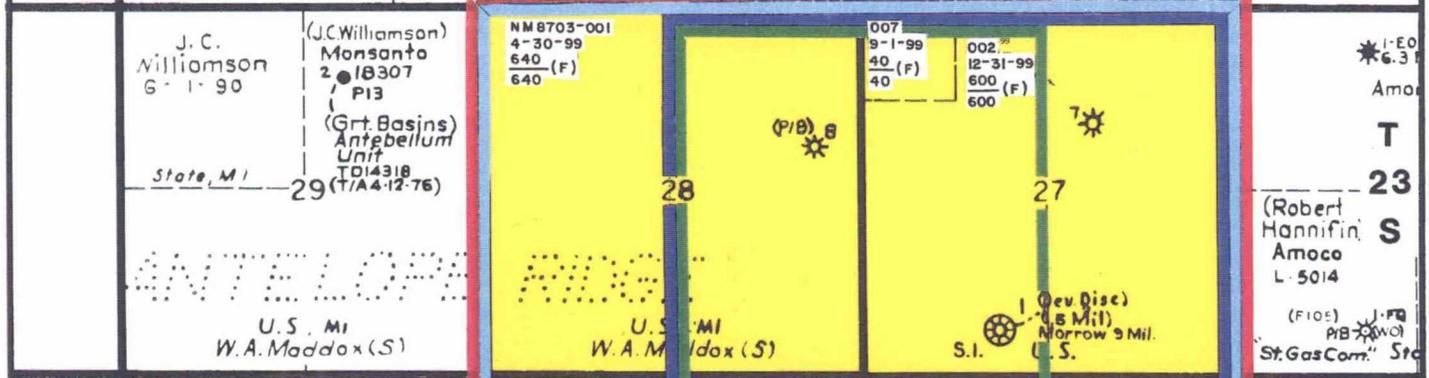
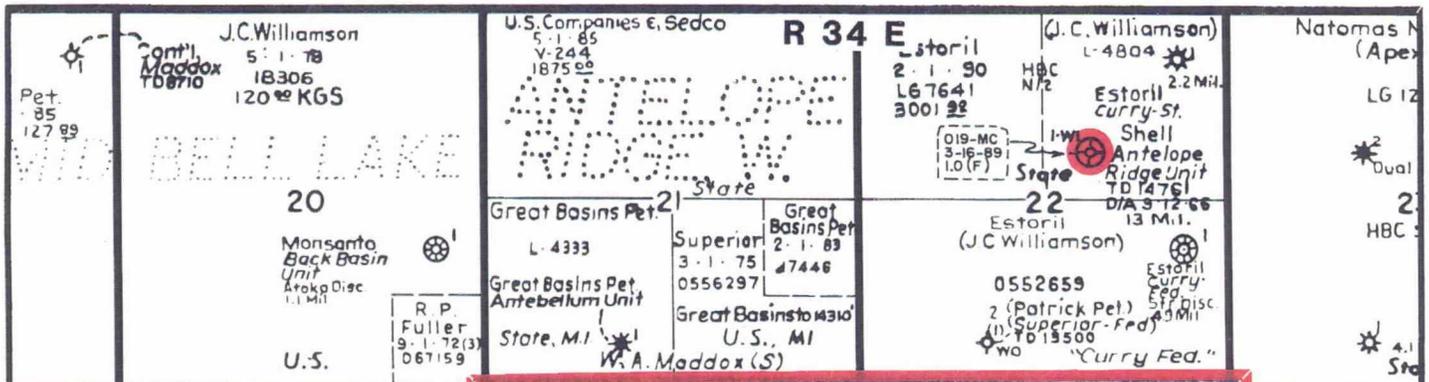
CITATION OIL & GAS CORP.


Christopher E. Cottrell
Landman

CEC/dk

Attachments





WID BELL LAKE

20

Monsanto Back Basin Unit

U.S. W.A. Maddox (S)

U.S. Companies & Sedco

R 34 E

Estoril

W.C. Williamson

Natomas

J.C. Williamson

Monsanto

State, MI

U.S. MI

W.A. Maddox (S)

NM 8703-001

U.S. MI

W.A. Maddox (S)

Antelope Ridge

Estoril

Shell

Antelope Ridge Unit

U.S.

St. Gas Com.

Continental

Phillips HBP

Cont'l Bell Lake Unit

State

W.A. Maddox (S)

BELL LAKE

Antelope Ridge

U.S. MI

W.A. Maddox (S)

U.S.

W.A. Maddox (S)

Trip Oil

Cont'l

Texas West OEG

U.S. MI

D.T. Friddell

Pitchfork Cattle Co.

Antelope Ridge

U.S. MI

W.A. Maddox (S)

U.S.

W.A. Maddox (S)

E.E. Merrimen

Citation

OIL & GAS CORP.

Lea Co., New Mexico

ANTELOPE RIDGE FIELD LEASE MAP

SCALE

Antelope Ridge Unit

ATOKA FORM. 2879.8 AC.

DEVONIAN FORM. 3839.8 AC.

MORROW FORM. 3359.8 AC.

UNIT

Jno. R. Alexander, MI

R.F. & Rubery

#2719



February 27, 1992

U. S. Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88202-139

Re: Antelope Ridge Unit
Lea County, New Mexico

Attn: Mr. Joe G. Lara

In compliance with federal regulations, Citation Oil & Gas Corp., as operator of the subject unit, submits in triplicate for your information and approval, its plan of development for the calendar year.

Review of 1991 Operations

There was no significant activity in the unit during the year.

Production Statistics

	Cum. Volume		1991 Volume	
	<u>Oil</u>	<u>Gas</u>	<u>Oil</u>	<u>Gas</u>
#1	3,124	173,515	---	11,345
#10	482	338,473	---	46,408
#2 (Dev)	461,061	23,058,376	2,270	256,485
#3	660,198	31,140,904	1,839	96,310
#4	327,656	17,311,964	---	44,692
#6	34,305	2,441,579	---	60,448
#7	14,879	302,394	2,572	42,476
#8	140,307	9,931,161	135	59,093
#9	63,734	3,199,835	3,787	245,488
	-----	-----	-----	-----
	1,705,746	87,898,201	10,603	862,745

Mr. Joe G. Lara
February 27, 1992

- 2 -

Antelope Ridge Unit
Lea County, New Mexico

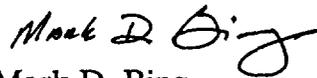
Well Statistics

Oil	9
Gas	9
Injector	1

1992 Plan of Development

There are no additional developmental plans for the year.

Sincerely,



Mark D. Bing
Area Drilling and Production Manager

MDB921017/wb

pc: Unit File & Pat Johnson
NM OCD
NM CPL



JIM BACA
COMMISSIONER

State of New Mexico

OFFICE OF THE

Commissioner of Public Lands

Santa Fe

#2719

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

RECEIVED

JUN 05 1992

OIL CONSERVATION DIVISION

SLO REF NO. OG-1129

June 5, 1992

Citation Oil & Gas Corp.
8223 Willow Place South, Ste. 250
Houston, Texas 77070-5623

Attn: Mr. Mark D. Bing

Re: 1992 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

JB/FOP/pm
cc: OCD ✓
BLM

#2719

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

October 5, 1990

Citation Oil and Gas Corporation
8223 Willow Place South
Suite 250
Houston, TX 77070-5623

Attn: Tommy Deiss, Property Manager

Re: Antelope Ridge Unit
Lea County, New Mexico
1990 Plan of Development

Dear Mr. Deiss:

The Commissioner of Public Lands this date approved the 1990 Plan of Development for the Antelope Ridge Unit. Our approval is subject to like approval by all other appropriate agencies. Please forward to this office current copies of both Exhibits A & B.

The possibility of drainage by wells outside of the Unit Area and the need for further development may exist. You will be contacted at a later date regarding these possibilities.

If we may be of further help, please do not hesitate to contact Clyde Langdale at (505) 827-5791.

Sincerely,

W. R. HUMPHRIES

BY: *Floyd O. Prando*
Floyd O. Prando, Director
Oil, Gas & Minerals Division

cc: OCD
Unit Corresp.
Unit POD

'90 MAR 10 AM 8 46



February 27, 1990

United States Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, New Mexico 88202-1397

Attention: Mr. Joe G. Lara
Assistant District Manager
Minerals

Re: 1990 Plan of Development/Operations
Antelope Ridge Unit
Lea County, New Mexico

Dear Sir:

Citation Oil & Gas Corp., as operator of the Antelope Ridge Unit, hereby submits this Plan of Development for 1990 for the Unit. During 1990, all wells were producing and a tabular listing of the gas and oil produced from the wells is included with this letter. Also enclosed is a map of the Unit and a table showing the cumulative production from each well through 1989.

Operations in 1989

1. Antelope Ridge No. 1 - An attempt to restore production from lower Morrow zone in this well was unsuccessful due to mechanical problems. The well was restored to production from the Atoka zone.
2. Antelope Ridge No. 3 - This well loaded with water in January and was unable to produce. In March, gas lift facilities were installed and the well brought back to production.
3. Antelope Ridge No. 9 - This well showed a significant decrease in gas production rate with no attendant decline in water production during October of 1989. A production log was run indicating water channelling behind casing from a lower zone. A remedial workover done on the well in December was successful in restoring the production rate from the well.

Planned Development for 1990

1. Antelope Ridge No. 6 - This well is presently producing from the Morrow zone and is showing decreased production due to water loading. The well will have gas lift facilities installed this year to restore gas production rates.
2. Antelope Ridge No. 2 - This well is presently producing from the Devonian zone and has shown production increases when small acid stimulations are completed. Such a stimulation is planned for this well during this year.
3. Antelope Ridge No. 4 - This well is presently producing from the Morrow. A review of the wellfile indicates that a significant recoverable reserve may be available from the Atoka. The Atoka had been produced until the late 1960's, when the zone was abandoned and the well recompleted to the Morrow. The well will be restored to production in the Atoka during 1990.

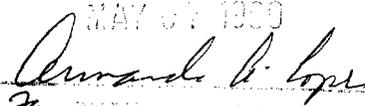
Should you have any questions or need additional information, please contact the undersigned at your convenience.

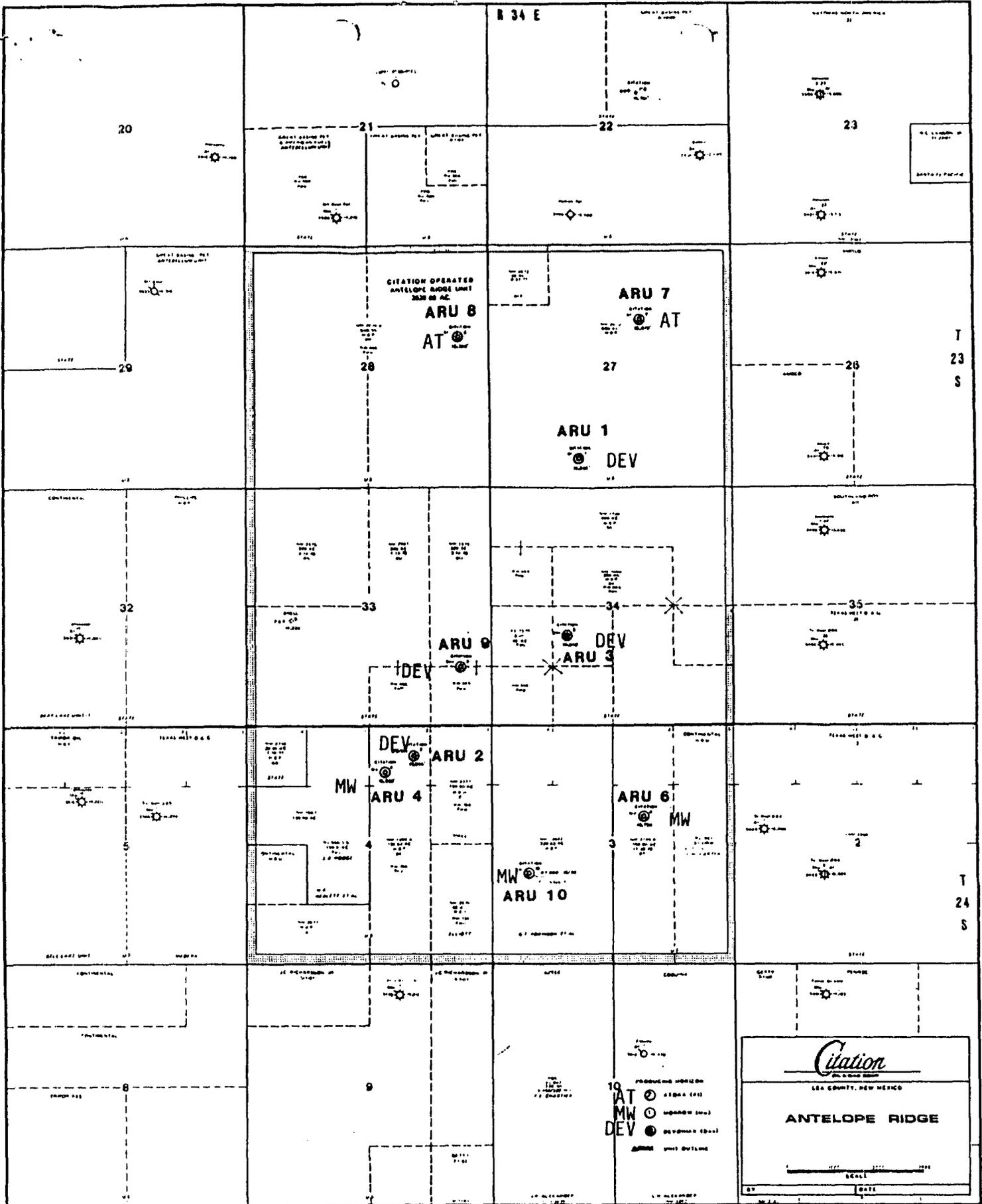
Yours truly,


Tommy Deiss
Outside Operated
Properties Manager

KCA:dv

Enclosures

Plan of Development
APPROVED
MAY 07 1990

74
BUREAU OF LAND MANAGEMENT



ANTELOPE RIDGE UNIT

Summary of Cumulative Production

		<u>Cumulative thru 1989</u>	
<u>Active Well</u>	<u>Zones</u>	<u>Oil STB</u>	<u>Gas MCF</u>
1	Atoka	3,122	150,950
2	Devonian	209,780	11,174,487
3	Devonian	320,116	15,523,501
4	Morrow	11,616	1,597,074
6	Morrow	34,229	2,330,949
7	Atoka	10,174	205,151
8	Atoka	139,948	9,804,981
9	Devonian	49,064	2,562,160
10	Morrow	0	236,324

Inactive Well

1	Morrow	244,102	23,632,060
1	Devonian	113,672	5,074,270
2	Morrow	105,420	12,423,290
4	Atoka	177,434	9,373,219
6	Morrow	34,202	2,228,611
7	Morrow	5,424	935,222
8	Morrow	15	16,870

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

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

P. O. BOX 871
SANTA FE

Re: Case No. 2719

Order No. R-2389

Applicant:

Shell Oil Company

Mr. Richard S. Morris
Seth, Montgomery, Federici & Andrews
Attorneys at Law
Box 828
Santa Fe, New Mexico

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

OTHER I Mrs Phea

POST OFFICE DEPARTMENT
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300

Mr. M. L. Robinson
Division Exploration Mgr
Shell Oil Company
Post Office Box 1858
Roswell, New Mexico



INSTRUCTIONS: Fill in items below and complete #1 on other side, when applicable. Moisten gummed ends and attach to back of article. Print on front of article RETURN RECEIPT REQUESTED.

RETURN TO

POB Form 3811 Jan. 1958

REGISTERED NO.	NAME OF SENDER
	Oil Conservation Commission
CERTIFIED NO.	STREET AND NO. OR P. O. BOX
859237	Box 871
INSURED NO.	CITY, ZONE AND STATE
	Santa Fe, New Mexico

CASE 2719 1/10/63

CSS-16-71948-4

RECEIPT FOR CERTIFIED MAIL—20¢

No. 859237

SENT TO	POSTMARK OR DATE
Mr. M. L. Robinson	1/10/63 CASE 2719
STREET AND NO.	
Post Office Box 1858	
CITY AND STATE	
Roswell, New Mexico	
If you want a return receipt, check which <input type="checkbox"/> 10¢ shows to whom and when delivered <input type="checkbox"/> 30¢ shows to whom, when, and address where delivered If you want restricted delivery, check here <input type="checkbox"/> 50¢ fee	
FEES ADDITIONAL TO 20¢ FEE	

POB Form 5855
Apr 1963

SEE OTHER SIDE

1. **Fill in** the address on the article by page **Restricted delivery fee—50¢ (optional)**
Special-delivery fee (optional)
Postage (including postage)
Insurance (including fee) 20¢ or 35¢ (optional)
2. If you want **restricted delivery**, stick the gummed stub on the left portion of the article and **attach the receipt attached**, and present the article to a postal clerk.
3. If you want **special delivery**, stick the gummed stub on the left portion of the article and **attach the receipt attached**, and mail the article.
4. If you want **certified mail**, stick the certified-mail number and your name and address on the article and **attach the return receipt to the back of the article by means of the gummed stub attached**. **RETURN RECEIPT REQUESTED.**
5. If you want **registered mail**, stick the address on the front **DELIVER** and **attach the return receipt attached** in line 2 of the return receipt card.
6. **Postage** **insurance** **restricted delivery** **special delivery** **certified mail** **registered mail**

#1-INSTRUCTIONS TO DELIVERING EMPLOYEE	
<input type="checkbox"/> Deliver ONLY to addressee	<input type="checkbox"/> Show address where delivered
<i>(Additional charges required for these services)</i>	
RETURN RECEIPT	
Received the numbered article described on other side.	
SIGNATURE OR NAME OF ADDRESSEE (must always be filled in)	
<i>M. L. Robinson</i>	
SIGNATURE OF ADDRESSEE'S AGENT, IF ANY	
<i>J. E. Keller</i>	
DATE DELIVERED	ADDRESS WHERE DELIVERED (only if requested in item # 1)
JAN 11 1963	

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

January 10, 1963

CERTIFIED MAIL

Mr. M. L. Robinson
Division Exploration Manager
Shell Oil Company
Post Office Box 1858
Roswell, New Mexico

Dear Mr. Robinson:

Enclosed herewith is Exhibit 3, Case 2719, which you requested be returned.

Inasmuch as the time for anyone to request a rehearing in this case has expired, we are now able to return the exhibit to you.

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

Enclosure (1)
DSN/ir

cc: Case File 2719

C
O
P
Y

File

Shell Oil Company

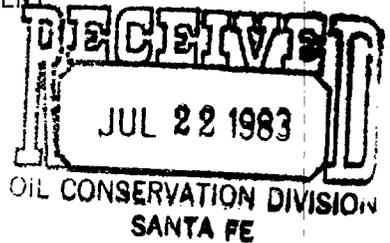


P.O. Box 991
Houston, Texas 77001

July 12, 1983

STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS
P. O. BOX 2088
SANTA FE, NM 87501

BUREAU OF LAND MANAGEMENT
P. O. BOX 1397
ROSWELL, NM 88201



STATE OF NEW MEXICO
DIRECTOR, OIL CONSERVATION DIVISION
ENERGY AND MINERALS DEPARTMENT
P. O. BOX 2088
SANTA FE, NM 87501

Gentlemen:

ANTELOPE RIDGE UNIT (14-08-001-8492) LEA COUNTY, NEW MEXICO THIRD ENLARGEMENT
TO INITIAL PARTICIPATING AREA - ATOKA FORMATION

The Antelope Ridge Unit #1 has been recompleted and is currently producing from the Atoka formation. It is necessary, therefore, under the requirements of Section II of the Antelope Ridge Unit Agreement (No. 14-08-001-8492), that Shell Oil Company, as Unit Operator, make application for the Third Enlargement to the Initial Participating Area for the Atoka Formation. By means of this letter, such application is made.

Under the proposed enlargement, 480.00 acres will be added to the participating area. This will increase the Atoka Participating Area from the 2399.80 acres established in 1981, to 2879.80 acres. The enlarged Participating Area will include the following lands:

W/2 Section 27, E/2 Section 28, NE/4 and S/2 Section 33, and NW/4 and S/2 Section 34, T23S, R34E; all of Section 3 and all of Section 4 T24S, R34E.

Exhibit II is a cross-section showing correlations and related test data for three productive Atoka wells within the Antelope Ridge Unit. This cross-section shows that the perforated interval in the Antelope Ridge Unit #1 well correlates directly with the interval produced in the Antelope Ridge Unit #4 well and the Antelope Ridge Unit #8 well. Because of the correlation, we believe that the area between these wells has been reasonably proven to be productive.

It is proposed that the enlargement to the Atoka Participating Area be made effective May 1, 1983, the first full month the Unit Well #1 was produced from the Atoka. The well was tested February 21, 1983 for a calculated open flow potential of 1596 MCFGPD from Atoka perforations. In April 1983, additional pay was opened up and the well was fracture treated. Based upon the February test and the fact that the Unit Well #1 is presently on production, it is the Operator's opinion that this well is capable of producing gas in paying quantities from the Atoka formation. The cited acreage is thereby entitled to be included in the Atoka Participating Area.

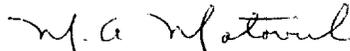
The following supporting data are attached:

1. Schedule I, showing the percentage participation of each lease included or partially included in the enlarged Atoka Participating area.
2. Exhibit No. I, plat of the Antelope Ridge Unit showing structure contours on top of the Atoka Formation as well as the proposed Atoka participating boundaries.
3. Exhibit No. II, cross-section of the Atoka Formation showing correlations and related test data.
4. Exhibit No. III, a volumetric calculation suggesting that the recoverable reserves from the Atoka formation may be about 1.4 BCF.
5. Exhibit No. IV, a simplified economic calculation showing that the Antelope Ridge Unit #1 may provide income before Federal Income Tax of \$4,024,000 on the initial investment for the recompletion of \$125,000.

Shell considers some of the supporting data to be sensitive and we request that it be kept private and confidential.

In the opinion of the Operator, the lands covered by this application comprise the total unitized area which can be regarded as reasonably proved to be productive of hydrocarbons in paying quantities. Therefore, your approval of this application for the Third Enlargement to the Initial Participating Area for the Atoka Formation is respectfully requested.

SHELL OIL COMPANY
Unit Operator

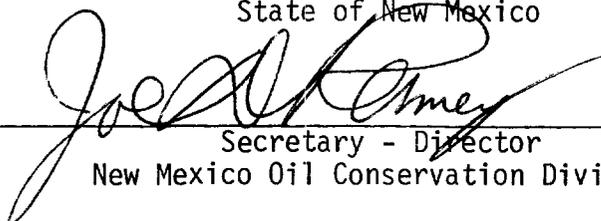

M. A. Matovich
Manager Development Engineering
Mid-Continent Division

PLH:mhp

Attachments

Approved _____ Date _____
Bureau of Land Management

Approved _____ Date _____
Commissioner of Public Lands
State of New Mexico

Approved  Date 7/29/83
Secretary - Director
New Mexico Oil Conservation Division

ANTELOPE RIDGE UNIT
THIRD ADJUSTMENT TO INITIAL PARTICIPATING AREA
ATOKA FORMATION

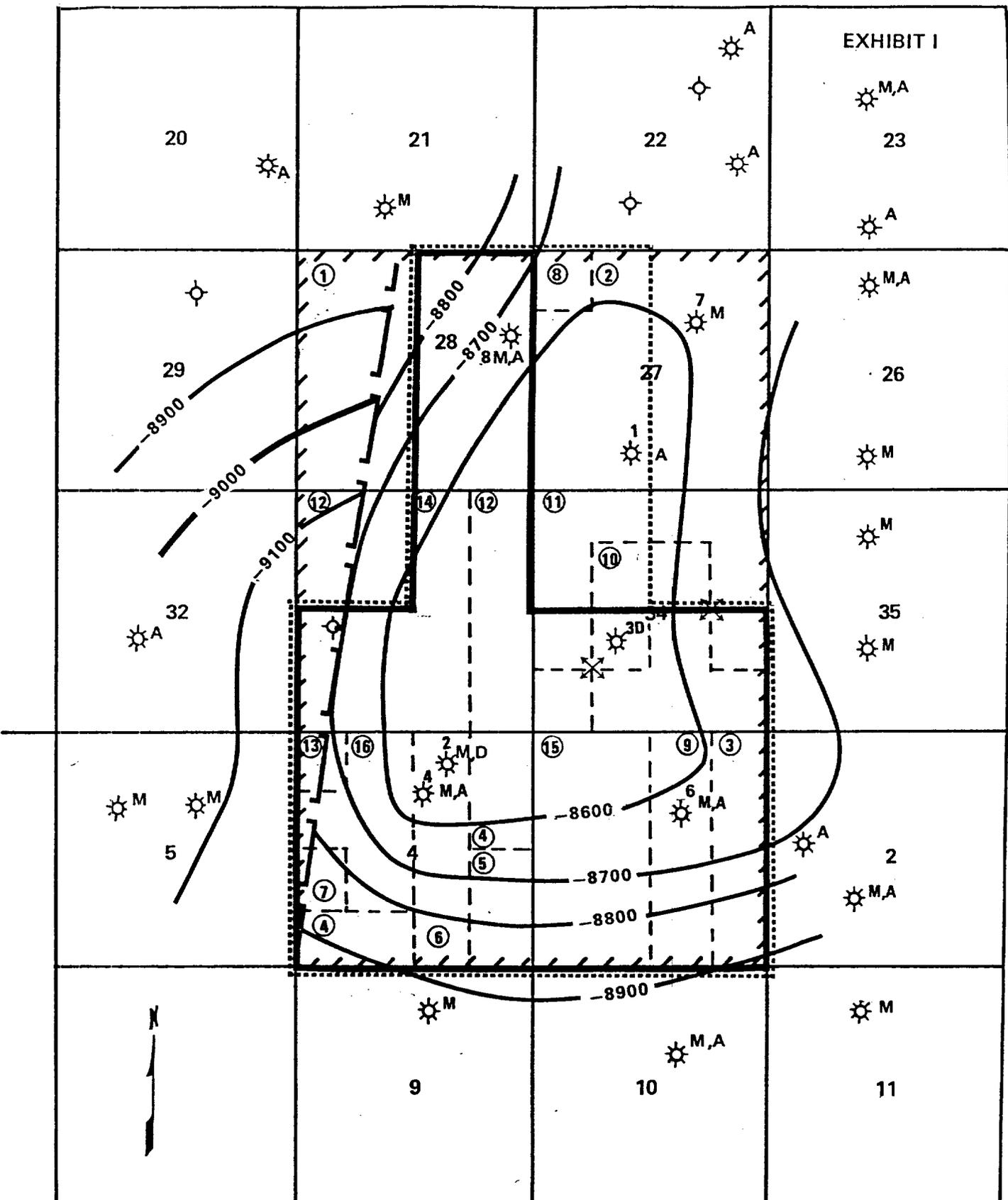
SCHEDULE I

<u>Working Interest Owner</u>	<u>Lease Serial No.</u>	<u>Mineral Owner</u>	<u>Tract Number</u>	<u>Description</u>	<u>Participating Acreage</u>	<u>Percent Participating</u>
Shell Oil Company	LC 067715	U.S.	1	E/2, Sec 28-23S-34E	320.00	11.1119
Shell Oil Company	NM 0155160	U.S.	2	SW/4, S/2 NW/4, NE/4 NW/4, Sec 27 - 23S-34E	280.00	9.7229
Continental Oil Company	NM 02377	U.S.	3	E/2 E/2, Sec 3-24S-34E	160.05	5.5577
Shell Oil Company	NM 07199-B	U.S.	4	Lot 1, SE/4 NE/4, S/2 SW/4 Sec 4-24S-34E	159.98	5.5552
Shell Oil Company	NM 07199-C	U.S.	5	E/2 SE/4 Sec 4-24S-34E	80.00	2.7780
Shell Oil Company	NM 021422	U.S.	6	Lot 2, SW/4 NE/4, W/2 SE/4 Sec 4-24S-34E	159.94	5.5539
Continental Oil Company	NM 045352	U.S.	7	NW/4 SW/4 Sec 4-24S-34E	40.00	1.3890
Shell Oil Company	NM 0155160	U.S.	8	NW/4 NW/4 Sec 27-23S-34E	40.00	1.3890
Shell Oil Company	NM 0327106	U.S.	9	W/2 E/2, Sec 3-24S-34E	160.04	5.5573
Shell Oil Company	E 8078	State N.M.	10	NE/4 SW/4, SW/4 SW/4, SE/4 NW/4 NE/4 SE/4, Sec 34-23W-34E	160.00	5.5559
Shell Oil Company	OG 20	State N.M.	11	NW/4 SW/4, SE/4 SW/4, W/2 SE/4 SE/4 SE/4, W/2 NW/4, NE/4 NW/4 Sec 34-23S-34E	320.00	11.1119
Shell Oil Company	K 280	State N.M.	12	E/2 E/2, Sec 33-23S-34E	160.00	5.5559
Shell Oil Company	K 1124	State N.M.	13	Lot 4 Sec 4-24S-34E	39.86	1.3841
Shell Oil Company	K 2149	State N.M.	14	SW/4, W/2 E/2, Sec 33-23S-34E	320.00	11.1119
Shell Oil Company	--	Merrimen et al	15	Lots 3 & 4, S/2 NW/4, SW/4 Sec 3-24S-34E	320.03	11.1129
Shell Oil Company	--	Neblett et al	16	Lot 3, S/2 NW/4, NE/4 SW/4, Sec 4-24S-34E	159.90	5.5525
Total					2879.80	100.0000

SUMMARY SCHEDULE I

Total Federal Lands	1400.01	48.6148
Total State Lands	999.86	34.7198
Total Fee or Other Lands	479.93	16.6654
Total Productive Acreage	2879.80	100.0000

EXHIBIT I



T23S
T24S

- ☼ D=DEVONIAN PRODUCER
- D,M,A ☼ M=MORROW PRODUCER
- A=ATOKA PRODUCER
- DRY HOLE
- ④ TRACT NUMBER—SEE SCHEDULE I
- ▨ UNIT OUTLINE
- ▬ PRESENT ATOKA PARTICIPATING AREA
- ⋯ PROPOSED ATOKA PARTICIPATING AREA

ANTELOPE RIDGE UNIT
T23 & 24S, R34E
LEA COUNTY, NEW MEXICO
STRUCTURE MAP—ATOKA FM.

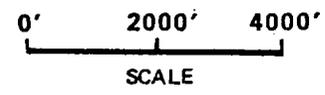
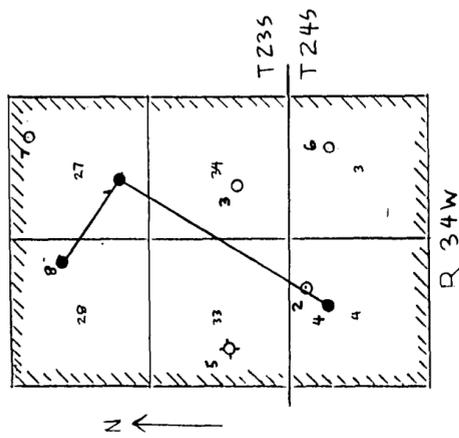


EXHIBIT II

ATOKA CROSS-SECTION
 ANTELOPE RIDGE UNIT
 T 23 & 24S, R 34W
 LEA CO., NEW MEXICO



VOLUMETRIC CALCULATION OF
RECOVERABLE RESERVES - ATOKA FORMATION
ANTELOPE RIDGE UNIT #1

Using standard petrophysical techniques, it was determined that 7' of the Atoka section with an average porosity of 6% would contribute gas in significant quantity. The gas formation volume factor is calculated to be 364.5. Assuming 320 acre drainage, 20% water saturation, and 80% recovery efficiency, the recoverable reserves are estimated to be 1.37 BCF.

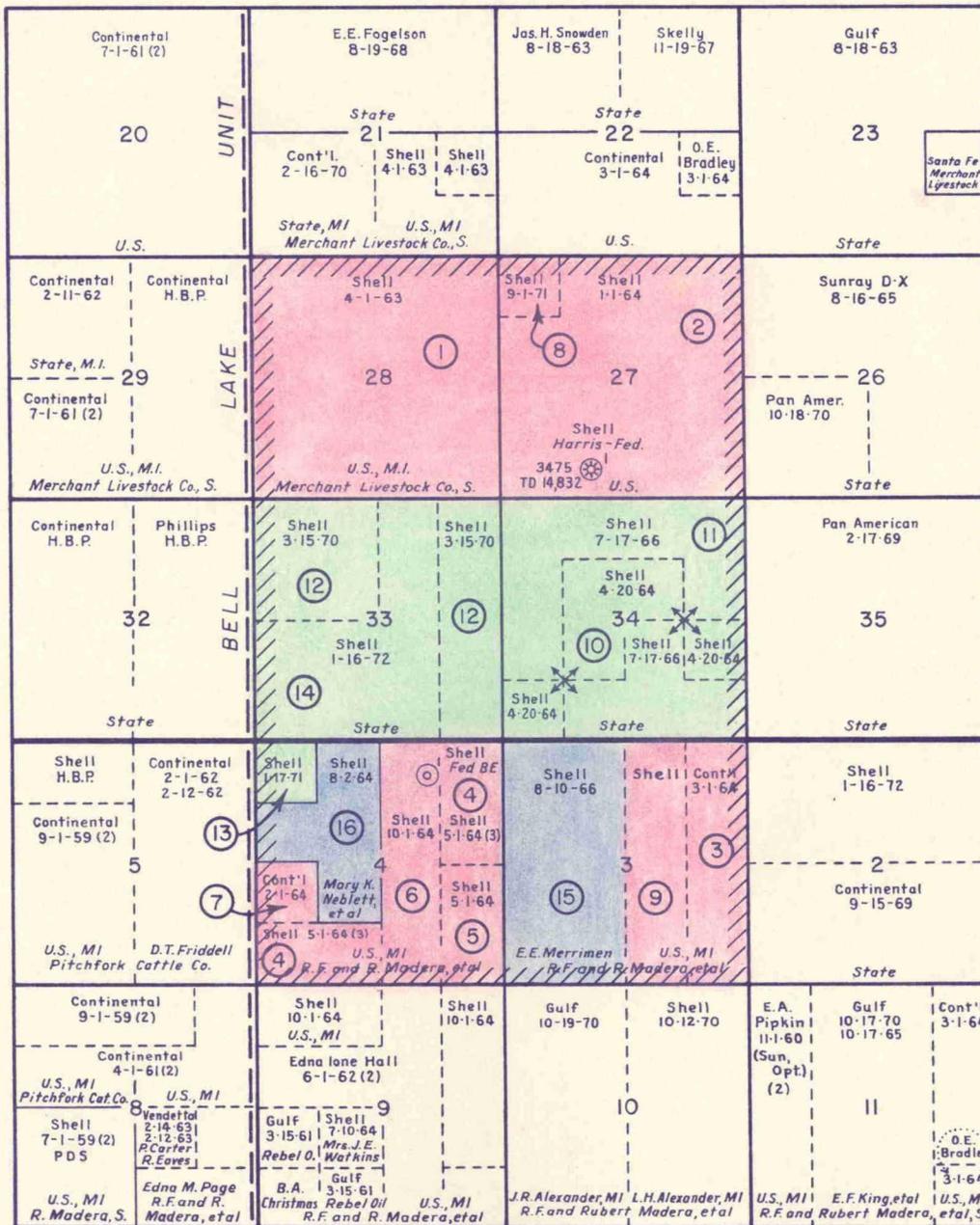
$$\begin{aligned} G &= 43560 (A) (\phi) (h) (1-S_w) (B_g) \text{ cubic feet gas} \\ &= 43560 (320) (.06) (7) (1-.2) (364.5) \\ &= 1.71 \text{ BCF} \end{aligned}$$

$$\begin{aligned} \text{Reserves} &= (0.8) (1.71) \\ &= 1.37 \text{ BCF} \end{aligned}$$

SIMPLIFIED ECONOMIC ASSESSMENT
ANTELOPE RIDGE #1 - ATOKA

<u>Year</u>	<u>Production¹</u> MBC + MMCF	<u>Gross²</u> <u>Revenue</u>	<u>Operating³</u> <u>Costs</u>	<u>Total Income</u> <u>Before Tax</u>
1983	3.4 + 225	719.6	161.1	558.5
1984	4.1 + 277	936.5	210.5	726.0
1985	3.3 + 218	783.5	177.4	606.1
1986	2.6 + 171	651.8	149.2	502.6
1987	2.0 + 135	543.7	125.9	417.8
1988	1.6 + 106	453.6	107.4	346.2
1989	1.3 + 83	378.3	92.3	286.0
1990	1.0 + 66	317.5	80.0	237.5
1991	0.8 + 52	265.7	70.1	195.6
1992	0.6 + 38	206.5	58.7	147.8
Totals	20.7 + 1371	5256.7	1232.6	4024.1

1. Assumes decline of 24% per year with an initial rate of 1.0 MMCFPD and liquid/gas ratio of 15 BC/MMCFG.
2. Assumes \$27.00 per barrel average condensate value with base price for WPT of \$16.73. Gas category is 103a as defined by NGPA. All monetary values in \$M.
3. Includes Royalty and ORRI, State severance tax, windfall profits, and direct operating costs.



