

CASE 3384: Application of SHELL
OIL CO. for creation of 2 gas
pools & special rules, Lea County

ASE NO.

3384

Application,

Transcripts,

All Exhibits

ETC.

State of New Mexico
Oil Conservation Commission



P. O. BOX 2088
SANTA FE

Other _____

P. O. Box 100
Reno, Nevada

February 23, 1955

Subject: Antelope Ridge Unit
Log County, New Mexico
Vertical Limits of
Lower Pennsylvanian
Reservoir

New Mexico Oil Conservation Commission (2)
P. O. Box 1900
Albuquerque, New Mexico

Attention Mr. Joe Arroy, Supervisor

Gentlemen:

Shell Oil Company as operator of the Antelope Ridge Unit hereby respectfully requests that the vertical limits of the Antelope Ridge Marrow/Pennsylvanian Pool be changed to include the Asoka formation, and that the pool be re-designated Antelope Ridge Lower Pennsylvanian Pool. Although this designation will place both the Unit 4-1 and 4-2 wells in the same production unit, the Company prefers this arrangement for convenience of unit administration, production and such that field rules might be established for Pennsylvanian production. Accordingly, we request that the vertical limits of the pool be changed so all productive zones located between the top of the Asoka and the top of the Asoka as they appear on the Behm-Barger Structural Survey of Unit 4-1 (formerly Federal 31-1).

Under present unit arrangements as approved by the United States Geological Survey and the Commissioner of Public Lands, the lower Pennsylvanian production is dedicated to a participating area consisting of 12 1/4 Section 4, Township 24 South, Range 31 East plus the eight adjoining governmental section portions. It has not yet been established if the Asoka oil reserve can be developed as separate commercial objectives. At the present stage of development, the operator believes that controlling rights are protected by the existence of the lower Pennsylvanian Reservoir Area for the Antelope Ridge Unit. It is further believed that the present operating procedure will not cause waste or damage to any existing hydrocarbon zone. Therefore, we would appreciate your favorable consideration to our request to include the Asoka and such that it can be determined that oil and gas can be developed and produced in paying quantities.

Yours very truly,

Original Signed By
I. H. DWYER

E. I. Dwyer
District Production Manager

RHH:BJ

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS

DL=Day Letter
NL=Night Letter
LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

LA069 LA070 SSA180

(03) 03

L HBA036 LONG PD 2 EXTRA=HOBBS NMEX 15 1100A MST=
NEW MEXICO OIL CONSERVATION COMMISSION, ATTN A L PORTER=
: SANTA FE NMEX=

1966 MAR 15 AM 11 36

REFERENCE CASE (#3384) CONTINENTAL OIL COMPANY IS A
WORKING INTEREST OWNER IN THE ANTELOPE RIDGE UNIT AND IS
THE OPERATOR OF THE ADJOINING BELL LAKE UNIT
CONSIDERING THE FACTS AT HAND CONTINENTAL CONCURS WITH
SHELL OIL COMPANIES APPLICATION FOR ESTABLISHMENT OF THE
ANTELOPE RIDGE MORROW AND ANTELOPE RIDGE ATOKA GAS
POOLS. WE FURTHER CONCUR THAT THE WELL SPACING FOR THESE
POOLS SHOULD BE AT LEAST 320 ACRES PER WELL WHICH IS

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-00)

SYMBOLS

DL = Day Letter

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CONSISTENT WITH THE PRESENT STATE WIDE SPACING RULES.
CONTINENTAL BELIVES HOWEVER THAT WELL SPACING OF AT
LEAST 640 ACRES IS PROBABLY JUSTIFIED IN THESE TWO
RESERVOIRS CONTINENTAL RECOMMENDS THEREFOD THAT THE
SPACING RULE WHICH WILL RESULT FROM THIS HEARING BE OF
A TEMPORARY NATURE AND PROVIDES FOR 640 ACRE SPACING=
L P THOMPSON CONTINENTAL OIL CO HOBBS NMEX==

#3384 320 640 640=

THE COMPANY WILL APPRECIATE SUGOESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

Affidavit of Publication

State of New Mexico } ss.
County of Santa Fe }

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION
COMMISSION
SANTA FE - NEW MEXICO
The State of New Mexico by its
Oil Conservation Commission hereby gives notice pursuant
to law and the Rules and Regu-
lations of said Commission pro-
mulgated thereunder of the fol-
lowing public hearing to be held
at Santa Fe, New Mexico, on
MARCH 16
1966, at 10:00 A.M. in the
LARGE COURT ROOM, BUILDING, SAN-
TA FE, NEW MEXICO.

STATE OF NEW MEXICO TO:
All persons and persons
interested in the right, title, interest
and ownership of the following land,
to-wit: the public, and
(Note: the descriptions of the
interests in the New Mexico prin-
ciple whether or not so
stated.)

CARROLL, and the Oil Company
Applicant for two gas pools
for the purpose of oil, gas and
and the following rules, fees and
County of Santa Fe, New Mexico.

Applicant seeks the abolition of
cause, seeks the abolition of
the Antelope Ridge Morrow
Pennsylvania Gas Pool, as pres-
ently defined, and the creation of
the Antelope Ridge Atoka Gas
Pool with vertical limits from 12,
092 feet to 12,854 feet and the
creation of the Antelope Ridge
Morrow Gas Pool with vertical
limits from 12,854 feet to 13,840
feet. Applicant further seeks the
promulgation of special rules for
each of said pools, including a
provision for 320 - acre spacing
units and for flexible well loca-
tions.

GIVEN under the seal of the
New Mexico Oil Conservation
Commission at Santa Fe, New
Mexico, on this 2nd day of March,
1966.

STATE OF NEW MEXICO
OIL CONSERVATION
COMMISSION
A. L. PORTER, Jr.,
Secretary-Director
(SEAL)
(Legal No. 2429, Pub March 4,
1966)

Received Payment,

By

MAR 16 1966

BILL

me at \$ 9.00

times \$

Tax \$.36

Total \$ 9.36

I, Janet Perkins, being first
duly sworn, declare and say that I am the Legal Manager (Editor) of
The New Mexican, a daily newspaper, published in the English Language,
and having a general circulation in the City and County of Santa Fe, State
of New Mexico, and being a newspaper duly qualified to publish legal noti-
ces and advertisements under the provisions of Chapter 167 of the Session
Laws of 1937: that the publication, a copy of which is hereto attached, was
published in said paper once each week for ten consecutive weeks, and
on the same day of each week in the regular issue of the paper during the
time of publication, and that the notice was published in the newspaper pro-
per, and not in any supplement, once each week for ten weeks conse-
cutively, the first publication on the 4 day of March, 1966;
and the last publication on 19 day of March, 1966; that pay-
ment for said advertisement has been (duly made), or (assessed as court
costs); that the undersigned has personal knowledge of the matters and
things set forth in this affidavit.

