

Case No.

77

Application, Transcript,
Small Exhibits, Etc.

January 20, 1954

C
O
P
Y

Malco Refineries, Inc.
P. O. Box 660
Roswell, New Mexico

Re: Black Hills Anticline Unit Agree-
ment, Chaves County, New Mexico

Gentlemen:

We have your letter dated January 11, 1954 together with a copy of an Application for Termination of the Black Hills Unit Agreement which has been submitted to the United States Geological Survey.

Please be advised that we approve your application to terminate this particular unit agreement provided, however, like consent is obtained from the United States Geological Survey and Oil Conservation Commission.

Very truly yours,

E. S. WALKER
Commissioner of Public Lands

cc: United States Geological Survey
Roswell, New Mexico (3)
Oil Conservation Commission
Santa Fe, New Mexico (1)

October 8, 1951

Malco Refineries, Inc.
Box 660
Roswell, New Mexico

Attention: Mr. H. E. Harrington

Re: Black Hills Anticline
Unit Area

Gentlemen:

This will acknowledge receipt of your letter and application requesting for an extension of Time Within which to comply with further Drilling Requirements for the Development and Operations of the Black Hills Anticline Unit Area from December 31, 1951 to June 30, 1952.

The agreement is hereby extended together with the time for commencement of drilling to June 30, 1952 provided that like approval is obtained from Federal Authorities.

Very truly yours,

Guy Shepard
GUY SHEPARD
Commissioner of Public Lands

cc: U. S. Geological Survey
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO.

OCT 10 1951

October 1, 1951

Malco Refineries, Inc.
Box 660
Roswell, New Mexico

Attention: Mr. H. E. Harrington

Re: Black Hills Anticline
Unit Area

Gentlemen:

In accordance with your request of August 23, 1951 I am pleased to inform you that I approve the resignation of Magnolia Petroleum Company as Unit Operator of the Unit Area set out in the caption hereof and the proposal of Malco Refineries, Inc., to be Successor Unit Operator thereof; provided, however, that like approval is had and obtained by Malco Refineries, Inc., from the proper officials of the Department of Interior and this office provided with a duly executed and federally approved copy of the Designation for our files.

Very truly yours,

GUY SHEPARD
Commissioner of Public Lands

cc: U. S. Geological Survey
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

LAW OFFICES
HERVEY, DOW & HINKLE
ROSWELL, NEW MEXICO

January 15, 1951

J. M. HERVEY
HIRSH H. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.

WILLIAM C. SCHAUER

Re: Black Hills Anticline
Unit Area

New Mexico Oil Conservation
Santa Fe, New Mexico

Gentlemen:

We enclose herewith copy of letter of H. J. Duncan acting for the Director of the United States Geological Survey approving the Application of the Magnolia Petroleum Company for an extension of one year for the Black Hills Anticline Unit Area, Chaves County, I Sec. 448, and which extends the term of the Unit to December 31, 1951.

Yours very truly,

HERVEY, DOW & HINKLE

By *[Signature]*

CEH/se
Encl.

C O P Y

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Washington 25, D.C.

Magnolia Petroleum Company
Roswell, New Mexico

Gentlemen:

On December 20, 1950, Acting Director of the United States Geological Survey, Thomas B. Nolan, approved the application filed by Magnolia Petroleum Company as unit operator, requesting an extension of one year in the term of the Black Hills Anticline Unit Agreement, Chaves County, New Mexico, I-Sec. No. 448, approved July 26, 1946. The approved extension is for a period of time expiring December 31, 1951.

Enclosed are two approved copies of the application for your records. It is requested that you furnish the State of New Mexico and all other interested principals, with whatever evidence of this approval is deemed appropriate.

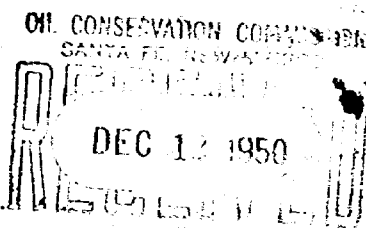
Sincerely yours,

H. J. DUNCAN

For the Director

Enclosures

Case 77



December 11, 1950

Hervey, Dow and Hinkle
Attorneys at Law
Roswell, New Mexico

Attention: Mr. C. E. Hinkle and George H. Hunkler, Jr.

Re: Application for Extension of Black Hills Unit Agreement
Magnolia Petroleum Company

Gentlemen:

I have read your application for extension of the Unit Agreement mentioned in the caption hereof for an extension from December 31, 1950 to December 31, 1951, and since drilling is now under way on a second well I approve the requested extension, provided however, that a like extension is had and obtained from the proper federal authorities.

Very truly yours,


GUY SHEPARD, Commissioner

September 11, 1930

77

Magnolia Petroleum Company
Roswell, New Mexico

Attention Mr. S. P. Hannifin

Gentlemen:

Re: Black Hills Unit Area, Chaves
County and Sec. 8 1 Sec. 448

This acknowledges receipt of your letter and application for extension of September 1st in the above captioned matter.

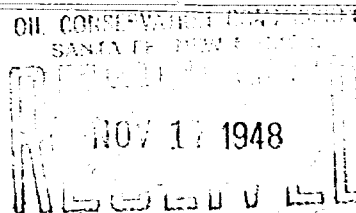
After having examined the application referred to above, the undersigned has no objection to the extension of time within which the Magnolia Petroleum Company shall commence drilling its second well on that unit area in accordance with the terms of said unit agreement and, therefore, approves said application for an extension of time for six months from and after the 6th day of May, 1930; subject, however, to like consent and approval being had and obtained from the proper federal authorities.

Very truly yours,

Guy Shepard
GUY SHEPARD
Commissioner of Public Lands

VEX

STATE LAND OFFICE
SANTA FE, NEW MEXICO



Case 77
November 8, 1948

C
O
P
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Mr. S. P. Hamilton
Magnolia Petroleum Company
Roswell, New Mexico

Dear Sir:

I have carefully examined the application of Magnolia Petroleum Company for a further extension of time within which the company may comply with the drilling requirements of the unit agreement covering the Black Hills Anti-Cline Unit Area.

The information contained in the application and in the thereto attached exhibits convinces me that the best interests of the State of New Mexico would be served by such further extension and, I, therefore approve said application for extension of said Black Hills Anti-Cline Unit Agreement for a six months period from and after November 8, 1948.

This approval is conditioned however, upon similar consent and approval in the premises being given by the proper officials of the Department of the Interior.

Very truly yours,

John E. Miles
JOHN E. MILES
COMMISSIONER OF PUBLIC LANDS

CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

August 9, 1946

C
O
P
Y

Honorable Clarence Hinkle
Hervey, Dow & Hinkle
Roswell, New Mexico

Re: Case 77 - Magnolia Petroleum Company -
Black Hills Anticline Unit Area Agreement.