T 23 S
R 34 E

T 24 S
R 34 E

EXHIBIT A

To Accompany Application
For Designation of
Antelope Ridge Unit Area

-  Unit Outline
-  Federal Acreage
-  State Acreage
-  Fee Acreage

October 1962

R 6 4 4 4 # 7

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



P.O. Box 576
Houston, TX 77001

February 11, 1986

#2719

Bureau of Land Management
P. O. Box 1397
Roswell, NM 88201

State of New Mexico
Commissioner of Public Lands
P. O. Box 2088
Santa Fe, NM 87501

State of New Mexico ←
Director of Oil Conservation
Division
Energy and Minerals Dept.
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

SUBJECT: 1986 PLAN OF DEVELOPMENT
ANTELOPE RIDGE FIELD
LEA COUNTY, NEW MEXICO

During 1985 two development wells were drilled in the Antelope Ridge Unit. The Antelope Ridge No. 10 was drilled to and completed in the Morrow Formation. The Antelope Ridge No. 9 was drilled to the Ellenburger Formation, but was then plugged back and completed in the Devonian Formation.

Currently, no additional development programs consisting of recompletions or drilling activities are planned for 1986 in the Antelope Ridge Unit. However, a supplemental Plan of Development will be filed in the event of any changes in our current plans.

In accordance with the requirements of the State of New Mexico, Commission of Public Lands, we have attached the following:

1. Updated plat of the Unit area.
2. Tabulation of 1984 and 1985 Unit production by month.

Please advise if additional information is needed.

SHELL WESTERN E&P INC.
UNIT OPERATOR



A. J. Fore
Supervisor Regulatory and permitting
Production Administration
Western Division

SAM:AD

Attachments

cc: Continental Oil Company
P. O. Box 1959
Midland, TX 79702

Approved _____
Bureau of Land Management

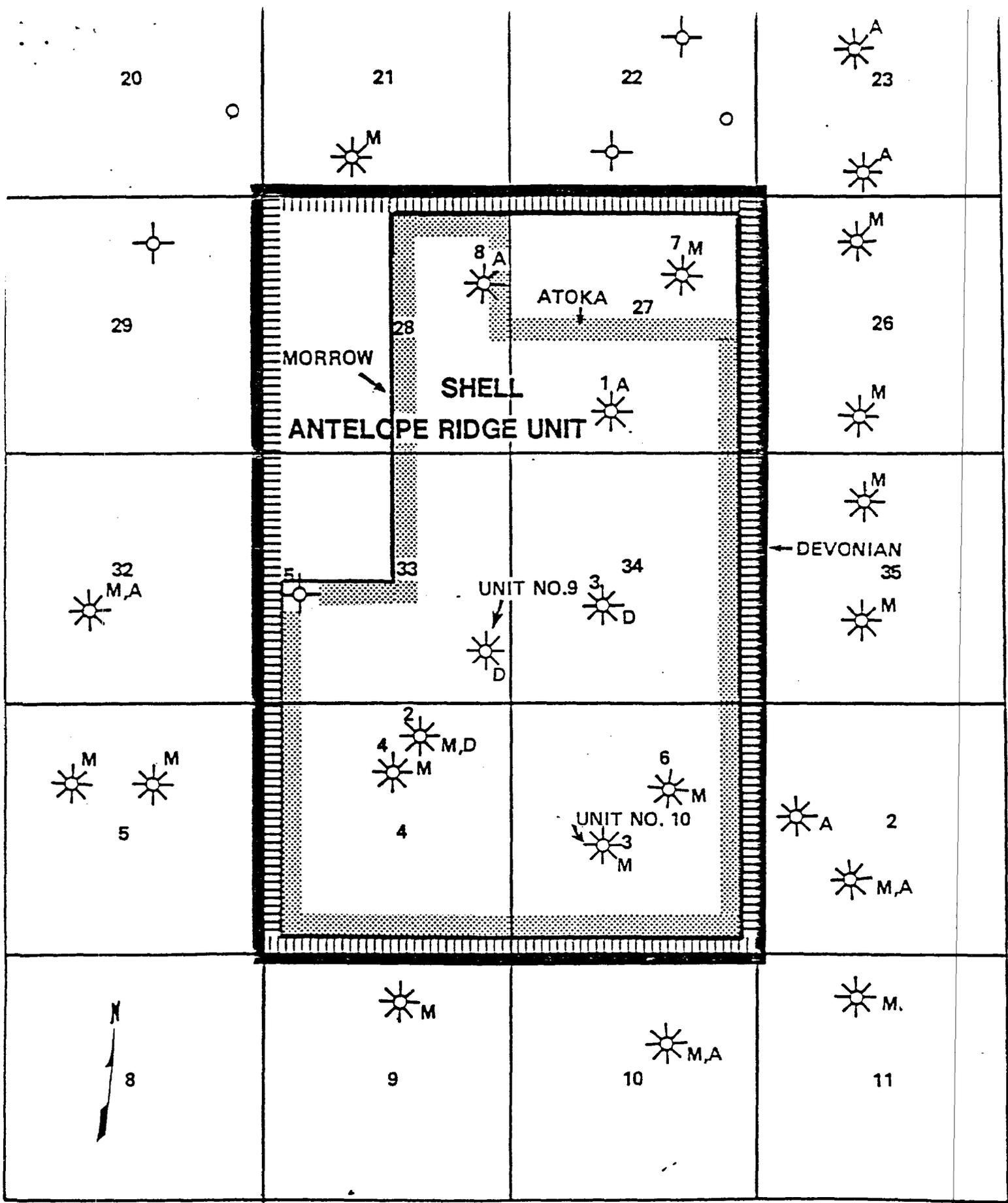
Date _____

Approved _____
Commission of Public Lands
State of New Mexico

Date _____

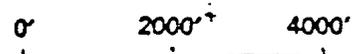
Approved _____
Secretary-Director, New Mexico
Oil Conservation Division

Date _____



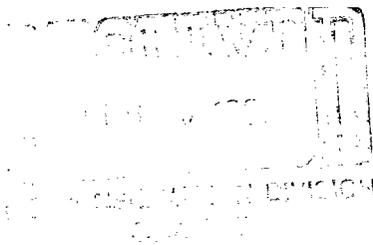
D,M,A D=DEVONIAN PRODUCER
 M=MORROW PRODUCER
 A=ATOKA PRODUCER
 DRY HOLE

SHELL OIL COMPANY
 ANTELOPE RIDGE UNIT
 T23 & 24S, R34E
 LEA COUNTY, NEW MEXICO



ANTELOPE RIDGE UNIT
MONTHLY PRODUCTION VOLUMES

<u>Date</u> <u>Mo/Yr</u>	<u>Oil</u> <u>MB/Mo</u>	<u>Gas</u> <u>MMCF/Mo</u>
01/84	3.50	289.60
02/84	1.69	282.13
03/84	1.69	267.54
04/84	1.69	231.61
05/84	0.00	196.16
06/84	1.69	170.96
07/84	1.69	93.08
08/84	0.00	127.32
09/84	0.84	93.80
10/84	0.00	10.49
11/84	0.00	6.87
12/84	0.00	17.36
Total yr. 84	12.79	1286.92
01/85	0.00	21.10
02/85	0.00	10.37
03/85	1.69	119.60
04/85	0.00	78.61
05/85	1.69	177.96
06/85	0.00	108.39
07/85	0.00	106.82
08/85	1.57	137.57
09/85	0.00	84.64
10/85	0.00	128.40
11/85	0.51	75.42
12/85	0.56	117.06
Total Yr. 85	6.02	1165.94



Shell Western E&P Inc.
A Subsidiary of Shell Oil Company



P.O. Box 576
Houston, TX 77001

February 11, 1986

Bureau of Land Management
P. O. Box 1397
Roswell, NM 88201

State of New Mexico ←
Commissioner of Public Lands
P. O. Box 2088
Santa Fe, NM 87501

State of New Mexico
Director of Oil Conservation
Division
Energy and Minerals Dept.
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

**SUBJECT: 1986 PLAN OF DEVELOPMENT
ANTELOPE RIDGE FIELD
LEA COUNTY, NEW MEXICO**

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Currently, no additional development programs consisting of recompletions or drilling activities are planned for 1986 in the Antelope Ridge Unit. However, a supplemental Plan of Development will be filed in the event of any changes in our current plans.

In accordance with the requirements of the State of New Mexico, Commission of Public Lands, we have attached the following:

1. Updated plat of the Unit area.
2. Tabulation of 1984 and 1985 Unit production by month.

Please advise if additional information is needed.

SHELL WESTERN E&P INC.
UNIT OPERATOR



A. J. Fore
Supervisor Regulatory and permitting
Production Administration
Western Division

SAM:AD

Attachments

cc: Continental Oil Company
P. O. Box 1959
Midland, TX 79702

Approved _____
Bureau of Land Management

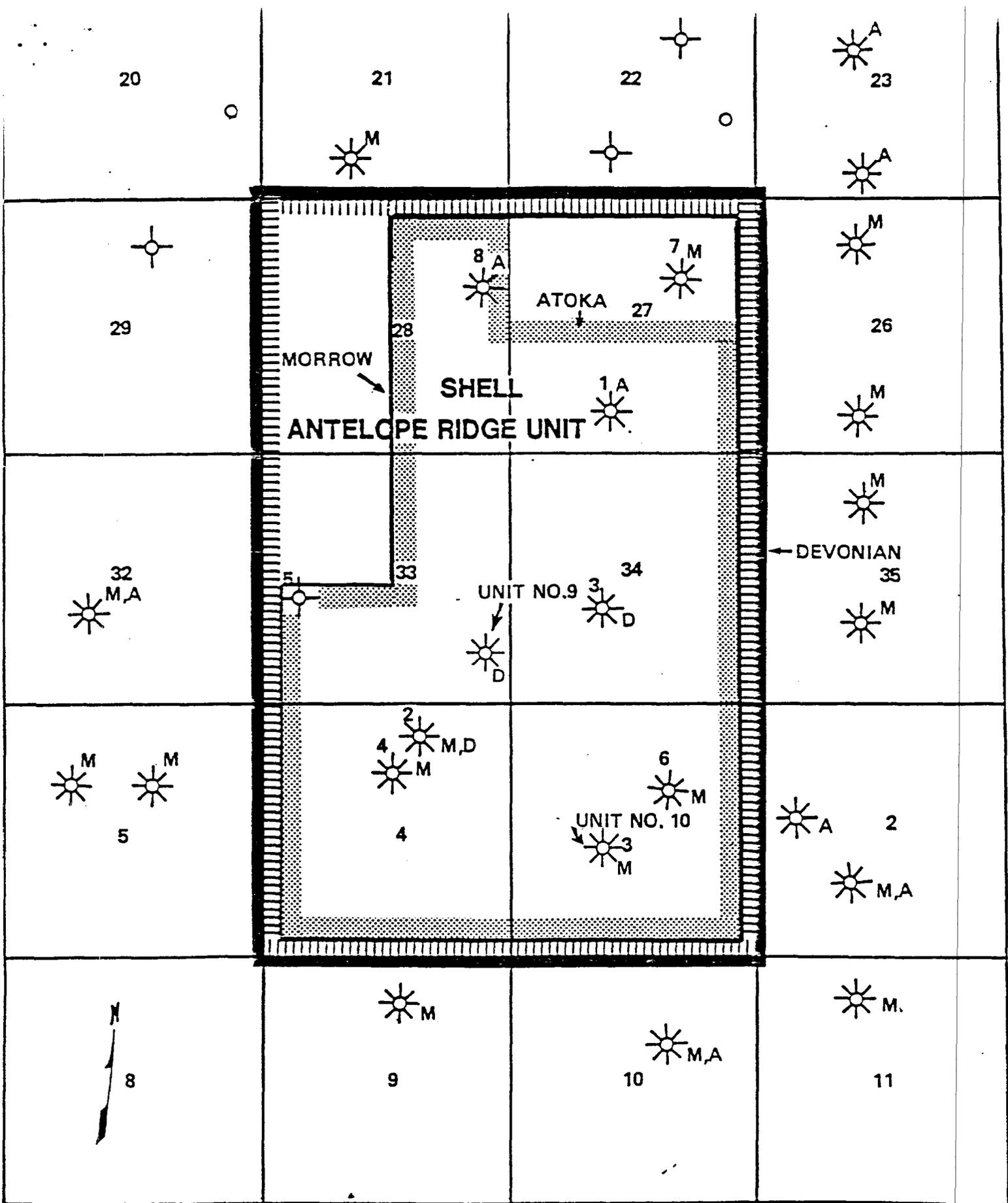
Date _____

Approved _____
Commission of Public Lands
State of New Mexico

Date _____

Approved _____
Secretary-Director, New Mexico
Oil Conservation Division

Date _____



 D,M,A D=DEVONIAN PRODUCER
 M=MORROW PRODUCER
 A=ATOKA PRODUCER

 DRY HOLE

SHELL OIL COMPANY
 ANTELOPE RIDGE UNIT
 T23 & 24S, R34E
 LEA COUNTY, NEW MEXICO

0 2000' 4000'

ANTELOPE RIDGE UNIT
MONTHLY PRODUCTION VOLUMES

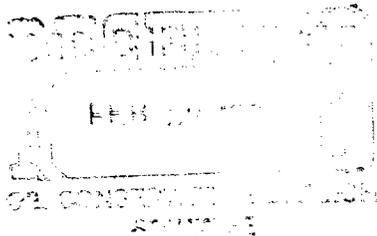
<u>Date</u> <u>Mo/Yr</u>	<u>Oil</u> <u>MB/Mo</u>	<u>Gas</u> <u>MMCF/Mo</u>
01/84	3.50	289.60
02/84	1.69	282.13
03/84	1.69	267.54
04/84	1.69	231.61
05/84	0.00	196.16
06/84	1.69	170.96
07/84	1.69	93.08
08/84	0.00	127.32
09/84	0.84	93.80
10/84	0.00	10.49
11/84	0.00	6.87
12/84	0.00	17.36
Total yr. 84	12.79	1286.92
01/85	0.00	21.10
02/85	0.00	10.37
03/85	1.69	119.60
04/85	0.00	78.61
05/85	1.69	177.96
06/85	0.00	108.39
07/85	0.00	106.82
08/85	1.57	137.57
09/85	0.00	84.64
10/85	0.00	128.40
11/85	0.51	75.42
12/85	0.56	117.06
Total Yr. 85	6.02	1165.94



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Box 1397, Roswell, New Mexico - 88201

14-08-0001-8492
3180 (065)

FEB 24 1986

Shell Western E & P Inc.
Attention: Mr. A. J. Fore
P. O. Box 576
Houston, Texas 77001Re: 1986 Plan of Development,
Antelope Ridge Unit,
Lea County, New Mexico

Gentlemen:

Enclosed is an approved copy of your 1986 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico.

Such plan proposes no additional development programs consisting of recompletions or drilling activities.

This plan is approved effective for the period January 1, 1986 through January 1, 1987 and is subject to like approval by the Commissioner of Public Lands and the New Mexico Oil Conservation Division.

Sincerely,

Orig. Sgd. Francis R. Cherry, Jr.

Francis R. Cherry, Jr.
District Managercc:
Commissioner of Public Lands, Santa Fe

✓ NMOCD, Santa Fe

State of New Mexico



Commissioner of Public Lands

March 31, 1986

JIM BACA
COMMISSIONER

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Uses
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Shell Western E&P Inc.
Attn: Mr. A. J. Fore
P. O. Box 576
Houston, Texas 77001

Re: 1986 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved your 1986 Plan of Development for the Antelope Ridge Unit area, Lea County, New Mexico. Such plan proposes no additional development programs consisting of recompletions or drilling activities. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,
JIM BACA
COMMISSIONER OF PUBLIC LANDS
BY: *Floyd O. Prando*

FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

JB/FOP/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Roswell, New Mexico Attn: Mr. Armando Lopez

#2719



February 26, 1991

U.S. Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88202-1397

Attn: Mr. Joe G. Lara
Asst. District Manager
Minerals

Re: 1991 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Dear Mr. Lara:

Citation Oil & Gas Corp., as operator of the Antelope Ridge Unit, hereby submits this Plan of Development for 1991 for the above referenced Unit. During 1990, all wells were producing and a tabular listing of the gas and oil produced from the wells is included with this letter. Also enclosed is a map of the Unit and a table showing the cumulative production from each well through 1990.

Operations in 1990

1. Antelope Ridge No. 9 - This well showed a significant decrease in gas production rate with no attendant decline in water production during October of 1990. A production log was run indicating water channeling behind the casing from a lower zone. A remedial workover done on the well in December was successful in restoring the production rate from the well.
2. Antelope Ridge No. 6 - The Morrow was fracture stimulated in an attempt to increase production. The project was marginally successful with production after stimulation stabilized at 250 mcfpd.

Mr. Joe G. Lara
Bureau of Land Management
Page 2

Planned Development for 1991

1. Antelope Ridge No. 2 - This well is presently producing from the Devonian zone and has shown production increases when small acid stimulations are completed. Such a stimulation is planned for this well during this year.
2. Antelope Ridge No. 4 - This well is presently producing from the Morrow. A review of the well file indicates that a significant recoverable reserve may be available from the Atoka. The Atoka had been produced until the late 1960's, when the zone was abandoned and the well recompleted to the Morrow. The well will be restored to production in the Atoka during 1991.

If you have any questions or need additional information, please contact me.

Yours very truly,

CITATION OIL & GAS CORP.



Stephen L. Robinson
Area Production Manager

SR.187/pj
Enclosures

cc: Jerry M. Crews
Kevin Kane
Pat Johnson
Field File
NM CPL (C. Langdale)
NM OCD

ANTELOPE RIDGE UNIT

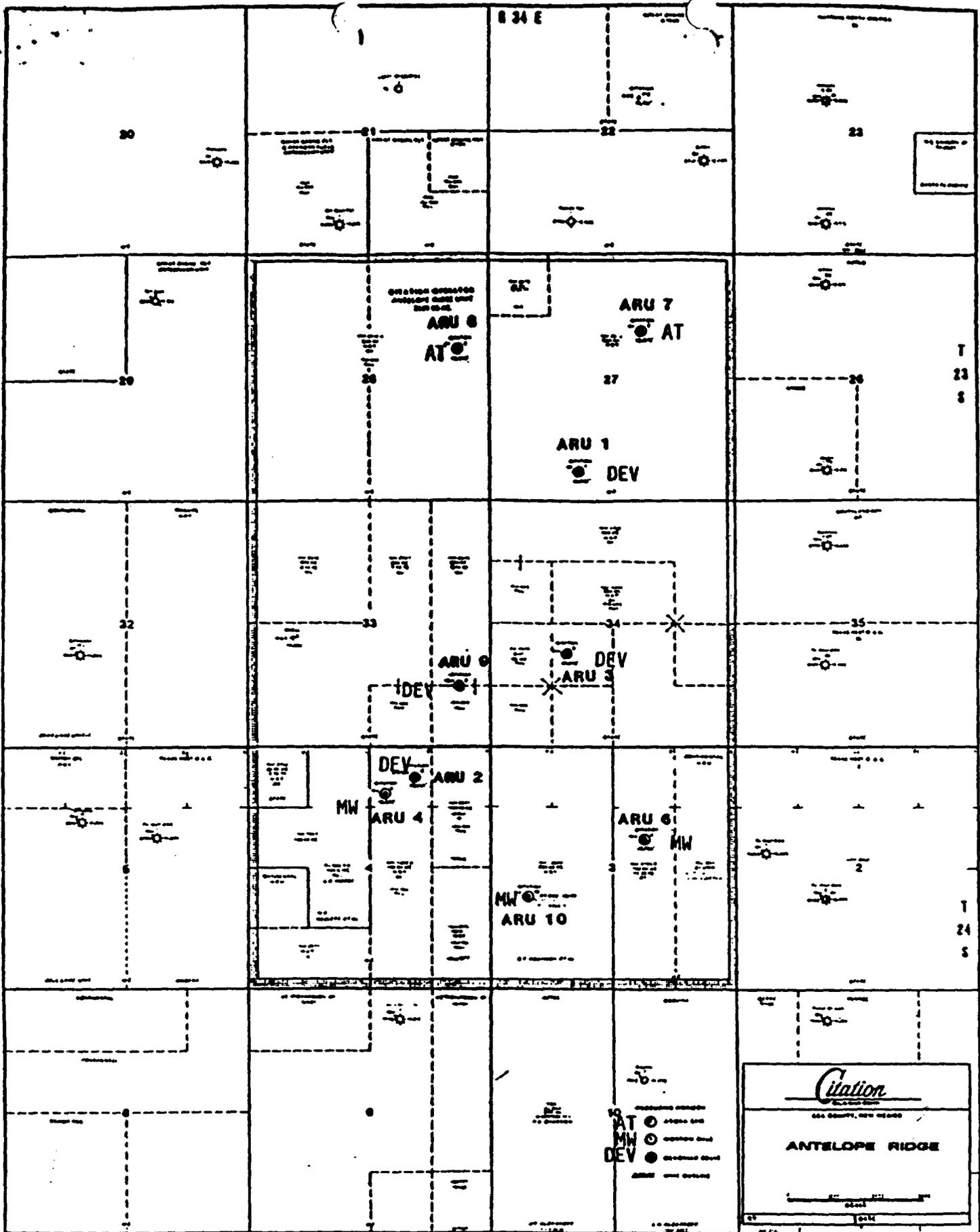
Summary of Cumulative Production

Cumulative thru December, 1990

<u>Active Well</u>	<u>Zones</u>	<u>Oil STB</u>	<u>Gas MCF</u>
1	Atoka	3,122	169,935
2	Devonian	212,916	11,502,707
3	Devonian	323,578	15,787,096
4	Morrow	11,616	1,679,575
6	Morrow	34,229	2,405,256
7	Atoka	13,850	301,516
8	Atoka	140,392	9,935,487
9	Devonian	69,888	3,536,881
10	Morrow	0	332,755

Inactive Well

1	Morrow	244,102	23,632,060
1	Devonian	113,672	5,074,270
2	Morrow	105,420	12,423,290
4	Atoka	177,434	9,373,219
6	Atoka	34,202	2,228,611
7	Morrow	5,424	935,222
8	Morrow	15	16,870



State of New Mexico

#2719



Commissioner of Public Lands

March 27, 1985

JIM BACA
COMMISSIONER

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Used
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Shell Western E&P, Inc.
P. O. Box 991
Houston, Texas 77001

Re: 1985 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

ATTENTION: Mr. A. J. Fore

Gentlemen:

The Commissioner of Public Lands has this date approved your 1985 Plan of Development for the Antelope Ridge Unit Area, Lea County, New Mexico. Such plan proposes to drill the Well No. 9, a new development well to the Ellenburger formation the the Well No. 10, a new development to the Morrow formation. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files. Please address all future correspondence to the above listed address.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Ray D. Graham*
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico ATTN: Fluids Branch
BLM-Roswell, New Mexico ATTN: Mr. Armando Lopez

#2719



Shell Western E&P Inc.
A Subsidiary of Shell Oil Company

P.O. Box 991
Houston, TX 77001

January 18, 1985

Bureau of Land Management
P. O. Box 1397
Roswell, NM 88201

State of New Mexico
Commissioner of Public Lands
P. O. Box 2088
Santa Fe, NM 87501

State of New Mexico
Director, Oil Conservation
Division
Energy and Minerals Dept.
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

1985 PLAN OF DEVELOPMENT
ANTELOPE RIDGE FIELD
LEA COUNTY, NEW MEXICO

During 1984 there was no recompletion or drilling activity in the Antelope Ridge Unit. Our 1984 approved plan of development provided for the drilling of ARU Nos. 9 & 10, however, due to gas sales problems in the area, it was necessary to defer these wells until 1985.

Following is the development program planned for 1985:

1. Drill Antelope Ridge Unit No. 9, a new development well to the Ellenburger formation.
2. Drill Antelope Ridge Unit No. 10, a new development well to the Morrow formation

In accordance with the requirements of the State of New Mexico, Commission of Public Lands, we have attached the following:

- 1. Updated plat of the Unit area.
- 2. Tabulation of 1983 and 1984 Unit Production by month.

Please advise if additional information is needed.

SHELL WESTERN E&P INC.
UNIT OPERATOR



A. J. Fore
Supervisor Regulatory and Permitting
Production Administration
Mid-Continent Division

JAA:bjc

Attachments

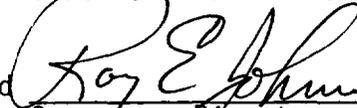
cc: Continental Oil Company
P. O. Box 1959
Midland, TX 79702

Approved _____
Bureau of Land Management

Date _____

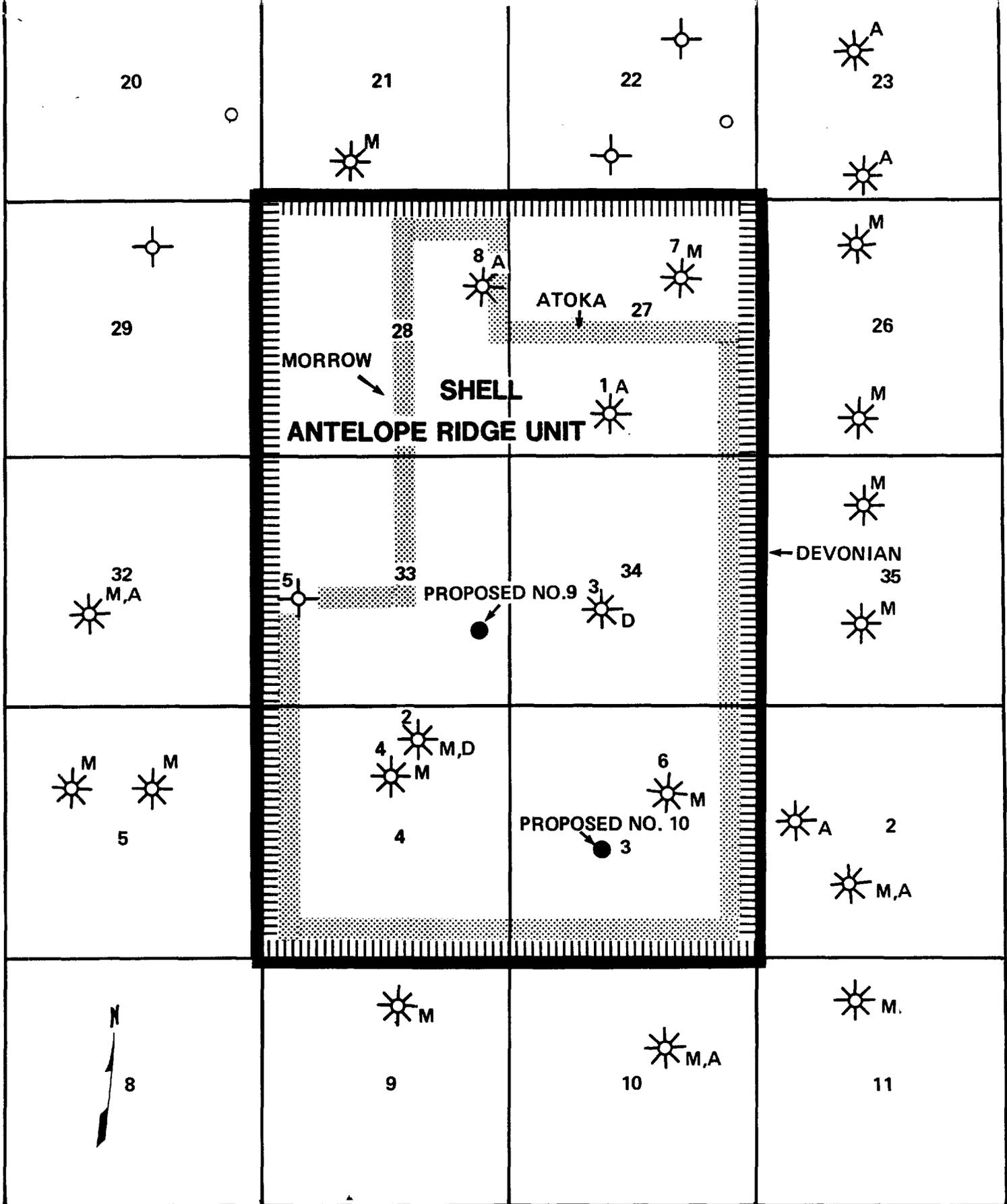
Approved _____
Commissioner of Public Lands
State of New Mexico

Date _____

Approved  _____
Secretary-Director, New Mexico
Oil Conservation Division

Date 1-21-85





-  D, M, A D=DEVONIAN PRODUCER
M=MORROW PRODUCER
A=ATOKA PRODUCER
-  DRY HOLE

SHELL OIL COMPANY
 ANTELOPE RIDGE UNIT
 T23 & 24S, R34E
 LEA COUNTY, NEW MEXICO



PRODUCTION UNIT 647 (NEW MEXICO)
 FIELD 3167 (ANTELOPE RDG)

MO	YR	OIL	GAS	NTR
		BBLs/MO	MCF/MO	BBLs/MO
01	83	6573	433000	4762
02	83	5522	390704	4671
03	83	5449	449081	5257
04	83	5357	462244	5776
05	83	4808	400661	3643
06	83	3862	370703	3362
07	83	3474	356392	1910
08	83	2146	282773	1585
09	83	2386	254730	2038
10	83	2108	248423	1531
11	83	2833	323368	3346
12	83	2045	323368	3346
*TOTAL 83				
		46563	4295457	41327
01	84	2283	285663	2711
02	84	2427	270902	2961
03	84	1900	234273	1418
04	84	1460	198429	1121
05	84	1208	172464	414
06	84	477	93861	518
07	84	398	124743	3901
08	84	940	94756	3751
09	84	817	10617	3239
10	84	0	6915	3328
11	84	0	16284	3214
*TOTAL 84				
		11910	1508917	26576
TOTAL		58473	5304374	57903

#2719

State of New Mexico



JIM BACA
COMMISSIONER

Commissioner of Public Lands

April 18, 1984

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Unit
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Shell Western E & P Incorporated
P. O. Box 991
Houston, Texas 77001

Re: Successor of Unit Operation
Antelope Ridge Unit Agreement
Lea County, New Mexico

ATTENTION: Mr. T. E. Enders

Gentlemen:

This office is in receipt of your letter dated April 5, 1984 wherein you have submitted an instrument dated January 6, 1984 in which the operator of the Antelope Ridge Unit is transferred from Shell Oil Company to Shell Western E & P Inc., as successor unit operator.

The Commissioner of Public Lands has this date approved the selection of Shell Western E & P Inc., as successor unit operator and is effective as of March 15, 1984, being the same date as approved by the Bureau of Land Management.

Enclosed is an approved copy of for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico

State of New Mexico



JIM BACA
COMMISSIONER

Commissioner of Public Lands

April 18, 1984

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Use-
910 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Shell Western E & P Inc.
P. O. Box 991
Houston, Texas 77001

Re: 1984 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

ATTENTION: Mr. T. E. Enders

Gentlemen:

The Commissioner of Public Lands has this date approved your 1984 Plan of Development for the Antelope Ridge Unit Agreement, Lea County, New Mexico. Such plan proposes to drill the Unit Well No. 9 to test the Devonian formation and the Unit Well No. 10 to test the Morrow and Atoka Formations. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

#2719

DECEMBER 28, 1983

Bureau of Land Management
P. O. Box 1397
Roswell, NM 88201

State of New Mexico
Commissioner of Public Lands
P. O. Box 2088
Santa Fe, NM 87501

State of New Mexico
Director, Oil Conservation
Division
Energy and Minerals Dept.
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

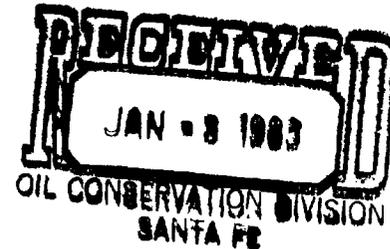
1984 PLAN OF DEVELOPMENT
ANTELOPE RIDGE FIELD
LEA COUNTY, NEW MEXICO

In 1983, the Antelope Ridge No. 1 was completed from the Morrow Formation to the Atoka Formation. Because the Antelope Ridge No. 1 was found to be productive, Shell has made application for an enlargement to the Atoka participating area.

The following program is planned during 1984:

1. Drill the Antelope Ridge No. 9, a new well, to the Devonian Formation.
2. Drill the Antelope Ridge No. 10, a new well, to the Morrow or Atoka Formation.

This program is contingent on the tests and performance of currently producing wells.



In accordance with the requirements of the State of New Mexico, Commission of Public Lands, we have attached the following:

1. Update plat of the Unit area.
2. Tabulation of 1983 Unit Production by month..

Please advise if additional information is needed.

SHELL OIL COMPANY
UNIT OPERATOR



A. J. Fore
Supervisor Regulatory and Permitting
Production Administration
Mid-Continent Division

PLH/dmr

Attachments

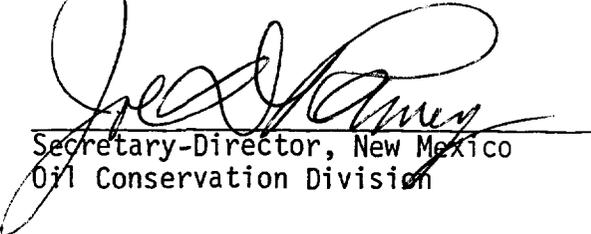
cc: Continental Oil Company
P. O. Box 1959
Midland, TX 79702

Approved _____
Bureau of Land Management

Date _____

Approved _____
Commissioner of Public Lands
State of New Mexico

Date _____

Approved _____

Secretary-Director, New Mexico
Oil Conservation Division

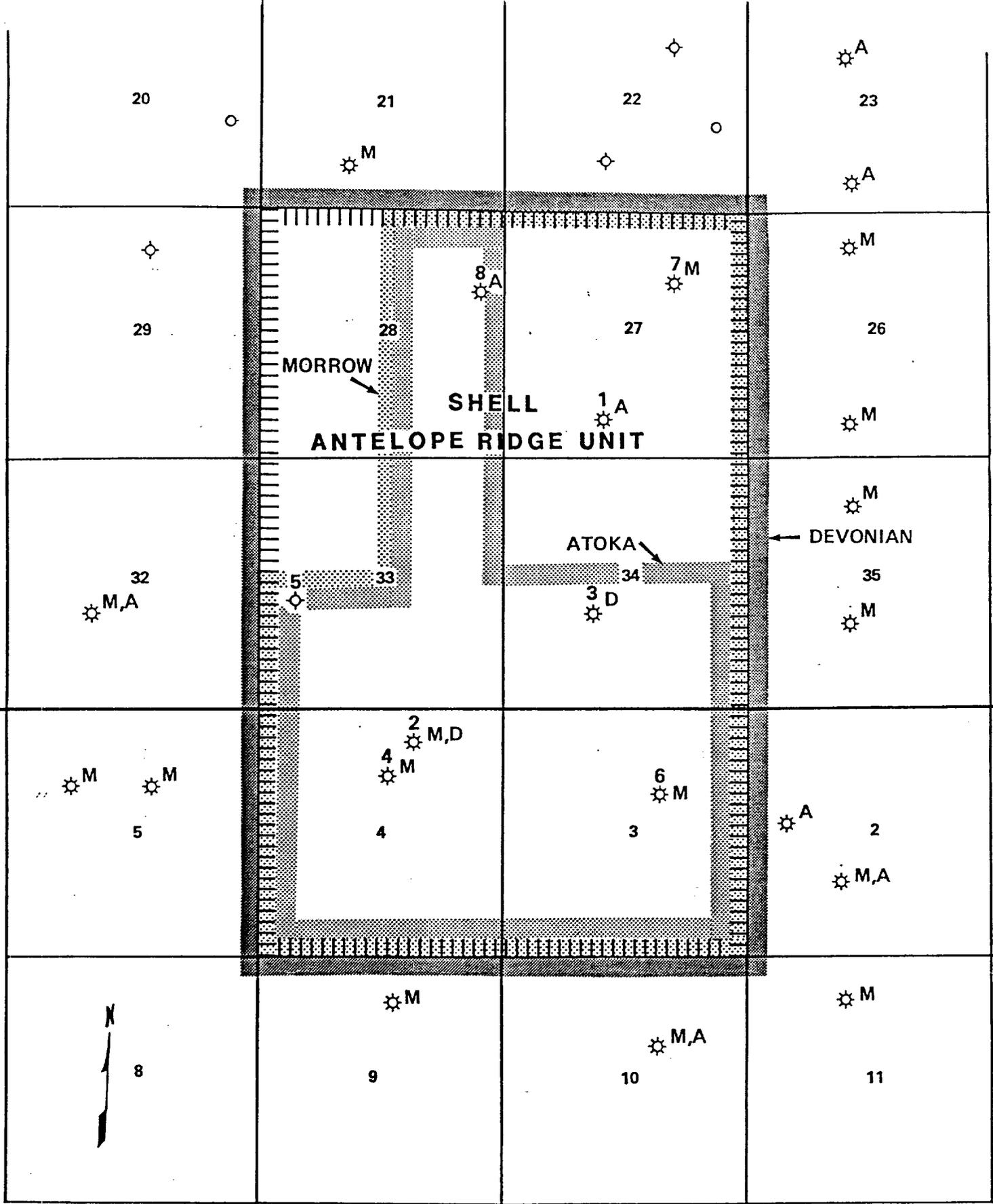
Date 1-11-84

MONTHLY FIELD PRODUCTION REPORT
TOTAL GROSS VOLUMES

PROD. UNIT: NEW MEXICO
FIELD: ANTELOPE RDG

647
3167

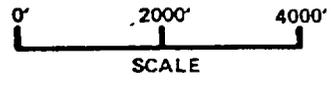
DATE	ACTIVE PROD.	MONTHLY OIL PROD (BOPM)	MONTHLY WTR PROD (BWPM)	MONTHLY H2DCUT (PCT)	MONTHLY G-O-R (SCF/B)	MONTHLY GAS PROD (MCF/M)	CUM. OIL BBLs **	CUM. WATER BBLs **	CUM. GAS MCF **	ACTIVE INJ. INJ.	MONTHLY INJECTION (BWPM)	CUM. INJECTION
8301	8	6,573	4,762	42.0	65,876	433,000	6,573	4,762	433,000	1	8,127	8,127
8302	8	5,522	4,671	45.8	70,754	390,704	12,095	9,433	823,704	1	8,176	16,303
8303	8	5,449	5,257	49.1	82,415	449,081	17,544	14,690	1,272,785	1	7,650	23,953
8304	9	5,357	5,776	51.9	86,288	462,244	22,901	20,466	1,735,029	1	6,560	30,513
8305	8	4,808	3,643	43.1	83,332	400,661	27,709	24,109	2,135,690	1	7,550	38,063
8306	8	3,862	3,362	46.5	95,987	370,703	31,571	27,471	2,506,393	1	7,450	45,513
8307	6	3,474	1,910	35.5	102,588	356,392	35,045	29,381	2,862,785	1	5,361	50,874
8308	6	2,146	1,585	42.5	131,770	282,778	37,191	30,966	3,145,563	1	2,232	53,106
8309	6	2,386	2,038	46.1	106,760	254,730	39,577	33,004	3,400,293	1	3,132	56,238
8310	6	2,108	1,631	43.6	117,850	248,428	41,685	34,635	3,648,721	1	1,736	57,974



⚙️ D,M,A D = DEVONIAN PRODUCER
 M = MORROW PRODUCER
 A = ATOKA PRODUCER

⬠ DRY HOLE

SHELL OIL COMPANY
 ANTELOPE RIDGE UNIT
 T23 & 24S, R34E
 LEA COUNTY, NEW MEXICO



FROM R.L. (BUSTER) GOODE 2/24/83

2704215-00



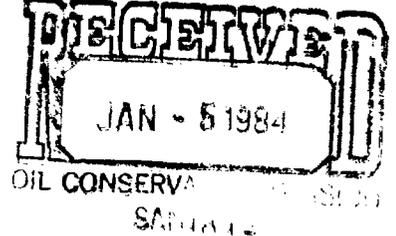
United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
P. O. Box 1397
Roswell, New Mexico 88201

IN REPLY
REFER TO:

Antelope Ridge Unit

December 28, 1983



Shell Oil Company
Attention: Georgiana Stanley
P.O. Box 991
Houston, TX 77001

Dear Ms. Stanley:

Reference is made to your letters of July 19, 1983 and November 8, 1983 whereby you determined that well No. 1 in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27, T. 23 S., R. 34 E., N.M. P.M. Lea County, New Mexico is capable of producing in paying quantities from the Atoka formation and request the approval of the third enlargement of the Atoka participating Area.