Janet Perkins
Legal Manager
Subscribed and sworn to before me this 4

day of March, A.D., 1966

Norman Overfelt
Notary Public

My commission expires
June 16, 1969

Affidavit of Publication

State of New Mexico } ss.
County of Santa Fe }

I, Janet Perkins, being first duly sworn, declare and say that I am the (Legal Manager) (~~Editor~~) of The New Mexican, a daily newspaper, published in the English Language, and having a general circulation in the City and County of Santa Fe, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937; that the publication, a copy of which is hereto attached, was

published in said paper once each week for four consecutive weeks, and on the same day of each week in the regular issue of the paper during the time of publication, and that the notice was published in the newspaper pro-

per, and not in any supplement, once each week for 12 weeks conse-

cutively, the first publication on the.....4.....day of March....., 1966;

and the last publication on.....day of....., 19.....; that payment for said advertisement has been (duly made), or (assessed as court costs); that the undersigned has personal knowledge of the matters and things set forth in this affidavit.

PUBLISHER'S BILL

.....60.....lines, one time at \$..9.00.....

.....lines,times \$.....

Tax \$ 36

Total \$ 9.36

Received Payment,

By _____

James G. Perkins

 General ~~Manager~~ **Director-Manager**

Subscribed and sworn to before me this... 4

day of March....., A.D., 1966.....

Rosanne Ornelas
Notary Public

My commission expires

.....June 16, 1969.....

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Robert L. Summers

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for

a period of _____

ONE weeks.

Beginning with the issue dated

March 4, 1966

and ending with the issue dated

March 4, 1966

Robert L. Summers
Publisher.

Sworn and subscribed to before

me this 4th day of

March, 1966

Notary Public.

My Commission expires _____

March 17, 1969

(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE

March 4, 1966

**NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION
COMMISSION**

SANTA FE, NEW MEXICO

The State of New Mexico by its Oil Conservation Commission hereby gives notice pursuant to law and the Rules and Regulations of said Commission promulgated thereunder of the following public hearing to be held at 9 o'clock a.m. on March 16, 1966, MORGAN HALL, STATE LAND OFFICE BUILDING, Santa Fe, New Mexico.

STATE OF NEW MEXICO TO:

All named parties and persons having any right, title, interest or claim in the following case, and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian, whether or not so stated).

CASE 3384:

Application of Shell Oil Company for the creation of two gas pools and for special pool rules, Lea County, New Mexico.

Applicant, in the above-styled cause, seeks the abolishment of the Antelope Ridge - Morrow Pennsylvanian Gas Pool as presently defined, and the creation of the Antelope Ridge-Atoka Gas Pool with vertical limits from 12,092 feet to 12,854 feet and the creation of the Antelope Ridge-Morrow Gas Pool with vertical limits from 12,854 feet to 13,840 feet. Applicant further seeks the promulgation of special rules for each of said pools, including a provision for 320-acre spacing units and for flexible well locations.

Given under the seal of the New Mexico Oil Conservation Commission at Santa Fe, New Mexico on this 2nd day of March, 1966.

**STATE OF NEW MEXICO
OIL CONSERVATION
COMMISSION**

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

(SEAL)

MAIN OFFICE 000

MAR 2 AM 9 50

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF SHELL OIL COMPANY
FOR THE CREATION OF TWO GAS POOLS
AND FOR THE ESTABLISHMENT OF
SPECIAL RULES AND REGULATIONS THEREIN
LEA COUNTY, NEW MEXICO

No. 3284

Comes now Shell Oil Company by its attorneys, Seth, Montgomery, Federici & Andrews, and applies to the New Mexico Oil Conservation Commission for the creation of two new gas pools and for the establishment of special rules and regulations therein and in support of its application states:

1. Shell Oil Company is the operator of the Antelope Ridge Unit located in Sections 27, 28, 33 and 34, Township 23 South, Range 32 East, and Sections 3 and 4, Township 24 South, Range 34 East, Lea County, New Mexico.

2. By Order No. R-2692 dated May 1, 1964, as amended by Order No. R-2911 dated June 1, 1965, the Commission created the Antelope Ridge - Morrow Pennsylvanian Gas Pool with vertical limits from 11,854 feet to 13,840 feet.

3. Shell Oil Company has drilled two wells in the Antelope Ridge - Morrow Pennsylvanian Gas Pool as follows:

Unit Well No. 2 (formerly Federal BE Well No. 1)
1650 feet from the East line, 660 feet from the North
line, Sec. 4, T.24 S., R.34 E., Lea County, New Mexico.

Unit Well No. 4
990 Feet from the North line, 2310 feet from the East
line of Sec. 4, T.24 S., R.34 E., Lea County, New
Mexico.

4. Unit Well No. 2 is completed through perforations in the interval from 12,898 feet to 13,153 feet. Unit Well No. 4 is completed through perforations in the interval from 12,005 feet to 12,375 feet.

5. Shell Oil Company requests that the orders establishing the Antelope Ridge - Morrow Pennsylvanian Gas Pool be amended and that two separate gas pools be created with vertical limits as follows with reference to the markers in the Unit Well No.2:

Antelope Ridge - Atoka Gas Pool vertical limits:
12,092 feet to 12,854 feet.

Antelope Ridge - Morrow Gas Pool vertical limits:
12,854 feet to 13,840 feet.

The creation of the two separate pools is justified by the vertical separations that exists between the producing horizons of the Atoka and the Morrow formations, which formations are not in communication with each other.

6. Shell Oil Company also requests the establishment of special rules and regulations for each of the proposed pools with provisions for 320-acre spacing units and for flexible well locations.

7. Shell Oil Company further requests that these rules be made retroactive to the date of first production from the above described wells and that the locations of said wells be approved and where necessary granted exceptions to the well location requirements established by these rules.

WHEREFORE, Shell Oil Company requests that this application be set for hearing before the Commission on March 16, 1966 and that the Commission enter its order approving the proposal set forth herein.

SETH, MONTGOMERY, FEDERICI & ANDREWS
By Richard S. Morris
P.O. Box 2307
Santa Fe, New Mexico
Attorneys for Shell Oil Company

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3384
Order No. R-3050
NOMENCLATURE

APPLICATION OF SHELL OIL COMPANY
FOR THE CREATION OF TWO GAS POOLS
AND FOR SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 16, 1966,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 17th day of March, 1966, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

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

(2) That the Antelope Ridge-Morrow Pennsylvanian Gas Pool,
created and defined by Orders Nos. R-2692 and R-2911, comprises
the NE/4 of Section 4, Township 24 South, Range 34 East, NMPM,
Lea County, New Mexico, with vertical limits from 11,854 feet
to 13,840 feet.

(3) That the applicant, Shell Oil Company, seeks the abol-
ishment of the Antelope Ridge-Morrow Pennsylvanian Gas Pool and
the creation of the Antelope Ridge-Atoka Gas Pool, with horizon-
tal limits comprising the N/2 of said Section 4 and vertical
limits from 12,092 feet to 12,854 feet, and the creation of the
Antelope Ridge-Morrow Gas Pool, with horizontal limits comprising

-2-

CASE No. 3384

Order No. R-3050

the N/2 of said Section 4 and vertical limits from 12,854 feet to 13,840 feet.

(4) That the applicant proposes that the Antelope Ridge-Atoka Gas Pool and the Antelope Ridge-Morrow Gas Pool be governed by the acreage and well location requirements of Rule 104 C II (a) of the Commission Rules and Regulations.

(5) That the Antelope-Ridge Morrow Pennsylvanian Gas Pool encompasses more than one separate common source of supply and should be abolished.