Dear Clarence:

This is to acknowledge the executed agreement approved
by the Secretary of the Interior, regarding the above
captioned matter and forwarded in your letter of August

5.
With kindest regards.

Very truly yours,

Chief Clerk & Legal Adviser

CBL:MSH

LAW OFFICES
HERVEY, DOW & HINKLE
ROSWELL, NEW MEXICO

J. M. HERVEY
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONOURANT, JR.

August 5, 1946

GEORGE H. HUNKER, JR.

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Attention: Mr. Carl Livingston

Gentlemen:

We hand you herewith duplicate original of the unit agreement for the development and operation of the Black Hills Anticline Unit Area, Chaves County, New Mexico, which is designated as I. Sec. No. 448.

You will note that this agreement was approved by the Secretary of the Interior as of July 26. This copy is for your permanent records.

Yours very truly

HERVEY DOW & HINKLE

BY 

CEH:S
encl.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 77

ORDER NO. 656

THE APPLICATION OF THE MAGNOLIA PETROLEUM
COMPANY FOR AN ORDER OF APPROVAL OF THE UNIT
AGREEMENT FOR THE DEVELOPMENT AND OPERATION
OF THE BLACK HILLS ANTICLINE UNIT AREA WITHIN

EAST, N.M.P.M., CONTAINING 17,626.62 ACRES,
MORE OR LESS, CHAVES COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at ten o'clock A. M. June 7, 1946
at Santa Fe, New Mexico before the Oil Conservation Commission of New
Mexico, hereinafter referred to as the "Commission".

NOW, on this 7th day of June, 1946, the Commission having before
it for consideration the testimony adduced at the hearing of said case,
and being fully advised in the premises;

IT IS THEREFORE ORDERED THAT:

The order herein shall be known as the:

BLACK HILLS ANTICLINE UNIT AGREEMENT ORDER

SECTION 1. (a) The project herein shall be known as the Black
Hills Anticline Unit Agreement, and shall hereinafter be referred to
as the Project.

(b) The plan by which the Project shall be operated shall be em-
braced in the form of unit agreement for the development and operation
of the Black Hills Anticline Unit Area referred to in the petitioner's
petition and filed with said petition and such plan shall be known as
the Black Hills Anticline Unit Agreement Plan.

SECTION 2. The Black Hills Anticline Unit Agreement Plan shall be
and is hereby approved.

SECTION 3. (a) The Unit Area shall be:

All Sections 25, 26, 35 and 36; E $\frac{1}{2}$ Sec. 27; E $\frac{1}{2}$ Sec. 34,
Township 17 South, Range 19 East; All Sections 22 and 23,
S $\frac{1}{2}$ Sec. 20, S $\frac{1}{2}$ Sec. 21, All of Sections 26 to 35, inclusive,
Township 17 South, Range 20 East; All Sections 1, 2, 3, 10,
11, 12, 14 and 15, Township 13 South Range 19 East; All
Sections 5 and 6, Township 18 South, Range 20 East, N.M.P.M.,
Chaves County, New Mexico, containing 17,626.62 acres, more
or less.

(b) The Unit Area may be enlarged or diminished as provided in
said plan.

SECTION 4. The unit operator shall file with the Commission an
executed original, or executed counterparts thereof, of the Black Hills
Anticline Unit Agreement not later than 30 days after the effective date
thereof.

SECTION 5. Any party owning rights in the unitized substances who does not commit such rights to said Unit Agreement before the effective date thereof may thereafter become party thereto by subscribing to such Agreement or a counterpart thereof. The Unit Operator shall file with the Commission within 30 days an original of any such counterpart.

SECTION 6. The order herein shall become effective on the first day of the calendar month next following the approval of Commissioner of Public Lands and the Secretary of the Interior and shall terminate ipso facto on the termination of said Unit Agreement. The last Unit Operator shall immediately notify the Commission in writing of such termination.

Done at Santa Fe, New Mexico as of the day and year hereinabove designated.

OIL CONSERVATION COMMISSION

JOHN J. DEMDSEY, Chairman

John E. Miles
John E. Miles, Member

R. R. Spurrier
R. R. Spurrier, Secretary

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF THE DEKALB AGRICULTURAL ASSOCIATION, INC.
FOR AN ORDER OF APPROVAL OF THE UNIT AGREEMENT FOR THE DEVELOPMENT AND OPER-
ATION OF THE BITTER LAKE UNIT AREA WITHIN T. 10S, RANGES 25 and 26 EAST,
N.M.P.M., CONTAINING 9,032.38 ACRES, MORE OR LESS, CHAVES COUNTY, NEW MEXICO.

Pursuant to notice by the Commission, duly made and published, setting
June 7, 1946 at 10:00 A. M. for hearing in the above-entitled matter,
said hearing was convened on said day at said hour in the Coronada Room at
La Fonda Hotel, Santa Fe, New Mexico, the Commission sitting as follows:

Commissioner of Public Lands John E. Miles, Member
R. R. Spurrier, Secretary
Carl B. Livingston

R E G I S T E R

<u>NAME</u>	<u>COMPANY</u>	<u>ADDRESS</u>
N. R. Lamb	State Bureau of Mines	Artesia, N. M.
S. W. Indeck		Artesia, N. M.
Frank D. Gardner	Sinclair Prairie Oil Company	Midland, Texas
R. J. Heard	Grayburg Oil Company	Artesia, N. M.
R. F. Miller	Grayburg Oil Company	Artesia, N. M.
W. F. Patterson		Santa Fe, N. M.
S. P. Hannifin		Roswell, N. M.
Foster Morrell	U. S. Geological Survey	Roswell, N. M.
E. O. Homenway	A. T. & S. F. Railway Company	Albuquerque, N. M.
E. C. Iden	A. T. & S. F. Railway Company	Albuquerque, N. M.
Marshall Rowley	Carper Drilling Company	Artesia, N. M.
John E. Cochran, Jr.	Maljamar Coop. Rep. Agreement	Artesia, N. M.
William J. Wright	Maljamar Coop. Rep. Agreement	Artesia, N. M.
Charles R. Allen	Continental Oil Company	Ponca City, Okla.
J. O. Seth	Petroleum Prod. Ref. & Pro. Co.	Santa Fe, N. M.
W. R. McBride	Petroleum Prod. Ref. & Pro. Co.	Santa Fe, N. M.
John M. Kelly	Independent Geologist	Roswell, N. M.
Clarence Hinkle	Harvey, Dow and Hinkle	Roswell, N. M.
Roy O. Yarbrough	Oil Conservation Commission	Santa Fe, N. M.
F. W. Hickman	Oil Conservation Commission	Santa Fe, N. M.

Governor Miles:

Gentlemen, the Commission is in session, and the Secretary will proceed
with the order of business.