We concur with your determination, the well No. 1 is capable of producing unitized substances in paying quantities pursuant to Section 11 of the unit agreement and your third revision to the Atoka participating was approved on this date, effective as of May 1, 1983.

The third revision adds 480.00 acres described as the W $\frac{1}{2}$ sec. 27, and the NW $\frac{1}{4}$ sec. 34, T. 23 S., R. 34 E., which enlarges the total participating area to 2879.80 acres. The revision is predicated from information contributed by unit well No. 1, tested on February 21, 1983, for a calculated open flow potential of 1596 MCFGPD from the Atoka formation.

Copies of the approved application are being distributed to the appropriate Federal office, and one copy is enclosed. You are requested to furnish the State of New Mexico and other interested parties with appropriate evidence of this approval.

Sincerely yours,

'Orig. Sgd.' Earl R. Cunningham

District Manager

Enclosure

cc:

✓ NMOCD, Santa Fe

State of New Mexico



JIM BACA
COMMISSIONER



Commissioner of Public Lands

January 5, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Re: Antelope Ridge Unit
Third Enlargement to the Initial
Participating Area-Atoka Formation
Lea County, New Mexico

ATTENTION: Georgiana Stanley

Gentlemen:

This office is in receipt of your letters dated July 19, 1983 and November 8, 1983 wherein as unit operator of the Antelope Ridge Unit, Lea County, New Mexico, you believe that the Unit Well No. 1 is capable of producing unitized substances in paying quantities.

According to the data submitted, this office concurs with your determination that the Well No. 1 is capable of producing unitized substances in paying quantities pursuant to Section 11 of the unit agreement and your third revision to the Atoka participating has also been approved on this date, effective as of May 1, 1983. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

The third revision adds 480.00 acres described as the W $\frac{1}{2}$ Sec. 27 and the NW $\frac{1}{4}$ Sec. 24, T23S-R34E., which enlarges the total participating area to 2879.80 acres.

Please advise all interested parties of this action.

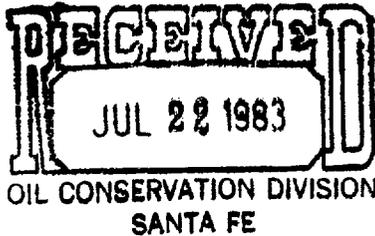
Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.
cc:

OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico Attn: Mr. Armando Lopez



Shell Oil Company



P.O. Box 991
Houston, Texas 77001

July 19, 1983

Subject: Third Enlargement to
Initial Participating Area
Atoka Formation
Antelope Ridge Unit
Lea County, New Mexico

2719

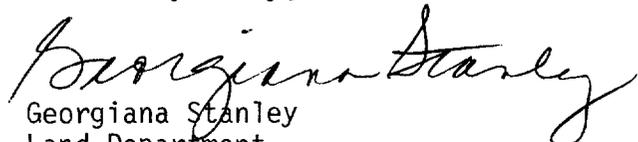
State of New Mexico
Director, Oil Conservation Division
Energy & Minerals Department
P. O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

Enclosed is original and two copies of Shell's request for the third enlargement to the initial participating area Atoka formation of the Antelope Ridge Unit, Lea County, New Mexico.

Please return one approved copy to the undersigned.

Yours very truly,


Georgiana Stanley
Land Department
Mid-Continent Division

GDS:EPB

Enclosures



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONY ANAYA
GOVERNOR

January 20, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

SHELL OIL CO.
P. O. Box 991
Houston, Texas 77001

ATTENTION: A. J. Fore

RE: Antelope Ridge Unit
1983 Plan of Development
Lea County, NM

Dear Mr. Fore:

Enclosed please find an approved copy of the material referenced above. Such approval is contingent upon like approval by the Commissioner of Public Lands and the U. S. Minerals Management Service.

Sincerely,

A handwritten signature in cursive script that reads "Roy E. Johnson".

Roy E. Johnson
Petroleum Geologist

REJ/dp

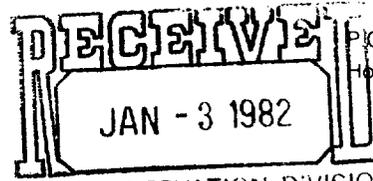
Enc.

cc: Commissioner of Public Lands - Santa Fe
Minerals Management Service - Albuquerque
OCD District Office - Hobbs

Shell Oil Company



December 29, 1982



P.O. Box 991
Houston, Texas 77001

OIL CONSERVATION DIVISION
SANTA FE

United States Department of the Interior
Minerals Management Service (4)
South Central Region
505 Marquette Avenue, N. W. Suite 815
Albuquerque, NM 87102

case # 2719

State of New Mexico
Commissioner of Public Lands
P. O. Box 2088
Santa Fe, NM 87501

State of New Mexico
Director Oil Conservation Division
Energy and Minerals Department
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

SUBJECT: 1983 PLAN OF DEVELOPMENT
ANTELOPE RIDGE UNIT
LEA COUNTY, NEW MEXICO

In 1982, a revision expanding the Atoka participating area of the Antelope Ridge Unit was approved by State and Federal government agencies. The revision added 480 acres bringing the total Atoka participating area to 2399.8 acres.

No development or remedial activity was attempted in 1982.

The following program is planned during 1983:

- 1) Antelope Ridge No. 1 Recomplete from the Morrow Formation to the Atoka Formation.
- 2) Antelope Ridge No. 3 Recomplete from Devonian Formation to the Morrow Formation.
- 3) Antelope Ridge No. 9 New well to be drilled to Morrow or Atoka Formation.
- 4) Antelope Ridge No. 7 Recomplete from Morrow Formation to the Atoka Formation.
- 5) Antelope Ridge No. 10 New Well to be drilled to the Morrow in Atoka Formation.

This program as planned is contingent on the success and/or results of the sequential events as outlined above.

JAN - 3 1982
OIL CONSERVATION DIVISION
SANTA FE

In accordance with the requirements of the State of New Mexico - Commission of Public Lands, we have attached:

- 1) Updated plat of the Unit area and
- 2) Tabulation of 1982 Unit production by month.

Please advise if additional information is required.

SHELL OIL COMPANY
UNIT OPERATOR



A. J. Fore
Supervisor Regulatory and Permitting
Production Administration
Mid-Continent Division

JHD:TS

Attachments

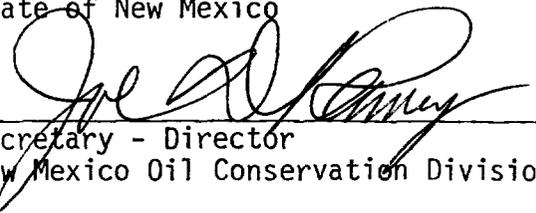
cc: Continental Oil Company
P. O. Box 1959
Midland, TX 79702

Approved _____
Supervisor - Minerals Management Service
Subject to like approval by the appropriate
State Officials.

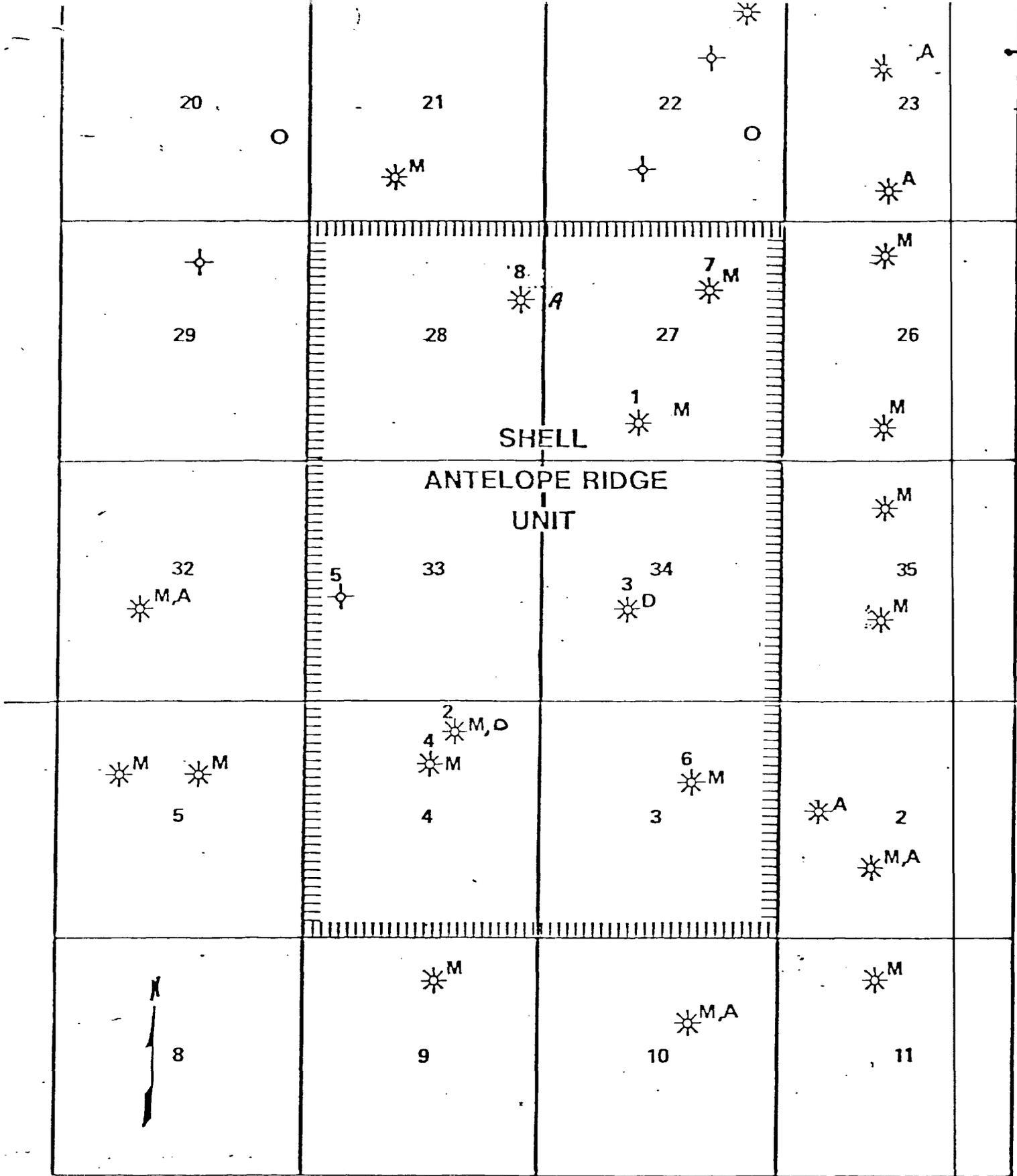
Date _____

Approved _____
Commissioner of Public Lands
State of New Mexico

Date _____

Approved _____

Secretary - Director
New Mexico Oil Conservation Division

Date 1/3/83



☼ D = DEVONIAN PRODUCER.
 ☼ M = MORROW PRODUCER
 ☼ M,A = ATOKA PRODUCER
 ⊕ DRY HOLE
 |||| UNIT OUTLINE

SHELL OIL CO.
 ANTELOPE RIDGE UNIT
 T23 & 24S, R34E
 LEA COUNTY, NEW MEXICO
 0' 2000' 4000'
 SCALE

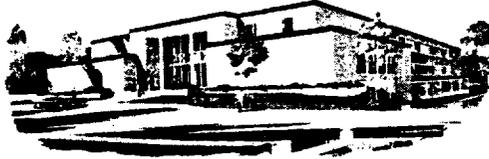
ANTELOPE RDG UNIT

DATE	MONTHLY OIL PROD	MONTHLY GAS PROD	MONTHLY WATER PROD
8101	2,620	160,033	7,558
8102	2,492	194,243	7,066
8103	2,649	223,098	12,578
8104	2,759	267,305	17,102
8105	2,364	294,396	17,777
8106	2,094	206,345	7,732
8107	1,653	207,818	10,374
8108	2,826	235,566	8,361
8109	8,075	347,353	6,872
8110	7,307	326,762	4,298
8111	5,347	382,169	5,352
8112	8,300	516,859	8,880
*TOTAL YR 81			
	48,486	3,361,947	113,950
8201	7,861	468,182	6,618
8202	8,724	419,150	5,293
8203	8,724	450,748	5,262
8204	7,257	390,132	3,774
8205	6,799	405,992	5,925
8206	6,373	375,632	5,718
8207	4,444	309,689	3,838
8208	4,011	285,446	2,360
8209	4,419	314,820	3,699
8210	6,257	411,913	6,938
*TOTAL YR 82			
	64,869	3,831,704	49,425

State of New Mexico



JIM BACA
COMMISSIONER



Commissioner of Public Lands

January 4, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

2719

Re: 1983 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

ATTENTION: Mr. A. J. Fore

Gentlemen:

The Commissioner of Public Lands has this date approved your 1983 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico. Such plan proposes to recomplete the Well Nos. 1 and 7 from the Morrow Formation to the Atoka Formation. Recomplete the Well No. 3 from the Devonian Formation to the Morrow Formation and drill the unit Well Nos. 9 and 10 to the Morrow or Atoka Formation. Our approval is subject to like approval by the United States Minerals Management Service and the New Mexico Oil Conservation Division.

Enclosed is an approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

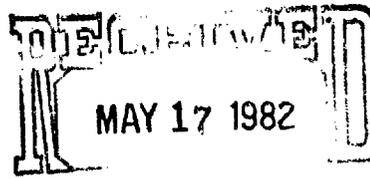
cc: OCD-Santa Fe, New Mexico
USMMS-Albuquerque, New Mexico
Administration

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

May 13, 1982



2719

United States Department of the Interior
Minerals Management Service (4)
South Central Region
505 Marquette Avenue, N.W., Suite 815
Albuquerque, NM 87102

State of New Mexico
Director, Oil Conservation Division
Energy and Minerals Department
P. O. Box 2088
Santa Fe, NM 87501

State of New Mexico
Commissioner of Public Lands
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

SUBJECT: 1982 PLAN OF DEVELOPMENT
ANTELOPE RIDGE UNIT
LEA COUNTY, NM

The following is a brief review of Shell's 1981 development activity for the Antelope Ridge Unit and request for our 1982 development plans.

- 1) During August 1981 Antelope Ridge No. 8 was plugged back from the Morrow zone and recompleted in the Atoka reservoir. The well was potentialized for a CAOF of 26,929 MCFPD. The Atoka participating area was subsequently enlarged by 480 acres, bringing the total acreage in the participating area to approximately 2400 acres.
- 2) Based on the recent successful recompletion of ARU No. 8, we propose to attempt a recompletion in ARU No. 1 from the Morrow to the Atoka reservoir. Antelope Ridge No. 1 is located in the SW/4, Section 27, T-23-S, R-34-E, as shown on the attached unit plat. With this submittal, approval is requested for the proposed recompletion.

In accordance with the requirements of the State of New Mexico - Commissioner of Public Lands, we have attached:

- 1) Updated plat of the Unit Area, and,
- 2) Tabulation of 1981 Unit production by months.

Please advise if additional information is needed.

SHELL OIL COMPANY
UNIT OPERATOR



A. J. Fore
Supervisor Regulatory and Permitting
Mid-Continent Division

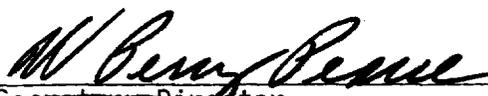
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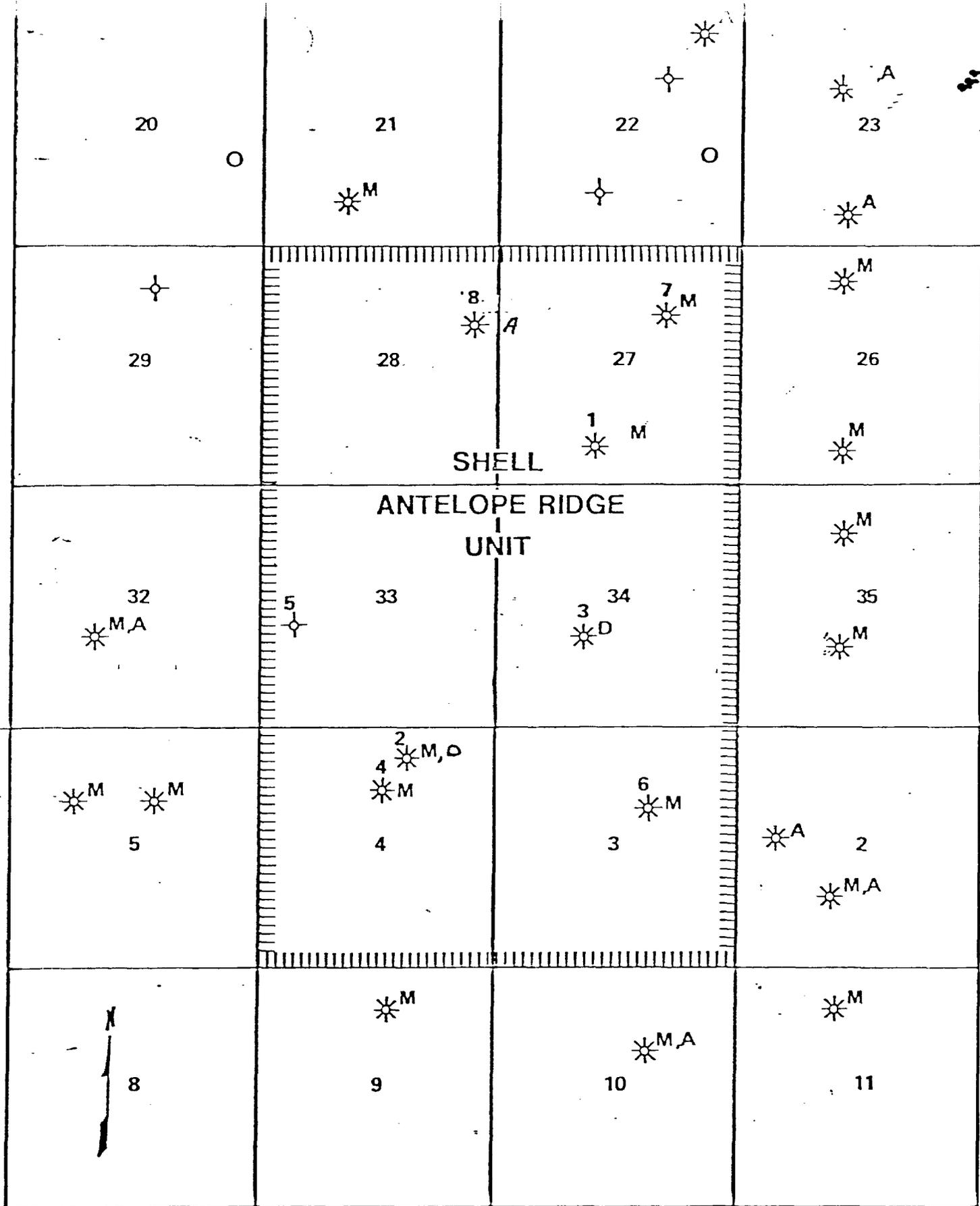
Attachments

cc: Continental Oil Company
P. O. Box 1959
Midland, Texas 79702

APPROVED _____ DATE _____
Supervisor Minerals Management Service
Subject to like approval by the appropriate
State Officials

APPROVED _____ DATE _____
Commissioner of Public Lands
State of New Mexico

APPROVED  _____ DATE 6/03/82
~~Secretary Director~~
New Mexico Oil Conservation Division



- ☼ D = DEVONIAN PRODUCER.
- ☼ M = MORROW PRODUCER
- ☼ M,A = MORROW/ATOKA PRODUCER
- ⊕ DRY HOLE
- |||| UNIT OUTLINE

SHELL OIL CO.
 ANTELOPE RIDGE UNIT
 T23 & T24S, R34E
 LEA COUNTY, NEW MEXICO

0' 2000' 4000'
 SCALE

FLD: ANTELOPE RDG UNIT			
	<i>Bbls</i>	<i>MCF</i>	<i>Bbls</i>
DATE	MONTHLY OIL PROD	MONTHLY GAS PROD	MONTHLY WATER PROD
B101	2,620	160,033	7,558
B102	2,492	194,243	7,066
B103	2,649	223,098	12,578
B104	2,759	267,305	17,102
B105	2,364	294,396	17,777
B106	2,094	206,345	7,732
B107	1,653	207,818	10,374
B108	2,826	235,566	8,361
B109	8,075	347,353	6,872
B110	7,307	326,762	4,298
B111	5,347	382,169	5,352
B112	8,300	516,859	8,880
*TOTAL YR 81			
	48,486	3,361,947	113,950
B201	7,861	468,182	6,618
B202	8,724	419,150	5,293
B203	8,724	450,748	5,262
*TOTAL YR 82			
	25,309	1,338,080	17,173
*TOTAL FLD: ANTELOPE RDG			
	73,795	4,700,027	131,123



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

June 4, 1982

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: A. J. Fore

Re: 1982 Plan of Development for
the Antelope Ridge Unit,
Lea County, New Mexico

Dear Mr. Fore:

Enclosed please find an approved copy of your
1982 Plan of Development for the Antelope Ridge Unit,
Lea County, New Mexico.

This approval is subject to like approval by
the Minerals Management Service and the Commissioner
of Public Lands for the State of New Mexico.

Sincerely,

W. PERRY PEARCE
General Counsel

WPP/dr

cc: Commissioner of Public Lands
Minerals Management Service



United States Department of the Interior

OFFICE OF THE SECRETARY

Minerals Management Service South Central Region

505 Marquette Avenue, N.W., Suite 815
Albuquerque, New Mexico 87102

MAY 10 1982
OIL CONSULTANTS
SANTA FE

MAY 6 1982

2719

Shell Oil Company
Attention: E. W. Kitchen
P. O. Box 991
Houston, Texas 77001

Gentlemen:

The second revision to the Atoka participating area for the Antelope Ridge Unit Agreement, No. 14-08-001-8492, Lea County, New Mexico, was approved on this date effective August 1, 1981.

The application proposes to add 480.00 acres described as the E $\frac{1}{2}$ sec. 28 and the NE $\frac{1}{4}$ sec. 33, T. 23 S., R. 34 E., N.M.P.M., bringing the total acreage in the participating area to 2399.80 acres. This revision is based on the completion of unit well No. 8 in the Atoka formation.

Copies of the approved application are being distributed to the appropriate Federal offices and an approved copy is returned herewith. You are requested to furnish all interested parties with evidence of this approval.

Sincerely yours,

(ORIG. SGD.) JAMES W. SHELTON

FOR Gene F. Daniel
Deputy Minerals Manager
Oil and Gas

Enclosure

CC:
BLM, Santa Fe
Comm. of Public Lands
NMOCD



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

October 19, 1981

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

The Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: R. D. Batten

2719

Re: Second Enlargement to
Initial Participating
Area (Atoka Formation)
Antelope Ridge Unit,
Lea County, New Mexico

Dear Sir:

Enclosed please find a copy of your letter to the Oil Conservation Division, dated September 4, 1981, which has been approved by the Oil Conservation Division. Such approval is contingent upon like approval being tendered by the United States Geological Survey and the Commissioner of Public Lands.

Sincerely,

W. PERRY PEARCE
General Counsel

WPP/dr

cc: U. S. Geological Survey
Commissioner of Public Lands

State of New Mexico



Commissioner of Public Lands

September 15, 1981

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

ALEX J. ARMIJO
COMMISSIONER

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

2719

Re: Second Enlargement to Initial
Participating Area-Atoka Formation
Antelope Ridge Unit
Lea County, New Mexico

ATTENTION: Mr. R. D. Batten

Gentlemen:

The Commissioner of Public Lands has this date approved the Second Enlargement to Initial Participating Area, Atoka Formation, Antelope Ridge Unit, Lea County, New Mexico. Therefore, the Atoka Participating Area will thereby be increased from the 1919.80 acres established in 1980, to 2399.80 acres. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy for your files.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-2748

AJA/RDG/pm
encls.
cc:

OCD-Santa Fe, New Mexico
USGS-Albuquerque, New Mexico

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

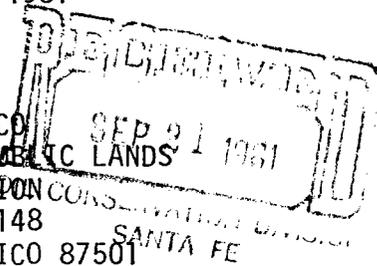
September 4, 1981

THE DIRECTOR
UNITED STATES GEOLOGICAL SURVEY
WASHINGTON, D. C.

THROUGH:

AREA OIL AND GAS SUPERVISOR
UNITED STATES DEPARTMENT OF THE
INTERIOR
GEOLOGICAL SURVEY
POST OFFICE BOX 26124
ALBURQUERQUE, NEW MEXICO 87125

STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS
OIL AND GAS DIVISION
POST OFFICE BOX 1148
SANTA FE, NEW MEXICO 87501



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
ENERGY AND MINERAL DEPARTMENT
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

2719

Gentlemen:

ANTELOPE RIDGE UNIT (14-08-001-8492) LEA COUNTY, NEW MEXICO SECOND ENLARGEMENT TO INITIAL PARTICIPATING AREA - ATOKA FORMATION

The Antelope Ridge Unit #8 is currently producing from the Atoka formation. It is necessary, therefore, under the requirements of Section 11 of the Antelope Ridge Unit Agreement (No. 14-08-001-8492), that Shell Oil Company, as Unit Operator, make application for the Second Enlargement to the Initial Participating Area for the Atoka Formation. By means of this letter, such application is made.

Under the proposed enlargement, 480.00 acres will be added to the participating area. The Atoka Participating Area will thereby be increased from the 1919.80 acres established in 1980, to 2399.80 acres. As proposed, the boundaries of this enlargement will be established through the following reasoning. To date, no completions have been made in this unit on the west side of the fault shown on Exhibit I. Therefore, that acreage cannot be included as reasonably proven to be productive. Also, in Section 27, T23S-R34E, two wells exist, neither of which appears to have pay in the Atoka. For this reason, that area must also be excluded. Consequently, only a north-south strip of quarter sections lying along and on the upthrown side of the fault, are proposed for addition to the Atoka Participating Area.

The enlarged Participating Area will include the following lands:

E/2 Section 28, NE/4 and S/2 Section 33, and S/2 Section 34,
T 23 S, R 34 E; All Section 3 and all Section 4, T 24 S, R 34 E.

It is proposed that the enlargement to the Atoka Participating Area be made effective September 1, 1981, the first day of the first full month during which Unit Well No. 8 will be produced from the Atoka. The well was tested

on August 20, 1981, for a calculated open flow potential of 26.9 MMCF from the Atoka Formation, with a condensate ratio of approximately two barrels per million cubic feet. The well has been on production since that time. Based upon the cited test and the fact that the Antelope Ridge Unit #8 is presently on production, it is the Operator's opinion that this well is capable of producing gas in paying quantities from the Atoka Formation. The cited acreage is thereby entitled to be included in the Atoka Participating Area.

The following supporting data are attached:

1. Schedule I, showing the percentage participation of each lease included or partially included in the enlarged Atoka Participating area.
2. Exhibit No. 1, plat of the Antelope Ridge Unit showing structure contours on top of the Atoka Formation as well as the proposed Atoka participating boundaries.
3. Exhibit No. 2, cross-section of the Atoka Formation showing correlations and related test data.

In the opinion of the Operator, the lands covered by this application comprise the total unitized area which can be regarded as reasonably proved to be productive of hydrocarbons in paying quantities. Therefore, your approval of this application for the Second Enlargement to the Initial Participating Area for the Atoka Formation is respectfully requested.

SHELL OIL COMPANY
Unit Operator



LAP:jnk

In absence of: R. D. Batten
Manager Development-Engineering
Mid-Continent Division

Attachments

Approved _____ Date _____
United States Geological Survey

Approved _____ Date _____
Commissioner of Public Lands
State of New Mexico

Approved  _____ Date 19 Oct 81
Secretary-Director
New Mexico Oil Conservation Division

ANTELOPE RIDGE UNIT
SECOND ADJUSTMENT TO INITIAL PARTICIPATING AREA
ATOKA FORMATION

SCHEDULE I

<u>Working Interest Owner</u>	<u>Lease Serial No.</u>	<u>Mineral No.</u>	<u>Tract Number</u>	<u>Description</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Shell Oil Company	LC 067715	U.S.	1	E/2, Sec. 28-23S-34E	320.00	13.3344
Continental Oil Company	NM 02377	U.S.	3	E/2 E/2, Sec. 3-24S-34E	160.05	6.6693
Shell Oil Company	NM 07199-B	U.S.	4	Lot 1, SE/4 NE/4, S/2 SW/4 Sec. 4-24S-34E	159.98	6.6664
Shell Oil Company	NM 07199-C	U.S.	5	E/2 SE/4 Sec. 4-24S-34E	80.00	3.3336
Shell Oil Company	NM 021422	U.S.	6	Lot 2, SW/4 NE/4, W/2 SE/4 Sec. 4-24S-34E	159.94	6.6648
Continental Oil Company	NM 045352	U.S.	7	NW/4 SW/4 Sec. 4-24S-34E	40.00	1.6668
Shell Oil Company	NM 0327106	U.S.	9	W/2 E/2, Sec. 3-24S-34E	160.04	6.6689
Shell Oil Company	E 8078	State N.M.	10	NE/4 SW/4, SW/4 SW/4 NE/4 SE/4, Sec. 34-23W-34E	120.00	5.0004
Shell Oil Company	OG 20	State N.M.	11	NW/4 SW/4, SE/4 SW/4, W/2 SE/4 SE/4 SE/4, Sec. 34-23S-34E	200.00	8.3340
Shell Oil Company	K 280	State N.M.	12	E/2 E/2, Sec. 33-23S-34E	160.00	6.6672
Shell Oil Company	K 1124	State N.M.	13	Lot 4 Sec. 4-24S-34E	39.86	1.6610
Shell Oil Company	K 2149	State N.M.	14	SW/4, W/2 E/2, Sec. 33-23S-34E	320.00	13.3344
Shell Oil Company	-	Merrimen et al	15	Lots 3 & 4, S/2 NW/4, SW/4 Sec. 3-24S-34E	320.03	13.3357
Shell Oil Company	-	Neblett et al	16	Lot 3, S/2 NW/4, NE/4 SW/4, Sec. 4-24S-34E	159.90	6.6631
				Total	2399.80	100.0000

SUMMARY SCHEDULE I

Total Federal Lands	1080.01	45.0042
Total State Lands	839.86	34.9970
Total Fee or Other Lands	479.93	19.9988
Total Productive Acreage	2399.80	100.0000

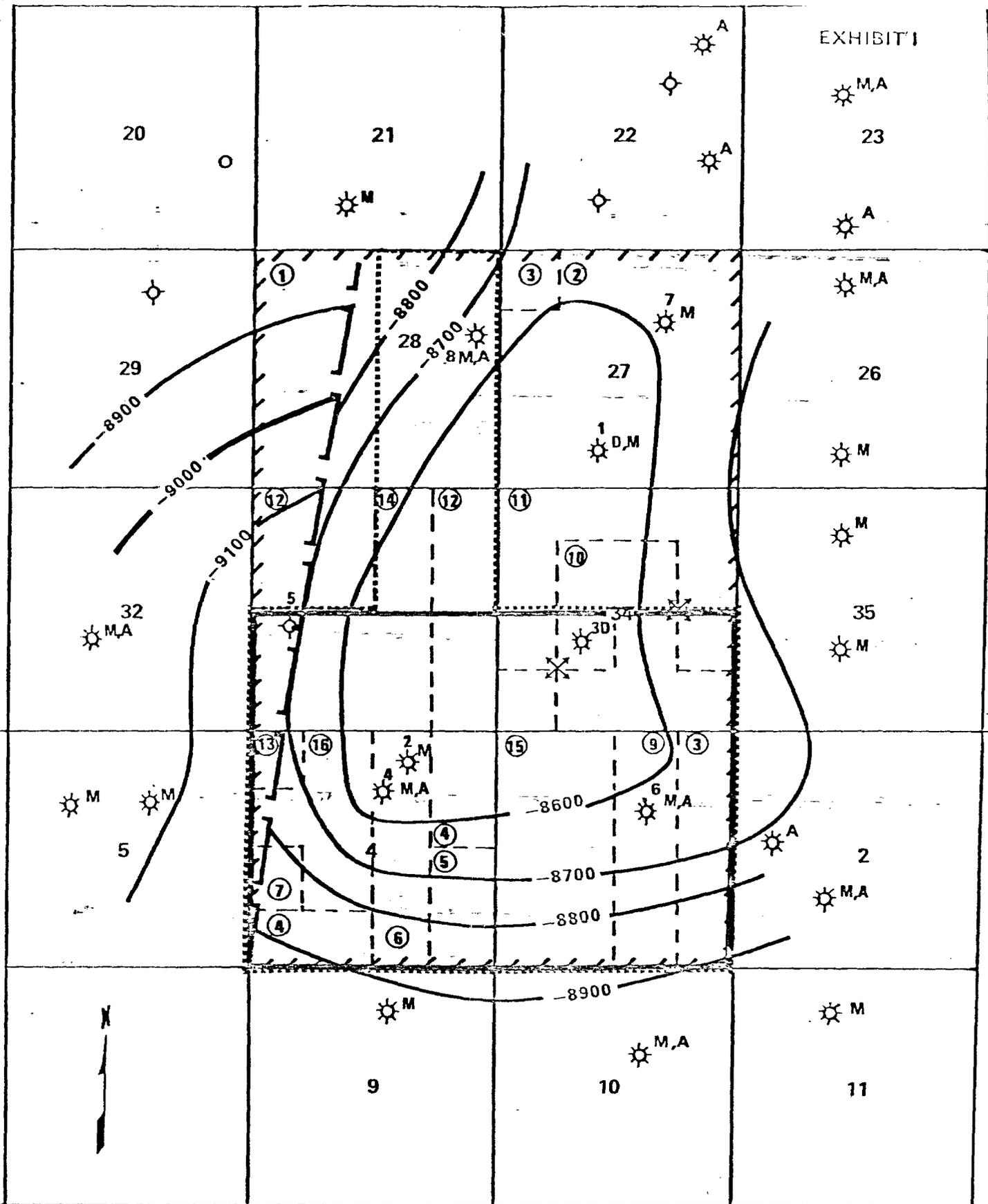
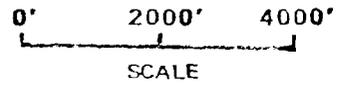


EXHIBIT I

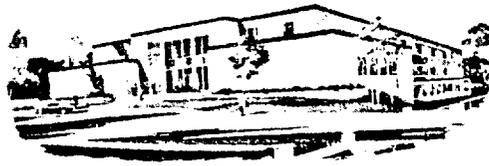
T23S
T24S

- ☀ D=DEVONIAN PRODUCER
- ☀ M=MORROW PRODUCER
- ☀ A=ATOKA PRODUCER
- ⊙ DRY HOLE
- ④ TRACT NUMBER—SEE SCHEDULE I
- UNIT OUTLINE
- PRESENT ATOKA PARTICIPATING AREA
- PROPOSED ATOKA PARTICIPATING AREA

ANTELOPE RIDGE UNIT
T23 & 24S, R34E
LEA COUNTY, NEW MEXICO
STRUCTURE MAP—ATOKA FM.