(6) That each of the proposed gas pools encompasses a separate common source of supply.

(7) That the Antelope Ridge-Morrow Gas Pool and the Antelope Ridge-Atoka Gas Pool should be created with vertical and horizontal limits as proposed by the applicant.

(8) That the subject gas pools should be governed by the acreage and well location requirements of Rule 104 C II (a) of the Commission Rules and Regulations in order to prevent waste and protect correlative rights.

(9) That the applicant's Antelope Ridge Unit Well No. 2 located 660 feet from the North line and 1650 feet from the East line of Section 4, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico, does not conform to the well location requirements of Rule 104 C II (a) of the Commission Rules and Regulations.

(10) That the location of the applicant's Antelope Ridge Unit Well No. 2 should be approved in order to prevent the drilling of unnecessary wells and to otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the Antelope Ridge-Morrow Pennsylvanian Gas Pool is hereby abolished.

(2) That a new pool in Lea County, New Mexico, classified as a gas pool for Atoka production, is hereby created and designated the Antelope Ridge-Atoka Gas Pool, with vertical limits comprising the Atoka zone of the Pennsylvanian formation in the interval from

-3-

CASE No. 3384

Order No. R-3050

12,092 feet to 12,854 feet on the log of Antelope Ridge Unit Well No. 2, and horizontal limits comprising the N/2 of Section 4, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production, is hereby created and designated the Antelope Ridge-Morrow Gas Pool, with vertical limits comprising the Morrow zone of the Pennsylvanian formation in the interval from 12,854 feet to 13,840 feet on the log of Antelope Ridge Unit Well No. 2, and horizontal limits comprising the N/2 of Section 4, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico.

(4) That the Antelope Ridge-Atoka Gas Pool and the Antelope Ridge-Morrow Gas Pool shall be governed by the acreage and well location requirements for 320-acre wells of Rule 104 C II (a) of the Commission Rules and Regulations.

(5) That the location of the Shell Oil Company Antelope Ridge Unit Well No. 2 located 660 feet from the North line and 1650 feet from the East line of Section 4, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico, is hereby approved.

(6) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

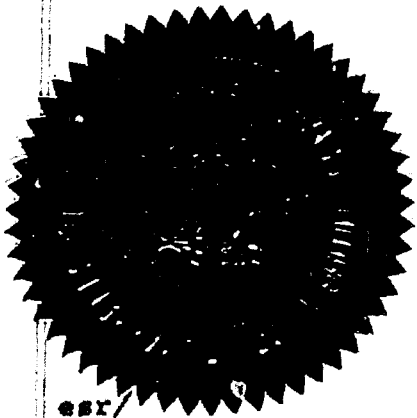
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

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



esr/

KENNETH A. SWANSON
VICE PRESIDENT
LAND

AZTEC OIL & GAS COMPANY
2000 FIRST NATIONAL BANK BUILDING
DALLAS, TEXAS 75202

October 27, 1971

RECEIVED

OCT 28 1971

OIL CONSERVATION COMM.
SANTA FE

Mrs. Ida Rodriguez
New Mexico Oil Conservation Comm.
Land Office Building
Santa Fe, New Mexico 87501

Re: Cases Nos. 2945 and 3384
Antelope-Ridge Pools
Lea County, New Mexico

Dear Ida:

Enclosed are the three transcripts loaned us
last week.

Thank you again for your courtesy.

Yours very truly,

Kenneth

KAS:nl
Enc.

dearnley-meier reporting service, inc.

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

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

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 16, 1966

REGULAR HEARING

IN THE MATTER OF:

Application of Shell Oil Company for the
Creation of two gas pools and for special
pool rules, Lea County, New Mexico.

Case No. 3384

BEFORE:

Daniel S. Nutter, Chief Engineer

TRANSCRIPT OF HEARING

MR. NUTTER: The Examiner Hearing is called to order and we will take a fifteen minute recess.

(Whereupon, a recess was taken.)

MR. NUTTER: The hearing will come to order, please. We'll call first Case 3384.

MR. DURRETT: Application of Shell Oil Company for the creation of two gas pools and for special pool rules, Lea County, New Mexico.

MR. MORRIS: I'm Richard Morris of Seth, Montgomery, Federici & Andrews, Santa Fe, New Mexico, appearing on behalf of Shell Oil Company. We will have two witnesses to present testimony in this case, Mr. Pat Huber and Mr. Dick Seba. We ask that they both stand and be sworn at this time.

(Witnesses sworn.)

MR. MORRIS: At the outset, Mr. Examiner, I would tender for the record two affidavits of publication with respect to this case; one publication in the Santa Fe New Mexican and the other publication in the Hobbs Daily News Sun, and ask that they be made part of the record.

MR. NUTTER: The applications for publication will be made part of the record. Note for this hearing it was published in the Santa Fe New Mexican on March 4, 1966, it was published in the Hobbs Daily News Sun on March 14, 1966.

(Whereupon, Applicant's Exhibits
1, 2, 3, 4 & 5 marked for
identification.)

P. W. HUBER, a witness, having been first duly sworn,
was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Huber, will you please state your name, where
you reside, by whom you are employed and in what capacity?

A My name is P. W. Huber, I live in Midland, Texas,
I'm employed by Shell Oil Company as a Senior Production
Geologist in their Western Division.

Q Have you previously testified before the New Mexico
Oil Conservation Commission or one of its Examiners and had
your qualifications made a matter of record and accepted?

A Yes, sir I have.

Q Mr. Huber, what is it that Shell Oil Company seeks
by its application in Case 3384?

A We are asking that the Pennsylvanian interval in the
Antelope Ridge Field be separated into two distinct pools
consisting of the Morrow Pennsylvanian Gas Pool and the
Atoka Pennsylvanian Gas Pool.

Q Are you seeking special rules and regulations for
each of those pools?

A Yes, sir, we are asking that each of the pools be placed on 320 acre spacing and that they be--let's see, dedicated each pool to the North half of Section 4 of 24 South, 34 East.

Q We'll cover the well locations and dedications in more detail a little bit later. First, Mr. Huber, to put the present application in perspective I think it would be well to relate for the record the history of the development of the Pennsylvanian formation in the area of the Antelope Ridge Unit and in that regard I will ask if you have prepared exhibits that you would want to refer to in the course of relating that history of development?

A Yes, sir. In order that we can keep track of our various stages of development I would like to refer to Exhibit 1 which is a plat of the Antelope Ridge Field showing structure on a Morrow Electric Log Marker. It shows the unit outline of the Antelope Ridge Unit in the wide cross-hatched margin. It shows lease ownership of adjoining leases adjacent to the Antelope Ridge Unit and it also sets forth in the solid line a participating area established according to our Antelope Ridge Unit Agreement with the Geological Survey and the Commissioner of Public Lands.

Q Shell is the operator of the Antelope Ridge Unit?

A Yes, sir.

Q And are all interests, both working interests and

royalty interests within the Antelope Ridge Unit committed to this unit agreement?

A All of the working interests owners are committed to the unit agreement, well, all of the basic royalty interests are committed; there are some small outstanding overrides not committed.

Q Does this plat also show the location of the wells that have been drilled in the unit area and will these be discussed in more detail as we go through the history of this?