Mr. Hinkle:

I am Clarence E. Hinkle of Harvey, Dow and Hinkle, representing the
DeKalb Agricultural Association. This is an application by the DeKalb
Agricultural Association for the approval of a unit agreement to be known
as the Bitter Lake Unit Agreement. The proposed unit area covers approxi-
mately 9,032.38 acres situated in Township 10 South, Ranges 25 and 26 East.
All of the lands embraced in the proposed area are lands of the United
States, with the exception of 120 acres in Section 2, Township 10S, Range
25E, which is State land. The agreement has been executed by all of the
owners of the leases and pending applications for leases, except the lands
which are embraced in the so-called Bitter Lake Migratory Wildlife Refuge,
and there is a question whether leases will be issued for those lands.
The area has heretofore been designated by the Director of the U. S. Geol-
ogical Survey upon the application of the several lease owners as suitable
for unitization. Under the terms of the agreement the operator is given
authority to carry on necessary operations to explore and develop the unit
area. The agreement provides for a test well to be drilled to a depth of
6,500 feet, unless gas or oil is found at a lesser depth. The proposed
unit agreement follows substantially the unit agreements which have hereto-
fore been approved by the Commission. That you may have before you the
proposed unit area, here is a plat which has heretofore been filed with you.
I might say that at this time the DeKalb Agricultural Association has al-
ready started a well in Section 13, which is near the center of the proposed

unit area, and at the present time the well is below 3,500 feet. The geological information upon which this unit was formed was done by Mr. John Kelly, and I would like to have him sworn as a witness.

Mr. John H. Kelly, after being first duly sworn, testified as follows:

Mr. Hinkle:

What is your name?

Mr. Kelly:

John M. Kelly.

Mr. Hinkle:

What is your profession?

Mr. Kelly:

I am a graduate engineer and geologist, and registered to practice in

Mr. Hinkle:

How long have you practiced?

Mr. Kelly:

Ten years.

Mr. Hinkle:

You were formerly the State Geologist?

Mr. Kelly:

That is right.

Mr. Hinkle:

You are familiar with the area involved in the proposed Bitter Lake Unit Agreement?

Mr. Kelly:

I am.

Mr. Hinkle:

Have you performed any work in connection with at Agreement?

Mr. Kelly:

Upon information furnished me by Mr. Whelan, who did the magnetometer work, I prepared a contour map of the anticline.

Mr. Hinkle:

I hand you herewith the applicant's Exhibit A, and ask you to state whether that is a duplicate of the map made with the application before the U. S. Geological Survey for the designation of the Unit Area.

Mr. Kelly:

It is.

Mr. Hinkle:

You are familiar with the designation which has been made, and the boundaries as shown by the plat attached to the agreement?

Mr. Kelly:

Yes.

Mr. Hinkle:

State whether in your opinion the area covers all or substantially all of the geological features.

Mr. Kelly:

I believe it covers all of the features as shown by the geological map and the area map.

Mr. Hinkle:

Are you familiar with the agreement?

Mr. Kelly:

Yes.

Mr. Hinkle:

State whether the operations under this agreement would have a tendency to promote the conservation of oil and gas and the prevention of waste.

Mr. Kelly:

I believe it would promote proper development in the area.

Governor Miles:

Anyone else want to be heard in this case? If not, the application is granted.

Mr. Livingston:

77
The next case is No. 77 in the matter of the application of the Magnolia Petroleum Company for an order of approval of the Unit Agreement for the development and operation of the Black Hills Anticline Unit Area within Townships 17 and 18 South, Ranges 19 and 20 East, N.M.P.M., containing 17,626.62 acres, more or less, Chaves County, New Mexico.

Mr. Hinkle:

Black Hills Anticline
I am Clarence E. Hinkle of Hervey, Dow and Hinkle, and an attorney for the applicant, the Magnolia Petroleum Company. This is the application of the Magnolia Petroleum Company for the approval of the proposed Bitter Lake Anticline Unit Agreement. The unit agreement which has been filed with the Commission contains a plat which shows the proposed unit area. The proposed unit area contains approximately 17,626.62 acres. All of the lands are lands of the United States, except certain lands aggregating 2,170.36 acres. The unit agreement has been signed by the owners of oil and gas leases covering all of the lands, except the owners of two leases, which are a very small portion of the total acreage. The area involved in the agreement was approved by the Director of the U. S. Geological Survey and the Secretary of the Interior as one proper for unitization. The agreement designates the Magnolia Petroleum Company as the unit operator, and under the terms of the unit is given power to carry on all work necessary for the exploration of the area. The operators agree to commence a well within six months after the approval, and drill the same to a depth of 7,000 feet, unless gas or oil is found at a lesser depth. The form follows substantially the same form as heretofore approved by this Commission and the Commissioner of Public Lands. Mr. Steve Hannifin, the District Land Man for Magnolia, is here, and I would like to have him testify.

Mr. S. P. Hannifin, after being first duly sworn, testified as follows:

Mr. Hinkle:

Please state your name.

Mr. Hannifin:

S. P. Hannifin.

Mr. Hinkle:

Where do you reside?

Mr. Hannifin:

Roswell, New Mexico.

Mr. Hinkle:

What is your official position?

Mr. Hannifin:

District Land Man for Magnolia Petroleum Company.

Mr. Hinkle:

How long have you been with the Magnolia Petroleum Company?

Mr. Hannifin:

20 years.

Mr. Hinkle:

Are you familiar with the so-called Bitter Lake Anticline Unit Agreement in Chaves County, New Mexico, which is the subject of the proposed unit agreement?

Mr. Hannifin:

Yes, sir.

Mr. Hinkle:

Do you know whether any geological investigation has been made of this area?

Mr. Hannifin:

Several years ago such an investigation was made by J. B. Hedley.

Mr. Hinkle:

Did Mr. Hedley make a report in connection with the report of the designation of this area before the U. S. Geological Survey?

Mr. Hannifin:

He did, yes.

Mr. Hinkle:

I hand you herewith the report of Mr. J. B. Hedley, marked Exhibit A, on the Bitter Lake Anticline, Chaves County, and ask you whether it is a duplicate of the report filed with the application.

Mr. Hannifin:

It is.

Mr. Hinkle:

Does that map show the geological structure involved?

Mr. Hannifin:

Yes.

Mr. Hinkle:

Do you know whether the unit area covers all of the structures, according to the plat?

Mr. Hannifin:

It does.

Mr. Hinkle:

Are you familiar with the terms of the unit agreement?

Mr. Hannifin:

Yes, sir.

Mr. Hinkle:

State whether in your opinion the operations under the proposed unit agreement, if a discovery is made, would tend to promote the conservation of oil and the prevention of waste.

Mr. Hannifin:

I believe it would. Yes, sir.

Governor Miles:

Anyone else want to be heard in this case? The application is granted.

Next case:

Mr. Livingston:

The next case is No. 78 in the matter of the application of the Petroleum Products Refining and Producing Company for an order of approval of an irregular oil and gas well location in Section 36, T. 18N, R. 9W, Hospah Field, McKinley County, New Mexico, Well No. 48, to be located in the Southeast-Southwest-Southeast quarter of said section, 1220 feet East of the center section line, 330 feet North of the South line.

Mr. Seth:

My name is J. O. Seth, and I appear for the Petroleum Products Refining and Producing Company. This is an application to drill this well that I marked on this plat. The field and the development began many years ago, and was drilled on a 10-acre spacing. The old wells were not so located as to be in the center of each 10-acre tract. The proposal of this location is to get 660 feet East of the well already drilled. The lease is a State lease, and nobody would be hurt by the location. I would like to have Mr. McBride sworn.