State of New Mexico



Commissioner of Public Lands

September 8, 1981

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

ALEX J. ARMIJO
COMMISSIONER

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

2719

Re: Antelope Ridge Unit
1981 Plan of Development
Lea County, New Mexico

ATTENTION: Mr. R. L. Goode

Gentlemen:

Your 1981 Plan of Development, has this date been approved by the Commissioner of Public Lands. Such plan proposes to plug back the Morrow and recomplete the Antelope Ridge No. 8 in the Atoka reservoir.

Enclosed is one approved copy for your files. In the future please file three copies with this office of your Plan of Development.

Please remit a Three (\$3.00) Dollar filing fee at your earliest convenience.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-2748

AJA/RDG/pm
encls.
cc:

OCD-Santa Fe, New Mexico
USGS-Albuquerque, New Mexico



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

August 26, 1981

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: A. J. Fore

Re: Case No. 2719
Antelope Ridge Unit
1981 Plan of Development

Gentlemen:

We hereby approve the 1981 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

One approved copy of the Plan of Development is returned herewith.

Yours very truly,

JOE D. RAMEY
Director

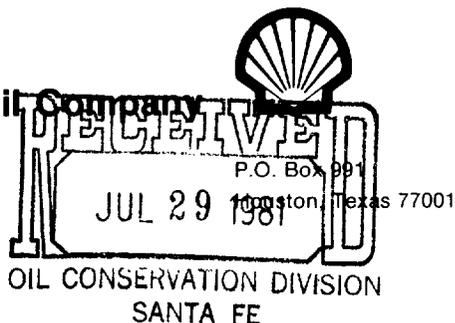
JDR/EP/fd
enc.

cc: U.S.G.S. - Albuquerque
Commissioner of Public Lands

July 23, 1981

OK
E/F
8/25/81
2719

Shell Oil Company



United States Geological Survey
Oil and Gas Supervisor (4)
P. O. Drawer 1857
Roswell, NM 88201

State of New Mexico
Director, Oil Conservation Division
Energy and Minerals Department
P. O. Box 2088
Santa Fe, NM 87501

State of New Mexico (3)
Commissioner of Public Lands
P. O. Box 2088
Santa Fe, NM 87501

Gentlemen:

SUBJECT: 1981 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

The following is a brief review of Shell's 1980 development activity for the Antelope Ridge Unit and request for approval of our 1981 development plans.

- (1) During 1980, Antelope Ridge Unit No.'s 7 and 8 were drilled as Morrow development wells. Antelope Ridge No. 7, located 1650 FNL and 1980 FEL, Section 27, T-23-S, R-34-E, was completed in April 1981 for a CAOF potential of 2370 MCFPD and the CAOF potential for Antelope Ridge No. 8, located 1980 FNL and 660 FEL, Section 38, T-23-S, R34-E was 1164 MCFPD.
- (2) For 1981, we propose to plug back the Morrow and recomplete Antelope Ridge No. 8 in the Atoka reservoir. Morrow production rates have become marginal and further stimulation is not warranted at this time.

In accordance with the requirements of the State of New Mexico - Commissioner of Public Lands, we have attached:

- (1) Updated plat of the unit area, and,
- (2) A tabulation of 1980 field production history by months.

Shell Oil Company



-2-

Please advise if additional information is required.

SHELL OIL COMPANY
UNIT OPERATOR

A. J. Fore
Supervisor Regulatory and Permitting
Mid-Continent Division

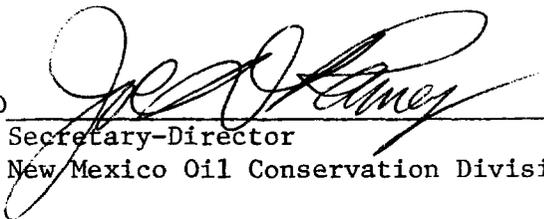
AJF:db

Attachments

cc: Continental Oil Company
P. O. Box 1959
Midland, Texas 79702

APPROVED _____ DATE _____
Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

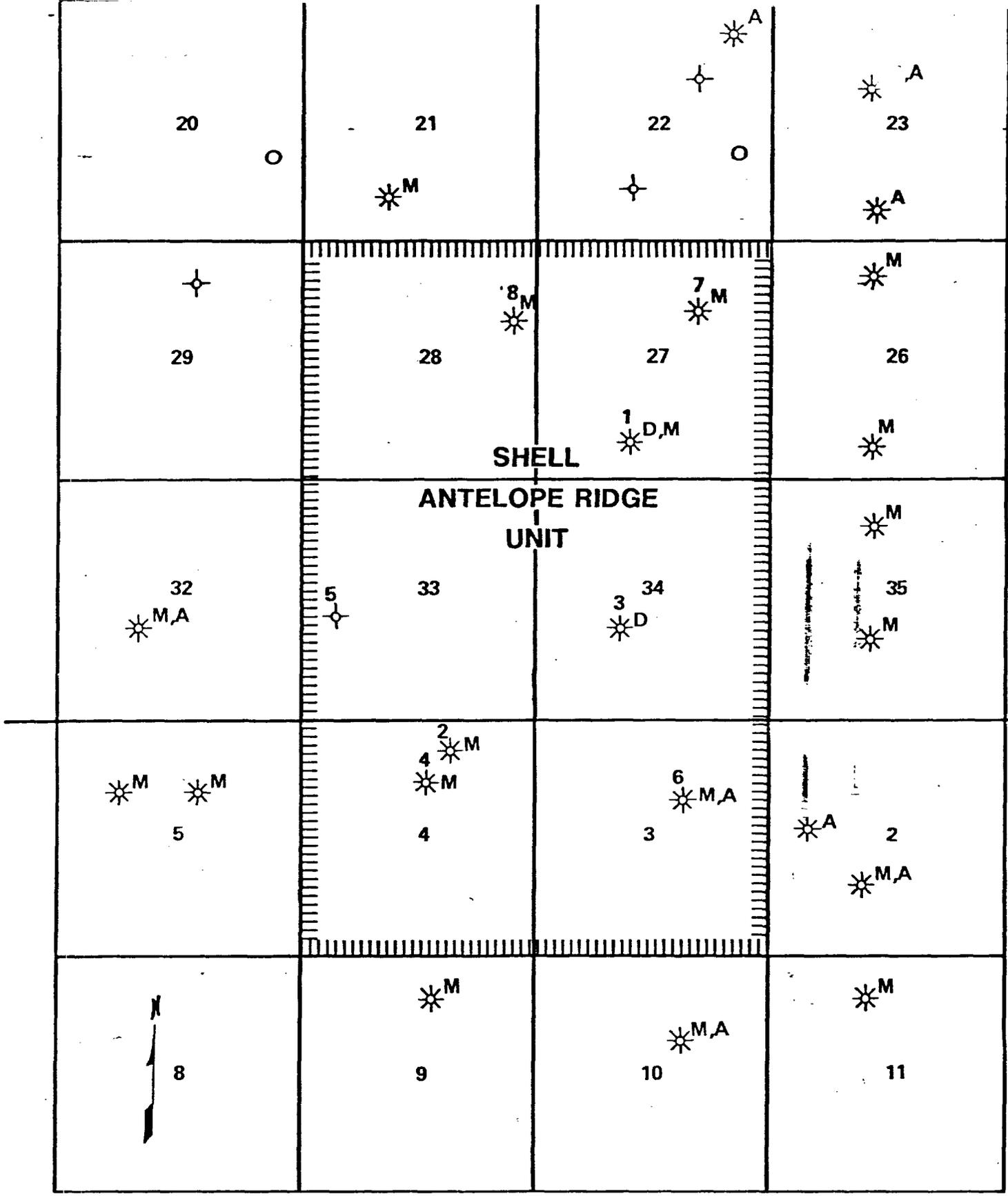
APPROVED _____ DATE _____
Commissioner of Public Lands
State of New Mexico

APPROVED  _____ DATE 8/26/81
Secretary-Director
New Mexico Oil Conservation Division

NEW MEXICO

FLID: ANTELOPE RDG UNIT TOTAL

DATE	MONTHLY OIL PROD	MONTHLY GAS PROD	MONTHLY WATER PROD
8001	2,146	104,020	6,091
8002	1,196	62,801	4,489
8003	1,250	84,466	6,825
8004	1,100	91,433	6,535
8005	855	88,087	6,183
8006	732	41,904	3,505
8007	801	54,123	4,679
8008	699	65,580	5,756
8009	1,918	132,759	6,154
8010	3,563	111,276	5,072
8011	2,362	156,786	5,174
8012	2,987	173,819	6,994
*TOTAL YR 80	19,609	1,167,054	67,457
8101	2,620	160,033	7,558
8102	2,492	194,243	7,066
8103	2,649	223,098	12,578
8104	2,759	267,305	17,102
8105	2,364	294,396	17,777
*TOTAL YR 81	12,884	1,139,075	62,081
*TOTAL ANTELOPE RDG	32,493	2,306,129	129,538



T23S
T24S

* D = DEVONIAN PRODUCER
 * M = MORROW PRODUCER
 D,M,A A = ATOKA PRODUCER
 ⊕ DRY HOLE
 |||| UNIT OUTLINE

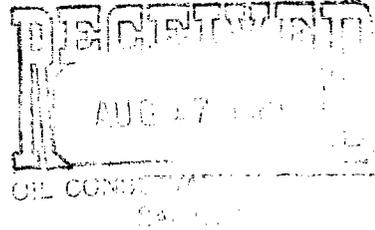
SHELL OIL CO.
 ANTELOPE RIDGE UNIT
 T23 & 24S, R34E
 LEA COUNTY, NEW MEXICO
 0' 2000' 4000'
 SCALE

South Central Region
P. O. Box 26124
Albuquerque, New Mexico 87125

2719

AUG 13 1981

Shell Oil Company
Attention: A. J. Fore
P. O. Box 991
Houston, Texas 77001



Gentlemen:

An approved copy of your 1981 plan of development for the Antelope Ridge unit area, Lea County, New Mexico is enclosed. Such plan, proposing to plug back the Morrow and recomplete the Antelope Ridge No. 8 in the Atoka, was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

(ORIG. SGD.) JAMES W. SHELTON

FOR Gene F. Daniel
Deputy Conservation Manager
Oil and Gas

Enclosure

cc:
NMOC, Santa Fe
Comm of Pub Lands, Santa Fe
DS, Roswell (w/encl)

NM 000

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

October 3, 1980

RECEIVED
OCT 20 1980
OIL COMPANY REGISTRATION DIVISION
SANTA FE

2719

RECEIVED
OCT - 6 1980

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

United States Geological Survey
ATTN Jerry Long
Drawer 1857
Roswell, NM 88201

Gentlemen:

LC 067715

SUBJECT: REVISION TO 13-POINT DEVELOPMENT PLAN FOR SURFACE USE
ANTELOPE RIDGE UNIT NO. 8
1980' FNL AND 660' FEL
SECTION 28, T23S, R34E
LEA COUNTY, NEW MEXICO

Shell Oil Company proposes to revise Point No. 5 "Location and Type of Water Supply in our 13-Point Development Plan for Surface Use as follows:

We propose to drill a water well on the northwest corner of the well pad for Antelope Ridge Unit No. 8, located 1980' FNL and 660' FEL, Section 28, T23S, R34E, Lea County, New Mexico. The well will be drilled to a total depth of about 450' and 7" casing will be cemented to the bottom. A sufficient volume of cement will be used to circulate cement to the surface.

After drilling operations of Antelope Ridge Unit No. 8 are completed, the water well will be made available to the surface owner, Mr. W. A. Maddox.

Yours very truly,

A. J. Fore
Supervisor, Regulatory & Permitting
Mid-Continent Division

AJF/b1

OCT 8 1980

Approved by Peter W Chester
with condition that permit is obtained
from New Mexico State Engineers Office for
the drilling of a water well.



United States Department of the Interior

GEOLOGICAL SURVEY

South Central Region

P. O. Box 26124

Albuquerque, New Mexico 87125

2719

RECEIVED
JUL 29 1980
OIL CONSERVATION DIVISION
SANTA FE

JUL 25 1980

Shell Oil Company
Attention: R. L. Goode
P. O. Box 991
Houston, Texas 77001

Gentlemen:

Your application of February 5, 1980, requesting approval of the second revision of the Morrow participating area, Antelope Ridge unit agreement, Lea County, New Mexico, No. 14-08-001-8492, was approved on this date by the Deputy Conservation Manager for Oil and Gas, effective January 1, 1980.

The second revision adds 480.09 acres described as the E $\frac{1}{2}$ of section 3, T. 24 S., R. 34 E., and the SE $\frac{1}{4}$ section 34, T. 23 S., R. 34 E., N.M.P.M., Lea County, New Mexico, which enlarges the total participating area to 3,359.80 acres. This revision is based upon the information contributed by unit well No. 6, located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ section 3, T. 24 S., R. 34 E., tested on September 26, 1979, for a calculated open flow potential of 7.0 MMCFPD from the Morrow formation and a shut-in bottom hole pressure of 6,850 psi.

Copies of the approved application are being distributed to the appropriate Federal offices and two approved copies are enclosed. You are requested to furnish the State of New Mexico and other interested parties with appropriate evidence of this approval.

Also, for tract 11, the legal description adds up to 400 acres. The 440.00 acres appears to be correct with an omission of the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of section 34, T. 23 S., R. 34 E. Please submit a corrected Schedule 1.

Sincerely yours,

(ORIG. SGD.) JACK WILLOCK

Jack Willock
Acting Deputy Conservation Manager
Oil and Gas

Enclosures 2

cc:
NMOCD, Santa Fe



~~EXCEL~~ ~~UNITED STATES~~ Department of the Interior

JUL 29 1980

GEOLOGICAL SURVEY

South Central Region

P. O. Box 26124

OIL CONSERVATION DIVISION
SANTA FE Albuquerque, New Mexico 87125

JUL 25 1980

2711

Shell Oil Company
Attention: R. L. Goode
P. O. Box 991
Houston, Texas 77001

Gentlemen:

Your application of February 5, 1980, requesting approval of the first revision of the Atoka participating area, Antelope Ridge unit agreement, Lea County, New Mexico, No. 14-08-001-8492, was approved on this date by the Deputy Conservation Manager for Oil and Gas, effective January 1, 1980.

The first revision adds 480.09 acres described as the E $\frac{1}{2}$ of section 3, T. 24 S., R. 34 E., and the SE $\frac{1}{4}$ section 34, T. 23 S., R. 34 E., N.M.P.M., Lea County, New Mexico, which enlarges the total participating area to 1,919.80 acres. This revision is based upon the information contributed by unit well No. 6, located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ section 3, T. 24 S., R. 34 E., tested on November 8, 1979, for a calculated open flow potential of 2.4 MMCFPD, with a condensate ratio of 66 barrels per MMCF from the Atoka formation.

Copies of the approved application are being distributed to the appropriate Federal offices and two approved copies are enclosed. You are requested to furnish the State of New Mexico and other interested parties with appropriate evidence of this approval.

Sincerely yours,

(ORIG. SGD.) JACK WILLOCK

Jack Willock
Acting Deputy Conservation Manager
Oil and Gas

Enclosures 2

cc:
NMOCD, Santa Fe

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

September 24, 1980

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: Gary J. Welsh

Re: Case 2719
Antelope Ridge Unit
Second Enlargement to the
Initial Participating Area
for the Morrow Formation

Gentlemen:

We hereby approve the Second Enlargement to the Initial Participating Area for the Morrow Formation in the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

One approved copy of the Second Enlargement is returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/EP/fd
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C
O
P
Y

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

2719

August 1, 1980

Subject: Antelope Ridge Unit
Second Enlargement to
Initial Participating Area - Morrow Formation
Lea County, New Mexico

State of New Mexico
Oil Conservation Division
Energy and Mineral Department
P. O. Box 2088
State Land Office Building
Santa Fe, NM 87501

Gentlemen:

Please find attached a letter from the United States Department of the Interior approving Shell's application for the Second Enlargement to the Initial Participating Area for the Morrow Formation in the Antelope Ridge Unit. The effective date of this enlargement is January 1, 1980.

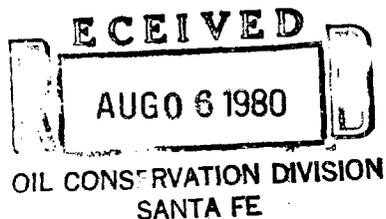
Yours very truly,

A handwritten signature in cursive script that reads "Gary J. Welsch".

Gary J. Welsch
Land Department
Mid-Continent Division

GJW:SK

Attachments





United States Department of the Interior

GEOLOGICAL SURVEY
South Central Region
P. O. Box 26124
Albuquerque, New Mexico 87125

MID-CONTINENT DIVISION LAND DEPARTMENT RECEIVED	
JUL 28 '80	
WTE	
GJW	

RECEIVED JUL 25 1980
AUG 03 1980
OIL CONSERVATION DIVISION
SANTA FE

Shell Oil Company
Attention: R. L. Goode
P. O. Box 991
Houston, Texas 77001

Gentlemen:

Your application of February 5, 1980, requesting approval of the second revision of the Morrow participating area, Antelope Ridge unit agreement, Lea County, New Mexico, No. 14-08-001-8492, was approved on this date by the Deputy Conservation Manager for Oil and Gas, effective January 1, 1980.

The second revision adds 480.09 acres described as the E $\frac{1}{2}$ of section 3, T. 24 S., R. 34 E., and the SE $\frac{1}{4}$ section 34, T. 23 S., R. 34 E., N.M.P.M., Lea County, New Mexico, which enlarges the total participating area to 3,359.80 acres. This revision is based upon the information contributed by unit well No. 6, located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ section 3, T. 24 S., R. 34 E., tested on September 26, 1979, for a calculated open flow potential of 7.0 MMCFPD from the Morrow formation and a shut-in bottom hole pressure of 6,850 psi.

Copies of the approved application are being distributed to the appropriate Federal offices and two approved copies are enclosed. You are requested to furnish the State of New Mexico and other interested parties with appropriate evidence of this approval.

Also, for tract 11, the legal description adds up to 400 acres. The 440.00 acres appears to be correct with an omission of the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of section 34, T. 23 S., R. 34 E. Please submit a corrected Schedule 1.

Sincerely yours,

Jack Willock
Acting Deputy Conservation Manager
Oil and Gas

Enclosures 2

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

FEBRUARY 5, 1980

THE DIRECTOR
UNITED STATES GEOLOGICAL SURVEY
WASHINGTON, D. C.

STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS
OIL AND GAS DIVISION
POST OFFICE BOX 1148
SANTA FE, NEW MEXICO 87501

THROUGH:

AREA OIL AND GAS SUPERVISOR
UNITED STATES DEPARTMENT OF THE
INTERIOR
GEOLOGICAL SURVEY
POST OFFICE BOX 26124
ALBUQUERQUE, NEW MEXICO 87125

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
ENERGY AND MINERAL DEPARTMENT
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Gentlemen:

ANTELOPE RIDGE UNIT (14-08-001-8492) LEA COUNTY, NEW MEXICO
SECOND ENLARGEMENT TO INITIAL PARTICIPATING AREA - MORROW FORMATION

The Antelope Ridge Unit #6 has been tested from both Atoka and Morrow formations, and has been demonstrated to be potentially productive from both. Because of mechanical problems, it is impossible at present to open the Morrow to production. Rather than risk damaging the Atoka formation by attempting to change the downhole equipment at the present time, the Atoka has been put on production for an extended test. Since it has been shown to be potentially productive from the Morrow, it is necessary, under the requirements of Section 11 of the Antelope Ridge Unit Agreement (No. 14-08-001-8492), that Shell Oil Company, as Unit Operator, make application for the Second Enlargement to the Initial Participating Area for the Morrow Formation. With this letter, such application is made.

Under the proposed enlargement, 480.09 acres will be added to the participating area. The Morrow Participating Area will be increased from the 2879.71 acres established in 1967, to 3359.80 acres. As proposed, the boundaries of this enlargement will be established by the same approach used to define both the initial Participating Area and the First Enlargement to the Morrow. The additional acreage includes

the 160-acre governmental quarter section on which Antelope Ridge Unit No. 6 is located plus the adjoining quarter sections, insofar as they lie within the unit boundaries and are not presently within the Participating Area.

The enlarged Participating Area will include the following lands:

All Section 27, E/2 Section 28, NE/4 and S/2 Section 33,
All Section 34, T 23 S, R 34 E; All Section 3 and
all Section 4, T 24 S, R 34 E.

It is proposed that the enlargement to the Morrow Participating Area be made effective January 1, 1980, the first day of the first full month during which Unit Well No. 6 was produced. On September 26, 1979 it was tested from the Morrow formation, with a calculated open flow potential of 7.0 MMCFPD. There was no condensate recovered from the Morrow Formation. A shut in bottom hole pressure of 6850 psi was recorded in the Morrow. This approximates the pressure of undrained Morrow reserves in the area. Because of mechanical problems and the attempted dual completion with the Atoka Formation, no production came from the well until the last weekend of December, 1979. And even at this point, no gas is being produced from the Morrow Formation. Based upon these tests, however, it is the Operator's opinion that the Antelope Ridge Unit Well No. 6 is capable of producing gas in paying quantities from the Morrow formation. Moreover, as it is mechanically feasible, gas will be produced from this formation. The cited acreage is thereby entitled to be included in the Morrow Participating Area.

The following supporting data are attached:

1. Schedule 1, showing the percentage participation of each lease included or partially included in the enlarged Morrow Participating Area.
2. Exhibit No. 1, plat of the Antelope Ridge Unit showing structure contours on top of the Morrow Formation with the proposed Morrow participation boundaries.
3. Exhibit No. 2, cross-section of the Morrow Formation showing correlations and related test data.

In the opinion of the Operator, the lands covered by this application comprise the total unitized area which can be regarded as reasonably

proved to be productive of hydrocarbons in paying quantities. Therefore, your approval of this application for the Second Enlargement to the Initial Participating Area for the Morrow formation is respectfully requested.

SHELL OIL COMPANY
Unit Operator

for *R.D. Batten*
W. W. Dover
Division Production Manager
Mid-Continent Division

LAP:jnk
Attachments

Approved *John W. Wilson* Date JUL 25 1980
~~Director, United States Geological Survey~~

Approved _____ Date _____
Commissioner of Public Lands
State of New Mexico

Approved *John H. Stoney* Date 9/24/80
Secretary-Director
New Mexico Oil Conservation Division

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

September 24, 1980

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: Gary J. Welsch

Re: Case No. 2719
Antelope Ridge Unit
First Enlargement to the
Initial Participating Area
for the Atoka Formation

Gentlemen:

We hereby approve the First Enlargement to the Initial Participating Area for the Atoka Formation in the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

One approved copy of the First Enlargement is returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/EP/d
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C

O

P

Y

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

August 1, 1980

2719

Subject: Antelope Ridge Unit
First Enlargement to
Initial Participating Area - Atoka Formation
Lea County, New Mexico

State of New Mexico
Oil Conservation Division
Energy and Mineral Department
P. O. Box 2088
State Land Office Building
Santa Fe, NM 87501

OK
9/14/80
zlf

Gentlemen:

Please find attached a letter from the United States Department of the Interior approving Shell's application for the First Enlargement to the Initial Participating Area for the Atoka Formation in the Antelope Ridge Unit. The effective date of this enlargement is January 1, 1980.

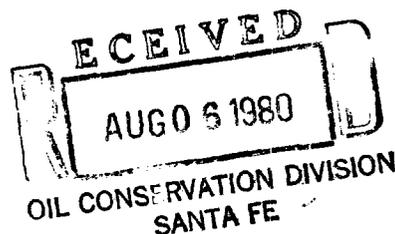
Yours very truly,

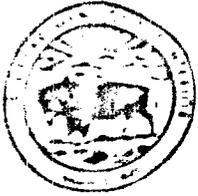
A handwritten signature in cursive script that reads "Gary J. Weisch".

Gary J. Weisch
Land Department
Mid-Continent Division

GJW:SK

Attachments





United States Department of the Interior

GEOLOGICAL SURVEY
South Central Region
P. O. Box 26124
Albuquerque, New Mexico 87125

JUL 25 1980

Shell Oil Company
Attention: R. L. Goode
P. O. Box 991
Houston, Texas 77001

Gentlemen:

Your application of February 5, 1980, requesting approval of the first revision of the Atoka participating area, Antelope Ridge unit agreement, Lea County, New Mexico, No. 14-08-001-8492, was approved on this date by the Deputy Conservation Manager for Oil and Gas, effective January 1, 1980.

The first revision adds 480.09 acres described as the E $\frac{1}{2}$ of section 3, T. 24 S., R. 34 E., and the SE $\frac{1}{4}$ section 34, T. 23 S., R. 34 E., N.M.P.M., Lea County, New Mexico, which enlarges the total participating area to 1,919.80 acres. This revision is based upon the information contributed by unit well No. 6, located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ section 3, T. 24 S., R. 34 E., tested on November 8, 1979, for a calculated open flow potential of 2.4 MMCFPD, with a condensate ratio of 66 barrels per MMCF from the Atoka formation.

Copies of the approved application are being distributed to the appropriate Federal offices and two approved copies are enclosed. You are requested to furnish the State of New Mexico and other interested parties with appropriate evidence of this approval.

Sincerely yours,

Jack Willock
Acting Deputy Conservation Manager
Oil and Gas

Enclosures 2



Shell Oil Company
Interoffice Memorandum

FEBRUARY 5, 1980

THE DIRECTOR
UNITED STATES GEOLOGICAL SURVEY
WASHINGTON, D. C.

STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS
OIL AND GAS DIVISION
POST OFFICE BOX 1148
SANTA FE, NEW MEXICO 87501

THROUGH:

AREA OIL AND GAS SUPERVISOR
UNITED STATES DEPARTMENT OF THE
INTERIOR
GEOLOGICAL SURVEY ✓
POST OFFICE BOX 26124
ALBUQUERQUE, NEW MEXICO 87125

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
ENERGY AND MINERAL DEPARTMENT
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Gentlemen:

ANTELOPE RIDGE UNIT (14-08-001-8492) LEA COUNTY, NEW MEXICO
FIRST ENLARGEMENT TO INITIAL PARTICIPATING AREA - ATOKA FORMATION

The Antelope Ridge Unit #6 is currently producing from the Atoka formation. It is necessary, therefore, under the requirements of Section 11 of the Antelope Ridge Unit Agreement (No. 14-08-001-8492), that Shell Oil Company, as Unit Operator, make application for the First Enlargement to the Initial Participating Area for the Atoka Formation. By means of this letter, such application is made.

Under the proposed enlargement, 480.09 acres will be added to the participating area. The Atoka Participating Area will thereby be increased from the 1439.71 acres established in 1966, to 1919.80 acres. As proposed, the boundaries of this enlargement will be established by the same approach used to define both the initial Participating Area and the First Enlargement to the Morrow Participating Area. The additional acreage includes the 160-acre governmental quarter section on which Antelope Ridge Unit No. 6 is located plus the adjoining quarter sections, insofar as they lie within the unit boundaries and are not presently within the Participating Area.

The enlarged Participating Area will include the following lands:

S/2 Section 33 and S/2 Section 34, T 23 S, R 34 E;
All Section 3 and all Section 4, T 24 S, R 34 E.

It is proposed that the enlargement to the Atoka Participating Area be made effective January 1, 1980, the first day of the first full month during which Unit Well No. 6 was produced. The well was tested on November 8, 1979, for a calculated open flow potential of 2.4 MMCF from the Atoka Formation, with a condensate ratio of 66 barrels per

million cubic feet. It was because of mechanical problems and the fact that a dual completion was attempted in this wellbore with the Morrow Formation, that production was not commenced until the last weekend of December, 1979. Based upon the November test and the fact that the Antelope Ridge Unit #6 is presently on production, it is the Operator's opinion that this well is capable of producing gas in paying quantities from the Atoka Formation. The cited acreage is thereby entitled to be included in the Atoka Participating Area.

The following supporting data are attached:

1. Schedule I, showing the percentage participation of each lease included or partially included in the enlarged Atoka Participating area.
2. Exhibit No. 1, plat of the Antelope Ridge Unit showing structure contours on top of the Atoka Formation as well as the proposed Atoka participation boundaries.
3. Exhibit No. 2, cross-section of the Atoka Formation showing correlations and related test data.

In the opinion of the Operator, the lands covered by this application comprise the total unitized area which can be regarded as reasonably proved to be productive of hydrocarbons in paying quantities. Therefore, your approval of this application for the First Enlargement to the Initial Participating Area for the Atoka formation is respectfully requested.

SHELL OIL COMPANY
Unit Operator

R.D. Butler
for
W. W. Dover
Division Production Manager
Mid-Continent Division

LAP:jnk
Attachments

Approved *Jack Willcock* Date JUL 25 1980
~~Director~~, United States Geological Survey

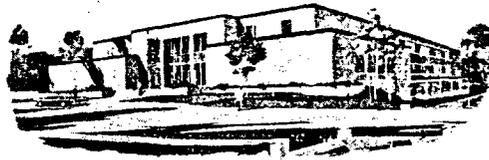
Approved _____ Date _____
Commissioner of Public Lands
State of New Mexico

Approved *[Signature]* Date 9/24/80
Secretary-Director
New Mexico Oil Conservation Division

State of New Mexico



ALEX J. ARMIJO
COMMISSIONER



2719

Commissioner of Public Lands

April 18, 1980

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Re: Antelope Ridge Unit
Lea County, New Mexico
1980 PLAN OF DEVELOPMENT

ATTENTION: Mr. W. W. Dover

Gentlemen:

The Commissioner of Public Lands has this date approved your 1980 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico. Such plan proposes the drilling of the Antelope Ridge Unit well # 8 and the well # 9 may also be spudded during 1980. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy for your files.

Your Three (\$3.00) Dollar filing fee has been received.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505-827-2748

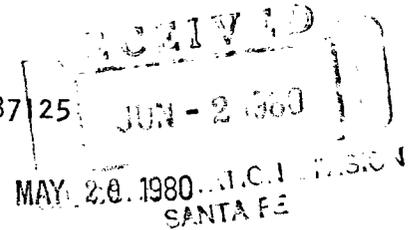
AJA/RDG/s
encl.
cc:

OCD-Santa Fe, New Mexico ✓
USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico



United States Department of the Interior

GEOLOGICAL SURVEY
South Central Region
P. O. Box 26124
Albuquerque, New Mexico 87125



Shell Oil Company
Attention: W. W. Dover
P. O. Box 991
Houston, Texas 77001

2919

Gentlemen:

One approved copy of your 1980 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, is enclosed. Such plan, proposing to drill Antelope Ridge unit #7 to the Morrow to be located in section 27, T. 23 S., R. 34 E., and possibly a second Morrow well, the Antelope Ridge unit #8, in section 28, T. 23 S., R. 34 E., depending upon rig availability and the results of previous wells, was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

(ORIG. SGD.) JACK WILLOCK

FOR Floyd L. Stelzer
Acting Deputy Conservation Manager
Oil and Gas

Enclosure

cc:
NMOCD, Santa Fe

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

May 29, 1980

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: W. W. Dover

Re: Case No. 2719
Antelope Ridge Unit
1980 Plan of Development

Gentlemen:

We hereby approve the 1980 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Two approved copies of the Plan of Development are returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/EP/fd
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C
O
P
Y

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

APRIL 10, 1980

Area Oil and Gas Supervisor
United States Department of the Interior
Geological Survey
Post Office Box 26124
Albuquerque, New Mexico 87125

State of New Mexico
Commissioner of Public Lands
Oil and Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87501

State of New Mexico
Oil Conservation Division
Energy and Mineral Department
Post Office Box 2088
State Land Office Bldg.
Santa Fe, New Mexico 87501

Gentlemen:

ANTELOPE RIDGE UNIT, LEA COUNTY, NEW MEXICO 1980 PLAN OF DEVELOPMENT

During 1979, development was undertaken in two separate sections of the Antelope Ridge Unit. In Section 3, T24S, R34E, the Antelope Ridge Unit #6 was drilled and shown to be potentially productive from both the Morrow and Atoka formations. Although mechanical difficulties have precluded opening the Morrow to production thusfar, it is producing from the Atoka and is considered to be a successful well.

Approval was requested by an amendment to the 1979 plan of development for the drilling of a Morrow well in Section 27, T23S, R34E. This well, the Antelope Ridge Unit #7, was spudded in March, 1980.

After the ARU #7 is drilled, it is anticipated that another well will be drilled to the Morrow in this unit. The Antelope Ridge Unit #8 is expected to be drilled at 1980' FNL, 660' FEL, Section 28, T23S, R34E, Lea County, New Mexico. Following this, depending upon the results of the previous wells and upon rig availability, an additional well, Antelope Ridge Unit #9, may be spudded during 1980. This well is planned for 1980' FSL, 660' FWL, Section 3, T24S, R34E, Lea County, New Mexico. With this submittal, approval is requested to drill at these two locations.

Further development of the field will be dependent upon the degree of success obtained in the drilling program presently outlined.

SHELL OIL COMPANY
Unit Operator



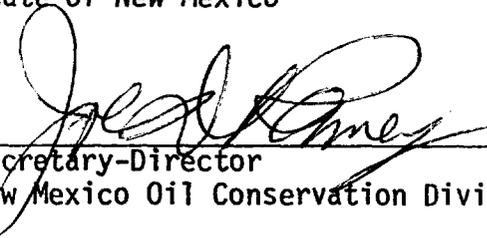
W. W. Dover
Division Production Manager
Mid-Continent Division

LAP:jnk

cc: Continental Oil Company
P. O. Box 1959
Midland, Texas 79702

APPROVED _____ DATE _____
Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

APPROVED _____ DATE _____
Commissioner of Public Lands
State of New Mexico

APPROVED  _____ DATE 5/29/80
Secretary-Director
New Mexico Oil Conservation Division

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 20, 1980

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: R. L. Goode

Re: Case No. 2719
Antelope Ridge Unit
First Enlargement to
Initial Participating
Area for the Atoka
Formation

Gentlemen:

We hereby approve the First Enlargement to the Initial Participating Area for the Atoka Formation for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Two approved copies of the Enlargement are returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/EP/fd
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C
O
P
Y

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

February 8, 1980

Subject: First Enlargement to Initial
Participating Area-Atoka Formation
Antelope Ridge Unit
Lea County, New Mexico
Contract No. 14-08-001-8492

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

State of New Mexico
Oil Conservation Division
Energy and Mineral Department
P. O. Box 2088
State Land Office Building
Santa Fe, NM 87501

Case 2719
OK for approval
2/18/80
[Signature]

Gentlemen:

Shell Oil Company, as Unit Operator, respectfully submits for your approval the enclosed application for the First Enlargement to the Initial Participating Area for the Atoka formation, Antelope Ridge Unit, Lea County, New Mexico.

Yours very truly,

R. L. Goode

R. L. Goode
Land Department
Mid-Continent Division

RLG:HJ

Enclosure

RECEIVED
FEB 11 1980
OIL CONSERVATION DIVISION
SANTA FE



Shell Oil Company
Interoffice Memorandum

FEBRUARY 5, 1980

THE DIRECTOR
UNITED STATES GEOLOGICAL SURVEY
WASHINGTON, D. C.

STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS
OIL AND GAS DIVISION
POST OFFICE BOX 1148
SANTA FE, NEW MEXICO 87501

THROUGH:

AREA OIL AND GAS SUPERVISOR
UNITED STATES DEPARTMENT OF THE
INTERIOR
GEOLOGICAL SURVEY
POST OFFICE BOX 26124
ALBUQUERQUE, NEW MEXICO 87125

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION ✓
ENERGY AND MINERAL DEPARTMENT
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Gentlemen:

ANTELOPE RIDGE UNIT (14-08-001-8492) LEA COUNTY, NEW MEXICO
FIRST ENLARGEMENT TO INITIAL PARTICIPATING AREA - ATOKA FORMATION

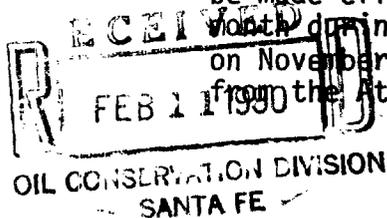
The Antelope Ridge Unit #6 is currently producing from the Atoka formation. It is necessary, therefore, under the requirements of Section 11 of the Antelope Ridge Unit Agreement (No. 14-08-001-8492), that Shell Oil Company, as Unit Operator, make application for the First Enlargement to the Initial Participating Area for the Atoka Formation. By means of this letter, such application is made.

Under the proposed enlargement, 480.09 acres will be added to the participating area. The Atoka Participating Area will thereby be increased from the 1439.71 acres established in 1966, to 1919.80 acres. As proposed, the boundaries of this enlargement will be established by the same approach used to define both the initial Participating Area and the First Enlargement to the Morrow Participating Area. The additional acreage includes the 160-acre governmental quarter section on which Antelope Ridge Unit No. 6 is located plus the adjoining quarter sections, insofar as they lie within the unit boundaries and are not presently within the Participating Area.