A Yes, particularly the Pennsylvanian wells. I will just briefly cover the whole plat. We have four wells within the unit. Two of the wells are completed in the Devonian Formation only and they are aside from the discussions of this hearing, that is Well Number 1 in Section 27 and Well Number 3 in Section 34 of 23 South, 34 East, and then in addition to those two we have a dually completed well, our Well Number 2, in Section 4 of 24 South, 34 East. That is completed both in the Devonian Formation and the Morrow Pennsylvanian Formation, and Well Number 4 in Section 4 of 24 South, 34 East, which is completed in a Pennsylvanian Formation which is now within the vertical limits of the Antelope Ridge Morrow Pennsylvanian Pool that we are--wish to take that well out of the present vertical limits of the field and establish a new pool for that particular well.

Q It's these wells 2 and 4 that are in Section 4 that we are concerned with in this hearing, primarily?

A Yes, that's right.

Q Does this plat, Exhibit 1, also show the line of a cross section?

A Yes, sir, the A to A prime line goes through four wells in a generally North-South direction, Southeast Northeast if you wish.

Q And is that cross section Exhibit 2 in this case?

A It is Exhibit Number 2, yes, sir.

Q All right. Now, Mr. Huber, by reference to Exhibits 1 and 2 that you have described, would you relate the history of Pennsylvanian development in this area, first beginning with what is now designated Unit Well Number 2?

A All right, sir. Unit--well, the well which is now called Unit Number 2 was actually drilled before the Antelope Unit was formed. It was designated as Federal "B" "E" Number 1. We have had two redesignations of the well when it was called Unit 4-1, and later when we were adapting to a new Commission numbering system. We dropped the--we dropped our section designation and it is now Well Number 2, Antelope Ridge Unit Number 2. It was drilled to the lower Devonian Formation and completed in July of 1963 in the Morrow Formation only with perforations, let's see, 12,898, 12,898 to 13,153 feet.

Now, we intended later in the life of the well to dual this well and did subsequently with the Devonian Formation.

Q All right. Now, when the well was originally drilled to what formation was it projected?

A It was projected, this well actually tested the Allenburger and found it dry. We cased through the Devonian and came back up to the Morrow.

MR. NUTTER: This was a rank oil well?

THE WITNESS: The Harris Federal Number 1, the well in Section 27.

MR. NUTTER: That well had been completed?

THE WITNESS: We had no Pennsylvanian discovery, this is the Pennsylvanian discovery and we are trying to divorce the Devonian from the Pennsylvanian but in order to get oriented we are going through the history of the Number 2 well.

Q (By Mr. Morris) What is the location of this well?

A 660 feet from the North line and 1650 feet from the East line of Section 4 of 24 South, 34 East.

Q Now, when this well was originally drilled and projected as a gas well, was that location an orthodox location for a 160 acre gas spacing unit?

A Yes, sir, it was an orthodox location unit for a 160 acre gas well.

Q After the well was completed in the Morrow Formation, I think you said that was in July of '63?

A Yes, sir.

Q Sometime after that the Commission recreated a pool for the Morrow production, do you have the date and order number whereby that pool was created?

A Yes, sir, the Antelope Ridge Morrow Pennsylvanian Pool was created by Order Number R-2692 effective May 1, 1964. It was described as a Morrow Pennsylvanian Pool with no gross vertical limits, but we have perforations at 12,898 feet. I believe the definition was more related to the Morrow Pennsylvanian Formation, no vertical limits in feet were established.

Q All right. Now, to keep our cronology straight, the well was drilled and completed in the Morrow in July of '63 and then in May of '64. The Antelope Ridge Morrow Pennsylvanian Gas Pool was created then, am I correct in saying that, in June or efective June 1 of '64, the Commission adopted its rule of general application in Southeast New Mexico whereby 320 acre spacing was established as standard for new gas pools in the Pennsylvanian or deeper?

A Yes, sir, that is correct.

Q All right. That new rule also prescribed different well location requirements for wells in the--drilled on 320

acre gas spacing units that were different than what you had had for the 160 acre gas spacing units?

A Yes, sir, that is correct.

Q All right. Now, let's turn to the Well Number 4. Again proceeding in chronological sequence, can you tell us first how this Well Number 4 may have been formerly designated so that reference to the well by some other name might be identified?

A Yes, sir, Well Number 4--shall I go back through the chronology of the names and nomenclature?

Q All right.

A Federal "B" Number 1, which it was placed on the unit, we gave it a unit number, called it Antelope Ridge Unit 4-1.

Q You're talking about the Number 2 well there?

A Yes, sir, 4-1.

Q Now, what about the Number 4 well?

A I beg your pardon.

Q All right.

A The Number 4 well was called Unit 4-2, just the second well in the Section Number 4 was the reason for naming it in that manner, and then we adapted to the State well number reporting system and changed the wells. The Antelope Ridge Unit 4-1 became Well Number 2, and the 4-2 became Well Number

4 and that is as it stands today and they are the 2 wells we are discussing.

Q When was this Well Number 4 commenced?

A December of 1964.

Q And to what formation was it projected?

A We were projecting this well to the upper portion of the Pennsylvanian Formation to develop a zone that was indicated to be productive while we were drilling Antelope Ridge Unit Number 2, and it is necessary, really as a mechanical facility, to permit the rate of production desired from the Pennsylvanian. Our present well was not equipped mechanically to handle the volume of gas that was desired to withdraw from the Pennsylvanian.

MR. NUTTER: In other words, this was drilled as a twin to the Number 2 Well, because of mechanical problems you could not triple complete the Number 2?

THE WITNESS: Right, we had even considered co-mingling and decided that was not the way to go, too.

Q (By Mr. Morris) What is the location of the Number 4 Well?

A Number 4 Well is located 990 feet from the North line and 2310 feet from the East line of Section 4, 24 South, 34 East.

Q Now, when this well was completed, as I understand

it, it was projected to the Atoka Formation which was above the designation of the vertical limits of the existing pool, the Antelope Ridge Morrow Pennsylvanian Gas Pool?

A Yes, sir.

Q So it was projected to a new pool?

A New pool, that is correct.

Q Am I correct in saying that this location was an orthodox location for a well projected to a new gas pool under the new rules adopted by the Commission for gas pools in Southeast New Mexico effective June 1, 1964?

A Yes, sir, it was an orthodox location for an East-West 320 acre unit.

Q Right. When was this well completed in the Atoka Formation?

A This well was completed on February 4, 1965 for a calculated open flow potential of 30,000,000 cubic feet per day.

Q Now, again proceeding chronologically, was a new pool created for the Atoka production from the Number 4 Well?

A No, sir. At Shell's request we asked for an interim change in the vertical limits of the Morrow Pennsylvanian Reservoir, it was a matter of convenience at the time. Primarily, we were also somewhat concerned as to whether this was really a commercial zone and could be exploited separately

or not, and temporarily we asked that the vertical limits of the Morrow Pennsylvanian Pool be extended to include this interval, this producing interval, in the Well Number 4.


Q You say, Mr. Huber, this was done at Shell's request, do you have with you your copy of a letter written by you to the New Mexico Oil Conservation Commission in which you set forth your requests in this regard?

A Yes, sir.