Mr. W. R. McBride, after being first duly sworn, testified as follows:

Mr. Seth:

Your name, please.

Mr. McBride:

W. R. McBride.

Mr. Seth:

You are an officer of the Petroleum Products Refining and Producing Company?

Mr. McBride:

Yes, sir.

Mr. Seth:

What is your position?

Mr. McBride:

Vice-President.

You know the general location of these wells in the Hospah Dome, do you not?

Mr. McBride:

Yes.

Mr. Seth:

That development began many years ago?

Mr. McBride:

I think back in 1928 or 1929.

Mr. Seth:

This application today is to drill the well marked on this plat?

Mr. McBride:

That is well No. 48. The Roman numerals there are the numbers we anticipate drilling, but this is well No. 1 here.

Mr. Seth:

I would like to have this plat marked for attention.

(NOTE: The plat at this point was marked Exhibit A for the record).

Mr. Seth:

The location you seek for this well is merely to keep it at 660 feet?

Mr. McBride:

Yes, and to correct some of the previous locations and in drilling additional wells we can try to keep them all within the proper spacing. They will all be the same distance from each other. We may have to come in and ask for another irregular spacing if it is necessary.

Mr. Seth:

Are all the wells on the same State lease owned by your Company?

Mr. McBride:

Yes, sir.

Mr. Seth:

I believe that is all.

Governor Miles:

Anybody else want to be heard in this case? The application is granted.

Mr. Livingston:

The next case is No. 79. The petitioner, through his attorneys, Eiker and Sanchez, has requested that the hearing date upon this petition be vacated and that said petition be set down for a hearing at some future time, owing to the fact that the petitioner, with other operators in the Fulcher Basin Gas Field, is endeavoring to formulate a spacing plan to present to the Commission.

The next case is No. 80 in the matter of the petition of Operators' Committee under Maljamar Cooperative Repressuring Agreement for amendment to Order No. 485, as amended by Order No. 595 of the Commission, to provide for the running of back allowable from the Maljamar Cooperative Repressuring area.

Mr. Cochran:

My name is John T. Cochran, Jr. I represent Maljamar Cooperative Repressuring Agreement. This is a matter in which the Maljamar Cooperative Repressuring Agreement asks that Order 485, as amended by Order 595 of this Commission to provide for the running of back allowable from the Maljamar Cooperative Repressuring Agreement. Order 485 entered by the Commission in Case 36 on November 14, 1942 was the order which approved the Maljamar Cooperative Repressuring Agreement and approved certain in-put wells and provided for the distribution on allowable on in-put wells to the other wells. Order 595 entered by the Commission on January 8, 1945 amended the original order and set up an allocation production plan for the area. Before that order was entered, and while the study was being made, it was agreed that in the interest of conservation at that time no back allowable would be allowed the area, and there was written on February 11, 1944 a letter by Mr. Kelly, then State Geologist, which provided that no back allowable be run from leases in the Maljamar area. Since that time, however, the allocation plan approved has been so successful that the operators feel that it would not be detrimental to the properties to run some back allowable which occurred for the reasons I will tell you. During November Malco Refineries, Inc., who was a substantial crude buyer from the area had too much crude, and the Malco discontinued purchasing crude oil from a large number of leases in the area, and the operators had no pipe line connections, and a substantial back allowable accumulated by reason of having no outlet for the oil. As of June 1 there were approximately 20,000 barrels of back allowable which have not been run from certain leases within the area. This back allowable is in some instances unproduced, and in some cases has been produced and is in storage. All of the operators in the area feel that they should be allowed to run currently to the pipe line companies purchasing the oil a back allowable at a rate not to exceed the rate the Commission allowed the State generally. All operators of leases and wells in this area feel that the way this should be handled would be for individual operators to make application to the Operators' Committee, which is the manager of the Project, and designate the lease and the amount of back allowable that they feel should be run during a current month, which would not exceed the back allowable figure set for other parts of the State by the Commission. This would amount to probably a barrel a day per well, and in some instances three barrels a day per well, and where the oil is in storage a request would be made for permission to run this to the pipe line company, not to exceed ten barrels per day. After the applications have been made to the Operators' Committee by the operators, the operators feel that the Chairman of the Operators' Committee of the Maljamar Cooperative Repressuring Agreement should petition the Commission, or its deputies, administratively for authority to run back allowable during the current month. The reason for suggesting the matter be handled thus is when an operator makes application for back allowable the Operators' Committee will have an opportunity to study the request, and if it is in the interest of conservation the Chairman of the Operators' Committee would file the application with the Commission or its deputy. Due to the fact that the back allowable had its origin about the first of December, the Maljamar Repressuring Agreement asked that the Commission permit it to follow this procedure in requesting authority to run back allowable starting December 1, 1945. Mr. William J. Wright, Engineer for the Maljamar Cooperative Repressuring Agreement is here, and if the members of the Commission would care to ask him any questions he may be sworn. Do you have any questions you want to ask him?

Governor Miles:

Yes, will you bring him forward?

Mr. William J. Wright, after being first duly sworn, testified as follows:

Mr. Cochran:

Will you state your name?

Mr. Wright:

William J. Wright.

Mr. Cochran:

Where do you live?

Mr. Wright:

Maljanar.

Mr. Cochran:

What is your occupation?

Mr. Wright:

Project engineer for the Maljanar Cooperative Repressuring Agreement.

Mr. Spurrier:

Mr. Wright, give us an approximation of what percent of the production of any one well would this additional production be; that is, what the back allowable would constitute.

Mr. Wright:

From a daily run it should not exceed 15% of daily allowable, which would be from 1 to 3 barrels per day.

Mr. Cochran:

Mr. Wright, in your opinion, if the method of making up back allowable, as is hereby outlined, is followed, would that constitute underground waste?

Mr. Wright:

Definitely not.

Mr. Livingston:

Back to what period of time is it desired that back allowable be permitted to run?

Mr. Wright:

December 1, 1945.

Governor Miles:

Anyone else want to be heard in this case? If not, the application is granted.

Mr. Livingston:

The next case is 81 in the matter of the petition of the Grayburg Oil Company of New Mexico, Operator of Grayburg Cooperative and Unit Agreement, for an order for transfer of allowable from in-put wells to other wells of some basic leases in the unit area of Grayburg Cooperative and Unit Agreement, Eddy County, New Mexico.