The enlarged Participating Area will include the following lands:

S/2 Section 33 and S/2 Section 34, T 23 S, R 34 E;
All Section 3 and all Section 4, T 24 S, R 34 E.

It is proposed that the enlargement to the Atoka Participating Area be made effective January 1, 1980, the first day of the first full month during which Unit Well No. 6 was produced. The well was tested on November 8, 1979, for a calculated open flow potential of 2.4 MMCF from the Atoka Formation, with a condensate ratio of 66 barrels per



million cubic feet. It was because of mechanical problems and the fact that a dual completion was attempted in this wellbore with the Morrow Formation, that production was not commenced until the last weekend of December, 1979. Based upon the November test and the fact that the Antelope Ridge Unit #6 is presently on production, it is the Operator's opinion that this well is capable of producing gas in paying quantities from the Atoka Formation. The cited acreage is thereby entitled to be included in the Atoka Participating Area.

The following supporting data are attached:

1. Schedule I, showing the percentage participation of each lease included or partially included in the enlarged Atoka Participating area.
2. Exhibit No. 1, plat of the Antelope Ridge Unit showing structure contours on top of the Atoka Formation as well as the proposed Atoka participation boundaries.
3. Exhibit No. 2, cross-section of the Atoka Formation showing correlations and related test data.

In the opinion of the Operator, the lands covered by this application comprise the total unitized area which can be regarded as reasonably proved to be productive of hydrocarbons in paying quantities. Therefore, your approval of this application for the First Enlargement to the Initial Participating Area for the Atoka formation is respectfully requested.

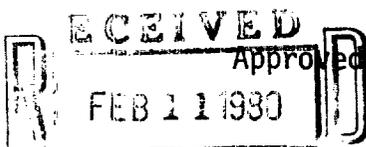
SHELL OIL COMPANY
Unit Operator

R. D. Butler
for W. W. Dover
Division Production Manager
Mid-Continent Division

LAP:jnk
Attachments

Approved _____ Date _____
Director, United States Geological Survey

Approved _____ Date _____
Commissioner of Public Lands
State of New Mexico



John R. ...
Secretary-Director
New Mexico Oil Conservation Division

Date 2/21/80

ANTELOPE RIDGE UNIT
FIRST ADJUSTMENT TO INITIAL PARTICIPATING AREA
ATOKA FORMATION

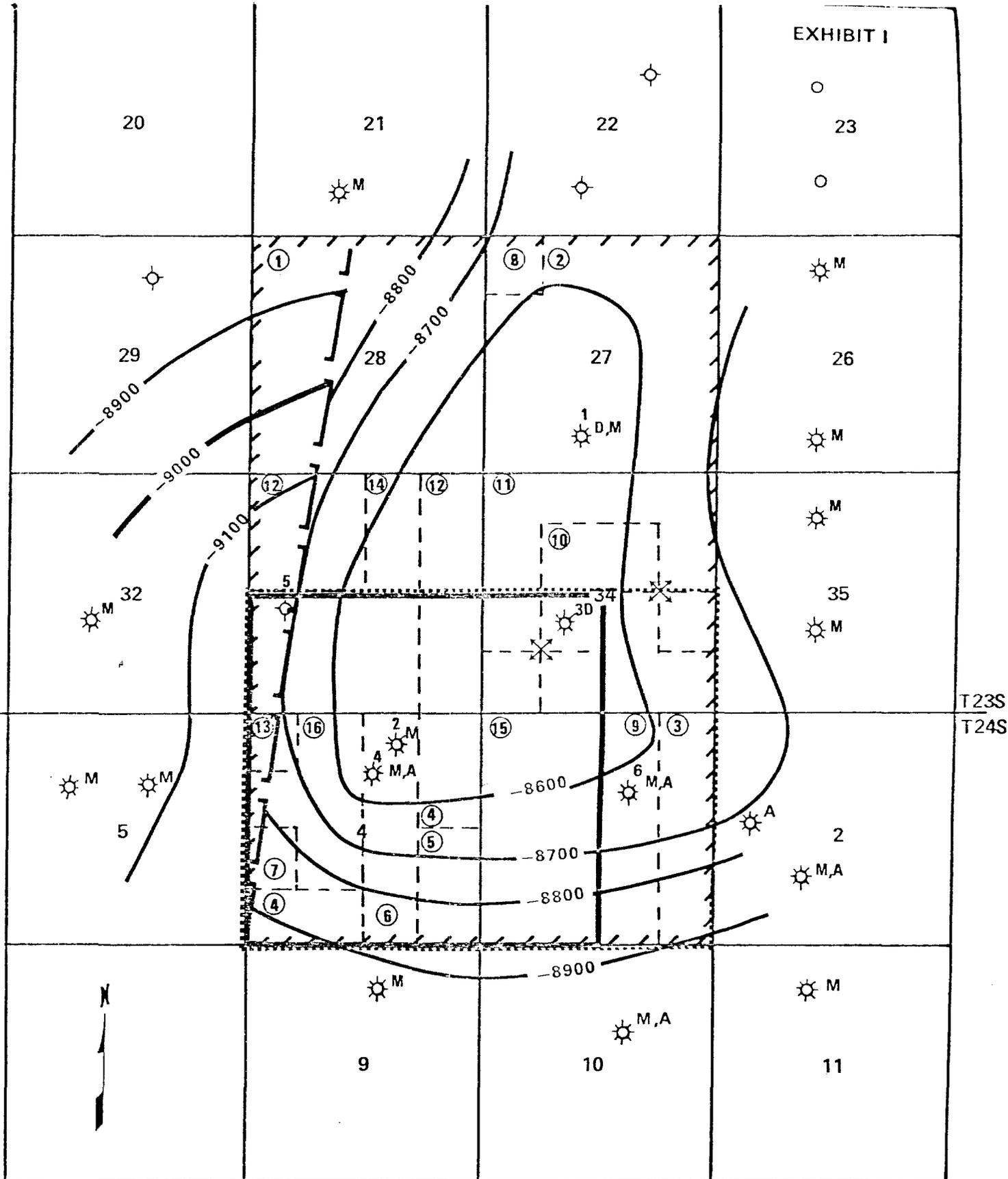
SCHEDULE I

<u>Working Interest Owner</u>	<u>Lease Serial No.</u>	<u>Mineral Owner</u>	<u>Tract Number</u>	<u>Description</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Continental Oil Company	NM-02377	U.S.	3	E/2 E/2, Sec. 3-24S-34E	160.05	8.3368
Shell Oil Company	NM 07199-B	U.S.	4	Lot 1, SE/4 NE/4, S/2 SW/4 Sec. 4-24S-34E	159.98	8.3332
Shell Oil Company	NM 07199-C	U.S.	5	E/2 SE/4 Sec. 4-24S-34E	80.00	4.1671
Shell Oil Company	NM 021422	U.S.	6	Lot 2, SW/4 NE/4, W/2 SE/4 Sec. 4-24S-34E	159.94	8.3311
Continental Oil Company	NM 045352	U.S.	7	NW/4 SW/4 Sec. 4-24S-34E	40.00	2.0835
Shell Oil Company	NM-0327106	U.S.	9	W/2 E/2, Sec. 3-24S-34E	160.04	8.3363
Shell Oil Company	E-8078	State N.M.	10	NE/4 SW/4, SW/4 SW/4, NE/4 SE/4, Sec. 34-23S-34E	120.00	6.2506
Shell Oil Company	0G-20	State N.M.	11	NW/4 SW/4, SE/4 SW/4, W/2 SE/4, SE/4 SE/4, Sec. 34-23S-34E	200.00	10.4177
Shell Oil Company	K-280	State N.M.	12	E/2 SE/4, Sec. 33-23S-34E	80.00	4.1671
Shell Oil Company	K-1124	State N.M.	13	Lot 4 Sec. 4-24S-34E	39.86	2.0763
Shell Oil Company	K-2149	State N.M.	14	SW/4, W/2 SE/4, Sec. 33-23S-34E	240.00	12.5013
Shell Oil Company	-	Merrimen et al.	15	Lots 3 & 4, S/2 NW/4, SW/4 Sec. 3-24S-34E	320.03	16.6700
Shell Oil Company	-	Neblett et al.	16	Lot 3, S/2 NW/4, NE/4 SW/4, Sec. 4-24S-34E	159.90	8.3290
				Total	1919.80	100.0000

SUMMARY SCHEDULE I

Total Federal Lands	760.01	39.5880
Total State Lands	679.86	35.4130
Total Fee or Other Lands	479.93	24.9990
Total Productive Acreage	<u>1919.80</u>	<u>100.0000</u>

EXHIBIT I



T23S
T24S

- ☀ D=DEVONIAN PRODUCER
- ☀ M=MORROW PRODUCER
- ☀ A=ATOKA PRODUCER
- ⊙ DRY HOLE
- ④ TRACT NUMBER—SEE SCHEDULE I
- ▬▬▬ UNIT OUTLINE
- ▬▬▬ PRESENT ATOKA PARTICIPATING AREA
- ⋯⋯⋯ PROPOSED ATOKA PARTICIPATING AREA

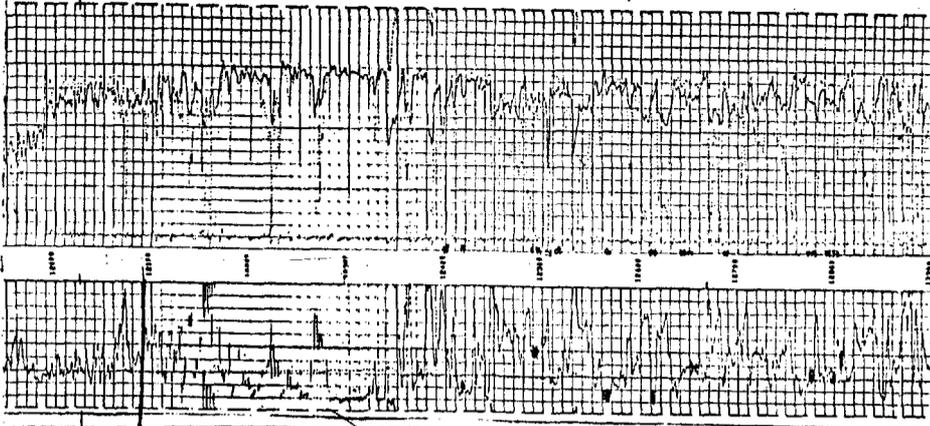
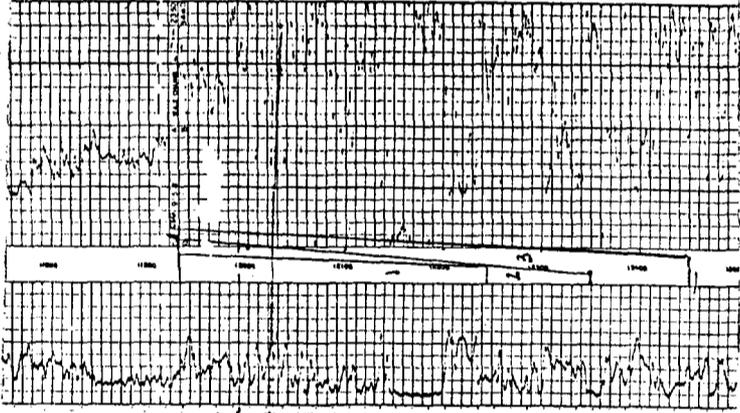
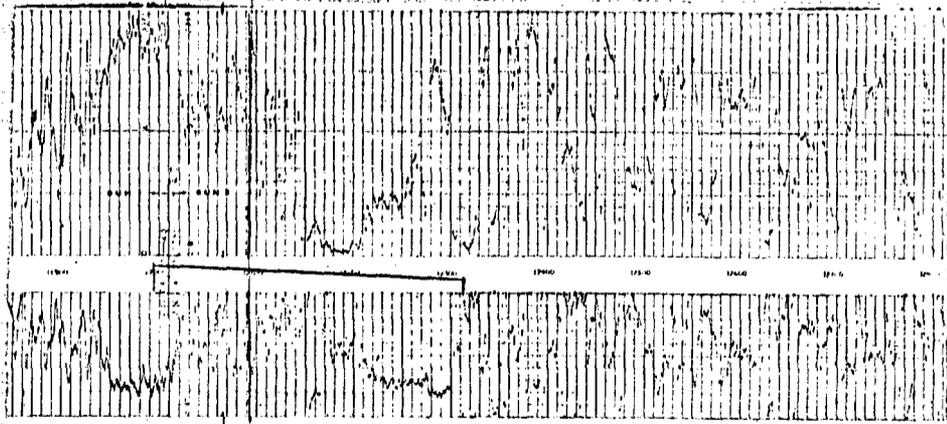
ANTELOPE RIDGE UNIT
T23 & 24S , R34E
LEA COUNTY, NEW MEXICO
STRUCTURE MAP—ATOKA FM.



ANTELOPE RIDGE UNIT #2:
DF 3567

ANTELOPE RIDGE UNIT #3
DF 3490

ANTELOPE RIDGE UNIT #6
KB 3525

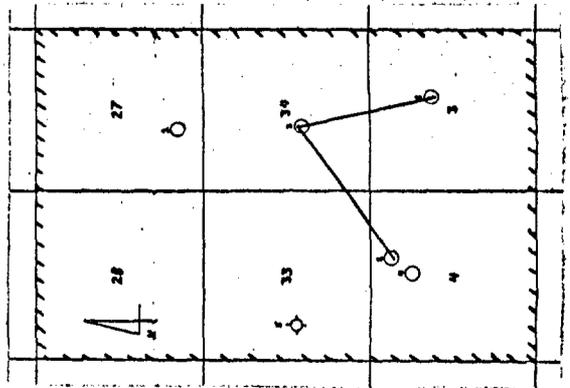


DATUM
- 8500 subsea

ATOKA

ATOKA

ATOKA CROSS-SECTION



- 1. DST 11,930-12,243, op 1 hr 40 mins
GTS in 15 mins at 70 mCFGPD. Rec
700 BM
1 hr ISIP 2115# FP 328-427 #
2 hr 15 min FSIP 2403 #
- 2. DST 11,930-12,351, op 1 hr 30 mins
GTS in 33 mins, 1st 1/4, Rec
2000 HGCUB + 1478 VHCCM
3 hr ISIP 4838# FP 1890-1858 #
3 hr 10 min FSIP 3410 #
- 3. DST 11,930-12,450, op 1 hr 35 mins
GTS in 24 mins at 30-40 mCFGPD,
rec 1300 Gas in drill pipe + 3000
HGCUB + 1500 VHCCM.
1 hr ISIP 6058# FP 2404-2532 #
1 hr FSIP 5321 #

1. DST 12,005-307, op 9 hrs, used
3000 NB, + fit test

TIME	CHAS	SFP	GA	COND.
3hr	2716"	2460	11,152 MFPD	438C
2hr	2428"	3473	11,152 MFPD	10,28C
2hr	1424"	3470	11,152 MFPD	9,38C
2hr	1214"	4025	11,152 MFPD	11,38C

NOT COMPLETED IN ATOKA

Ref 12,508-218, 564-66, 610-12, 640-47,
652-54, 681-83, 772-779, 792-801
TP came up to 5800# in 1 hr.
Perf 12,461-02, 417-19, 490-96. Fluid
25 BW/15 min. Tg bled to 50#. Fluid thru
25 BW + sm amt sand/16 hrs. Fluid thru
separator, 500 mCFGPD + 5.8C/4 hrs,
32 1/2" CK, FTP 100 #.
AT 12,451-801 12,000 gals 15% 4.8-100,
fluid 133.8C + 6.8 BW/21 mo, gas rate
1.8 mmCFGPD.

CACF 2372 mCFGPD (based on 4pt test)
SIBHP 7710 #

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 20, 1980

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: R. L. Goode

Re: Case No. 2719
Antelope Ridge Unit
Second Enlargement to
Initial Participating
Area for the Morrow
Formation

Gentlemen:

We hereby approve the Second Enlargement to the Initial Participating Area for the Morrow Formation for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Two approved copies of the Enlargement are returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/EP/fd
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C
O
P
Y

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

February 8, 1980

Subject: Second Enlargement to Initial
Participating Area-Morrow Formation
Antelope Ridge Unit
Lea County, New Mexico
Contract No. 14-08-001-8492

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

State of New Mexico
Oil Conservation Division
Energy and Mineral Department
P. O. Box 2088
State Land Office Building
Santa Fe, NM 87501

2719
OK for approval
E/P
3/19/80

Gentlemen:

Shell Oil Company, as Unit Operator, respectfully submits for your approval the enclosed application for the Second Enlargement to the Initial Participating Area for the Morrow formation, Antelope Ridge Unit, Lea County, New Mexico.

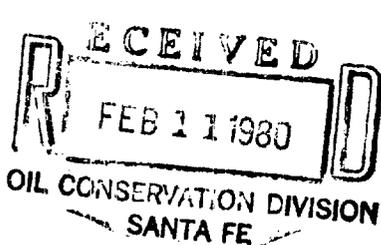
Yours very truly,

R. L. Goode

R. L. Goode
Land Department
Mid-Continent Division

RLG:HJ

Enclosure



Shell Oil Company



P.O. Box 991
Houston, Texas 77001

FEBRUARY 5, 1980

THE DIRECTOR
UNITED STATES GEOLOGICAL SURVEY
WASHINGTON, D. C.

STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS
OIL AND GAS DIVISION
POST OFFICE BOX 1148
SANTA FE, NEW MEXICO 87501

THROUGH:

AREA OIL AND GAS SUPERVISOR
UNITED STATES DEPARTMENT OF THE
INTERIOR
GEOLOGICAL SURVEY
POST OFFICE BOX 26124
ALBUQUERQUE, NEW MEXICO 87125

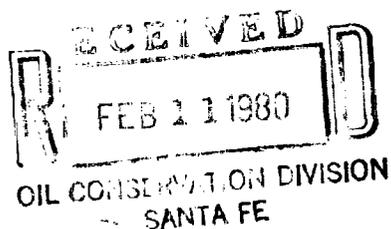
STATE OF NEW MEXICO
OIL CONSERVATION DIVISION ✓
ENERGY AND MINERAL DEPARTMENT
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Gentlemen:

ANTELOPE RIDGE UNIT (14-08-001-8492) LEA COUNTY, NEW MEXICO
SECOND ENLARGEMENT TO INITIAL PARTICIPATING AREA - MORROW FORMATION

The Antelope Ridge Unit #6 has been tested from both Atoka and Morrow formations, and has been demonstrated to be potentially productive from both. Because of mechanical problems, it is impossible at present to open the Morrow to production. Rather than risk damaging the Atoka formation by attempting to change the downhole equipment at the present time, the Atoka has been put on production for an extended test. Since it has been shown to be potentially productive from the Morrow, it is necessary, under the requirements of Section 11 of the Antelope Ridge Unit Agreement (No. 14-08-001-8492), that Shell Oil Company, as Unit Operator, make application for the Second Enlargement to the Initial Participating Area for the Morrow Formation. With this letter, such application is made.

Under the proposed enlargement, 480.09 acres will be added to the participating area. The Morrow Participating Area will be increased from the 2879.71 acres established in 1967, to 3359.80 acres. As proposed, the boundaries of this enlargement will be established by the same approach used to define both the initial Participating Area and the First Enlargement to the Morrow. The additional acreage includes



the 160-acre governmental quarter section on which Antelope Ridge Unit No. 6 is located plus the adjoining quarter sections, insofar as they lie within the unit boundaries and are not presently within the Participating Area.

The enlarged Participating Area will include the following lands:

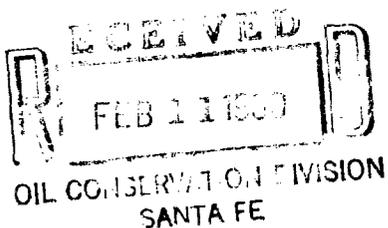
All Section 27, E/2 Section 28, NE/4 and S/2 Section 33,
All Section 34, T 23 S, R 34 E; All Section 3 and
all Section 4, T 24 S, R 34 E.

It is proposed that the enlargement to the Morrow Participating Area be made effective January 1, 1980, the first day of the first full month during which Unit Well No. 6 was produced. On September 26, 1979 it was tested from the Morrow formation, with a calculated open flow potential of 7.0 MMCFPD. There was no condensate recovered from the Morrow Formation. A shut in bottom hole pressure of 6850 psi was recorded in the Morrow. This approximates the pressure of undrained Morrow reserves in the area. Because of mechanical problems and the attempted dual completion with the Atoka Formation, no production came from the well until the last weekend of December, 1979. And even at this point, no gas is being produced from the Morrow Formation. Based upon these tests, however, it is the Operator's opinion that the Antelope Ridge Unit Well No. 6 is capable of producing gas in paying quantities from the Morrow formation. Moreover, as it is mechanically feasible, gas will be produced from this formation. The cited acreage is thereby entitled to be included in the Morrow Participating Area.

The following supporting data are attached:

1. Schedule 1, showing the percentage participation of each lease included or partially included in the enlarged Morrow Participating Area.
2. Exhibit No. 1, plat of the Antelope Ridge Unit showing structure contours on top of the Morrow Formation with the proposed Morrow participation boundaries.
3. Exhibit No. 2, cross-section of the Morrow Formation showing correlations and related test data.

In the opinion of the Operator, the lands covered by this application comprise the total unitized area which can be regarded as reasonably



proved to be productive of hydrocarbons in paying quantities. Therefore, your approval of this application for the Second Enlargement to the Initial Participating Area for the Morrow formation is respectfully requested.

SHELL OIL COMPANY
Unit Operator

R. D. Butler
for W. W. Dover
Division Production Manager
Mid-Continent Division

LAP:jnk
Attachments

Approved _____ Date _____
Director, United States Geological Survey

Approved _____ Date _____
Commissioner of Public Lands
State of New Mexico

Approved *James H. Gray* _____ Date 2/21/80
Secretary-Director
New Mexico Oil Conservation Division

RECEIVED
FEB 11 1980
OIL CONSERVATION DIVISION
SANTA FE

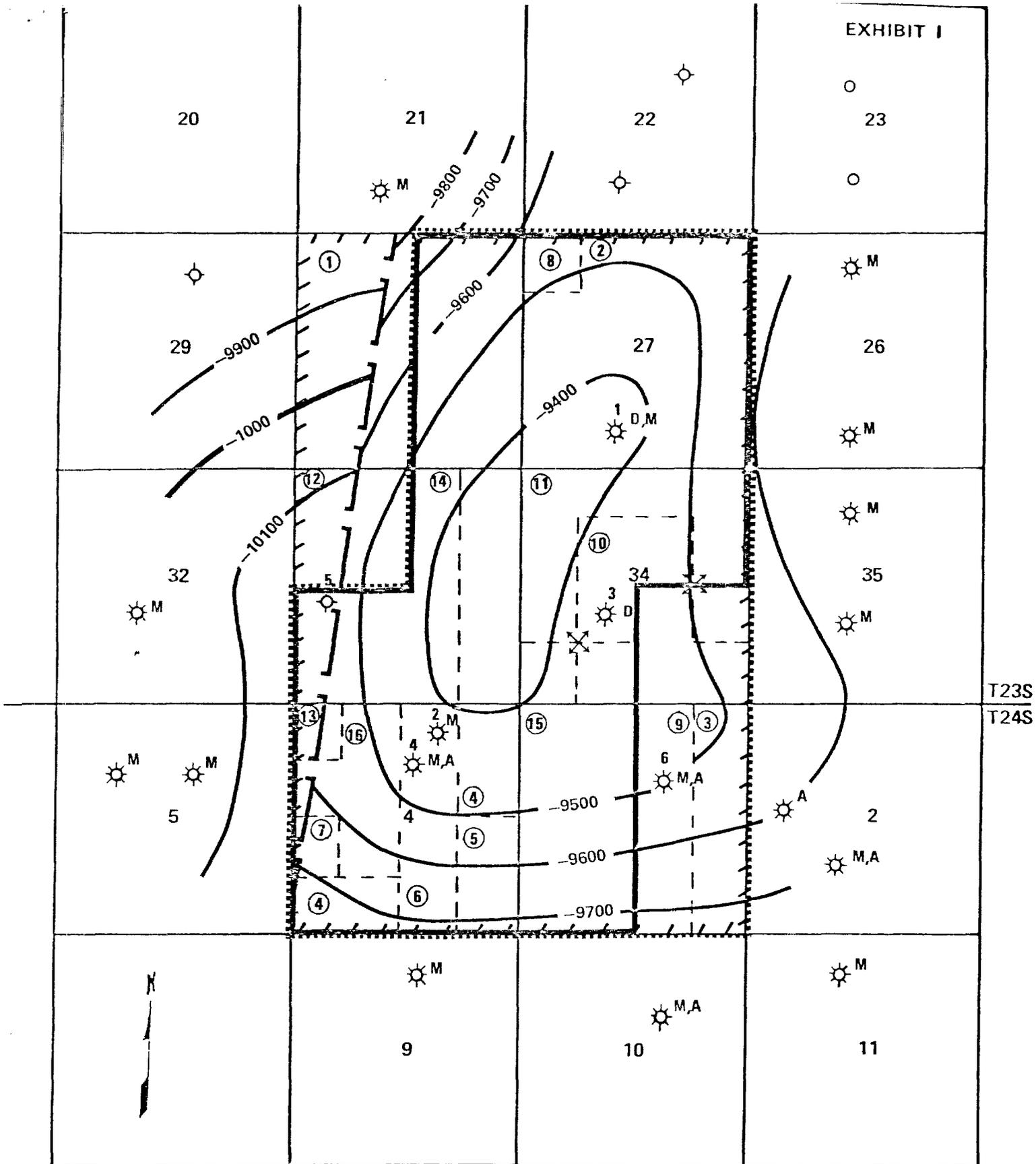
ANTELOPE RIDGE UNIT
SECOND ADJUSTMENT TO INITIAL PARTICIPATING AREA
MORROW FORMATION

SCHEDULE I

<u>Working Interest Owner</u>	<u>Lease Serial No.</u>	<u>Mineral Owner</u>	<u>Tract Number</u>	<u>Description</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Shell Oil Company	LC 067715	U.S.	1	E/2 Sec. 28-23S-34E	320.00	9.5244
Shell Oil Company	LC 071949	U.S.	2	S/2, NE/4, E/2 NW/4, SW/4 NW/4	600.00	17.8582
Continental Oil Company	NM 02377	U.S.	3	Sec. 27-23S-34E	160.05	4.7637
Shell Oil Company	NM 07199-B	U.S.	4	E/2 E/2, Sec. 3-24S-34E	159.98	4.7616
Shell Oil Company	NM 07199-C	U.S.	5	Lot 1, SE/4 NE/4, S/2 SW/4	80.00	2.3811
Shell Oil Company	NM 021422	U.S.	6	Sec. 4-24S-34E	159.94	4.7604
Continental Oil Company	NM 045352	U.S.	7	E/2 SE/4 Sec. 4-24S-34E	40.00	1.1905
Shell Oil Company	NM 0155160	U.S.	8	Lot 2, SW/4 NE/4, W/2 SE/4	40.00	1.1905
Shell Oil Company	NM 0327106	U.S.	9	Sec. 4-24S-34E	160.04	4.7634
Shell Oil Company	E 8078	State N.M.	10	NW/4 SW/4 Sec. 4-24S-34E	200.00	5.9527
Shell Oil Company	06-20	State N.M.	11	NW/4 NW/4 Sec. 27-23S-34E	440.00	13.0960
Shell Oil Company	K-280	State N.M.	12	W/2 E/2 Sec. 3-24S-34E	160.00	4.7622
Shell Oil Company	K-1124	State N.M.	13	SE/4 & S/2 SE/4 Sec. 34-23S-34E	39.86	1.1864
Shell Oil Company	K-2149	State N.M.	14	Lot 4 Sec. 4-24S-34E	320.00	9.5244
Shell Oil Company	-	Merrimen et al.	15	W/2 E/2, SW/4 Sec. 33-23S-34E	320.03	9.5253
Shell Oil Company	-	Neblett et al.	16	Lots 3 & 4, S/2 NW/4, SW/4	159.90	4.7592
				Sec. 3-24S-34E		
				Lot 3, S/2 NW/4, NE/4 SW/4,		
				Sec. 4-24S-34E		
				Total	3359.80	100.0000

SUMMARY SCHEDULE I

Total Federal Lands	1720.01	51.1938
Total State Lands	1159.86	34.5217
Total Fee or Other Lands	479.93	14.2845
Total Productive Acreage	3359.80	100.0000



- ☀ D=DEVONIAN PRODUCER
- ☀ M=MORROW PRODUCER
- D,M,A A=ATOKA PRODUCER
- ⊕ DRY HOLE
- ④ TRACT NUMBER - SEE SCHEDULE II
- ▬▬▬ UNIT OUTLINE
- ▬▬▬ PRESENT MORROW PARTICIPATING AREA
- ⋯⋯⋯ PROPOSED MORROW PARTICIPATING AREA

ANTELOPE RIDGE UNIT
 T23 & 24S, R34E
 LEA COUNTY, NEW MEXICO
 STRUCTURE MAP-MORROW FM.

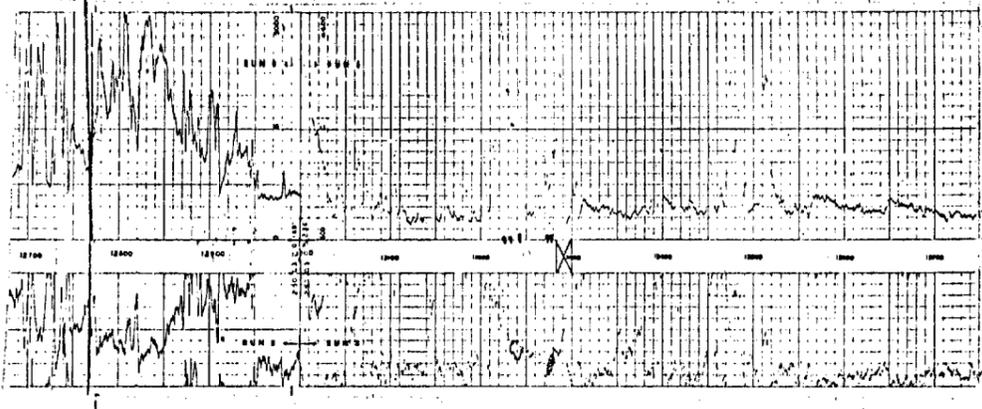


ANTELOPE RIDGE UNIT #1
DF 3475'

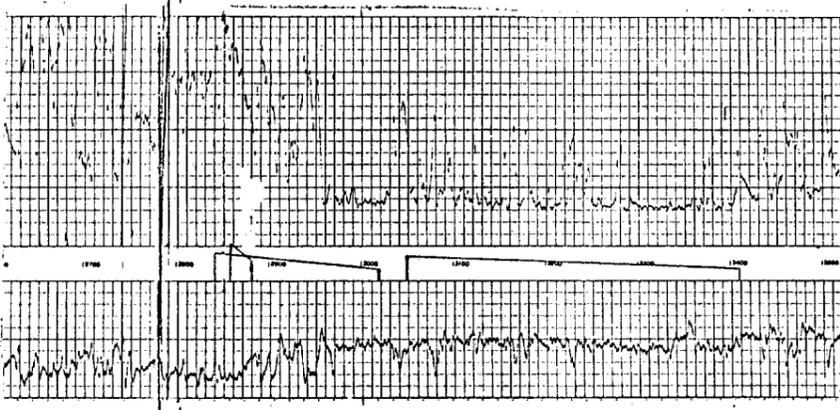
ANTELOPE RIDGE UNIT #3
DF 3440'

ANTELOPE RIDGE UNIT #2
DF 3567'

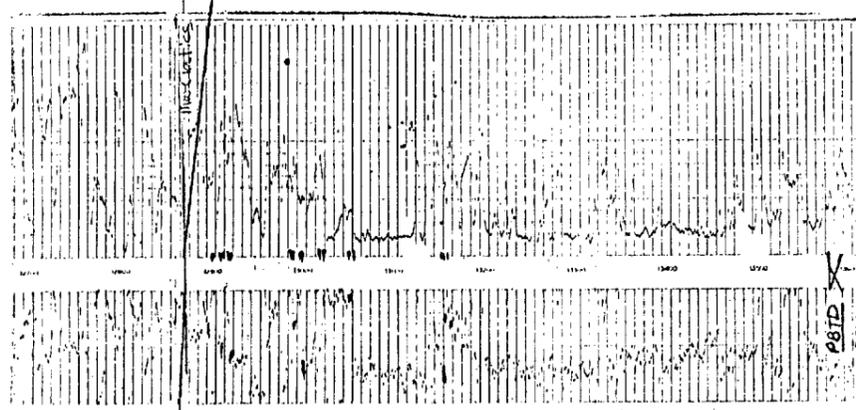
ANTELOPE RIDGE UNIT #6
KB 3525'



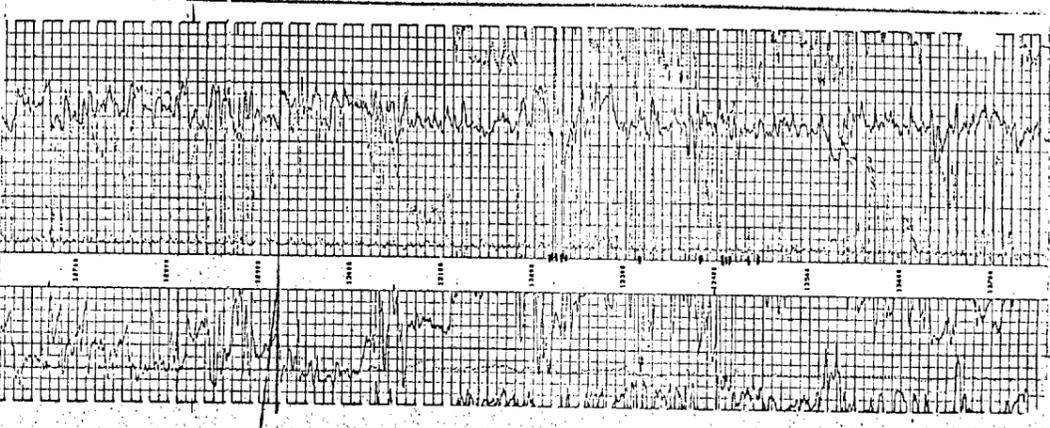
PBD 13,282'
Perf 13,226', 13,232', 13,241', 13,257',
13,278' Natural
IP (1-5-67) CAF 9,005 mmCFEPD +
7580/mmCFEPD
Pst based on 5-point test.
Gas Gty .575
Cond 375 ft



DST 12,840 - 13,066', op 4 hrs. GTS in
10 mins @ 3600 mCF, incr to 2680 MCF,
SRP 710 - 735 # thru 5 1/8" ck. Rec 530
HGM. 1 hr 15 min ISIP 8851 #,
FP 2586 - 1449 #. 3 hr 30 min FSIP 8191 #.
DST 13,039 - 397', op 1 hr 30 mins, used
4000' N2O. Rec 300' DM. 1 hr ISIP
3365 #, FP 2724 - 2756 #. 2 hr FSIP 3653 #.
DST 12,845 - 870', op 24 hrs 3 mins, used
4600' WB. WBTS in 14 mins, GTS in
23 mins. Flow to pits 1 hr, 25 mins.
Flow 5500 mCFEPD for 1 hr, FSP 1285 #
Flow 5725 mCFEPD thru 4 1/2" ck, FTP 1235 #
Flow 3890 mCFEPD thru 1" ck, after 2 hrs
30 mins ISIP 8818 #, FP 3504 - 1666 #.
6 hr 30 min FSIP 6168 #



Perf 12,898, 903, 909, 910, 913-16,
982-86, 993-94, 13,118-120, 147-151'
4 - Print Test
TABLE FTP Gas Volume Cond.
2 hrs 6435 5086 MCFPD 2-5 BC
2 hrs 6555 9439 MCFPD 4 BC
2 hrs 6320 11,310 MCFPD 7 BC
2 hrs 5720 13,728 MCFPD 4.5 BC
CAF 38,000 mCFEPD (9-25-63)
(Well blew out at 12,250' at rate of
25 MCFEPD thru one 1/4" and two
2" flow lines. Multi-point test indicated
CAF 15.5 mmCFEPD, 14 hrs 51.7P 4200 #)

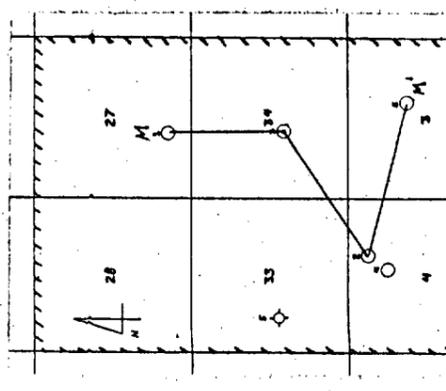


Perf 13,216-35', 13,316-17', 13,382-85',
13,406-10', 13,634-35', 13,643'. Well pressure
came up to 2000 #, flow at 5.5 mmCFEPD,
no flow, thru 1 1/2" ck, FTP 750 #
CAF 7011 MCFEPD
SIBHP 6850 #

M
-9300 Subsea

MORROW

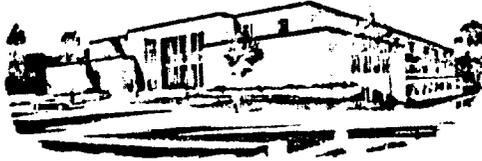
MORROW CROSS-SECTION



State of New Mexico



ALEX J. ARMIJO
COMMISSIONER



Commissioner of Public Lands
February 12, 1980

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

2719
Re: First Enlargement to Initial
Participating Area-Atoka Formation
Antelope Ridge Unit
Lea County, New Mexico
Contract No. 14-08-001-8492

ATTENTION: Mr. R. L. Goode

Gentlemen:

The Commissioner of Public Lands has this date approved the First Enlargement to Initial Participating Area, Atoka Formation, Antelope Ridge Unit, Lea County, New Mexico. Therefore, the Atoka Participating Area will thereby be increased from the 1439.71 acres established in 1966, to 1919.80 acres. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy for your files. In the future please submit Three (3) copies of your application to this office.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
Ac 505-827-2748

AJA/RDG/s
encls.

cc: OCD-Santa Fe, New Mexico
USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico

State of New Mexico



Commissioner of Public Lands

February 12, 1980

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

2719
Re: Second Enlargement to Initial
Participating Area-Morrow Formation
Antelope Ridge Unit
Lea County, New Mexico
Contract No. 14-08-001-8492

ATTENTION: Mr. R. L. Goode

Gentlemen:

The Commissioner of Public Lands has this date approved the Second Enlargement to the Initial Participating Area, Morrow Formation, Antelope Ridge Unit, Lea County, New Mexico. Such enlargement will add 480.09 acres to the participating area. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy for your files. In the future please submit three (3) copies of your application to this office.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505-827-2748

AJA/RDG/s

encls.

cc: OCD-Santa Fe, New Mexico ✓
 USGS-Roswell, New Mexico
 USGS-Albuquerque, New Mexico

State of New Mexico



ALEX J. ARMIJO
COMMISSIONER



Commissioner of Public Lands

December 5, 1979

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

2719

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Re: Antelope Ridge Unit
Lea County, New Mexico
Amendment to 1979 Plan of Development

ATTENTION: Mr. W. W. Dover

Gentlemen:

The Commissioner of Public Lands has this date approved your Amendment to the 1979 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico. Such plan proposes the drilling of Unit Well # 7. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy for your files.