Q Would you read that letter into the record, please?
I might say parenthetically here, that copies of this letter are so poor we would rather just read the letter into the record.

A February 23, 1965, it was sent out the same P.O. The well was completed in the Atoka Formation. Subject: Antelope Ridge Unit Lea County, New Mexico, Vertical Limits of Lower Pennsylvanian Reservoir. It was addressed to the New Mexico Oil Conservation Commission in Hobbs New Mexico; Attention Mr. Joe Ramey, Supervisor. The text of the letter: "Gentlemen: Shell Oil Company as operator of the Antelope Ridge Unit hereby respectfully requests that the vertical limits of the Antelope Ridge Morrow/Pennsylvanian Pool be expanded to include the Atoka formation, and that the pool be redesignated Antelope Ridge Lower Pennsylvanian Pool. Although this determination will place both the Unit 4-1 and"--

that is now Unit Number 2 since the new nomenclature, and 4-2 Well, and that well is Number 4 now. I'll repeat this again, "Although this determination will place both the Unit 4-1 and 4-2 wells in the same proration unit, the Operator prefers this arrangement for convenience of unit administrative procedures until such time that field rules might be established for Pennsylvanian production. Accordingly, we request that the vertical limits of the pool be designated as all productive zones located between log markers at 12,854". I'll stop here and that is the level indicated as top Pennsylvanian in our Exhibit Number 2, and 13,840 feet which is the lower limit of our Morrow stratigraphic section. It is the bottom line of the Exhibit Number 2. I'm taking this out of context. "Accordingly, we request that the vertical limits of the pool be designated as all productive zones located between log markers at 12,854 and 13,840 feet as they appear on the Schlumberger Electrical Survey in Well Unit 4-1 (formerly Federal BE-1).



Under present unit arrangements as approved by the United States Geological Survey and the Commissioner of Public Lands, the lower Pennsylvanian production is dedicated to a participating area consisting of NE/4 Section 4, Township 24 South, Range 34 East plus the eight adjoining governmental quarter sections. It has not yet been established if the

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Atoka and Morrow reservoirs can be developed as separate commercial objectives. At the present stage of development, the operator believes that correlative rights are protected by the existence of the lower Pennsylvanian Participating Area for the Antelope Ridge Unit. It is further believed that the present operating procedure will not cause waste or damage to any existing hydrocarbon zone. Therefore, we would appreciate your favorable consideration to our request to redefine the Pool until such time that it can be determined that separate objectives can be developed and produced in paying quantities".

Q That last sentence, Mr. Huber, recognize that further evaluation of the Pennsylvanian might cause you to wish to have these two zones, the Atoka and the Morrow, reconsidered for classification into two separate zones, is that correct?

A Yes, sir, we left the door open for changes.

Q What action did the Commission take upon that request?

A They granted our request as to the vertical limits. The designation of the pool was kept the same, retained as Antelope Ridge Morrow Pennsylvanian Pool.

Q Was this by Order Number R-2911 dated May 24, 1965?

A Yes, sir, and extended the limits from 11,854 to 13,840 feet.

Q In other words, what that order did, it still called it the Morrow Pennsylvanian Gas Pool but it extended the vertical limits to include the Atoka as well as the Morrow?

A Yes, sir.

Q I think you stated earlier that your Number 2 well is a dual between the Morrow and the Devonian?

A Yes, sir.

Q And the Number 4 is a single completion in the Atoka?

A Atoka. Geologically we are presently within the limits of the Morrow Pennsylvanian Gas Pool as it stands now.

Q Yes, but there has been no co-mingling of gas as between these two zones, the Atoka and the Morrow, in the well bore of either one of these wells?

A That is correct, they have been produced separately.

Q From the information available to you, does it appear that the Atoka and the Morrow are in physical communication?

A No, sir, we believe strongly that they are separate reservoirs, separate sources of hydrocarbon.

Q What is the physical vertical separation between the two zones?

A Zones in feet from the base of the Atoka pay interval to the top of the Morrow it is about 550 feet of vertical separation.



Q Would you describe the lithology of each of these two zones and point out the differences that exists between them?

A Yes, sir. We believe that the designation of the Morrow throughout the industry has, and Shell has accepted it as the break between the limestone facies of the lower Pennsylvanian interval, I don't think there is any proof of that but it's accepted as an arbitrary picture in the industry. The Morrow is predominantly sand shale facies, this is in the Delaware Basin.

Q In your opinion are the two formations separate sources of supplies?

A Yes, sir, I think we have very good evidence for vertical separation for the two formations with respect to lithology and other reservoir characteristics to be brought out in later testimony. I would like to state that within this 550 feet of vertical separation we have numerous shale partings in the lime sequence that would serve to block any vertical migration between the two pay zones.

Q Would it be your recommendation, Mr. Huber, that the Atoka and the Morrow should be established as two separate pools?

A Yes, sir, I recommend that we have two pool designations at this time.



Q And what recommendations would you have as to the designations of the vertical limits of each of these pools?

A We would recommend that the Atoka Pennsylvanian Reservoir be defined as the interval between 12,092 feet and 12,854 feet as identified on the Schlumberger Electrical Log of the Antelope Ridge Unit Number 2 which is the reference well of our past determinations, and that the Morrow reservoir be designated from 12,854 feet to 13,840 feet, also referred to as the Antelope Ridge Unit Number 2 Well.

Now, there is one item in this respect, and the reason we placed these vertical limits on the two pays at this time is that we're trying to restrict ourselves as to what is known as Atoka and Morrow Formations. I have a log here with some readable numbers.

MR. NUTTER: That 12,854, that is right to the top of the Morrow?

THE WITNESS: Right to the top of the Morrow as we have it correlated on our cross section, yes, sir. In this regard I would like to mention that our Unit Number 4 Well has a slotted liner in it that goes above these vertical limits. We know from samples, drill stem tests, and logs, that the interval above our pay zone is dense and is not capable of producing fluids of any sort, but we do have a part of that formation open just by the results of our mechanical

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completions so there may be some reason for shifting this upper limits of the Atoka up to the top of the Pennsylvanian to cover this contingency. However, we're satisfied that the top of the Atoka is the top of the productive interval.

Q (By Mr. Morris) Mr. Huber, were Exhibits 1 and 2 prepared by you or under your direction?

A Yes, sir.

MR. MORRIS: We offer into evidence Exhibits 1 and 2.

(Whereupon, Applicant's Exhibits 1 and 2 offered into evidence.)

MR. NUTTER: If there are no objections the exhibits will be admitted.

(Whereupon, Applicant's Exhibits 1 and 2 admitted into evidence.)

MR. MORRIS: I have nothing further from Mr. Huber.

At this time I will point out that Mr. Seba will testify as to the engineering aspects of the case.

(Whereupon, Applicant's Exhibit 6 marked for identification.)

Q (By Mr. Morris) Mr. Huber, would you identify what has been marked as Exhibit 6 in the case?

A Yes, sir, Exhibit 6 is a 1 inch, 2 inches equal 100 feet, scale log of Antelope Ridge Unit Number 2. It is the same well that is shown in the cross section in Exhibit Number 2, but large enough that the depths are more readable, and we

will enter it.

MR. MORRIS: We offer Exhibit Number 6 into evidence.

(Whereupon, Applicant's Exhibit 6 offered into evidence.)