Mr. Miller:

I am Raymond Miller of the Grayburg Oil Company, Artesia. The Grayburg Oil Company is the operator of a unit agreement located on Government lands. In connection with this unit cooperative agreement we are operating a repressuring plant. The last several months we have converted two top allowable wells to in-put wells situated in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 26, Township 17, Range 29, the well known as Grayburg-Keeley 9-B. The other well, Western Production Company-Keeley 12-C, is located in SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 25, Township 17, Range 29. These wells were top allowable wells at the time they were put on as in-put wells, and since then we have been losing that allowable, and we request this allowable be transferred to other wells situated on the same basic leases. The Keeley 9 basic lease covers the SE $\frac{1}{4}$ Section 24, NE $\frac{1}{4}$ Section 25, E $\frac{1}{2}$ Section 26, Township 17, Range 29E. The Western-Keeley C lease covers the NW $\frac{1}{4}$ SE $\frac{1}{4}$ and the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 13, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 24, all of Section 25, except the NE $\frac{1}{4}$ and the W $\frac{1}{2}$ of Section 26, all in Township 17, Range 29E. Mr. R. J. Heard, Vice-President of the Grayburg Oil Company, is present, and I would like to have him heard.

Mr. R. J. Heard, after being first duly sworn, testified as follows:

Mr. Miller:

Your name is --

Mr. Heard:

R. J. Heard.

Mr. Miller:

Where do you reside?

Mr. Heard:

Artesia.

Mr. Miller:

Your position with the Grayburg Oil Company?

Mr. Heard:

Vice-President.

Mr. Miller:

Mr. Heard, you have been in charge of the drilling and production of these subject wells?

Mr. Heard:

Yes.

Mr. Miller:

Do you know that these wells are capable of producing top unit allowable at the time they were converted to injection wells?

Mr. Heard:

Yes.

Mr. Miller:

In your opinion, if the wells were reconverted to producing wells at this time, would they produce top unit allowable?

Mr. Heard:

Yes.

Mr. Miller:

Do you think this unit allowable could be produced from other wells on this same basic lease without waste?

Mr. Heard:

Yes.

Mr. Miller:

Is there any question you want to ask Mr. Heard?

Mr. Spurrier:

Approximately how many wells do you intend to allocate this in-put production to, Mr. Heard?

Mr. Heard:

Approximately 17 wells on one basic lease, and I think around 12 or 14

on the other.

Mr. Spurrier:

Then that would be about 2 or 3 barrels per day per well, would it not?

Mr. Heard:

Yes, sir.

Mr. Spurrier:

This would be something less than 10% of each well's production?

Mr. Heard:

Yes, sir.

Mr. Miller:

We are requesting the Commission to make up back allowables on these wells, beginning May 1, 1946; that is, on these two subject in-put wells. We are also requesting the Commission to reserve jurisdiction in this case, in the area of corrections, etc.

Mr. Spurrier:

You mean by that you contemplate drilling more in-put wells?

Mr. Miller:

Yes, that is right. There are more wells being drilled at the present time on these leases, and it is our intention to convert these to in-put wells.

Governor Miles:

Anyone else want to be heard in this case? If not, the petition is granted.

Mr. Livingston:

The next case is No. 82 in the matter of the application of I. K. Westbrook for an order of approval of an irregular oil and gas well location in SW 1/4 Section 22, T. 20N, Range 11W, N.M.P.M., McKinley County, New Mexico for I. K. Westbrook-Santa Fe Pacific Railroad Company Well No. 1, which location is 1594 feet south of the North line and 2411 feet west of the East line of said section. This well started off as a water well, and seems to be ending up as an oil well.

Mr. Iden:

My name is E. O. Iden, and I would like to have Mr. I. K. Westbrook and Mr. E. O. Hemenway sworn.

Mr. E. O. Hemenway, after being first duly sworn, testified as follows:

Mr. Iden:

Your name is E. O. Hemenway?

Mr. Hemenway:

Yes.

Mr. Iden:

You are connected with the Santa Fe Pacific Railroad Company?

Mr. Hemenway:

I am Land Commissioner at Albuquerque.

Mr. Ident:

You are familiar with this application of I. E. Westbrook?

Mr. Hemenway:

Yes.

Mr. Ident:

The Santa Fe Pacific Railroad Company is the owner of the land on which this well is located?

Mr. Hemenway:

Yes.

Mr. Ident:

State to the Commission Mr. Westbrook's activities with reference to this land, particularly with reference to grazing leases prior to the time he acquired the oil lease.

Mr. Hemenway:

Mr. Westbrook is a livestock operator in that part of McKinley County, and in connection with his livestock operations entered into a contract with a driller to drill him a deep water well, and when he got down a certain distance there was some showing of oil, and he immediately stopped his work on his water well and felt that there might be some advantage in attempting to get an oil well out of this prospect.

Mr. Ident:

You are familiar with the location of the well?

Mr. Hemenway:

It is in Section 22, Township 20 North, Range 11 West. It is in the SW¹/₄ of the NE¹/₄.

Mr. Ident:

I believe as shown by the petition, it is 274 feet South of the quarter section line 40-acre subdivision line. Is that correct?

Mr. Hemenway:

That is about it. I think it is 274 feet South of the quarter line and 229 feet East of the West line of that 40-acre tract.

Mr. Ident:

Stated in another way, it is 1594 feet South of the North line and 2411 feet West of the East line?

Mr. Hemenway:

Yes, sir.

Mr. Ident:

Did the grazing lease Mr. Westbrook had prior to an oil showing in the water well embrace other lands than this?

Mr. Hemenway:

Yes, as I recall, it took in all oil holdings in that township.

Mr. Ident:

He still has the grazing lease?

Mr. Hemenway:

He has a purchase contract for the purchase of the surface rights.

Mr. Idem:

After the showing you gave him an oil and gas lease on certain lands for the purpose of protecting him in drilling the well, further with the hope that he might get oil or gas?

Mr. Hemenway:

Yes.

Mr. Idem:

It covers 160 acres surrounding this prospect?

Mr. Hemenway:

Yes.

Mr. Idem:

coverage:

Mr. Hemenway:

We own immediately adjacent. Section 16 cornering to the Northwest is a school section. We own the others in the immediate vicinity.

Mr. Idem:

Generally speaking, how far is this from any other producing oil and gas well?

Mr. Hemenway:

Approximately 15 or 18 miles Northwest of any present production.

Mr. Idem:

Do you know the depth of the water well?

Mr. Hemenway:

Approximately 1100 feet.

Mr. Idem:

Do you know of any possible objection in permitting this well to be drilled in this location?

Mr. Hemenway:

No.

Mr. Idem:

I think that is all.

Governor Miles:

What is the approximate distance from this well to the corner of the school section you speak of?

Mr. Hemenway:

About 2900 feet approximately to the Southeast corner of the school section.

Mr. Idem:

Mr. Westbrook, will you take the stand?

Mr. Westbrook, after being first duly sworn, testified as follows:

Mr. Idem:

Your name is I. K. Westbrook?

Mr. Westbrook:

Yes, sir.

Mr. Idem:

You are the petitioner in this matter?

Mr. Westbrook:

Yes, sir.

Mr. Idem:

Where do you live?

Mr. Westbrook:

Crownpoint.

Mr. Idem:

How long have you lived there?

Mr. Westbrook:

29 years.

Mr. Idem:

You are a rancher in that community?

Mr. Westbrook:

Yes, sir, I have been a rancher there 29 years.