In the future please submit three (3) copies to this office together with a Three (\$3.00) Dollar filing fee. Please remit three (\$3.00) Dollars for the filing of this amended Plan of Development.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:

FLOYD O. PRANDO, Assistant
Director, Oil & Gas Division
AC 505-827-2748

AJA/RDG/s
encl.
cc:

OCD-Santa Fe, New Mexico ✓
USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

January 7, 1980

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: W. W. Dover

Re: Case No. 2719
Antelope Ridge Unit
Amendment to 1979
Plan of Development

Gentlemen:

We hereby approve the Amendment to 1979 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

One approved copy of the Amended Plan of Development is returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/EP/fd
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

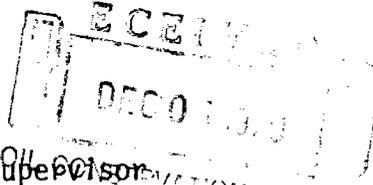
C
O
P
Y

Shell Oil Company



P.O. Box 991
Houston, Texas 77001

November 27, 1979



Area Oil and Gas Supervisor
United States Department of the Interior,
Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

State of New Mexico
Commissioner of Public Lands
Oil and Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87501

State of New Mexico
Oil Conservation Division
Energy and Mineral Department
Post Office Box 2088
State Land Office Bldg.
Santa Fe, New Mexico 87501

*2719
OK for approval
1/4/80
E/P*

Gentlemen:

ANTELOPE RIDGE UNIT, LEA COUNTY, NEW MEXICO
AMENDMENT TO 1979 PLAN OF DEVELOPMENT

In January of 1979, Shell Oil Company submitted a plan of development for the Antelope Ridge Unit which called for the drilling of one well, the Antelope Ridge Unit #6, at 1980' FNL and 1980' FEL, Sec. 3, T 24 S, R 34 E, Lea County, New Mexico. This well has been drilled and is currently being tested.

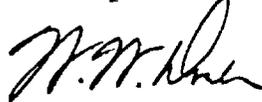
Based upon a preliminary evaluation of the ARU #6, and upon the apparent success of other operators in the Antelope Ridge Morrow/Atoka field, we believe that further development of the Antelope Ridge Unit is warranted at this time. We therefore request approval to drill an additional well in this unit at the following location:

Antelope Ridge Unit #7: 1650' FNL, 1980' FEL, Sec. 27,
T 23 S, R 34 E, Lea Co., New Mexico.

It is anticipated that a rig will become available during the

fourth quarter of 1979 for the drilling of this well. We therefore request your early consideration of this development plan.

SHELL OIL COMPANY
Unit Operator



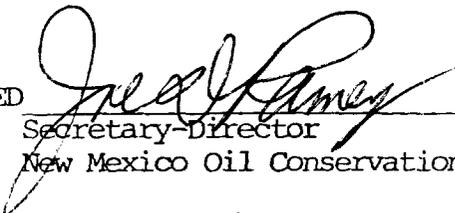
W. W. Dover
Division Production Manager
Mid-Continent Division

LAP:jnk

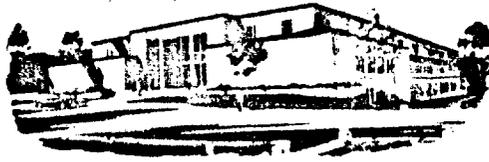
cc: Continental Oil Company
P. O. Box 1959
Midland, Texas 79702

APPROVED _____ DATE _____
Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

APPROVED _____ DATE _____
Commissioner of Public Lands
State of New Mexico

APPROVED  _____ DATE 1/7/80
Secretary-Director
New Mexico Oil Conservation Division

State of New Mexico



Commissioner of Public Lands

February 20, 1979



ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Shell Oil Company
Entex Building, Room 1972
P. O. Box 991
Houston, Texas 77001

2719

Re: Antelope Ridge Unit
1979 Plan of Development
Lea County, New Mexico

ATTENTION: Debra A. Williams

Gentlemen:

The Commissioner of Public Lands has this date approved your 1979 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico. Such plan was approved by the USGS January 19, 1979 and by the Oil Conservation Division February 8, 1979.

Your plan calls for the drilling of well No. 6.

Enclosed are two (2) approved copies of the plan.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

AJA/RDG/s
encl.

cc: OCD-Santa Fe, New Mexico
 USGS-Roswell, New Mexico
 USGS-Albuquerque, New Mexico

February 27, 1979

NOTE:

January 10, 1979, a copy of this letter was mailed to you noting that another copy with all three signatures would be mailed at a later date. This is your final copy of this letter.



P.O. BOX 991
HOUSTON, TEXAS 77001

January 10, 1979

Subject: Antelope Ridge Unit
1979 Plan of Development
Lea County, New Mexico

Area Oil and Gas Supervisor (4)
United States Department of the Interior
Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

State of New Mexico (3)
Commissioner of Public Lands
Oil and Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87501

State of New Mexico (2)
Oil Conservation Division
Energy and Mineral Department
Post Office Box 2088
State Land Office Bldg.
Santa Fe, New Mexico 87501

W. 2/19

RECEIVED
MAR 01 1979
OIL CONSERVATION DIVISION
SANTA FE

The following is a review of the status of past development plans for the subject unit and request for approval of addition development plans.

1. Approval was requested in 1974 to dually complete the Antelope Ridge Unit No. 3, 1980' FSL and 1650' FWL, Section 34, T23S, R34E, Lea County, New Mexico as a Devonian/Morrow producer. Further study of this project, however, indicated that the risk of losing the Devonian while completing the Morrow was too great to make the project feasible. The Devonian zone was lost while attempting to make a dual completion with the Morrow in the Antelope Ridge Unit No. 1, in Section 27, adjacent to Section 34.
2. Shell Oil Company was granted approval in 1974 to drill Antelope Ridge Unit No. 5 at 2310' FSL and 990' FWL, Section 33, T23S, R34E, Lea County, New Mexico. As you are aware, this project resulted in a dry hole.

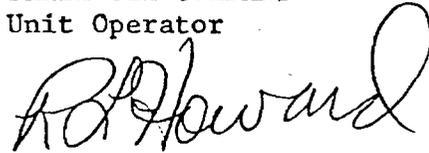
RECEIVED
JAN 12 1979

RECEIVED
JAN 12 1979
OIL & GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

- 3. We request approval to drill a well, Antelope Ridge Unit No. 6, at 1980' FNL, and 1980' FEL, Section 3, T24S, R34E, Lea County, New Mexico, as an Atoka development to offsetting production. The Morrow will also be examined in this 13,665 foot test. Drilling is expected to commence early in 1979.

Further development of the field is dependent on the information obtained from the Antelope Ridge Unit No. 6.

SHELL OIL COMPANY
Unit Operator



R. L. Howard
Division Production Manager
Mid-Continent Division

LAP:DAW

cc - Continent Oil Company
P. O. Box 1959
Midland, Texas 79702

APPROVED *James W. Luthrland* DATE JAN 19 1979
Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

APPROVED *Alex J. Arriaga* DATE February 20, 1979
Commissioner of Public Lands
State of New Mexico

APPROVED *James D. Pomeroy* DATE 2/8/79
Secretary-Director
New Mexico Oil Conservation Division

RECEIVED
FEB 9 1979
STATE OF NEW MEXICO
SANTA FE, N.M.

BY APPROVAL CLERKED SUBJECT TO LIKE APPROVAL
FOR THE UNITED STATES GEOLOGICAL SURVEY
MIDLAND, TEXAS
BY THE CLERK OF THE SURVEY

January 30, 1979

Gentlemen:

I am sending you a copy of this letter because it has been brought to my attention you have not received the original copy for your signature as of yet. Until you do receive the original, here is a copy for your file.

no. 2719

JAN 10 1979

**Subject: Antelope Ridge Unit
1979 Plan of Development
Lea County, New Mexico**

Area Oil and Gas Supervisor (4)
United States Department of the Interior
Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

State of New Mexico (3)
Commissioner of Public Lands
Oil and Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87501

State of New Mexico (2)
Oil Conservation Division
Energy and Mineral Department
Post Office Box 2088
State Land Office Bldg.
Santa Fe, New Mexico 87501

Gentlemen:

The following is a review of the status of past development plans for the subject unit and request for approval of addition development plans.

1. Approval was requested in 1974 to dually complete the Antelope Ridge Unit No. 3, 1980' FSL and 1650' FWL, Section 34, T23S, R34E, Lea County, New Mexico as a Devonian/Morrow producer. Further study of this project, however, indicated that the risk of losing the Devonian while completing the Morrow was too great to make the project feasible. The Devonian zone was lost while attempting to make a dual completion with the Morrow in the Antelope Ridge Unit No. 1, in Section 27, adjacent to Section 34.
2. Shell Oil Company was granted approval in 1974 to drill Antelope Ridge Unit No. 5 at 2310' FSL and 990' FWL, Section 33, T23S, R34E, Lea County, New Mexico. As you are aware, this project resulted in a dry hole.

3. We request approval to drill a well, Antelope Ridge Unit No. 6, at 1980' PNL, and 1980' FEL, Section 3, T24S, R34E, Lea County, New Mexico, as an Atoka development to offsetting production. The Morrow will also be examined in this 13,665 foot test. Drilling is expected to commence early in 1979.

Further development of the field is dependent on the information obtained from the Antelope Ridge Unit No. 6.

SHELL OIL COMPANY
Unit Operator

Original Signed By
R. L. HOWARD

R. L. Howard
Division Production Manager
Mid-Continent Division

LAP:DAW

cc - Continent Oil Company
P. O. Box 1959
Midland, Texas 79702

APPROVED _____

DATE _____

Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

APPROVED _____

DATE _____

Commissioner of Public Lands
State of New Mexico

APPROVED _____

DATE _____

Secretary-Director
New Mexico Oil Conservation Division

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 9, 1979

Shell Oil Company
P. O. Box 991
Houston, Texas 77001

Attention: R. L. Howard

Re: Case No. 2719
Antelope Ridge Unit
1979 Plan of Development

Gentlemen:

We hereby approve the 1979 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Two approved copies of the Plan of Development are returned herewith.

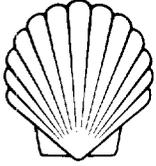
Yours very truly,

JOE D. RAMEY
Director

JDR/LT/fd
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C
O
P
Y



SHELL OIL COMPANY

P.O. BOX 991
HOUSTON, TEXAS 77001

February 5, 1979

State of New Mexico (2)
Oil Conservation Division
Energy and Mineral Department
Post Office Box 2088
State Land Office Bldg.
Santa Fe, NM 87501

Approved
No. 2719
FEB 15 1979

Gentlemen:

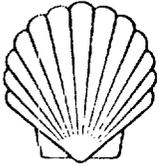
Please sign the plan development and return it to us.

When all three signatures have been obtained, a copy will be forwarded to you.

Thank you.

Marilyn Taylor

Marilyn Taylor
Room 1972
Entex Building



SHELL OIL COMPANY

P.O. BOX 991
HOUSTON, TEXAS 77001

January 10, 1979

Subject: Antelope Ridge Unit
1979 Plan of Development
Lea County, New Mexico

Area Oil and Gas Supervisor (4)
United States Department of the Interior
Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

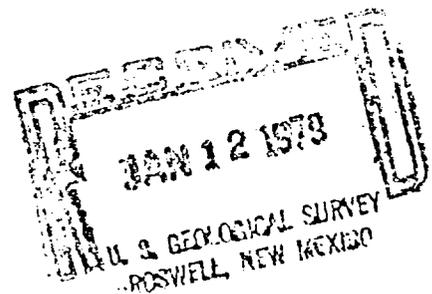
State of New Mexico (3)
Commissioner of Public Lands
Oil and Gas Division
Post Office Box 1148
Santa Fe, New Mexico 87501

State of New Mexico (2)
Oil Conservation Division
Energy and Mineral Department
Post Office Box 2088
State Land Office Bldg.
Santa Fe, New Mexico 87501

Gentlemen:

The following is a review of the status of past development plans for the subject unit and request for approval of addition development plans.

1. Approval was requested in 1974 to dually complete the Antelope Ridge Unit No. 3, 1980' FSL and 1650' FWL, Section 34, T23S, R34E, Lea County, New Mexico as a Devonian/Morrow producer. Further study of this project, however, indicated that the risk of losing the Devonian while completing the Morrow was too great to make the project feasible. The Devonian zone was lost while attempting to make a dual completion with the Morrow in the Antelope Ridge Unit No. 1, in Section 27, adjacent to Section 34.
2. Shell Oil Company was granted approval in 1974 to drill Antelope Ridge Unit No. 5 at 2310' FSL and 990' FWL, Section 33, T23S, R34E, Lea County, New Mexico. As you are aware, this project resulted in a dry hole.



- 3. We request approval to drill a well, Antelope Ridge Unit No. 6, at 1980' FNL, and 1980' FEL, Section 3, T24S, R34E, Lea County, New Mexico, as an Atoka development to offsetting production. The Morrow will also be examined in this 13,665 foot test. Drilling is expected to commence early in 1979.

Further development of the field is dependent on the information obtained from the Antelope Ridge Unit No. 6.

SHELL OIL COMPANY
Unit Operator



R. L. Howard
Division Production Manager
Mid-Continent Division

LAP:DAW

cc - Continent Oil Company
P. O. Box 1959
Midland, Texas 79702

APPROVED  DATE JAN 19 1979
Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

APPROVED _____ DATE _____
Commissioner of Public Lands
State of New Mexico

APPROVED  DATE 2/8/79
Secretary-Director
New Mexico Oil Conservation Division



United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Box 26124
Albuquerque, New Mexico 87125

JAN 19 1979

Shell Oil Company
Attention: Mr. R. L. Howard
P. O. Box 1509
Midland, Texas 79701

No. 2719

Gentlemen:

Two approved copies of your 1979 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, proposing the drilling of unit well No. 6 to test the Atoka and Morrow formations, are enclosed. Such plan was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

(ORIG. SGD.) JAMES W. SUTHERLAND

Oil and Gas Supervisor, SRMA

Enclosures (2)

cc:

NMOCD, Santa Fe (ltr. only)

Com. Pub. Lands, Santa Fe (ltr. only)

This Copy for



SHELL OIL COMPANY

P. O. Box 1858
Roswell, New Mexico

January 9, 1963

Subject: Lea County, New Mexico
Antelope Ridge Unit

Commissioner of Public Lands
State of New Mexico
P. O. Box 791
Santa Fe, New Mexico

Attention Mrs. Marian M. Rhea, Supervisor, Unit Division

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

The Antelope Ridge Unit has now been approved by the Director of the United States Geological Survey, effective December 27, 1962, and we are, therefore, enclosing a fully executed copy of the Unit Agreement and the Unit Operating Agreement for your information and files.

As a matter of information, the unit test located in Lot 2 of Section 4, T-24-S, R-34-E, is still drilling. The total depth is 12,986 feet, and we are presently fishing for drill collars and drill pipe, which are stuck in the bottom of the hole. The top of the fish is at 12,153 feet.

If there is anything further that you require in connection with this unit, please do not hesitate to call on us.

Yours very truly,

O. V. Lawrence
Roswell Division Land Manager

Enclosures

Case No. 2719
Order No. R-2389

December 10, 1962

Shell Oil Company
P. O. Box 1858
Roswell, New Mexico

Re: Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has approved as of this date the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey.

We are handing eight Certificates of Approval to Mr. Richard S. Morris of the firm of Seth, Montgomery, Federici and Andrews.

Also enclosed is Official Receipt No. G 7511 in the amount of Thirty (\$30.00) Dollars.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:

(Mrs.) Marian M. Rhea, Supervisor
Unit Department

ESW/mmr/v
enclosures

cc: Oil Conservation Commission
Santa Fe, New Mexico

U. S. Geological Survey
Roswell, New Mexico
Attention: Mr. John A. Anderson



SHELL OIL COMPANY

P. O. Box 1858
Roswell, New Mexico

November 29, 1962

Subject: Lea County, New Mexico
Antelope Ridge Unit

Commissioner of Public Lands
State of New Mexico
P. O. Box 791
Santa Fe, New Mexico

Attention Mrs. Marian M. Rhea, Supervisor
Unit Division

Dear Sir:

In accordance with our recent discussion with Mrs. Marian M. Rhea in connection with the above mentioned Unit, we are enclosing the following:

1. Application for Designation of the Antelope Ridge Unit Area together with Exhibits and enclosures mentioned therein. We ask that the geological report and seismic data be kept confidential.
2. Copy of our proposed Unit Agreement.
3. Copy of our proposed Operating Agreement.
4. Our draft No. MA10020 for \$30.00, representing the filing fee for this Unit.

As you know, we have scheduled a hearing before the Oil Conservation Commission for this Unit. It is Case 2719, and it is scheduled to be heard on December 6, 1962.

If there is anything further that you need in regard to this proposed Unit, please do not hesitate to call us collect at MAin 2-3242, Roswell, New Mexico.

Yours very truly,

O. V. Lawrence
Roswell Division Land Manager

cc - New Mexico Oil Conservation Commission - with all attachments except geological report (Exhibit B) and Enclosures 1 and 2 thereto.
P. O. Box 871
Santa Fe, New Mexico



APPLICATION FOR DESIGNATION OF
ANTELOPE RIDGE UNIT AREA
NOVEMBER 28, 1962

Commissioner of Public Lands
State of New Mexico
P. O. Box 791
Santa Fe, New Mexico

Attention Mrs. Marian M. Rhea, Supervisor
Unit Division

Shell Oil Company, a corporation with offices at Midland, Texas, hereby makes application for the designation of the Antelope Ridge Unit Area as an area logically subject to development under a unit plan of operation and in support thereof submits the following:

1. The area sought to be designated as the Antelope Ridge Unit Area is as shown on Exhibit "A", embracing 3839.80 acres, more or less, including 2040.01 acres (53.13%) of Federal land, 1319.86 acres (34.37%) of State of New Mexico land, and 479.93 acres (12.50%) of fee land.

2. There is attached and marked Exhibit "B" a geological report prepared by M. L. Robinson, Division Exploration Manager for Shell Oil Company. It is requested that the geological information contained in this report, along with the enclosures thereto, be kept confidential.

3. Determination of depth of test well: It is proposed that the initial test well be drilled to test formations of Devonian age or to a depth of 14,800 feet.

4. The leases included within the unit area are as follows:

<u>Federal Land</u>		
<u>Tract Number</u>	<u>Lease Number</u>	<u>Number of Acres</u>
1	LC067715	640.00
2	LC071949	600.00
3	NM02377	160.05
4	NM07199-B	159.98
5	NM07199-C	80.00
6	NM021422	159.94
7	NM045352	40.00
8	NM0155160	40.00
9	NM0327106	<u>160.04</u>
	Total	2040.01
<u>State of New Mexico Land</u>		
10	E-8078	200.00
11	00-20	440.00
12	K-280	320.00
13	K-1124	39.86
14	K-2149	<u>320.00</u>
	Total	1319.86
<u>Fee Land</u>		
15	- - -	320.03
16	- - -	<u>159.90</u>
	Total	479.93

We respectfully ask approval of this proposed unit area.

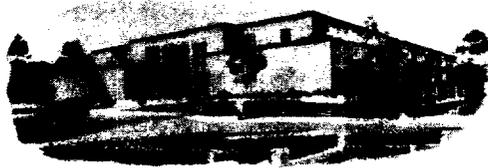
SHELL OIL COMPANY

By: O. V. Lawrence

O. V. Lawrence
Division Land Manager

State of New Mexico

TELEPHONE
505-827-2748



2719

Commissioner of Public Lands

May 5, 1976

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

PHIL R. LUCERO
COMMISSIONER

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Re: Antelope Ridge Unit
1976 Plan of Development
Lea County, New Mexico

ATTENTION: Mr. J. D. Hughes

Gentlemen:

The Commissioner of Public Lands has this date approved your 1976 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico. Your plan requests permission to delay the proposed dual completion of Antelope Ridge Unit No. 3, as a Devonian-Morrow producer. This approval is subject to like approval by the United States Geological Survey.

Enclosed is one approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

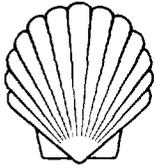
PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

PRL/RDG/s
encl.
cc:

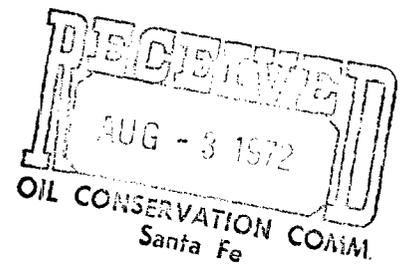
USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico





SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701



AUG 02 1972

**Subject: Antelope Ridge Unit
(14-08-0001-8492)
Lea County, New Mexico
Plan of Development,
Revision No. 2,
Calendar Year 1972**

**Commissioner of Public Lands
State of New Mexico
P. O. Box 1148
Santa Fe. NM 87501**

**Attention Mr. M. L. Long
Supervisor Unit Division**

Gentlemen:

Enclosed are ten copies of Revision No. 2 of the Plan of Development for the calendar year 1972 for the Antelope Ridge Unit. If this plan meets with your approval, please ratify and forward all copies to the Oil Conservation Commission for approval. We have furnished three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell, New Mexico for final ratification.

In addition, a draft in the amount of \$10 is enclosed to cover filing and handling of the attached documents.

When this instrument has been fully ratified, we will send approved copies to all parties.

Yours very truly,

Original Signed By
H. J. Conrad

**For: Jack L. Mahaffey
Production Manager
Mid-Continent Division**

RRS:RH

Enclosures

**cc - Regional Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, NM 88201**

**cc - New Mexico Oil Conservation Comm.
P. O. Box 871
Santa Fe, NM 87501**

ANTELOPE RIDGE UNIT
(NO. 18-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT, REVISION NO. 2
CALENDAR YEAR 1972

RECEIVED
AUG - 3 1972
OIL CONSERVATION COMM.
Santa Fe

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, NM 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, NM 87501

Oil Conservation Commission (2)
State of New Mexico
Post Office Box 871
Santa Fe, NM 87501

Gentlemen:

Shell Oil Company, as Unit Operator, hereby submits for your approval, Revision No. 2 of the Plan of Development for Calendar Year 1972.

Current development plans now include only the deepening of Antelope Unit No. 4 to the Morrow as previously submitted. The drilling of Antelope Ridge Unit No. 5 as a Devonian test has been deferred pending further analysis of reservoir performance data. The expense involved with drilling such a deep test requires that this additional study be made.

This revised plan is submitted for your consideration for the period ending December 31, 1972. It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

SHELL OIL COMPANY
Unit Operator

N. J. Conrad
For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

RRS:RH

APPROVED _____ DATE _____
Supervisor United States Geological Survey,
Subject to like approval by the appropriate
State officials.

APPROVED _____ DATE _____
Commissioner of Public Lands,
State of New Mexico

APPROVED _____ DATE _____
Secretary-Director, New Mexico Oil
Conservation Commission

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

SLO REF NO. OG-1050

March 27, 1989

Citation Oil & Gas Corporation
Attn: Tommy Deiss
16800 Greenspoint, S.Atrium, Ste. 300
Houston, Texas 77060-2304

#2719

Re: 1989 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development.

Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

cc: OCD
BLM

2719

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

SLO REF NO. OG-666

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

February 3, 1988

Shell Western E & P Inc.
ATTENTION: Mr. Floyd H. Paddock
P. O. Box 831
Houston, Texas 77001

Re: Designation of Agent
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

This office is in receipt of your letter of January 7, 1987, together with three originals of a document entitled "Designation of Agent" wherein the Unit Operator, Citation Oil and Gas Corp., has designated Shell Western E&P Inc. to drill the unit well no. 11 in the SE/4 of Section 33, Township 23 South, Range 34 East, Lea County, New Mexico.

The Commissioner of Public Lands has this date approved your request. Our approval is subject to like approval by the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

WILLIAM R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

WRH/FOP/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Roswell, New Mexico

State of New Mexico



RECEIVED
SEP - 9 1987



SLO REF. NO. OG-413

W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

September 4, 1987

Citation Oil & Gas Corp.
Attention: Debra Harris
16800 Greenspoint Park Drive
South Atrium, Suite 300
Houston, Texas 77060-2304

Re: Antelope Ridge Unit
1987 Plan of Development
Lea County, New Mexico

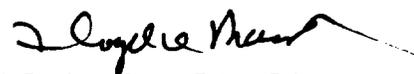
Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all appropriate agencies.

If we may be of further help, please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil & Gas Division
(505) 827-5744

WRH/FOP/ams
enclosure
cc: Bureau of Land Management
Oil Conservation Division

State of New Mexico



SLO REF NO. OG-36

W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

April 16, 1987

Citation Oil and Gas Corporation
ATTENTION: Mr. Bob A. Whitworth
16800 Greenspoint Drive
South Atrium, Suite 300
Houston, Texas 77060-2304

#2719

Re: 1987 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

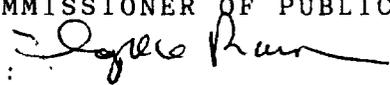
Our records reflect that the last Plan of Development for the above referenced unit was dated July 10, 1986 and covered the development period of 1986. Under the terms of Article 10 of the Unit Agreement, please submit your Plan of Development for 1987.

As part of your plan we require an up-to-date map of the unit area showing all wells and the zone(s) of completion. In addition please furnish a summary by months of the last years production history. Please be advised that the above information (map and production history) will be required by this office on all future Plans of Development that require the Land Commissioner's approval.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

WRH/FOP/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Roswell, New Mexico



TONY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

July 22, 1986

50 YEARS



1935 - 1985

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

#2719

Shell Western E&P Inc.
P. O. Box 576
Houston, Texas 77001

Attention: A. J. Fore

Re: First Supplement - 1986 Plan of
Development (POD)
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

The above-referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the Bureau of Land Management.

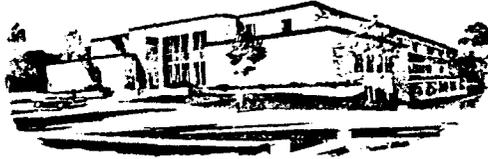
Sincerely,

ROY E. JOHNSON,
Senior Petroleum Geologist

REJ/dr

cc: Commissioner of Public Lands - Santa Fe
Bureau of Land Management - Albuquerque

State of New Mexico



SLO REF NO. OG-207

W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

June 17, 1987

Citation Oil and Gas Corp.
ATTENTION: Mr. Bob A. Whitworth
16800 Greenspoint Park Drive
South Atrium, Suite 300
Houston, Texas 77060-2304

Re: Designation of Unit Operator
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

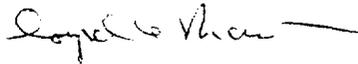
The Commissioner of Public Lands has this date approved the Resignation of Shell Western E & P Inc. and the Designation of Citation Oil and Gas Corporation as the successor unit operator for the Antelope Ridge Unit, Lea County, New Mexico. The Designation of Citation Oil and Gas Corp. is effective as of June 2, 1987, being the same date as approved by the Bureau of Land Management.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours

WILLIAM R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

WRH/FOP/PM
encls.

cc: BLM-Roswell, New Mexico Attn: Mr. Armando Lopez
OCD-Santa Fe, New Mexico



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Box 1397, Roswell, New Mexico - 88201

3180 (065)

JUL 24 1986

Shell Western E&P Inc.
Attention: A. J. Fore
P. O. Box 576
Houston, TX 77001

Re: First Revision - 1986 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

We are in receipt of the first revision to your 1986 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico.

Such plan proposing to recomplate Antelope Ridge Unit Well No. 7, located in SW¼NE¼, Sec. 27, T. 23 S., R. 34 E., N.M.P.M., is approved effective this date for the period January 1, 1986 to December 31, 1986. Such plan is subject to like approval by the appropriate officials of the State of New Mexico.

After recompletion in the Atoka Formation and when sufficient production data is obtained, please submit a commercial well determination for Unit Well No. 7 and subsequent participating area request for possible expansion of the Atoka participating area. Should you have additional questions, please call Les Babyak, Roswell District Office, (505) 622-9042.

Sincerely, *FL*

Orig. Sgd. Francis R. Cherry, Jr.

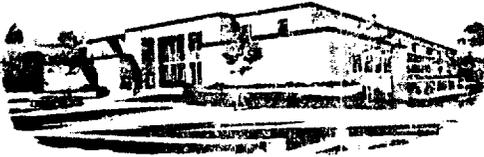
Francis R. Cherry, Jr.
District Manager

cc:

Commissioner of Public Lands
✓NMOCD, Santa Fe

State of New Mexico

JUL 24 1986



JIM BACA
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

July 22, 1986

Shell Western E&P Inc.
ATTENTION: Mr. A. J. Fore
P. O. Box 576
Houston, Texas 77001

Re: First Supplement
1986 Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved your First Supplement to the 1986 Plan of Development for the Antelope Ridge Unit Area, Lea County, New Mexico. Such plan proposes to abandon the Morrow zone in the Antelope Ridge Unit Well No. 7 and recomplete it in the Atoka zone.

Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

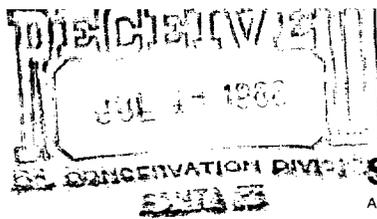
Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

JB/FOP/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Roswell, New Mexico Attn: Mr. Armando Lopez



Shell Western E&P Inc.
A Subsidiary of Shell Oil Company



P.O. Box 576
Houston, TX 77001

July 10, 1986

*D -
unit letter*

Bureau of Land Management
P. O. Box 1397
Roswell, NM 88201

State of New Mexico
Commissioner of Public Lands
P. O. Box 1148
Santa Fe, NM 87504-1148

State of New Mexico
Director of Oil Conservation Div.
Energy and Minerals Department
P. O. Box 2088
Santa Fe, NM 87504-2088

Gentlemen:

FIRST SUPPLEMENT - 1986 PLAN OF DEVELOPMENT (POD)
ANTELOPE RIDGE UNIT
LEA COUNTY, NEW MEXICO

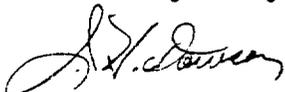
Shell Western E&P Inc. (SWEPI) respectfully requests your approval for the inclusion of the following well's recompletion into our 1986 POD:

<u>WELL</u>	<u>LOCATION</u>
Antelope Ridge No. 7	SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 27, T23S-R34E

We propose to abandon the Morrow zone (currently shut-in) and recomplete to the Atoka. The above location is highlighted on the attached plat.

Please consider this letter as a supplement to our 1986 POD. Should additional information or further clarification be needed, please contact A. J. Fore at (713) 870-3787.

Yours very truly,



For A. J. Fore
Supervisor Regulatory and Permitting
Production Administration
Western Division

JMW: CMM

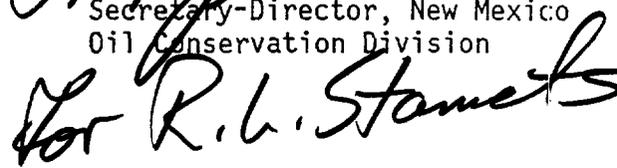
Attachment

cc: Continental Oil Company
P. O. Box 1959
Midland, TX 79702

Approved _____ Date _____
Bureau of Land Management

Approved _____ Date _____
Commission of Public Lands
State of New Mexico

Approved  _____ Date 7-21-86
Secretary-Director, New Mexico
Oil Conservation Division



BNA8619101

A=ATOKA PRODUCER
DRY HOLE

LEA COUNTY, NEW MEXICO



0' 2000' 4000'

DESIGNATION

Designation of Successor Unit Operator for the Antelope Ridge Unit Area, #14-08-0001-8492, County of Lea, State of New Mexico, more fully described as follows:

Township 23 South, Range 34 East

Section 27: All
Section 28: All
Section 33: All
Section 34: All

Township 24 South, Range 34 East

Section 3: Lots 1-4, S $\frac{1}{2}$ N $\frac{1}{2}$, S $\frac{1}{2}$
Section 4: Lots 1-4, S $\frac{1}{2}$ N $\frac{1}{2}$, SE $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$
Section 10: W $\frac{1}{2}$

Containing 4,119.80 acres, more or less.

THIS INDENTURE, dated as of the 15th day of April 1987, by and between Citation Oil & Gas Corp, designated as "First Party", and the owners of unitized working interests, hereinafter designated as "Second Parties,"

W I T N E S S E T H :

WHEREAS under the provision of the Act of 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, the Secretary of the Interior, on the 27th day of December, 1962, approved the Antelope Ridge Unit Area, wherein Shell Oil Company is designated as Unit Operator, and

WHEREAS Shell Western E&P Inc. has sold all of its interest in said unit, and the designation of a successor Unit Operator is now required pursuant to the terms thereof; and

WHEREAS the First Party has been and hereby is designated by Second Parties as Unit Operator, and said First Party desires to assume all the rights, duties, and obligations of Unit Operator under the said Unit Agreement;

OCD ✓

NOW, THEREFORE, in consideration of the premises hereinbefore set forth and the promises hereinafter stated, the First Party hereby covenants and agrees to fulfill the duties and assume the obligations of Unit Operator under and pursuant to all the terms of the Antelope Ridge Unit Agreement, and the Second Parties covenant and agree that, effective upon approval of this indenture by the authorized officer, First Party shall be granted the exclusive right and privilege of exercising any and all rights and privileges as Unit Operator, pursuant to the terms and conditions of said Unit Agreement; said Unit Agreement being hereby incorporated herein by reference and made a part hereof as fully and effectively as though said Unit Agreement were expressly set forth in this instrument.

IN WITNESS WHEREOF, the parties hereto have executed this instrument as of the date hereinabove set forth.

FIRST PARTY

CITATION OIL & GAS CORP.

[Signature]
Suzzy Cates
(Witnesses)

By *[Signature]*
Title RODNEY W. SMITH
Vice President

SECOND PARTY

SHELL WESTERN E&P INC.

(Witnesses)

By *[Signature]*
Title R. L. GOODE, ATTORNEY-IN-FACT

CONOCO INC.

[Signature]
Judy A. McLenore
(Witnesses)

By *[Signature]*
Title MANAGER
Attorney in Fact

I hereby approve the foregoing indenture designating CITATION OIL & GAS CORP. as Unit Operator under the Unit Agreement for the Antelope Ridge Unit Area, this 2nd day of June, 1987.

Sally Winsty

Acting ~~Associate~~

Approved... June 12, 1987
W. R. Humphries
COMMISSIONER OF PUBLIC LANDS

State of New Mexico

TELEPHONE
505-827-2748



Commissioner of Public Lands

December 3, 1974

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Re: Antelope Ridge Unit
1974 Plan of Development
Lea County, New Mexico

ATTENTION: Mr. Jack L. Mahaffey

Gentlemen:

The Commissioner of Public Lands has this date approved your 1974 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, proposing the conversion of unit well No. 3 from a Devonian to a Devonian-Morrow producer and the drilling of unit well No. 5 to the Morrow in the NW/4SW/4 of Section 33, Township 23 South, Range 34 East. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Enclosed is one approved copy of the plan.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Division

AJA/RDG/s
encl.
cc:

USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE NEW MEXICO 87501

December 5, 1974

2719

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. Jack L. Mahaffey

Re: 1974 Plan of Development
Antelope Ridge Unit,
Lea County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1974 Plan of Development dated November 21, 1974, for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

One approved copy of the plan of development is returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands
Santa Fe, New Mexico

U. S. Geological Survey
Box 1857
Roswell, New Mexico

C
O
P
Y



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

NOV 27 1974
OIL CONSERVATION COMM.
Santa Fe

November 26, 1974

Shell Oil Company
Attention: Mr. Jack L. Mahaffey
P.O. Box 1509
Midland, Texas 79701

Gentlemen:

Two approved copies of your 1974 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, are enclosed. Such plan, proposing the conversion of unit well No. 3 from a Devonian to a Devonian-Morrow producer and the drilling of unit well No. 5 to the Morrow in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 23 S., R. 34 E., N.M.P.M., was approved on this date subject to like approval by the appropriate official of the State of New Mexico.