MR. NUTTER: Shell's Exhibit Number 6 will be admitted.

(Whereupon, Applicant's Exhibit 6 admitted into evidence.)

MR. MORRIS: Nothing further on direct.

MR. NUTTER: Any questions of Mr. Huber? I think you've covered everything as far as I'm concerned. If there are no questions you may be excused.

R I C H A R D D. S E B A, a witness, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Seba, will you please state your name, where you reside, by whom you are employed and in what capacity?

A Richard Seba, employed by Shell Oil Company in Midland, Texas as a Senior Reservoir Engineer in the Western Division.

Q Have you previously testified before the New Mexico Oil Conservation Commission or one of its Examiners and had your qualifications accepted as a matter of record?



A Yes, I have.

Q Would you refer to what has been marked as Exhibit Number 3 in this case, state what it is and point out the most pertinent features of that exhibit?

A Exhibit Number 3 is a tabulation of reservoir and well completion data for the two wells in question, being the Antelope Ridge Unit Number 2 and Number 4 Wells. In this tabulation we have presented the pertinent reservoir data which are there for all who are interested in them. I would like to call special reference to several items that I think will show the separation of these two reservoirs and the different characteristics of the two. I refer first to the original reservoir pressure for the Antelope Ridge Morrow which was 8,731 pounds whereas for the Antelope Ridge Atoka the original reservoir pressure was 5,914 pounds. It's significant that the pressure gradient for the Morrow is .68 PSI per foot, whereas the Antelope Ridge Atoka pressure gradient was .49 PSI per foot indicating that the Morrow Gas Pool was an over-pressured reservoir whereas the Antelope Ridge Atoka is a normal reservoir. The gas gradient for the Morrow Gas Pool is .59 as compared to .64 for the Atoka. The liquid content of the two gases is quite different, the liquid content being approximately 4.5 barrels per million and Condensate is 21.8 barrels per million.

Q From a comparison of the reservoir data available on the Morrow and Atoka Formations in these two wells, do you have an engineering opinion as to whether the two formations are straight sources of supply?

A I believe that the reservoir data conclusively indicates that they are two separate reservoirs and their pressure and Condensate are so different as to conclude communication between the two.

Q Also, referring to Exhibit Number 3, Mr. Seba, you have a figure shown on here for the ultimate recovery per 320 acres, and would you state by what means you arrived at the figures you have shown here?

A Yes, using the reservoir data tabulated above we have calculated volumetrically on the 320 surface acres, the recovery for the Morrow would be 7,895,000,000 cubic feet for 320 acres, whereas the recovery on the Antelope Ridge Atoka 4,842,000,000 cubic feet per 320 acre unit.

Q From the production history that you have experienced on wells 2 and 4, have you made a study in order to estimate the ultimate production to be derived from each of these two wells?

A Yes, I would like to refer to Exhibit 4 and 5 which are plots of pressure divided by the compressibility factor versus cumulative recovery for each of the wells, which is the

normal term balance method for determining ultimate recovery in completing gas pools. On each of those we have three points at three different cumulative recoveries. I wish to point out that on Unit 4 the last point was taken subsequent to shutting the well in so it's a very recent point. On each of the three exhibits the three points shown line up very well in a separate line, which is what is to be expected, so the extrapolation of the straight line through the three points to an abandonment pressure of approximately 1,000 pounds should equal the ultimate recovery to be expected from each of these wells in the two separate reservoirs.

I have tabulated these figures on Exhibit 3, labeled "Ultimate Recovery Per Well". It indicates that for the Antelope Ridge Morrow Gas Well Number 2 we would expect to recover approximately 14,800,000,000 cubic feet of gas, and for the Antelope Ridge Atoka Gas Pool through Well 4 we would expect upon recovery 45,000,000,000 cubic feet. I think if you would compare the ultimate recovery as determined from production data to the ultimate recovery per 320 acres it would be obvious that the wells would drain 320 acres or more.

Q Mr. Seba, would you, having given your opinion that the two pools are separate sources of supply and that one well in each of the pools will drain 320 acres or more, would you state what Shell's proposal is with respect to Commission action

at this time.

A We would propose that the statewide 320 acre spacing be adopted for these two pools to allow additional flexibility in our future operations.

Q When you say that the general rules be adopted, you mean that either they be made applicable or that special rules be adopted for the two pools that are in conformity for pools that are in Southeast New Mexico?

A Yes, sir.

Q Go ahead.

A We are asking the adoption of 320 acres so that in the future it will be possible to drill additional wells should our deliverability requirements be such that we can not meet our contract commitments. At the present time they are adequate but should they decline it may be necessary to drill additional wells to meet the contract commitments.

Q Assuming optimistically that the Commission will grant your request for 320 acre spacing in accordance with the general rules for new Pennsylvanian Pools in Southeast New Mexico, what would be Shell's proposal as to dedication of acreage as to each of the two wells?

A We would propose the dedication of the North half of Section 4, Township 24 South, Range 34 East, for each of these wells. In other words, a 320 acre unit running East and

West.

Q Under the rules as we have proposed them would the location of the Number 2 Well be an orthodox location?

A No, it would not. It was drilled as an orthodox 160 acre location but would not be an orthodox location for a 320 acre unit.

Q Some relief would be requested in that regard in exception to the well location requirements under the 320 acre spacing rules?

A That is correct, the Well Number 2 would require an exception for the location that it occupies at the present time.

Q Would any exception be needed with respect to the Number 4 Well?

A No, Number 4 was drilled as a regular 320 location.

Q Were Exhibits 3 and 4 and 5 prepared by you or under your direction?

A Yes, they were.

MR. MORRIS: We offer Shell's Exhibits 3, 4 and 5 into evidence.

(Whereupon, Applicant's Exhibits 3, 4 and 5 offered into evidence.)

MR. NUTTER: If there are no objections they will be admitted.



(Whereupon, Applicant's Exhibits
3, 4 and 5 admitted into evidence.)

MR. MORRIS: I have nothing further of Mr. Seba
at this time.

MR. NUTTER: Does anyone have any questions of
Mr. Seba?

CROSS-EXAMINATION

BY MR. PORTER:

Q Do you have the liquid graft from each zone, graft
of the liquid from each zone?

A Antelope Ridge 2, 63 degrees API, this was taken
during the Hokum Flow Potential Tests, and the Antelope
Ridge Unit 4 has 57.3 degrees API.

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. Seba, repeat that gas gradient?

MR. HUBER: I think I can answer that better than
Mr. Seba can. The gas gradient for Well 2 in the
Antelope Ridge Morrow is .68 PSI per foot original pressure,
and the gradient for the Well 4, .49 PSI per foot.

Q In computing those reserves you took that down to
an abandonment pressure of 1,000 pounds?

A Yes. I would like to point out this is not a gas
gradient but that this is the hydrostatic or the original
pressure divided by the depth rather than a gas gradient

in the well.

Q Now, in making my notes during Mr. Huber's testimony I might have taken down a wrong number here. Maybe you can clarify me on this vertical limits as defined by Order Number R-2911.

MR. HUBER: 11,854 feet to 13,840, and incidently I didn't bring it out in testimony but the right margin of Exhibit 2 shows the vertical limits as they exist and we are requesting.