Mr. Idem:

You have heard Mr. Hemenway's testimony. Was it correct in all respects?

Mr. Westbrook:

Yes, sir.

Mr. Idem:

You might desire to continue the drilling of this well with the hope of getting oil and gas?

Mr. Westbrook:

Yes, I would like to prospect for it.

Mr. Idem:

It was begun as a water well?

Mr. Westbrook:

Absolutely. Near the center of this township.

Mr. Idem:

At what depth did you encounter this oil and gas showing?

Mr. Westbrook:

1092 feet.

Mr. Idem:

Is that where the well stands today?

Mr. Westbrook:

Yes, sir. There is quite a bit of oil comes off the water when you draw it.

Mr. Idem:

So far as you know, would it make a commercial well at this time?

Mr. Westbrook:

I do not know. There is quite a little showing, and the driller states it may be a commercial well.

Mr. Idem:

I believe that is all, unless the Commission has some questions.

Mr. Spurrier:

One question, Mr. Westbrook. You have a lease. Now do you have a plugging bond?

Mr. Westbrook:

The bond is accompanying my petition here.

Mr. Livingston:

Mr. Westbrook has on file a \$2500 corporate surety bond to go to a depth not to exceed 1500 feet, but the bond has not been accepted until the Commission grants its order.

Mr. Idem:

Based on that showing, we ask that the petition be granted.

Governor Miles:

Anyone else want to be heard on this case? If not, the application is granted. Meeting dismissed.

I certify that the above is a transcript of the proceedings in this matter as taken from my shorthand notes.

Mary E. Martin

Mary E. Martin, Stenographer

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The Oil Conservation Commission, as provided by law, hereby gives notice of the following hearing to be held at Santa Fe, New Mexico at 10:00 A. M., June 7, 1946:

Case 76.

In the matter of the application of the DeKalb Agricultural Association, Inc. for an order of approval of the Unit Agreement for the development and operation of the Bitter Lake Unit Area within T. 10S, Ranges 25 and 26 East, N.M.P.M. containing 9,032.38 acres, more or less, Chaves County, New Mexico.

Case 77.

In the matter of the application of the Magnolia Petroleum Company for an order of approval of the Unit Agreement for the development and operation of the Black Hills Anticline Unit Area within Townships 17 and 18 South, Ranges 19 and 20 East, N.M.P.M. containing 17,626.62 acres, more or less, Chaves County, New Mexico.

Given under the seal of said Commission at Santa Fe, New Mexico on May 20, 1946.

OIL CONSERVATION COMMISSION

By:

R. R. Spurrier

R. R. Spurrier, Secretary

SEAL

STATE BUREAU OF MINES & MINERAL RESOURCES

Box 871

Santa Fe, New Mexico

JOHN M. KELLY
DIRECTOR

AIR MAIL - SPECIAL DELIVERY

May 20, 1946

The Roswell Daily Record
Roswell, New Mexico

Gentlemen:

Re: Notice of Publication - Case Nos. 76 and 77.

Please publish the enclosed notice once, immediately. Please proof-read the notice carefully and send a copy of the paper carrying such notice.

UPON COMPLETION OF THE PUBLICATION, PLEASE SEND PUBLISHER'S AFFIDAVIT.

For payment please submit statement in duplicate, accompanied by voucher executed in duplicate. The vouchers must be signed by a notary in the space provided on the back of the voucher. The necessary blanks are enclosed.

Very truly yours,

Chief Clerk and Legal Adviser

Encl
men

STATE BUREAU OF MINES & MINERAL RESOURCES

Box 871

Santa Fe, New Mexico

JOHN M. KELLY
DIRECTOR

May 20, 1946

C
U
P
Y

Honorable Clarence E. Hinkle
Hartley, Don and Hinkle
Roswell, New Mexico

Dear Clarence:

Re: Case No. 76, Application of DeKalb Agricultural Association, Inc. for an order of approval for development and operation of Bitter Lake Unit Area.

Re: Case No. 77, Application of Magnolia Petroleum Corporation for an order of approval for development and operation of Black Hills Anticline Unit Area.

The above-captioned cases have been set for hearing at Santa Fe, New Mexico on June 7, 1946 at 10:00 A. M.

Will you please acknowledge receipt of this notice?

With kindest personal regards.

Yours very truly,

Chief Clerk and Legal Adviser

mem

STATE BUREAU OF MINES & MINERAL RESOURCES
Box 871

Santa Fe, New Mexico

JOHN M. KELLY
DIRECTOR

C
O
P
Y

Honorable Clarence E. Hinkle
Roswell, New Mexico

Dear Clarence:

Re: Black Hills Anticline Unit Agreement,
Chaves County, New Mexico.

This is to acknowledge receipt of your petition and proposed agreement in the above-captioned matter. You will be advised of the exact date the instant petition and your Bitter Lake petition are scheduled for hearing. Mr. Spurrier, no doubt, will have some exact information as to this soon.

Very truly yours,

Chief Clerk and Legal Adviser

CBL:mem

J. M. HERVEY
HIRAN M. DOW
CLARENCE E. HINKLE

W. E. BONDURANT, JR.

LAW OFFICES
HERVEY, DOW & HINKLE
ROSWELL, NEW MEXICO

May 4, 1946

Mr. R. Spurrier
Secretary, Conservation Commission
Santa Fe, New Mexico

Re: Black Hills Anticline Unit Agree-
ment, Chaves County, New Mexico.

Dear Mr. Spurrier:

We hand you herewith three copies of application for approval of the subject unit agreement, together with three copies of the proposed agreement.

I understood from our recent telephone conversation that it would probably be convenient for the Commission to set a hearing on this application for either the 7th or 8th of June, either of which dates would be satisfactory for us.

As you know, we have filed an application for approval of the Bitter Lake Unit Agreement and we would appreciate both applications being set for hearing at the same time and as quickly as possible. We are extremely anxious to have these agreements approved by the Conservation Commission and final approval obtained from the Commissioner of Public Lands and the Secretary of the Interior by the latter part of June.

The DeKalb Agricultural Association, Inc., has already started operations upon a test well located upon lands of the proposed Bitter Lake Unit agreement and it is necessary that the unit agreement be in effect before the well is completed so that the DeKalb may obtain the benefit of the flat 1/8 royalty provided by the Federal Act in the event production is obtained and Magnolia expects to commence operations upon a test well located within the Black Hills Anticline Unit Area just as soon as the agreement has been approved.

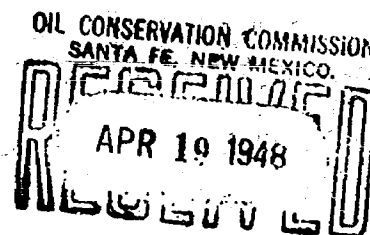
Anything you can do to assist us in expediting these hearings will certainly be appreciated.

Yours very truly,
HERVEY, DOW & HINKLE

By 

CEH/mds
Encs.