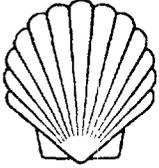
Sincerely yours,

(ORIG. SGD.) CARL C. TEAYWICK

CARL C. TEAYWICK
Acting Area Oil and Gas Supervisor

cc:
✓ NMOCC, Santa Fe (ltr only)
Com. Pub. Lands, Santa Fe (ltr only)
Hobbs (w/cy plan)

JAG:llham:ds



SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

November 21, 1974

Subject: Antelope Ridge Unit
1974 Plan of Development
Lea County, New Mexico

Oil and Gas Supervisor (4)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission (2)
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico 87501

Gentlemen:

The following is a review of the status of past development plans for the subject unit and request for approval of additional development plans.

1. Case No. 5118, Order R-4289-A effective December 11, 1973 authorized Shell Oil Company to indefinitely commingle production from the Pennsylvanian Morrow and Devonian Gas Pools in Antelope Ridge Well No. 2, located in Unit B of Section 4, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico. There are no further plans of development for the well.
2. Shell Oil Company was granted approval to deepen Antelope Ridge Well No. 4, located 990' FNL and 2310' FEL, Section 4, T24S, R34E, Lea County, New Mexico and complete in the Morrow Gas Pool after abandoning the Atoka by Order No. R-4350, Case No. 4762, issued July 25, 1972. Shell has completed this well in the Morrow and has no further plans of development for this well.
3. We request approval to dually complete the Antelope Ridge Unit No. 3, 1980' FSL and 1650' FWL, Sec. 34, T23S, R34E, Lea County, New Mexico as a Devonian/Morrow producer. The well is currently producing from the Devonian. We plan to start this work as equipment becomes available, probably during the 1st Quarter, 1975.
4. We also request approval to drill another well, Antelope Ridge Unit No. 5, at 2310' FSL and 990' FWL, Sec. 33, T23S, R34E, Lea County, New Mexico, as a single zone Morrow producer. We plan to begin drilling December 1.

Further drilling and development of the field is dependent on the results of the two projects listed above.

Since a rig will become available December 1 to drill Antelope Ridge Unit No. 5 (paragraph 4), Shell respectfully requests approval at your earliest possible convenience.

SHELL OIL COMPANY
Unit Operator

W. Fairbanks
For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

RHR:LA

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

APPROVED _____ DATE _____
Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

APPROVED _____ DATE _____
Commissioner of Public Lands
State of New Mexico

APPROVED *A. L. Bester, Jr.* DATE *December 5, 1974*
Secretary-Director
New Mexico Oil Conservation Commission



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

April 18, 1973

In reply refer to:
Gillham/Bagr.

Shell Oil Company
Attention: Mr. Jack L. Mahaffey
P.O. Box 1509
Midland, Texas 79701

Gentlemen:

Your 1973 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, wherein you propose to defer the repair of unit well No. 2 by recompleting such well to a single Devonian producer has been approved on this date subject to like approval of the appropriate officials of the State of New Mexico. The acceptance by this office to your commingling operation of the Morrow and Devonian in unit well No. 2, which was occasioned by a production packer failure, was predicated on a sufficient pressure draw-down of the combined production in order to effect a repair. However, such pressure draw-down could not be accurately predicted with respect to time.

Five approved copies of the plan are returned herewith.

Sincerely yours,

(ORIGINAL COPY)

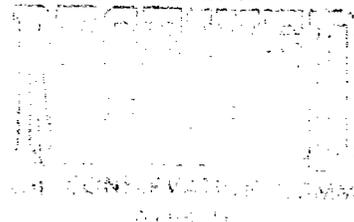
CARL C. FRAYWICK
Acting Area Oil and Gas Supervisor

cc:
Washington (thru Denver)(w/cy plan)
Hobbs (w/cy plan)
- ENMOCC, Santa Fe (ltr only)
Com. Pub. Lands, Santa Fe (ltr only)

JAGillham:ds

State of New Mexico

TELEPHONE
505-827-2748



Commissioner of Public Lands

April 23, 1973



ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Shell Oil Company
Attention: Mr. Jack L. Mahaffey
P. O. Box 1509
Midland, Texas 79701

Re: Antelope Ridge Unit
1973 Plan of Development
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved your 1973 Plan of Development for the Antelope Ridge Unit Area, Lea County, New Mexico. This plan proposes to defer the repair of unit well no. 2 by recompleting such well to a single Devonian producer. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

This office has no objection to your commingling operation of the Morrow and Devonian in unit well No. 2.

Enclosed is one approved copy of the plan.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s
encl.

cc: USGS-Roswell, New Mexico
OCC-Santa Fe, New Mexico

OIL CONSERVATION COMMISSION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

2719

April 5, 1973

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. Jack L. Mahaffey

Re: 1973 Plan of Development
Antelope Ridge Unit, Lea
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the calendar year 1973 for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

One approved copy of the plan is returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

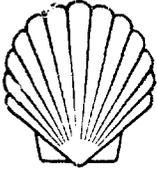
cc: United States Geological Survey
Box 1857
Roswell, New Mexico

Commissioner of Public Lands
Land Office Building
Santa Fe, New Mexico

P. S. This approval is of the 1973 plan of development only. As to extension of Order No. R-4289, please submit full details including calculated pressure draw-down in the Morrow formation in Well No. 2 prior to expiration date of April 17.

A. L. P. Jr.

C
O
P
Y



SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

April 2, 1973

Subject: Antelope Ridge Unit
(No. 14-08-0001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1973

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission (2)
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico 87501

Gentlemen:

The following is a review of the status of the development plans for the subject unit which we initiated in 1972 and a request for approvals needed to finalize these plans:

1. Shell Oil Company was granted approval to deepen Antelope Ridge Well No. 4, located 990' FNL and 2310' FEL, Section 4, T24S, R34E, Lea County, New Mexico and complete in the Morrow Gas Pool after abandoning the Atoka by Order No. R-4350, Case No. 4762, issued July 25, 1972. Shell has completed the well in the Morrow; however, the productivity is much less than anticipated. Our current plans are to stimulate the well by fracture treating in the hope of improving productivity.
2. Case No. 4690, Order R-4289, effective April 17, 1972, authorized Shell Oil Company to commingle production from the Pennsylvanian Morrow and Devonian Gas Pools in Antelope Ridge Well No. 2, located in Unit B of Section 4, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico. The order provided for allocating production

to each zone on the basis of H₂S content of the commingled stream as compared to the H₂S content of the Devonian gas from Antelope Ridge Well No. 3, located in Unit K of Section 34, Township 23 South, Range 34 East, NMPM. The order was to be effective for a period of one year or until gas pressures have decreased such that the well can be safely repaired, whichever occurs first.

- 3. The plan was to effect a good Morrow completion in Well No. 4 and then consider reworking Well No. 2 to try and convert the well to a single Devonian producer.

Because of the unforeseen difficulty in deepening Well No. 4, we have not completed operations to determine if this well will adequately drain the Morrow in Section 4. Since Order No. R-4289, authorizing Shell to commingle production from the Morrow and Devonian gas pools expires April 17, 1973, we hereby request an extension of this order until we complete operations in Well No. 4. A six month extension should suffice.

SHELL OIL COMPANY
Unit Operator

H. J. Conrad
For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

ACM:LA

APPROVED _____ DATE _____
Supervisor United States Geological Survey
Subject to like approval by the appropriate
State officials

APPROVED _____ DATE _____
Commissioner of Public Lands
State of New Mexico

APPROVED *A. L. Porter Jr.* DATE *April 5, 1973*
Secretary-Director
New Mexico Oil Conservation Commission

approval as to plan of development only.



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

August 10, 1972

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. Jack L. Mahaffey

Gentlemen:

Revision No. 2 of the 1972 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, was approved on this date subject to like approval by the appropriate officials of the State of New Mexico. Such revision affirms your proposed deepening of unit well No. 4 to the Morrow and defers the drilling of unit well No. 5 to the Devonian pending further study of reservoir performance.

Four approved copies of the revision are enclosed.

Sincerely yours,

(CRIG. 522)

CARL C. TRAYWICK
Acting Area Oil and Gas Supervisor

cc:
Washington (w/cy plan)
Hobbs (w/cy plan)
NMOCC, Santa Fe (ltr. only) ✓
Com. of Pub. Lands, Santa Fe (ltr. only)

JAGillham:lh

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

August 8, 1972

2719

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. Jack L. Mahaffey

Re: 1972 Plan of Development
Revision No. 2
Antelope Ridge Unit,
Lea County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved Revision No. 2 of the Plan of Development for the calendar year 1972 for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Seven approved copies of the plan are being forwarded to the United States Geological Survey, Roswell, New Mexico, and two copies returned to the Commissioner of Public Lands.

Very truly yours,

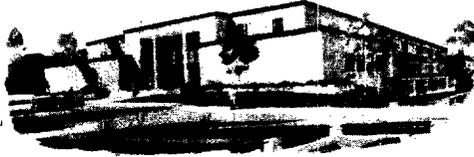
A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey - Roswell
Commissioner of Public Lands - Santa Fe

C
O
P
Y

State of New Mexico



Commissioner of Public Lands

August 7, 1972



ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Shell Oil Company
Petroleum Building
P. O. Box 1509
Midland, Texas 79701

Re: Antelope Ridge Unit
Lea County, New Mexico
Plan of Development,
Revision No. 2,
Calendar Year 1972

ATTENTION: Mr. Jack L. Mahaffey

Gentlemen:

The Commissioner of Public Lands has this date approved your Revision No. 2 of the Plan of Development for the calendar year 1972 for the Antelope Ridge Unit. This plan provides for the deepening of Antelope Unit No. 4 to the Morrow as previously submitted, but will not drill Antelope Ridge Unit No. 5 well. This approval is subject to like approval by the United States Geological Survey.

We are handing the Oil Conservation Commission ten copies and asking them to forward seven copies to the United States Geological Survey, one copy must be retained by the OCC and two copies returned to the State Land Office after their approval.

Your ten (\$10.00) Dollar filing fee has been received.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s

cc:

OCC-Santa Fe, New Mexico (cpy of ltr and 10 cpy of plan) ✓
USGS-Roswell, New Mexico (cpy of ltr only)

ANTELOPE RIDGE UNIT
(NO. 18-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT, REVISION NO. 2
CALENDAR YEAR 1972

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, NM 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, NM 87501

Oil Conservation Commission (2)
State of New Mexico
Post Office Box 871
Santa Fe, NM 87501



Gentlemen:

Shell Oil Company, as Unit Operator, hereby submits for your approval, Revision No. 2 of the Plan of Development for Calendar Year 1972.

Current development plans now include only the deepening of Antelope Unit No. 4 to the Morrow as previously submitted. The drilling of Antelope Ridge Unit No. 5 as a Devonian test has been deferred pending further analysis of reservoir performance data. The expense involved with drilling such a deep test requires that this additional study be made.

This revised plan is submitted for your consideration for the period ending December 31, 1972. It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

SHELL OIL COMPANY
Unit Operator
N. J. Conrad
For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

RRS:RH

APPROVED _____ DATE _____

INC Supervisor United States Geological Survey,
Subject to like approval by the appropriate
State officials.

APPROVED *Ally* _____ DATE *August 7, 1972*
Commissioner of Public Lands,
State of New Mexico

APPROVED *G. Y. Porter* _____ DATE *August 8, 1972*
Secretary-Director, New Mexico Oil
Conservation Commission



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

July 14, 1972

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. Jack L. Mahaffey

Gentlemen:

On this date, your revised plan of development for the calendar year 1972 for the Antelope Ridge unit area, Lea County, New Mexico, wherein you propose to deepen unit well No. 4 from the Atoka to the Morrow and to drill unit well No. 5 in the NE $\frac{1}{4}$ sec. 33, T. 24 S., R. 34 E., to test the Devonian, was approved. Such approval is subject to like approval by the appropriate officials of the State of New Mexico.

Two approved copies of the plan are enclosed.

Sincerely yours,

N. O. FREDERICK
Area Oil and Gas Supervisor

cc:
Washington (w/cy plan)
Hobbs (w/cy plan)
NMOCC, Santa Fe (ltr. only) ✓
Com. of Pub. Lands, Santa Fe (ltr. only)

JAGillham: 7-14-72



OIL CONSERVATION COMMISSION

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

June 27, 1972

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

2-119

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Re: Revised 1972 Plan of Development
Antelope Ridge Unit, Lea County,
New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Revised Plan of Development for the calendar year 1972, for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Seven approved copies of the Revised Plan are being forwarded to the United States Geological Survey, Roswell, New Mexico.

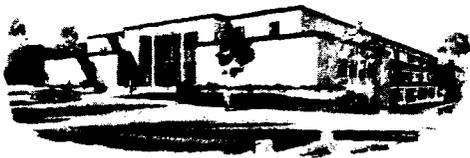
Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands - Santa Fe
U. S. Geological Survey - Roswell

State of New Mexico



Commissioner of Public Lands
June 26, 1972

ALEX J. ARMIJO
COMMISSIONER

P. O. Box 1148
SANTA FE, NEW MEXICO

Shell Oil Company
Petroleum Building
P. O. Box 1509
Midland, Texas 79701

Re: Antelope Ridge Unit
Revised Plan of Development
Calendar Year 1972
Lea County, New Mexico

ATTENTION: Mr. Jack L. Mahaffey

Gentlemen:

The Commissioner of Public Lands has this date approved your Revised Plan of Development for the Calendar Year 1972, for the Antelope Ridge Unit, Lea County, New Mexico. This revised plan proposes to deepen Antelope Ridge Unit No. 4 to the Morrow and drilling the Antelope Ridge Unit Well No. 5 as a Devonian test. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are retaining two copies and handing eight approved copies to the Oil Conservation Commission, requesting them to forward seven copies to the United States Geological Survey in Roswell, New Mexico.

Your filing fee in the amount of Ten (\$10.00) Dollars has been received.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s

cc: OCC-Santa Fe, New Mexico (copy of letter & 8 copies of plan) -
USGS-Roswell, New Mexico (ltr only)

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
REVISED PLAN OF DEVELOPMENT
CALENDAR YEAR 1972

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, NM 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, NM 87501

Oil Conservation Commission (2)
State of New Mexico
Post Office Box 871
Santa Fe, NM 87501

Gentlemen:

Shell Oil Company, as Unit Operator, hereby submits for your approval a Revised Plan of Development for the calendar year 1972.

Current development plans now include deepening Antelope Ridge Unit No. 4 to the Morrow and drilling Antelope Ridge Unit No. 5 as a Devonian test.

Antelope Ridge Unit No. 4, an Atoka completion, has been shut in since September 1968 after the well watered out. A 4-inch cemented liner in the well will be removed and the well will then be deepened 945 feet to permit a Morrow completion. This well should serve as a replacement Morrow drainage point for Unit No. 2 which has had downhole commingling problems between the Morrow and Devonian zones since October 1971. Antelope Ridge Unit No. 4, approximately 800 feet from Unit No. 2, is located 2310' FEL and 990' FNL Section 4, T-24-S, R-34-E.

Antelope Ridge Unit No. 5, a Devonian test, will be located 1980' FSL and 660' FEL Section 33, T-23-S, R-34-E. The well will be drilled to a total estimated depth of 15,000 feet.

22 JUN 1972

RECEIVED
JUN 10 1972
STATE OF NEW MEXICO
COMMISSIONER OF PUBLIC LANDS

This revised plan is submitted for your consideration for the period ending December 31, 1972. It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

SHELL OIL COMPANY
Unit Operator

P.A. Lowery

For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

RRS:RH

APPROVED: _____ DATE: _____
Supervisor United States Geological Survey
Subject to like approval by the
appropriate State officials.

APPROVED: *Alf J. Ramirez* DATE: *June 26, 1972*
Commissioner of Public Lands
State of New Mexico

APPROVED: *H. L. Porter* DATE: *June 27, 1972*
Secretary-Director, New Mexico Oil
Conservation Commission

RECEIVED
JUN 27 1972
OIL CONSERVATION COMMISSION

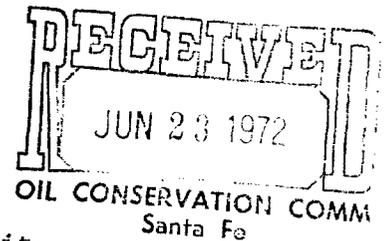


SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

June 21, 1972

Subject: Antelope Ridge Unit
(14-08-0001-8492)
Lea County, New Mexico
Revised Plan of Development
Calendar Year 1972



Commissioner of Public Lands
State of New Mexico
P. O. Box 1148
Santa Fe, NM 87501

Attention Mr. M. L. Long
Supervisor Unit Division

Gentlemen:

Enclosed are ten copies of a Revised Plan of Development for the calendar year 1972 for the Antelope Ridge Unit. If this plan meets with your approval, please ratify and forward all copies to the Oil Conservation Commission for approval. We have furnished three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell, New Mexico for final ratification.

In addition, a draft in the amount of \$10 is enclosed to cover filing and handling of the attached documents.

When this instrument has been fully ratified, we will send approved copies to all parties.

Yours very truly,

Original Signed By
R. A. LOWERY

For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

RRS:RH

Enclosures

cc - Regional Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, NM 88201

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, NM 87501



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

March 1, 1972

Shell Oil Company
P.O. Box 1509
Midland, Texas 79701

Attention: Mr. J. L. Mahaffey

Gentlemen:

Your plan of development for calendar years 1971 and 1972 for the Antelope Ridge unit area, Lea County, New Mexico, proposing the drilling of no additional wells, has been approved on this date subject to like approval by the appropriate State officials.

Four approved copies of the plan are enclosed.

Sincerely yours,

N. O. FREDERICK
Regional Oil and Gas Supervisor

cc:
Washington (w/cy of plan)
Hobbs (w/cy of plan)
✓ NMOCC, Santa Fe (ltr only)
Com. Pub. Lands, Santa Fe (ltr only)



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

March 1, 1972

RECEIVED
MAR 2 1972
OIL CONSERVATION COMM.
SANTA FE

2719

Shell Oil Company
P.O. Box 1309
Midland, Texas 79701

Attention: Mr. J. L. Mahaffey

Gentlemen:

Your plan of development for calendar years 1971 and 1972 for the Antelope Ridge unit area, Lea County, New Mexico, proposing the drilling of no additional wells, has been approved on this date subject to like approval by the appropriate State officials.

Four approved copies of the plan are enclosed.

Sincerely yours,

(OR G. SEC. ...)

N. G. FREDERICK
Regional Oil and Gas Supervisor

- cc:
- Washington (w/cy of plan)
- Hobbs (w/cy of plan)
- ✓ NMOCC, Santa Fe (ltr only)
- Com. Pub. Lands, Santa Fe (ltr only)

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 4, 1972

2719

Shell Oil Company
Petroleum Building
P. O. Box 1509
Midland, Texas 77001

Attention: Mr. Jack L. Mahaffey

Re; 1971-1972 Plan of Development
Antelope Ridge Unit, Lea
County, New Mexico.

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the Calendar Years 1971 and 1972, proposing that no additional wells be drilled for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Seven approved copies of the plan are being forwarded to the United States Geological Survey, Roswell, New Mexico.

Very truly yours,

A. L. PORTER, JR.
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey - Roswell
Commissioner of Public Lands - Santa Fe

C
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Y

February 3, 1972

Shell Oil Company
Petroleum Building
P. O. Box 1509
Midland, Texas 79701

Re: Antelope Ridge Unit
1971-1972 Plan of Development
Lea County, New Mexico

ATTENTION: Mr. Jack L. Mahaffey

Gentlemen:

The Commissioner of Public Lands has this date approved your 1971-1972 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are retaining two copies and handing eight approved copies to the Oil Conservation Commission, requesting them to forward seven copies to the United States Geological Survey in Roswell, New Mexico.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s

cc: USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEARS 1971, 1972

RECEIVED
DEC 13 10 22 AM '71
STATE OF NEW MEXICO
SANTA FE, N.M.

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission (2)
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico 87501

RECEIVED

FEB-3 1972

OIL CONSERVATION COMM.
SANTA FE

Gentlemen:

In reply to your November 22, 1971 request, Shell Oil Company as Unit Operator, hereby submits for approval a Plan of Development for the Antelope Ridge Unit for the Calendar Years 1971 and 1972.

A review of 1970-1971 operations to date show that no additional wells have been drilled. In 1970, the Unit production from the two Devonian and two Morrow drainage points averaged 12.0 million cubic feet of gas and 159 barrels of condensate per day. Cumulative Unit production through 1970 was 49.2 billion cubic feet of gas and 848,000 barrels of condensate. In a March 1971 deliverability test, the wells produced at daily rate of 16.0 million cubic feet of gas and 240 barrels of condensate per day.

In an attempt to increase production, a workover was started on Antelope Ridge Unit No. 3 (a single zone Devonian producer) to shut off water in the Devonian and to complete as a Devonian-Morrow dual producer. The water shut-off operation was not successful in that it is still producing in excess of 300 barrels of water per day. With this large volume of water production and with past experience with dual completions, a dual completion in Antelope is not considered economically feasible.

Antelope Ridge Unit No. 4, completed in the water drive Atoka formation, has been shut in since September 1968 after the well had watered out to the point at which it would no longer sustain natural flow.

All land within the Unit is included in the Devonian Participating Area, and 2879.71 acres are included in the Morrow Participating Area. Under existing conditions, no additional drilling wells are planned in the Unit. However, should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate action.

This Plan of Development is submitted for your consideration as required by the Antelope Ridge Unit Agreement for the period ending December 31, 1972. It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

SHELL OIL COMPANY
Unit Operator

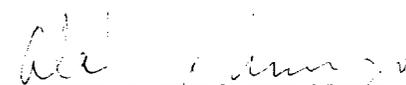


For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

APPROVED:

Supervisor United States Geological Survey
Subject to like approval by the appropriate State officials.

APPROVED:

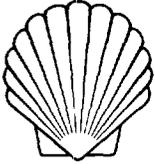


Commissioner of Public Lands

Approved  February 4 1972
.....

.....
Secretary-Director

NEW MEXICO OLD CONSERVATION COMMISSION



SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

RECEIVED

DEC - 8 1971

OIL CONSERVATION COMM.
SANTA FE

DEC 07 1971

Subject: Antelope Ridge Unit
(14-08-0001-8492)
Lea County, New Mexico
Plan of Development
Calendar Years 1972-72

2719

Commissioner of Public Lands
State of New Mexico
P. O. Box 1148
Santa Fe, New Mexico 87501

Attention Mr. M. L. Long
Supervisor Unit Division

Gentlemen:

Enclosed are ten copies of a Plan of Development for the calendar years 1971-72 for the Antelope Ridge Unit. If this plan meets with your approval, please ratify and forward all copies to the Oil Conservation Commission for approval. We have furnished three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell, New Mexico for final ratification.

In addition a draft in the amount of \$10 is enclosed to cover filing and handling of the attached documents.

When this instrument has been fully ratified, we will send approved copies to all parties.

Yours very truly,
Original Signed By
H. J. Conrad

For: Jack L. Mahaffey
Production Manager
Mid-Continent Division

RRS:MC

Enclosures

cc - Regional Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico 87501

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEARS 1971, 1972

RECEIVED
DEC - 8 1971
OIL CONSERVATION COMM.
SANTA FE

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission (2)
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico 87501

Gentlemen:

In reply to your November 22, 1971 request, Shell Oil Company as Unit Operator, hereby submits for approval a Plan of Development for the Antelope Ridge Unit for the Calendar Years 1971 and 1972.

A review of 1970-1971 operations to date show that no additional wells have been drilled. In 1970, the Unit production from the two Devonian and two Morrow drainage points averaged 12.0 million cubic feet of gas and 159 barrels of condensate per day. Cumulative Unit production through 1970 was 49.2 billion cubic feet of gas and 848,000 barrels of condensate. In a March 1971 deliverability test, the wells produced at daily rate of 16.0 million cubic feet of gas and 240 barrels of condensate per day.

In an attempt to increase production, a workover was started on Antelope Ridge Unit No. 3 (a single zone Devonian producer) to shut off water in the Devonian and to complete as a Devonian-Morrow dual producer. The water shut-off operation was not successful in that it is still producing in excess of 300 barrels of water per day. With this large volume of water production and with past experience with dual completions, a dual completion in Antelope is not considered economically feasible.

Antelope Ridge Unit No. 4, completed in the water drive Atoka formation, has been shut in since September 1968 after the well had watered out to the point at which it would no longer sustain natural flow.

All land within the Unit is included in the Devonian Participating Area, and 2879.71 acres are included in the Morrow Participating Area. Under existing conditions, no additional drilling wells are planned in the Unit. However, should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate action.

RECEIVED

DEC - 8 1971 2

CONSERVATION COMM.

This Plan of Development is submitted for your consideration as required by the Antelope Ridge Unit Agreement for the period ending December 31, 1972. It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

SHELL OIL COMPANY

Unit Operator



For Jack L. Mahaffey

Production Manager

Mid-Continent Division

APPROVED:

Supervisor United States Geological Survey
Subject to like approval by the appropriate State officials.

APPROVED:

Commissioner of Public Lands



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

December 19, 1969

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. J. L. Mahaffey

Gentlemen:

Your 1970 plan of development for the Antelope Ridge unit area
Lea County, New Mexico, proposing the drilling of no additional
wells has been approved on this date subject to like approval
by the appropriate State officials.

Four approved copies of the plan are enclosed.

Sincerely yours,

(Orig. Sgd) RONNIE E. SHOOK
RONNIE E. SHOOK
Acting Oil and Gas Supervisor

cc:
Washington (w/cy of plan)
Hobbs (w/cy of plan)
NMOCC, Santa Fe (ltr. only) ✓
Com. of Pub. Lands, Santa Fe (ltr. only)

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

December 18, 1969

2719

Shell Oil Company
Petroleum Building
Midland, Texas 79701

Attention: Mr. J. L. Mahaffey

Re: Plan of Development
Antelope Ridge Unit
Lea County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the Calendar Year 1970 for the Antelope Ridge Unit Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Seven approved copies of the plan are being forwarded to the United States Geological Survey, Roswell, New Mexico.

Very truly yours,

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

ALP/JEK/og

cc: Commissioner of Public Lands - Santa Fe
United States Geological Survey - Roswell

C
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December 11, 1969

Shell Oil Company
Petroleum Building
Midland, Texas 79701

Re: Antelope Ridge Unit
Lea County, New Mexico
Plan of Development
Calendar Year 1970

ATTENTION: Mr. J. L. Mahaffey

Gentlemen:

The Commissioner of Public Lands has this date approved your 1970 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are retaining two copies and handing eight approved copies to the Oil Conservation Commission, requesting them to forward seven copies to the United States Geological Survey in Roswell, New Mexico.

Very truly yours,

Ted Bilberry, Director
Oil and Gas Department

TB/ML/ s

cc: USGS-Roswell, New Mexico
OCC-Santa Fe, New Mexico ✓

C
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Y

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEAR 1970

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico 87501

Gentlemen:

In compliance with Section 10 of the Antelope Ridge Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development for the Antelope Ridge Unit for the Calendar Year 1970.

There has been no change in the status of the Unit from that presented in our Plan of Development for 1969. That Plan of Development provided for no additional wells. The Unit is developed by four wells which now provide two Devonian drainage points, two Morrow drainage points, and one Atoka drainage point. An additional Devonian drainage point is assured in Well No. 1 (a Morrow producer in which the Devonian is isolated by a bridge plug) when the high pressure Morrow zone declines to a pressure comparable to the Devonian. A safe working pressure was not reached during 1969 but we now estimate that a safe working pressure will be reached during 1970.

All land within the Unit is included in the Devonian Participating Area, and 2879.71 acres are included in the Morrow Participating Area. The Unit currently produces at an average rate of about 15.4 million cubic feet of gas and 214 barrels of condensate per day. Cumulative production over the 7.3 year life through 1969 is about 44.8 billion cubic feet of gas and 790,000 barrels of condensate.

Under existing conditions, it is the Operator's intention not to drill any additional wells in the Unit. However, should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate action.

RECEIVED
DEC 16 9 11 AM '69
SANTA FE, N.M.

Antelope Ridge Unit
Plan of Development
Calendar Year 1969

2

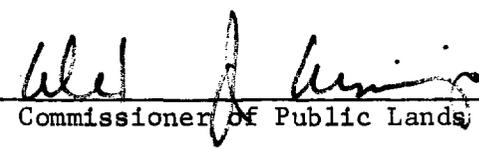
This Plan of Development is submitted for your consideration as satisfaction of the requirements of the Unit Operator under the terms of the Antelope Ridge Unit Agreement for the period ending December 31, 1970. It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

Shell Oil Company
Unit Operator



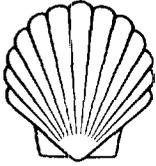
By: J. L. Mahaffey
Manager Production-West
Midland Division

APPROVED: _____
Supervisor United States Geological Survey
Subject to like approval by the appropriate State officials.

APPROVED:  _____
Commissioner of Public Lands

APPROVED:  _____
Oil Conservation Commission

RECEIVED
STATE OF TEXAS
SANTA FE COUNTY
DEC 10 9 10 AM '69



SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

March 7, 1969

2717

Subject: Antelope Ridge Unit
(No. 14-08-0001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1969

Commissioner of Public Lands
State of New Mexico
P. O. Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico 87501

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

Gentlemen:

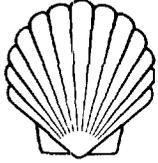
Attached for your information is a fully ratified copy of an approved Plan of Development for the Antelope Ridge Unit for the calendar year 1969.

Yours very truly,

S. M. Paine
Manager Production-West
Midland Division

WJO:RJ

Attachment



SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

March 7, 1969

Subject: Antelope Ridge Unit
(No. 14-08-0001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1969

Commissioner of Public Lands
State of New Mexico
P. O. Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico 87501

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

Gentlemen:

Attached for your information is a fully ratified copy of an approved Plan of Development for the Antelope Ridge Unit for the calendar year 1969.

Yours very truly,

S. M. Paine
Manager Production-West
Midland Division

WJO:RJ

Attachment

69 MAR 10 AM 8 26

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEAR 1969

STATE OF NEW MEXICO
'68 DEC 23 AM 10 19

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico 87501

RECEIVED
DEC 20 10 12 AM '68
STATE LAND OFFICE
SANTA FE, N.M.

Gentlemen:

In compliance with Section 10 of the Antelope Ridge Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development for the Antelope Ridge Unit for the Calendar Year 1969.

There has been no change in the status of the Unit from that presented in our Plan of Development for 1968. That Plan of Development provided for no additional wells. The Unit is developed by four wells which now provide two Devonian drainage points, two Morrow drainage points, and one Atoka drainage point. An additional Devonian drainage point is assured in Well No. 1 (a Morrow producer in which the Devonian is isolated by a bridge plug) when the high pressure Morrow zone declines to a pressure comparable to the Devonian. We now estimate a safe working pressure may be reached during 1969.

All land within the Unit is included in the Devonian Participating Area, and 2879.71 acres are included in the Morrow Participating Area. The Unit currently produces at an average rate of about 13.8 million cubic feet of gas and 218 barrels of condensate per day. Cumulative production over the 6.3 year life through 1968 is about 39.4 billion cubic feet of gas and 712,000 barrels of condensate.

Under existing conditions, it is the Operator's intention not to drill any additional wells in the Unit. However, should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate action.

This Plan of Development is submitted for your consideration as satisfaction of the requirements of the Unit Operator under the terms of the Antelope Ridge Unit Agreement for the period ending December 31, 1969.

It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

Shell Oil Company
Unit Operator

By: S. M. Paine
S. M. Paine
Manager Production-West
Midland Division

APPROVED: John A. [Signature] FEB 27 1969
Supervisor United States Geological Survey
Subject to like approval by the appropriate State officials.

APPROVED: Anton B. [Signature]
Commissioner of Public Lands

APPROVED: A. L. [Signature] 12/27/68
Oil Conservation Commission

RECEIVED
DEC 20 10 12 AM '68
STATE LAND OFFICE
SANTA FE, N.M.

IN REPLY REFER TO:



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

February 27, 1969

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. S. M. Paine

Gentlemen:

Your 1969 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, proposing the drilling of no additional wells, has been approved on this date subject to like approval by the appropriate State officials.

Four approved copies of the plan are enclosed.

Sincerely yours,

(ORIG. SCD) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

cc:
Washington (w/cy of plan)
Hobbs (w/cy of plan)
NMOCC, Santa Fe (ltr. only) ✓
Com. of Pub. Lands, Santa Fe (ltr. only)

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

2719

December 27, 1968

C
O
P
Y

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. S. M. Paine

Re: 1969 Plan of Development
Antelope Ridge Unit, Lea
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the calendar year 1969 for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Seven approved copies of the application are being forwarded to the United States Geological Survey, Roswell, New Mexico.

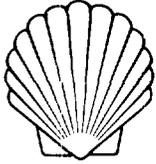
Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JER/og

cc: Commissioner of Public Lands
Santa Fe, New Mexico

United States Geological Survey
Roswell, New Mexico



SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

DEC 23 AM 10 1968

December 18, 1968

**Subject: Antelope Ridge Unit (14-08-001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1969**

✓ **Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501**

Attention Mr. E. Lopez

Gentlemen:

Enclosed are ten copies of a Plan of Development for the calendar year 1969 for the Antelope Ridge Unit. If this plan meets with your approval, please ratify and forward all copies to the Oil Conservation Commission for approval. We have furnished three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell for final ratification.

When this instrument has been fully ratified, we will send approved copies to all parties.

Yours very truly,

**Original Signed By
S. M. PAINE**

**S. M. Paine
Manager Production-West
Midland Division**

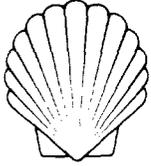
CRG:RJ

Enclosures

**cc - Regional Oil & Gas Supervisor
United States Geological Survey
Post Office Drawer 1837
Roswell, New Mexico 88201**

**New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico 87501**

DEC 23 10 12 AM '68
STATE LAND OFFICE
SANTA FE, N.M.



SHELL OIL COMPANY

PETROLEUM BUILDING
P.O. BOX 1509
MIDLAND, TEXAS 79701

1968 DEC 24 AM 8 22

December 18, 1968

**Subject: Antelope Ridge Unit (14-08-001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1969**

Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Attention Mr. G. Lopez

Gentlemen:

Enclosed are ten copies of a Plan of Development for the calendar year 1969 for the Antelope Ridge Unit. If this plan meets with your approval, please ratify and forward all copies to the Oil Conservation Commission for approval. We have furnished three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell for final ratification.

When this instrument has been fully ratified, we will send approved copies to all parties.

Yours very truly,

Original Signed By
S. M. PAINE

S. M. Paine
Manager Production-West
Midland Division

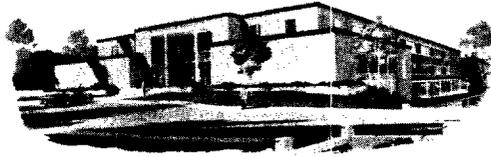
CRG:WJ

Enclosures

cc - Regional Oil & Gas Supervisor
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico 87501

State of New Mexico



Commissioner of Public Lands



December 23, 1968

GUYTON B. HAYS
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

1968 DEC 23 AM 10 1

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Re: Antelope Ridge Unit
Lee County, New Mexico
1969 Plan of Development

ATTENTION: Mr. S. M. Paine

Gentlemen:

The Commissioner of Public Lands has this date approved your 1969 Plan of Development for the Antelope Ridge Unit, Lee County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are retaining two copies and handing eight approved copies to the Oil Conservation Commission, requesting them to forward seven copies to the United States Geological Survey in Roswell, New Mexico.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Malcolm L. Long, Supervisor
Unit Division

GEE/TR/ML/s

cc: USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico

MAIL OFFICE BOX

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEAR 1969

'68 Dec 23 AM 10 20

Oil and Gas Supervisor (7)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87501

Oil Conservation Commission
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico 87501

RECEIVED
DEC 20 10 13 AM '68
STATE OFFICE
SANTA FE, N.M.

Gentlemen:

In compliance with Section 10 of the Antelope Ridge Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development for the Antelope Ridge Unit for the Calendar Year 1969.

There has been no change in the status of the Unit from that presented in our Plan of Development for 1968. That Plan of Development provided for no additional wells. The Unit is developed by four wells which now provide two Devonian drainage points, two Morrow drainage points, and one Atoka drainage point. An additional Devonian drainage point is assured in Well No. 1 (a Morrow producer in which the Devonian is isolated by a bridge plug) when the high pressure Morrow zone declines to a pressure comparable to the Devonian. We now estimate a safe working pressure may be reached during 1969.

All land within the Unit is included in the Devonian Participating Area, and 2879.71 acres are included in the Morrow Participating Area. The Unit currently produces at an average rate of about 13.8 million cubic feet of gas and 218 barrels of condensate per day. Cumulative production over the 6.3 year life through 1968 is about 39.4 billion cubic feet of gas and 712,000 barrels of condensate.