Q I had that marked 12,854 but the bottom limits of the Atoka and the top limits of the Morrow will now be 11,840 as proposed?

MR. HUBER: Yes, sir.

MR. NUTTER: Are there any other questions of Mr. Seba? He may be excused. Do you have anything further Mr. Morris?

MR. MORRIS: No, we have nothing further to offer.

MR. NUTTER: Does anyone have anything else to offer?

MR. DURRETT: I would like Mr. Morris to share a legal opinion with us. Mr. Morris, under our present rules, Rule 104, concerning the spacing of the gas wells created after, I believe it's June, 1964, gas pools created after that day, would it be your opinion that if the Commission would create two pools, each one being of Pennsylvanian Age or deeper, that

they would be automatically governed by the State Rules, or do you feel it would be necessary to specifically state that they be?

MR. MORRIS: I think that as far as the Atoka is concerned there would be no problem because the Atoka Well, the Number 4 Well as commenced after June 1 of 1964, and it was a new Pennsylvanian Pool discovery after that date, however as to the Morrow the discovery well being the Number 2, was commenced before the new rules became effective, was completed before the new rules became effective, and as a matter of fact the pool was originally created for the Morrow before the new rules became effective, so I think that special rules and regulations would be required as far as the Morrow is concerned.

As far as the Atoka I think there's some question perhaps since the original pool was extended to include both the Atoka and Morrow, and now we're bringing it out, some question whether we're talking about a new pool or separation of an old one. I would feel better about it if special rules and regulations were written for each of the two pools so there would be no question.

MR. DURRETT: Not really creating a new pool, just changing the name of an old pool?

MR. MORRIS: It could be interpreted that way.

MR. DURRETT: I have a telegram from Continental concurring with Shell's application in this case. They further state that Continental request the spacing rule be of a temporary nature and appoint 640 acre spacing.

MR. MORRIS: In that regard, Mr. Examiner, we neglected to recommend whether we wanted these rules to be temporary or permanent. We think it's premature to come in and ask for 640 acre spacing on a permanent basis or even on a temporary basis at this time, but we wouldn't want to close the door on the possibility of asking for wider spacing in this area should our production or further drilling indicate that that would be appropriate.

MR. NUTTER: All right, sir. Is there anything further in Case 3384. The Commission will take the Case under advisement and the hearing is adjourned.

(Whereupon, the hearing was
adjourned at 11:15 o'clock A.M.)

I N D E X

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E X H I B I T S

<u>NUMBER</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED</u>	<u>ADMITTED</u>
Applt's. 1	3	18	18
Applt's. 2	3	18	18
Applt's. 3	3	24	25
Applt's. 4	3	24	25
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Robert J. Davis
NOTARY PUBLIC

3. On March 19, 1966, the foregoing is a summary report of the proceedings in the American hearing of case No. 3384 heard by the Tribunal. 3/16 1966

[Signature]

New Mexico Oil Conservation Committee

Mobil Oil Company
Statement Before the New Mexico
Oil Conservation Commission
March 16, 1966

It is a pleasure to appear before this Commission to discuss the market demand for crude oil. I am appearing as a representative of Mobil Oil Company and not as a spokesman for the industry.

We estimate that the demand for products in the United States for the first quarter of 1966 will exceed demand in the first quarter of 1965 by 560,000 barrels daily. Allowables in all states have been increased during this period and now stand at the highest level in several years.

We feel that the statistical data accumulated and reported by the American Petroleum Institute relative to stocks of crude oil and products are helpful in analyzing the demand for crude oil. The latest statistical information available on U. S. crude oil and product stocks as of March 4, 1966, compared with a year ago is as follows:

<u>Total United States</u>	<u>Stocks as of March 4, 1966</u>	<u>Change from Year Ago</u>
Crude Oil	223,827,000	- 5,923,000
Gasoline	219,727,000	- 8,119,000
Kerosine	28,824,000	- 931,000
Distillate	103,214,000	+ 1,197,000
Residual	47,120,000	+ 12,179,000
Unfinished Oil Stocks	85,219,000	+ 2,400,000
Subtotal Products	484,104,000	+ 6,726,000
Total Crude and Products	707,931,000	+ 803,000

For the area East of the Rockies as of March 4, 1966, total crude and product stocks are 10,619,000 barrels less than a year ago. (Crude stocks are 7,500,000 barrels less and product stocks are 3,119,000 barrels less.)

Crude and condensate production for the week ending March 4, 1966, amounted to 8,318,260 barrels daily or 449,700 barrels daily above a year ago.

U. S. refinery runs for the week ending March 4, 1966, total 9,362,000 barrels daily or 478,000 barrels daily above a year ago.

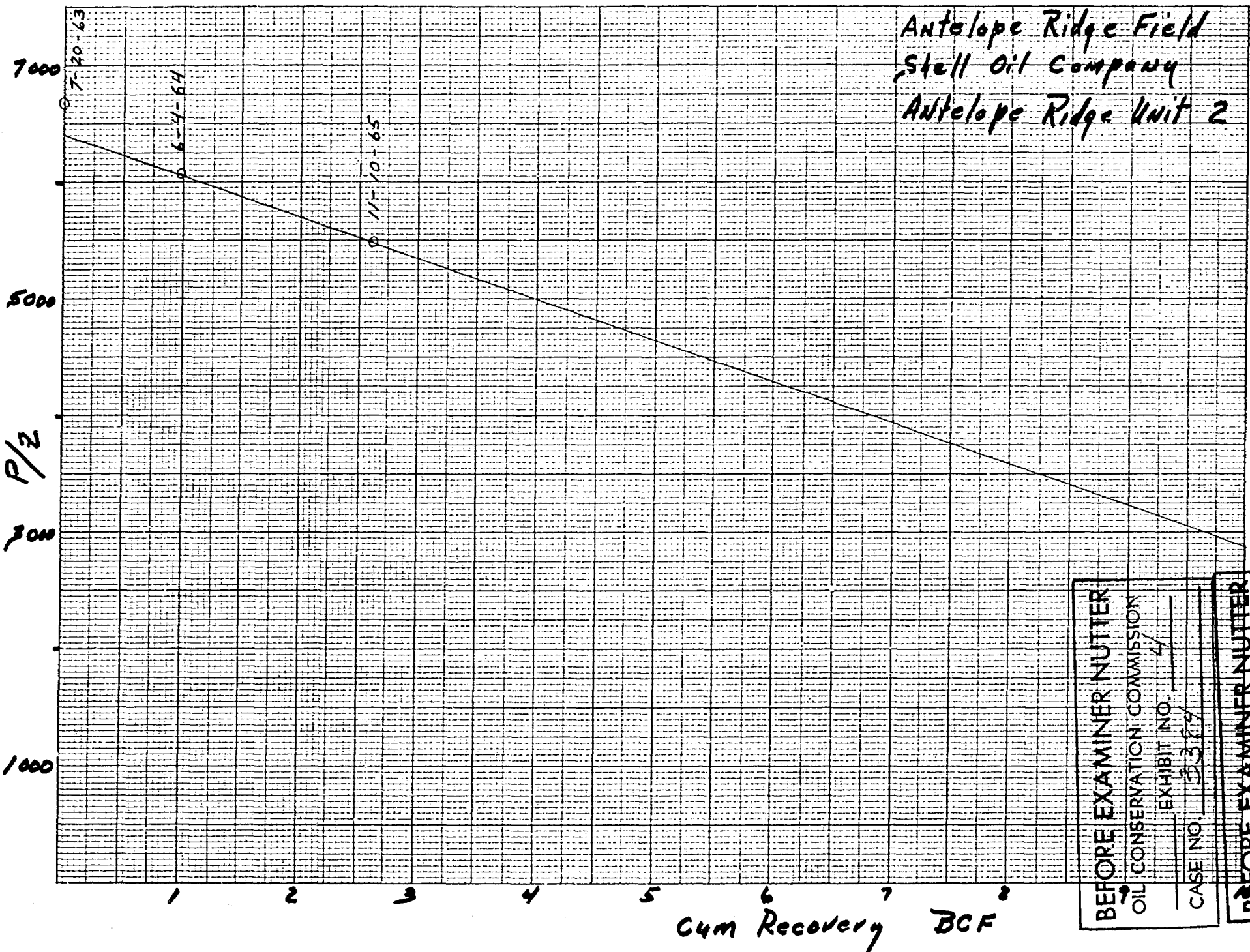
As you know, refinery runs decline during April and May of each year compared to the first quarter due to refinery turnarounds. Historically, average refinery runs during April and May compared to first quarter average runs are between 150,000 to 300,000 barrels daily lower in the United States.