STATE LAND OFFICE
Santa Fe, New Mexico



April 16, 1948

31-173-20 E

Hervey, Dow and Hinkle
White Building
Roswell, New Mexico

Attention of Mr. Clarence E. Hinkle

In Re: Application for Extension
of Time for Drilling under Sec-
tion 8, of Black Hills Anticline
Unit Agreement, Chaves County,
New Mexico. I. Sec. 448.

Gentlemen:

This acknowledges receipt of your letter of April 12, 1948, in the above captioned matter, together with formal application and Exhibits "A" and "B" attached to the latter.

After having examined the application referred to above and noting the research activities carried on by the Magnolia Petroleum Company in the area since the completion of the first well, the undersigned has no objection to the extension of time within which the Magnolia Petroleum Company shall commence drilling its second well on that unit area, in accordance with the terms of said unit agreement, and, therefore, approves said application for an extension of time for six months from and after the 6th day of May, 1948; subject, however, to like consent and approval being obtained from the Secretary of the Interior of the United States.

Very truly yours,

John E. Hilde
JOHN E. HILDE
COMMISSIONER OF PUBLIC LANDS

Q. 77

Roswell, New Mexico

COPY

0: Black Hills
Anticline Unit Area
Chaves County, New Mexico

application dated
above captioned matter.

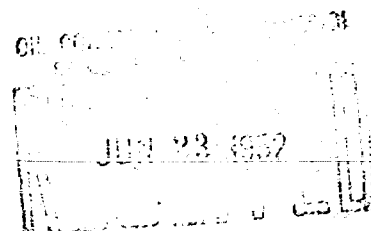
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as the proper federal

Guy Shepard

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

cc: U. S. Geological Survey
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico



Malco Refineries, Inc.

Case 17

SS104

P.O. BOX 660
ROSWELL, NEW MEXICO

February 16, 1954

FEB 18 1954

New Mexico Oil Conservation
Committee
P.O. Box 871
Santa Fe, New Mexico

Gentlemen:

We are enclosing for your records a photostatic copy of our approved application for termination of the Black Hills Anticline Unit Agreement, and of the letter of approval from the U.S.G.S. We are also sending copies of these instruments to the Commissioner of Public Lands.

Very truly yours,

MALCO REFINERIES, INC.

Alys M. Norton

Alys M. Norton (Mrs.)

enc.



Section 26, 1946
Post Office Box 1000
Brewer, New Mexico

Gentlemen:

On February 8, 1934, effective as of February 1, 1934, Acting Director of the Geological Survey, Thomas B. Nolan, approved the termination of the Black Hills Anticline unit agreement, Chaves County, New Mexico, I-See. No. 448, approved July 26, 1946, pursuant to the last sentence of section 19 thereof.

One copy of the approved application is enclosed for your records. It is requested that you send notice of this approval to each interested working interest owner, lessee and lessor at their last known address.

Very truly yours,

H. D. Quinn
For the Director

Enclosure

RECEIVED
JAN 29 1934
Geological Survey

THE HONORABLE DIRECTOR OF THE GEOLOGICAL SURVEY,
DEPARTMENT OF THE INTERIOR, WASHINGTON, D.C.

Black Refineries, Inc. as Unit Operator and working interest owner.

Black Refineries, Inc. as Unit Operator and working interest owner, representing

the working interest (100%) of the working interest signatory to the
Black Hills Anticline Unit Agreement, I Dec. No. 140, hereby agree to the
termination of the said Black Hills Anticline Unit Agreement, pursuant to
the provisions of Section 19, thereof, and respectfully request approval
of the Director of the United States Geological Survey to said termination.

In support of this Application for Termination, the following is
respectfully submitted:

(1) Subsequent to the filing of the Unit Agreement, Black Refineries,
Inc. has acquired working interest ownership, as follows:

From Magnolia Petroleum Company	55.00%
From J.B. Woodley and wife, Johnson Woodley	10.00%
From H.B. Steinberger and wife, Dorothy Steinberger	5.00%
From Harold S. Everett and wife, Ella V. Everett	1.00%
Total	71.00%

As a result of the above acquisitions, together with the 27.70%
working interest originally held by Black Refineries, Inc., the present
working interest ownership in the Unit Area is as follows:

Black Refineries, Inc.	98.70%
The Ohio Oil Company	1.30%
Total	100.00%

(2) Pursuant to Section 2 of said Unit Agreement, Black Hills Anticline
Unit Agreement, the following lands are included:

(a) Magnolia Petroleum Company No. 1, Black Hills Unit,
which is the 27.70% working interest in the Black Hills
Anticline Unit Agreement, I Dec. No. 140, and the lands
included therein, as shown on the map attached hereto.

Charlotte 7225
Alb 4130
Baltimore 7225

Memphis 7225
New York 7225
San Francisco 7225

(b) No commercial showings of oil or gas were observed
of the zones penetrated by the three wells.
The undersigned working interest owners believe it is reasonably
determined that the undrilled land is incapable of production of valuable
substances in paying quantities in the formations tested and therefore
none of said working interest owners are willing to incur the expense
and risk of drilling any additional test wells.

Dated this 14th day of December, 1933.

ATTEST:

[Signature]
Vice President

MALCO ENGINEERS, INC.

[Signature]
Vice President

THE OREGON OIL COMPANY

ATTEST:

[Signature]
L. G. Edman Assistant Secretary

By

[Signature]
F. L. Fox Vice President

STATE OF NEW MEXICO
COUNTY OF GRAVES

On this 14th day of December, 1933, before me, *[Signature]*,
Donald E. Anderson, to me personally known, who being duly sworn,
did say that he is the Vice President of Malco Engineers, Inc., and
that the said officers to said instrument is the corporate seal of said
corporation, and that said instrument was signed by the said
of said corporation by authority of the Board of Directors of said
Donald E. Anderson, and that said instrument is the corporate seal of said
of said corporation.

Given under my hand and official seal this 14th day of December, 1933.

My commission expires

[Signature]

[Signature]

Date: *70*

FEB - 8 1954

Termination of the Black Hills Anticline
unit agreement, New Mexico, approved ef-
fective as of February 1, 1954.

Thomas B. Nolan

Acting Director, Geological Survey

COMMISSIONER OF PUBLIC LANDS
STATE LAND OFFICE
SANTA FE, NEW MEXICO

Re: Black Hills Anticline Unit Area
Chaves County, New Mexico
I. Sec. 448

APPLICATION FOR FURTHER EXTENSION OF TIME WITHIN WHICH TO COMPLY WITH THE
DRILLING REQUIREMENTS OF UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION
OF THE BLACK HILLS ANTICLINE UNIT AREA

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

COMES the undersigned, the Magnolia Petroleum Company, a corporation with offices at Dallas, Texas and the unit operator designated in the Unit Agreement for the operation and development of the Black Hills Anticline Unit Area, Chaves County, New Mexico, referred to as I. Sec. 448, and requests that the time within which to commence the drilling of a second well in accordance with the terms of said Unit Agreement be extended for a period of six months from May 6, 1950, and in support of such request respectfully shows:

I.