Under existing conditions, it is the Operator's intention not to drill any additional wells in the Unit. However, should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate action.

This Plan of Development is submitted for your consideration as satisfaction of the requirements of the Unit Operator under the terms of the Antelope Ridge Unit Agreement for the period ending December 31, 1969.

It is understood that this plan may be modified, with approval, at any time when new information or changing conditions should warrant further action.

Shell Oil Company
Unit Operator

By: S. M. Paine
S. M. Paine
Manager Production-West
Midland Division

APPROVED: _____
Supervisor United States Geological Survey
Subject to like approval by the appropriate State officials.

APPROVED: [Signature]
Commissioner of Public Lands

APPROVED: A. L. Carter, Jr. 12/27/68
Oil Conservation Commission

RECEIVED
DEC 20 10 13 AM '68
AND OFFICE
SANTA FE, N. M.



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

2719

Drawer 1857
Roswell, New Mexico 88201

March 4, 1968

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. J. E. R. Sheeler

Gentlemen:

Your 1968 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, proposing the drilling of no additional wells, has been approved on this date subject to like approval by the appropriate State officials.

Four approved copies of the plan are enclosed.

Sincerely yours,

(ORIG. Sgd.) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

cc:
Washington (w/cy. of plan)
Hobbs (w/cy. of plan)
NMOCC, Santa Fe (ltr. only) ✓
Com. of Pub. Lands, Santa Fe (ltr. only)

MAIL DEPT. OF THE INTERIOR

'68 MAR 5 AM 8 31

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

2719

January 26, 1968

C

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. J. E. R. Sheeler

O

Re: 1968 Plan of Development
Antelope Ridge Unit, Lea
County, New Mexico

Gentlemen:

P

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the calendar year 1968, providing for no additional wells, for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Y

Seven approved copies of the Plan of Development are being forwarded to the United States Geological Survey, Roswell, New Mexico.

Very truly yours,

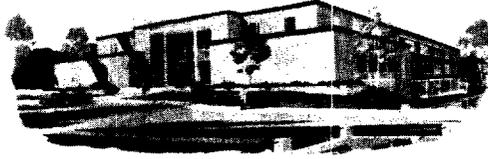
A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/esr

cc: United States Geological Survey
Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands
Santa Fe, New Mexico

State of New Mexico



Commissioner of Public Lands



January 24, 1968

GUYTON B. HAYS
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

1968 JAN 25 PM 3 37

Re: Antelope Ridge Unit
Lea County, New Mexico
1968 Plan of Development

ATTENTION: Mr. J. E. R. Sheeler

Gentlemen:

The Commissioner of Public Lands has this date approved your 1968 Plan of Development for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are retaining two copies and handing eight approved copies to the Oil Conservation Commission, requesting them to forward seven copies to the United States Geological Survey in Roswell, New Mexico.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS
BY:
Eddie Lopez, Supervisor
Unit Division

GBH/TR/EL/s
cc: USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
 LEA COUNTY, NEW MEXICO
 PLAN OF DEVELOPMENT
 CALENDAR YEAR 1968

Oil and Gas Supervisor (7)
 United States Geological Survey
 Post Office Drawer 1857
 Roswell, New Mexico

Commissioner of Public Lands (3)
 State of New Mexico
 Post Office Box 1148
 Santa Fe, New Mexico

Oil Conservation Commission
 State of New Mexico
 Post Office Box 871
 Santa Fe, New Mexico

Gentlemen:

In compliance with Section 10 of the Antelope Ridge Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development for the Antelope Ridge Unit for the calendar year 1968.

There has been no change in the status of the Unit from that presented in our Plan of Development for 1967 as approved May 24, 1967. That Plan of Development provided for no additional wells. The Unit is developed by four wells which now provide two Devonian drainage points, two Morrow drainage points and one Atoka drainage point. An additional Devonian drainage point is assured in Well No. 1 when the high pressure Morrow zone declines to a pressure comparable to the Devonian. We now estimate a safe working pressure will be reached in two years. The status of each well is as follows:

<u>Well and Location</u>	<u>Total Depth & Formation</u>	<u>Status</u>
Unit Well No. 1 SE 1/4 SW 1/4 Sec. 27 T-23-S, R-34-E	14,840' - Devonian	Morrow Producer Devonian isolated by bridge plug.
Unit Well No. 2 NW 1/4 NE 1/4 Sec. 4 T-24-S, R-34-E	17,895' - Ellenburger	Dual Morrow and Devonian Producer.
Unit Well No. 3 NE 1/4 SW 1/4 Sec. 34 T-23-S, R-34-E	14,940' - Devonian	Devonian Producer.
Unit Well No. 4 NW 1/4 NE 1/4 Sec. 4 T-24-S, R-34-E	12,375' - Atoka	Atoka Producer.

DEC 29 9 36 AM '67
 RECEIVED
 STATE LAND OFFICE
 SANTA FE, N.M.
 14-08-0001-8492

All land within the Unit are included in the Devonian Participating Area, and 2879.71 acres are included in the Morrow Participating Area. The First Enlargement to the Morrow Participating Area was approved May 2, 1967. The Unit currently produces at an average rate of about 16.2 million cubic feet of gas and 294 barrels of condensate per day. Cumulative production over the 5.3 year life through 1967 was about 33.2 billion cubic feet of gas and 163,000 barrels of condensate.

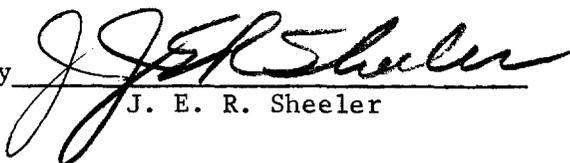
During 1967, a reserve determination confirmed the Operator's opinion that the existing Devonian drainage points will adequately drain the reservoir, and that no improvement in rate of take could be realized from additional wells. Therefore, the drilling of additional wells would result in economic waste.

An investigation into the prospect of dually completing Unit Well No. 3 in the Morrow together with the existing Devonian completion was undertaken in 1967. Based on pressure data from a drill stem test, it was concluded that the Morrow reservoir in this well was limited. Therefore, a completion in this zone could not be justified.

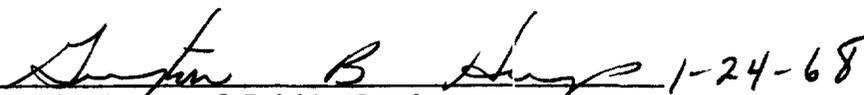
Under existing conditions, it is the Operator's intention not to drill any additional wells in the Unit. However, should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate action.

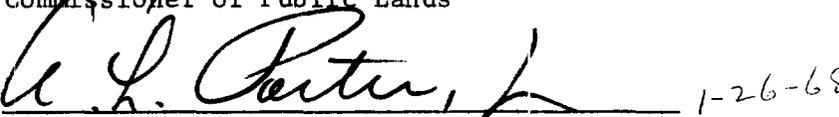
This Plan of Development is submitted for your consideration as satisfaction of the requirements of the Unit Operator under the terms of the Antelope Ridge Unit Agreement for the period ending December 31, 1968. It is understood that this plan may be modified with approval at any time when new information or changing conditions should warrant further action.

Shell Oil Company
Unit Operator

By 
J. E. R. Sheeler

Approved: _____
Supervisor United States Geological Survey
Subject to like approval by the
appropriate State officials.

Approved:  1-24-68
Commissioner of Public Lands

Approved:  1-26-68
Oil Conservation Commission



SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

2719

December 26, 1967

Subject: Antelope Ridge Unit (14-08-001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1968

Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico

Attention Mr. E. Lopez

Gentlemen:

Enclosed are ten copies of a Plan of Development for the calendar year 1968 for the Antelope Ridge Unit. If this plan meets with your approval, please ratify and forward all copies to the Oil Conservation Commission for approval. We have furnished three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell for final ratification.

When this instrument has been fully ratified, we will send approved copies to all parties.

Yours very truly,

ORIGINAL SIGNED
By J. E. R. SHEELER

J. E. R. Sheeler
Division Production Manager

Attachments

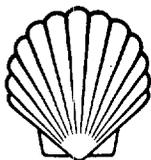
cc - Regional Oil & Gas Supervisor
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

← FOR →

MAIN OFFICE

'67 DEC 29



SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

RECEIVED
'67 MAY 31 AM 10

2711

May 29, 1967

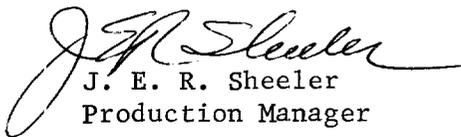
Subject: Antelope Ridge Unit (No. 14-08-0001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1967

Oil Conservation Commission
State of New Mexico
P.O. Box 871
Santa Fe, New Mexico

Gentlemen:

Attached for your information is a fully ratified copy of an approved Plan of Development for the Antelope Ridge Unit for the calendar year, 1967.

Very truly yours,


J. E. R. Sheeler
Production Manager

Attachment

RECEIVED

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEAR 1967

MAY 22 1967

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

Oil and Gas Supervisor (6)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico

Oil Conservation Commission
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico

Gentlemen:

In compliance with Section 10 of the Antelope Ridge Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development for the Antelope Ridge Unit for the calendar year 1967. The Plan of Development for the year 1966 provided for no additional wells.

During December, 1966, a workover was undertaken in Unit Well No. 1 to dually complete as a Morrow and Siluro-Devonian producer. A Morrow completion was effected, but in the course of operations, a mechanical problem developed which will require temporary deferment of Siluro-Devonian production. A packer failure between the high-pressured Morrow zone and the normally-pressured Siluro-Devonian required emergency measures to isolate the two pays. The zones are now separated with a bridge plug above the Siluro-Devonian, and the dualing operation must be suspended until the high pressure Morrow zone declines to a pressure comparable to the Siluro-Devonian. It is estimated that a safe working pressure will be reached in about one year. Meanwhile, Unit Well No. 1 will be produced as a single zone Morrow well. Deliverability is now in excess of 7 million cubic feet per day.

The Unit is developed by four wells which now provide two Devonian drainage points, two Morrow drainage points and one Atoka drainage point. An

RECEIVED
MAY 1 5 30 AM '67
STATE LAND OFFICE
SANTA FE, N.M.

additional Devonian drainage point is assured in Well No. 1 at a later date. Status of each well is shown as follows:

<u>Well and Location</u>	<u>Total Depth & Formation</u>	<u>Status</u>
Unit Well No. 1 SE/4 SW/4 Sec. 27 T-23-S, R-34-E.	14,840' - Devonian	Morrow Producer Devonian isolated by bridge plug.
Unit Well No. 2 NW/4 NE/4 Sec. 4 T-24-S, R-34-E.	17,895' - Ellenburger	Dual Morrow and Devonian Producer.
Unit Well No. 3 NE/4 SW/4 Sec. 34 T-23-S, R-34-E.	14,940' - Devonian	Devonian Producer.
Unit Well No. 4 NW/4 NE/4 Sec. 4 T-24-S, R-34-E.	12,375' - Atoka	Atoka Producer.

During the last quarter of 1966, the Unit produced at an average rate of about 28.6 million cubic feet of gas and 460 barrels of condensate per day. Cumulative production over the 4.3 year life through 1966 was about 26 billion cubic feet of gas and 512,000 barrels of condensate.

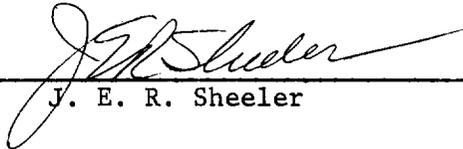
The principal reserves in the Unit Area are present in the Devonian formation. The Pennsylvanian (Morrow and Atoka) reservoirs are considered to be secondary objectives because of the random and unpredictable occurrence of "pay quality" porosity. It is the opinion of the Operator that the existing Devonian drainage points will adequately drain the reservoir. All are located at favorable structural positions. The subsurface interpretation shows that no well can be drilled high enough under prevailing field rules to realize a structural advantage over the existing wells. The Unit is being operated under a gas sales contract rate that provides for total Unit reserves and no improvement in rate of take is likely to be realized from additional Devonian wells. Therefore, the drilling of down-dip wells would result in economic waste.

At this time, it should be pointed out that the Operator is investigating stimulation methods that may offer promise for improving deliverability from Morrow gas wells. Field tests are being planned for treating a low capacity Morrow well in a nearby field. Results of this investigation will be relevant to future plans for the Pennsylvanian formations in the Antelope Ridge Field.

Pending the results of the stimulation experiments, it is the Operator's intention not to drill any additional wells in the Unit. It is understood, however, that should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate and prudent action.

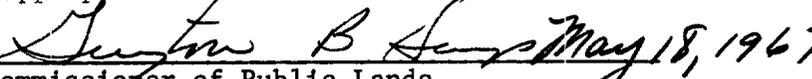
This Plan of Development is submitted for your consideration as satisfaction of the requirements of the Unit Operator under the terms of the Antelope Ridge Unit Agreement for the period ending December 31, 1967. It is understood that this plan may be modified with approval at any time when new information or changing conditions should warrant further action.

Shell Oil Company
Unit Operator

By 
J. E. R. Sheeler

Approved: 
ACTING Supervisor United States Geological Survey
Subject to like approval by the
appropriate State officials.

MAY 24 1967

Approved:  May 18, 1967
Commissioner of Public Lands

Approved:  May 19, 1967
Oil Conservation Commission



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

May 24, 1967

2719

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. J. E. R. Sheeler

Gentlemen:

Your 1967 plan of development for the Antelope Ridge unit area, Lea County, New Mexico, proposing the drilling of no additional wells, has been approved on this date subject to like approval by the appropriate State officials.

Four approved copies of the plan are enclosed.

Sincerely yours,

(Orig. Sgd.) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil and Gas Supervisor

cc:
Washington (w/cy of plan)
Hobbs (w/cy of plan)
N.M.O.C.C. - Santa Fe (ltr. only) ✓
Com. of Pub. Lands - Santa Fe (ltr. only)

Handwritten note

67 MAY 26 AM 1

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

2719

May 19, 1967

Shell Oil Company
P. O. Box 1599
Midland, Texas 79701

Attention: Mr. J. E. R. Sheeler

Re: 1967 Plan of Development
Antelope Ridge Unit, Lea
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1967 Plan of Development received March 18, 1967, for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Seven approved copies of the plan are being forwarded to the United States Geological Survey, Roswell, New Mexico.

Very truly yours,

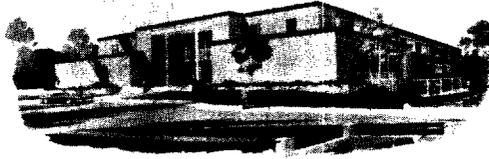
A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands - Santa Fe
U. S. Geological Survey - Roswell

C
O
P
Y

State of New Mexico



Commissioner of Public Lands



GUYTON B. HAYS
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

May 18, 1967

Shell Oil Company
P. O. Box 1509
Midland, Texas, 79701

Re: Antelope Ridge Unit
Lea County, New Mexico
1967 Plan of Development

ATTENTION: Mr. J. E. R. Sheeler

Gentlemen:

The Commissioner of Public Lands has this date approved your 1967 Drilling Program for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are retaining two copies and handing eight (8) copies to the Oil Conservation Commission for their approval and requesting that they forward seven (7) copies to the United States Geological Survey at Roswell for their consideration.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Eddie Lopez, Supervisor
Unit Division

GBH/TE/EL/s

cc: USGS-Roswell, New Mexico
OCC-Santa Fe, New Mexico

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEAR 1967

Oil and Gas Supervisor (6)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico

Oil Conservation Commission
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico

Gentlemen:

In compliance with Section 10 of the Antelope Ridge Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development for the Antelope Ridge Unit for the calendar year 1967. The Plan of Development for the year 1966 provided for no additional wells.

During December, 1966, a workover was undertaken in Unit Well No. 1 to dually complete as a Morrow and Siluro-Devonian producer. A Morrow completion was effected, but in the course of operations, a mechanical problem developed which will require temporary deferment of Siluro-Devonian production. A packer failure between the high-pressured Morrow zone and the normally-pressured Siluro-Devonian required emergency measures to isolate the two pays. The zones are now separated with a bridge plug above the Siluro-Devonian, and the dualing operation must be suspended until the high pressure Morrow zone declines to a pressure comparable to the Siluro-Devonian. It is estimated that a safe working pressure will be reached in about one year. Meanwhile, Unit Well No. 1 will be produced as a single zone Morrow well. Deliverability is now in excess of 7 million cubic feet per day.

The Unit is developed by four wells which now provide two Devonian drainage points, two Morrow drainage points and one Atoka drainage point. An

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JAN 1 9 30 AM '67
STATE LAND OFFICE
SANTA FE, N.M.

additional Devonian drainage point is assured in Well No. 1 at a later date. Status of each well is shown as follows:

<u>Well and Location</u>	<u>Total Depth & Formation</u>	<u>Status</u>
Unit Well No. 1 SE/4 SW/4 Sec. 27 T-23-S, R-34-E.	14,840' - Devonian	Morrow Producer Devonian isolated by bridge plug.
Unit Well No. 2 NW/4 NE/4 Sec. 4 T-24-S, R-34-E.	17,895' - Ellenburger	Dual Morrow and Devonian Producer.
Unit Well No. 3 NE/4 SW/4 Sec. 34 T-23-S, R-34-E.	14,940' - Devonian	Devonian Producer.
Unit Well No. 4 NW/4 NE/4 Sec. 4 T-24-S, R-34-E.	12,375' - Atoka	Atoka Producer.

During the last quarter of 1966, the Unit produced at an average rate of about 28.6 million cubic feet of gas and 460 barrels of condensate per day. Cumulative production over the 4.3 year life through 1966 was about 26 billion cubic feet of gas and 512,000 barrels of condensate.

The principal reserves in the Unit Area are present in the Devonian formation. The Pennsylvanian (Morrow and Atoka) reservoirs are considered to be secondary objectives because of the random and unpredictable occurrence of "pay quality" porosity. It is the opinion of the Operator that the existing Devonian drainage points will adequately drain the reservoir. All are located at favorable structural positions. The subsurface interpretation shows that no well can be drilled high enough under prevailing field rules to realize a structural advantage over the existing wells. The Unit is being operated under a gas sales contract rate that provides for total Unit reserves and no improvement in rate of take is likely to be realized from additional Devonian wells. Therefore, the drilling of down-dip wells would result in economic waste.

At this time, it should be pointed out that the Operator is investigating stimulation methods that may offer promise for improving deliverability from Morrow gas wells. Field tests are being planned for treating a low capacity Morrow well in a nearby field. Results of this investigation will be relevant to future plans for the Pennsylvanian formations in the Antelope Ridge Field.

Pending the results of the stimulation experiments, it is the Operator's intention not to drill any additional wells in the Unit. It is understood, however, that should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate and prudent action.

This Plan of Development is submitted for your consideration as satisfaction of the requirements of the Unit Operator under the terms of the Antelope Ridge Unit Agreement for the period ending December 31, 1967. It is understood that this plan may be modified with approval at any time when new information or changing conditions should warrant further action.

Shell Oil Company
Unit Operator

By 
J. E. R. Sheeler

Approved: _____
Supervisor United States Geological Survey

Approved: _____ *May 18, 1967*
Commissioner of Public Lands

Approved:  *May 19, 1967*
Oil Conservation Commission

MAIN OFFICE OF

'67 MAY 11 AM 8 1

2719

Drawer 1857
Roswell, New Mexico 88201

May 10, 1967

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. J. E. R. Sheelar

Gentlemen:

The first revision of the Morrow formation participating area for the Antelope Ridge unit agreement, Lea County, New Mexico, was approved on May 2, 1967, by the Acting Director, Geological Survey, effective as of January 1, 1967.

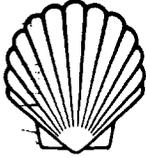
Four approved copies of the application are enclosed. You are requested to furnish all interested principals with appropriate evidence of this approval.

Sincerely yours,

(Orig.Sgd.) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil and Gas Supervisor

cc:
Washington (ltr. only)
Hobbs (w/cy of approved appl.)
Con. Pub. Lands, Santa Fe (ltr. only)
NMOCC, Santa Fe (ltr. only) ✓
Accounts



SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

2717

February 27, 1967

**Subject: Antelope Ridge Unit (14-08-001-8492)
Lea County, New Mexico
Plan of Development
Calendar Year 1967**

Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico

Attention Mrs. Marian M. Rhea

Gentlemen:

Enclosed are ten copies of a Plan of Development for the calendar year, 1967 for the Antelope Ridge Unit. If this plan meets with your approval, will you please ratify and pass the package along to the Oil Conservation Commission for approval. We have supplied three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell for final ratification. A stamped envelope is provided.

When this instrument has been fully ratified, we will send approved copies to all parties.

Yours very truly,
ORIGINAL SIGNED
By J. E. R. SHEELER

PWH:ERW

J. E. R. Sheeler

Attachments

cc: Regional Oil & Gas Supervisor
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

ANTELOPE RIDGE UNIT (NO. 14-08-0001-8492)
LEA COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT
CALENDAR YEAR 1967

Oil and Gas Supervisor (6)
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands (3)
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico

Oil Conservation Commission
State of New Mexico
Post Office Box 871
Santa Fe, New Mexico

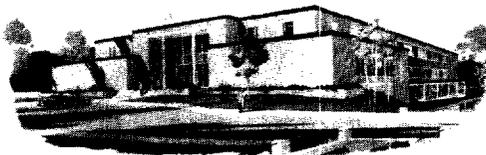
Gentlemen:

In compliance with Section 10 of the Antelope Ridge Unit Agreement, Shell Oil Company, as Unit Operator, hereby submits for your approval a Plan of Development for the Antelope Ridge Unit for the calendar year 1967. The Plan of Development for the year 1966 provided for no additional wells.

During December, 1966, a workover was undertaken in Unit Well No. 1 to dually complete as a Morrow and Siluro-Devonian producer. A Morrow completion was effected, but in the course of operations, a mechanical problem developed which will require temporary deferment of Siluro-Devonian production. A packer failure between the high-pressured Morrow zone and the normally-pressured Siluro-Devonian required emergency measures to isolate the two pays. The zones are now separated with a bridge plug above the Siluro-Devonian, and the dualing operation must be suspended until the high pressure Morrow zone declines to a pressure comparable to the Siluro-Devonian. It is estimated that a safe working pressure will be reached in about one year. Meanwhile, Unit Well No. 1 will be produced as a single zone Morrow well. Deliverability is now in excess of 7 million cubic feet per day.

The Unit is developed by four wells which now provide two Devonian drainage points, two Morrow drainage points and one Atoka drainage point. An

State of New Mexico



Commissioner of Public Lands



March 2, 1967

GUYTON B. HAYS
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Shell Oil Company
P. O. Box 1509
Midland, Texas, 79701

Re: Antelope Ridge Unit
Lea County, New Mexico

ATTENTION: Mr. J. E. R. Sheeler

Gentlemen:

The Commissioner of Public Lands has approved the First Enlargement to the Morrow Participating Area for the Antelope Ridge, Unit, Lea County, New Mexico.

We are retaining two copies and handing eight approved copies to the Oil Conservation Commission and requesting them to forward seven copies to the United States Geological Survey, Roswell, New Mexico. We are attaching to the copies handed to the Oil Conservation Commission the stamped addressed envelope which you have provided.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS
BY:

Ted Bilberry, Director
Oil and Gas Department

GBH/MDR/s

cc: USGS-Roswell
OCC-Santa Fe ✓

additional Devonian drainage point is assured in Well No. 1 at a later date. Status of each well is shown as follows:

<u>Well and Location</u>	<u>Total Depth & Formation</u>	<u>Status</u>
Unit Well No. 1 SE/4 SW/4 Sec. 27 T-23-S, R-34-E.	14,840' - Devonian	Morrow Producer Devonian isolated by bridge plug.
Unit Well No. 2 NW/4 NE/4 Sec. 4 T-24-S, R-34-E.	17,895' - Ellenburger	Dual Morrow and Devonian Producer.
Unit Well No. 3 NE/4 SW/4 Sec. 34 T-23-S, R-34-E.	14,940' - Devonian	Devonian Producer.
Unit Well No. 4 NW/4 NE/4 Sec. 4 T-24-S, R-34-E.	12,375' - Atoka	Atoka Producer.

During the last quarter of 1966, the Unit produced at an average rate of about 28.6 million cubic feet of gas and 460 barrels of condensate per day. Cumulative production over the 4.3 year life through 1966 was about 26 billion cubic feet of gas and 512,000 barrels of condensate.

The principal reserves in the Unit Area are present in the Devonian formation. The Pennsylvanian (Morrow and Atoka) reservoirs are considered to be secondary objectives because of the random and unpredictable occurrence of "pay quality" porosity. It is the opinion of the Operator that the existing Devonian drainage points will adequately drain the reservoir. All are located at favorable structural positions. The subsurface interpretation shows that no well can be drilled high enough under prevailing field rules to realize a structural advantage over the existing wells. The Unit is being operated under a gas sales contract rate that provides for total Unit reserves and no improvement in rate of take is likely to be realized from additional Devonian wells. Therefore, the drilling of down-dip wells would result in economic waste.

At this time, it should be pointed out that the Operator is investigating stimulation methods that may offer promise for improving deliverability from Morrow gas wells. Field tests are being planned for treating a low capacity Morrow well in a nearby field. Results of this investigation will be relevant to future plans for the Pennsylvanian formations in the Antelope Ridge Field.

Pending the results of the stimulation experiments, it is the Operator's intention not to drill any additional wells in the Unit. It is understood, however, that should the opportunity arise to improve the reserve position in any of the reservoirs, the Operator will take appropriate and prudent action.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

2719

March 3, 1967

Shell Oil Company
P. O. Box 1509
Midland, Texas 79701

Attention: Mr. J.E.R. Sheeler

Re: First Enlargement to Morrow
Participating Area, Antelope
Ridge Unit, Lea County, New
Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the First Enlargement to the Initial Morrow Participating Area for the Antelope Ridge Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Seven approved copies of the application are being forwarded to the United States Geological Survey, Roswell, New Mexico.

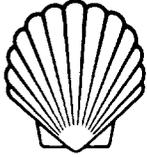
Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands - Santa Fe
United States Geological Survey - Roswell

COPY



SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

February 15, 1967

Subject: Antelope Ridge Unit
Lea County, New Mexico

Commissioner of Public Lands
State of New Mexico
P.O. Box 1148
Santa Fe, New Mexico

Attention Mrs. Maxian M. Rhea

Gentlemen:

Here are ten copies of our application for the First Enlargement to the Morrow Participating Area in the Antelope Ridge Unit. If this application meets with your approval, will you please ratify and pass the package on to the Oil Conservation Commission for approval. We have supplied three copies for State use and request that seven copies be forwarded to the United States Geological Survey in Roswell. A stamped envelope is provided.

When ratification is completed we will send copies to all interested parties.

Very truly yours,

Original Signed By
S. B. DEAL

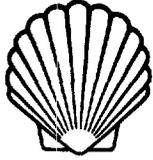
For: J. E. R. Sheeler
Division Production Manager

PWH;lvb

cc: Regional Oil and Gas Supervisor
United States Geological Survey
P.O. Drawer 1857
Roswell, New Mexico

THIS COPY
→
FOR

New Mexico Oil Conservation Commission
P.O. Box 371
Santa Fe, New Mexico



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STATE LAND OFFICE
SANTA FE, N.M.

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1
SHELL OIL COMPANY

WESTERN DIVISION
P. O. BOX 1509
MIDLAND, TEXAS 79701

February 15, 1967

Subject: Antelope Ridge Unit (14-08-001-8492)
Lea County, New Mexico
First Enlargement to Initial
Participating Area
Morrow Formation

The Director
United States Geological Survey
Washington 25, D.C.

Commissioner of Public Lands
P. O. Box 1148
Santa Fe, New Mexico

Through:

Regional Oil & Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

In compliance with the requirements of Section 11 of the Antelope Ridge Unit Agreement No. 14-08-001-8492, approved December 27, 1962, Shell Oil Company as Unit Operator hereby makes application for the First Enlargement to the Initial Participating Area for the Morrow Formation. The proposed enlargement will add 1440 acres to the Initial Participating Area, as approved September 9, 1966, for a revised total of 2879.71 acres now entitled to participate in gas production from the Morrow formation. It is proposed that the First Enlargement of the Initial Participating Area be made effective January 1, 1967, the first day of the month in which Unit Well No. 1 was re-completed as a Morrow Gas Producer.

The acreage presently dedicated to Morrow gas production as provided in the Initial Participating Area is described as follows:

S/2 Section 33 and SW/4 Section 34, T-23-S, R-34-E, NMPM;
W/2 Section 3 and All Section 4, T-24-S, R-34-E, NMPM
totaling 1439.71 acres.

A revised Participating Area is now proposed as the result of the successful recompletion of Unit Well No. 1 on January 5, 1967. The well was tested on January 12, 1967, for a calculated open flow potential of 9.005 MMCF gas per day with a condensate ratio of 7.5 barrels per million cubic feet from

the Morrow interval 13,226 to 13,278 feet. The well is now flowing to the Antelope Ridge gasoline plant and thence to the gas sales line. It is the Operator's opinion that Unit Well No. 1 is capable of producing gas in paying quantities and is entitled to be included in the Morrow Participating Area.

It is proposed that the boundaries of the First Enlargement be established by the same approach used to define the Initial Participating Area, i.e. the acreage to be added shall include the 160-acre governmental quarter section on which Antelope Ridge Unit No. 1 is located plus the eight adjoining governmental quarter sections for a total addition of 1440 acres. The enlarged Participating Area will then include the following lands:

All Section 27, E/2 Section 28, NE/4 and S/2 Section 33,
N/2 and SW/4 Section 34, T-23-S, R-34-E; W/2 Section 3,
All Section 4, T-24-S, R-34-E.

The following supporting data are attached:

1. Schedule I, showing the percentage participation of each lease included or partially included in the enlarged Initial Participating Area.
2. A geological and engineering report relating to the Morrow formation.
3. Exhibit No. 1, plat of the Antelope Ridge Unit showing structure contours on top of the Morrow clastic zone as well as proposed participation boundaries.
4. Exhibit No. 2, cross section of the Pennsylvanian interval showing correlations and related test data.
5. Exhibit No. 3, bottom-hole pressure behavior curve of Antelope Ridge Unit No. 1 during CAOF potential test.
6. Exhibit No. 4, pressure build-up curve of Antelope Ridge Unit No. 3 during drill stem test of Morrow formation.

It is the Operator's opinion that the lands covered by this application constitute the total area which can be regarded as reasonably

proved to be productive of unitized Morrow hydrocarbons in paying quantities. Accordingly, your approval of the application for the First Enlargement to the Initial Participating Area for the Morrow formation effective January 1, 1967, is respectfully requested.

Yours very truly,



For: J. E. R. Sheeler
Division Production Manager

Attachments

Approved: _____ Date: March 3, 1967
New Mexico Oil Conservation Commission

Approved: Lufton B. Hay Date: March 2, 1967
New Mexico Commissioner of Public Lands

Approved: A. G. Peterh. Date: March 3, 1967
~~Director, United States Geological Survey~~
N. Mex. Oil Conservation Commission

ANTELOPE RIDGE UNIT
FIRST ADJUSTMENT TO INITIAL PARTICIPATING AREA
MORROW FORMATION

SCHEDULE I

<u>Working Interest Owner</u>	<u>Lease Serial No.</u>	<u>Mineral Owner</u>	<u>Tract Number</u>	<u>Description</u>	<u>Participating Acreage</u>	<u>Percent Participation</u>
Shell Oil Company	LC 067715	U.S.	1	E/2 Sec. 28-23S-34E	320.00	11.1122
Shell Oil Company	LC 071949	U.S.	2	S/2, NE/4, E/2 NW/4, SW/4 NW/4 Sec. 27-23S-34E	600.00	20.8354
Shell Oil Company	NM 07199-B	U.S.	4	Lot 1, SE/4 NE/4, S/2 SW/4 Sec. 4-24S-34E	159.98	5.5554
Shell Oil Company	NM 07199-C	U.S.	5	E/2 SE/4 Sec. 4-24S-34E	80.00	2.7781
Shell Oil Company	NM 021422	U.S.	6	Lot 2, SW/4 NE/4, W/2 SE/4 Sec. 4-24S-34E	159.94	5.5541
Continental Oil Company	NM 045352	U.S.	7	NW/4 SW/4 Sec. 4-24S-34E	40.00	1.3890
Shell Oil Company	NM 0155160	U.S.	8	NW/4 NW/4 Sec. 27-23S-34E	40.00	1.3890
Shell Oil Company	E-8078	State N.M.	10	SW/4 NE/4, SE/4 NW/4, NE/4 SW/4 SW/4 SW/4 Sec. 34-23S-34E	160.00	5.5561
Shell Oil Company	OG-20	State N.M.	11	N/2 N/2, SE/4 NE/4, SW/4 NW/4 NW/4 SW/4 SE/4 SW/4 Sec. 34-23S-34E	320.00	11.1122
Shell Oil Company	K-280	State N.M.	12	E/2 E/2 Sec. 33-23S-34E	160.00	5.5562
Shell Oil Company	K-1124	State N.M.	13	Lot 4 Sec. 4-24S-34E	39.86	1.3842
Shell Oil Company	K-2149	State N.M.	14	W/2 E/2, SW/4 Sec. 33-23S-34E	320.00	11.1122
Shell Oil Company	-	Merrimen et al.	15	Lots 3 & 4, S/2 NW/4, SW/4 Sec. 3-24S-34E	320.03	11.1133
Shell Oil Company	-	Neblett et al.	16	Lot 3, S/2 NW/4, NE/4 SW/4, Sec. 4-24S-34E	159.90	5.5526
				Total	2879.71	100.0000

SUMMARY SCHEDULE I

Total Federal Lands	1399.92	48.6132
Total State Lands	999.86	34.7209
Total Fee or Other Lands	479.93	16.6659
Sub Total	2879.71	100.0000
Uncommitted Lands	-	-
Total Productive Acreage	2879.71	100.0000

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STATE LAND OFFICE
SANTA FE, N.M.

Antelope Ridge Unit
Geological and Engineering Report
Morrow Formation

General

First production of Morrow gas in the Antelope Ridge Unit was established on September 12, 1963, a discovery in Antelope Ridge Unit No. 2 (Formerly Federal BE No. 1). Cumulative production from the Morrow in Well No. 2 through December 1966 has been 4,568 million cubic feet of gas and 37,000 barrels of condensate. The recent recompletion of Antelope Ridge Unit No. 2 on January 5, 1967, has extended Morrow gas production to the northern sector of the Unit.

Geology

The pay interval in Well No. 1 is located some 200 feet stratigraphically lower than the producing interval in Unit Well No. 2. This zone is situated within the vertical limits of the Antelope Ridge Morrow reservoir but is distinctly a separate sand member from that which produces in Well No. 2. Please refer to Exhibit No. 2.

The distribution of producing quality sands within the Morrow interval has been randomly oriented throughout Antelope Ridge and the adjoining Bell Lake Fields. Although the gross sand units are generally well defined and correlatable, the productivities vary over wide ranges. It is likely that free movement of fluids is hampered by internal capillary forces and/or permeability barriers. Morrow gas accumulations in the area appear to have no structural orientation but rather seem to channel through random permeable media which must have resulted from post-depositional alteration of the sands, such as cementation and/or compaction.

It is the opinion of the Operator that the pay distribution cannot be defined economically by drilling. Therefore it is considered equitable to provide for a reasonable drainage area to protect correlative rights of mineral owners holding acreage adjacent to the producing wells. For further information please refer to the Geological and Engineering report accompanying the Application for Initial Participating Area, Pennsylvanian formation, dated October 15, 1963.

Pressure Performance

Exhibit No. 3 shows a plot of bottom hole pressure performance in Well No. 1 during the Open Flow Potential Test. This test showed the well to be capable of producing at sustained rates in excess of 7 million cubic feet gas per day at reasonably stable bottom hole pressures. This indicates good lateral continuity of the permeable sand. Also, the shut in pressure had stabilized at virgin pressure within four hours of shut in time. During the early phase of production from this zone the extent of the reservoir cannot be determined but the first evidence is encouraging. Later in the life of the well it would be expected that the areal extent

of the reservoir could be calculated by combining pressure-cumulative and volumetric data.

This type of calculation has been applied to Antelope Ridge Unit No. 2 and it is now evident that this well is draining in excess of 640 acres. The latest pressure point in Well No. 2, taken during November 1965, shows a drop in pressure of 2884 psi from an original pressure of 8711 psi after the production of 2,500 million cubic feet of gas. Gas reserves are estimated to be in excess of 15 billion cubic feet.

Another significant pressure observation was obtained during a drill stem test of the Morrow in Unit Well No. 3. The interval 12,840 to 13,006 feet produced gas at a rate of 3.6 million cubic feet per day, but an accompanying loss of flowing pressure of the order of 1100 psi was observed during the flow period. The build-up during the shut in period showed that the zone was tight and was not considered an acceptable completion prospect at this location. Exhibit No. 4 shows the pressure behavior on this test. The zone is correlative with that producing in Well No. 2 and it is probably contributing to the reserves from this zone. It is considered to be on the fringe of commercial capability, however. The operator is now investigating stimulation techniques that might hold promise for treating such a zone. Field tests are being planned for treating a low capacity Morrow producer in a nearby field. A success there would certainly cast a favorable light on prospects for stimulation of the Morrow in Antelope Ridge.