Since we are now approaching the period in which refinery runs decline, we recommend that this Commission as well as other state regulatory bodies, not increase allowables for April, 1966.

Mobil's April, 1966, nominations for New Mexico crude are 28,900 barrels daily, based on a normal unit allowable of 44 barrels daily in the Southwest^{east}. We do not nominate for Northwest New Mexico crude. Our April nominations are the same as for March, 1966.

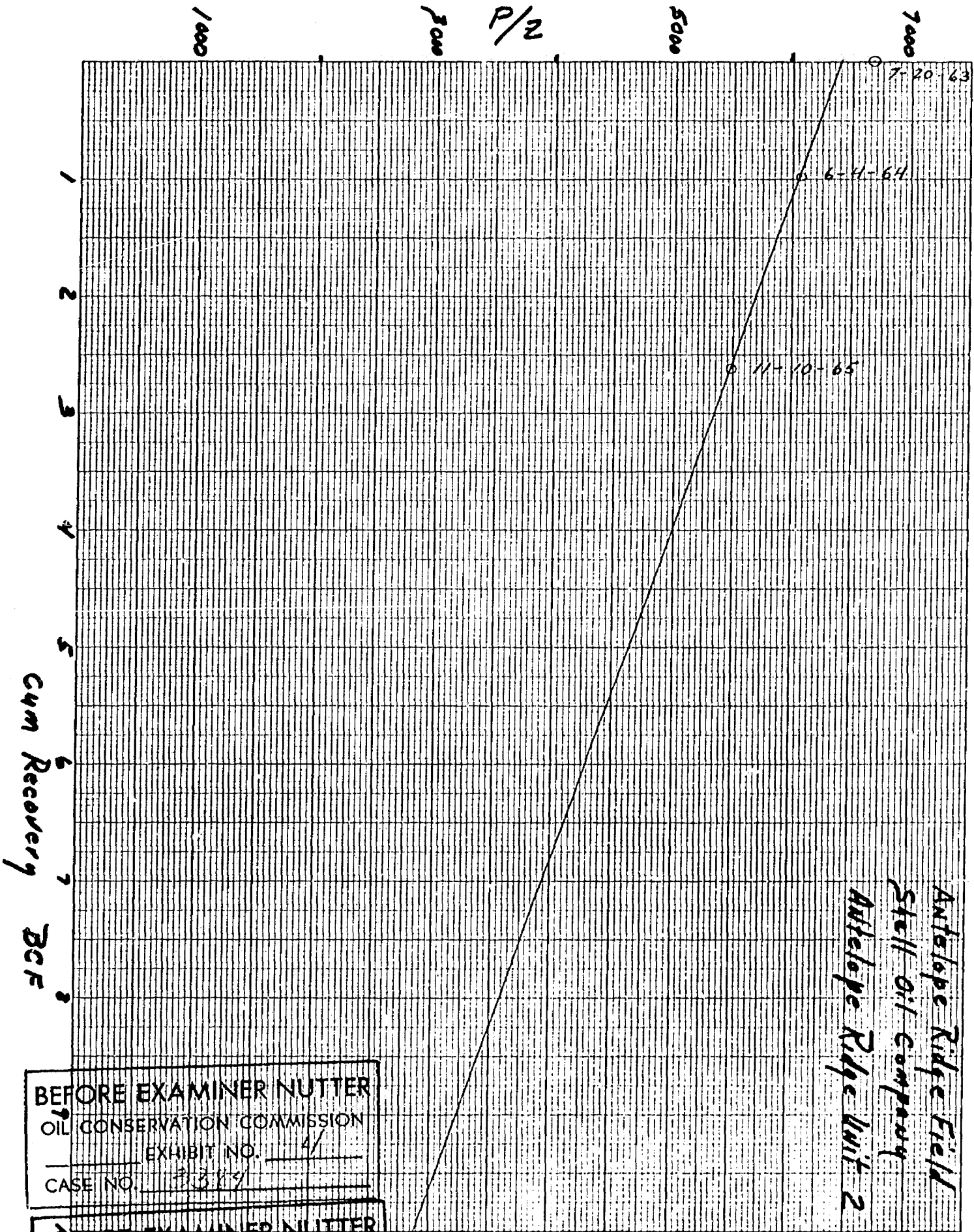
D. R. Wall, Jr.
Mobil Oil Company

March 11, 1966



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 3387

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
 EXHIBIT NO. 4
 CASE NO. 7319

BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION

RESERVOIR AND WELL COMPLETION DATA
ANTELOPE RIDGE GAS UNIT
SHELL OIL COMPANY

	<u>ANTELOPE RIDGE- MORROW GAS POOL (UNIT WELL NO. 2)</u>	<u>ANTELOPE RIDGE- ATOKA GAS POOL (UNIT WELL NO. 4)</u>
Reservoir Limits	12,854' - 13,840'	12,136' - T.D.
Perforations	12,898' - 13,153' (20 Holes)	12,005' - 12,375' (Slotted Liner)
Net Pay	29'	37'
Porosity	9%	5%
Permeability-md.	40.4	22.4
Water Saturation	25%	25%
Bottom Hole Temperature	184°F	174°F
Original Reservoir Pressure - PSIA	8,731	5,914
Gas Gravity	0.59	0.64
Condensate Content - Bbl/MMCF	4.5	21.8
Gas/Liquid Ratio - MCF/Bbl.	220	46
Original Absolute Open Flow Potential - MMCF/day	38	30
Ultimate Recovery per 320 Acres - MMCF	7,895	4,842
Ultimate Recovery per Well - MMCF	14,800	45,000
Cumulative Gas Production (2-1-66) - MMCF	2,838	2,793
Cumulative Condensate Production (2-1-66)- Bbl.	12,763	60,602

OIL CONSERVATION
 EXHIBIT NO. 5
 CASE NO. 3384