That the Unit Agreement for the Development and Operation of the Black Hills Anticline Unit Area, Chaves County, New Mexico, was approved by the Oil Conservation Commission of the State of New Mexico, and by the Commissioner of Public Lands of the State of New Mexico, on the 7th day of June, 1946, and by the Secretary of the Interior of the United States on the 26th day of July, 1946.

II.

That the Magnolia Petroleum Company, the Unit Operator designated in said Unit Agreement, commenced a test well for oil and gas in the center of the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 31, T. 17 S., R. 20 E., N.M.P.M., upon a part of the lands embraced within said unit area, on June 27, 1946, and drilled said well, with due diligence, to a depth of 6,065 feet, at which depth it was completed on November 5, 1946, and abandoned with the approval of the Super-

visor of the United States Geological Survey, having failed to encounter oil or gas in paying quantities and the well having encountered, at or about said depth, igneous or metamorphic formations which rendered further drilling impracticable.

III.

That Section 8 of said Unit Agreement provides, in part, as follows:

"If said first well drilled as aforesaid fails to encounter unitized substances, Unit Operator, or his successors shall thereupon commence within 6 months after the completion of the former well and drill, one at a time additional wells until a productive well is completed to the satisfaction of the Supervisor and Commissioner, or until it is reasonably proved that the unitized land is incapable of producing unitized substances. The Commissioner may grant extension of time for the commencement of any such well....."

IV.

That the Magnolia Petroleum Company, being the unit operator designated in said Unit Agreement for the operation and development of the Black Hills Anticline Unit Area, will start a well within 30 days after the approval by the Director of the United States Geological Survey, the Oil Conservation Commission of the State of New Mexico and by the Commissioner of Public Lands, of the extension of time on which to start a well requested in this application, and drill said well to approximately 5000 feet to thoroughly test all horizons, including the Devonian, the well to be located in Section 31, T. 17 S., R. 20 E., N.M.P.M., and the probable location being in the SW $\frac{1}{4}$ of said section.

V.

That the Magnolia Petroleum Company is the owner and holder of that certain oil and gas lease made and entered into by and between the State of New Mexico, acting by and through its Commissioner of Public Lands and Herman R. Orile on May 24, 1937, bearing No. B-7046, insofar as said oil and gas lease covers and affects the SE $\frac{1}{4}$ Section 2, T. 18 S., R. 19 E., N.M.P.M., and that said oil and gas lease has been duly committed to said unit agreement and under the terms thereof will have expired on May 24, 1947, unless oil and gas is being produced from some portion of the lands embraced in said unit area. That the applicant desires to have said oil and gas lease extended so as to conform with the terms of said unit agreement and so that the same will remain

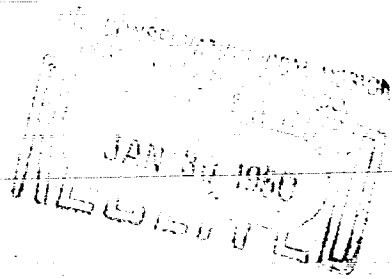
in full force and effect during any extension of time which may be granted by the Director of the United States Geological Survey and the Commissioner of Public Lands in conformity with Section 8 of said unit agreement, hereinabove referred to, and during the life of said unit agreement in the event any well drilled on said unit area should result in the production of oil and gas in commercial quantities.

Respectfully submitted,

MAGNOLIA PETROLEUM COMPANY

[Signature]
Authorized Representative

STATE LAND OFFICE
Santa Fe, New Mexico



December 29, 1949

Hervey, Dow & Hinkle
Attorneys for Magnolia Petroleum Co.
Houston, Texas
New Mexico

Attention of Mr. Clarence E. Hinkle

Re: Application for extension of
I Sec. 448, Black Hills Anticline
Unit Area, Chaves County, New Mexico.

Gentlemen:

After having examined the application of Magnolia Petroleum Company, unit operator designated by the unit agreement set out in caption hereof, and after having duly considered the exhibits filed therewith, I have concluded that the best interests of the State of New Mexico would be best served by such requested extension:

(1) That the term of said unit agreement be extended for a period of three years from December 31, 1949, and that the time within which the unit operator shall commence further drilling operations, under the terms of said unit agreement, be extended until May 6, 1950.

I, therefore, approve said application for extension of I Sec. 448 for a period of three years from and after December 31, 1949, and I approve also the extension of time within which drilling operations shall commence to May 6, 1950; provided, however, that this approval is conditioned absolutely upon similar approval being taken in the premises by the proper officials of the United States Department of Interior.

We are enclosing four extra copies of this approval. Will you kindly see that the U.S.G.S. receives required copies?

Very truly yours,

Guy Shepard
GUY SHEPARD
Commissioner of Public Lands

CS:G:O:mih

NEW MEXICO STATE LAND OFFICE

SANTA FE, NEW MEXICO

Re: Black Hills Anticline Unit Area,
Chaves County, New Mexico,
I Sec. 448

APPLICATION FOR EXTENSION OF TERM OF UNIT AGREEMENT FOR THE
DEVELOPMENT AND OPERATION OF THE BLACK HILLS ANTICLINE UNIT AREA
AND ALSO FOR AN EXTENSION OF TIME WITHIN WHICH TO COMPLY WITH THE
DRILLING REQUIREMENTS OF SAID UNIT AGREEMENT

Commissioner of Public Lands

SANTA FE, NEW MEXICO

Comes the undersigned, the Magnolia Petroleum Company, a corporation with offices at Dallas, Texas, and being the unit operator designated in the Unit Agreement for the operation and development of the Black Hills Anticline Unit Area, Chaves County, New Mexico, referred to as I Sec. 448, and respectfully requests that the term of said Unit Agreement be extended for a period of three years from December 31, 1949, and that the time within which to commence further drilling operations under the terms of said Unit Agreement be extended until May 6, 1950, and in support of such request respectfully shows:

I.

That the Unit Agreement for the development and operation of the Black Hills Anticline Unit Area, Chaves County, New Mexico, was approved by the New Mexico Oil Conservation Commission on the 7th day of June, 1946, and by the Secretary of the Interior of the United States on the 26th day of July, 1946, and designated as I Sec. 448.

II.

That the Magnolia Petroleum Company, the unit operator designated in said Unit Agreement commenced a test well for oil and gas in the center of the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 31, T. 17 S., R. 20 E., N.M.P.M., upon a part of the lands embraced within said Unit Area

on June 27, 1946, and drilled said well with due diligence to a depth of 6,085 feet, at which depth it was completed on November 5, 1946, and abandoned with the approval of the Supervisor of the United States Geological Survey, having failed to encounter oil and gas in paying quantities, and having encountered at or about said depth igneous or metamorphic formations which rendered further drilling impracticable.

III.

That said Unit Agreement provides in effect that if the first well drilled fails to encounter unitized substances, the unit operator shall within six months after the completion of said well commence drilling operations upon an additional well and continue such drilling operations until it is reasonably proved that the unitized land is not capable of producing unitized substances. That extensions have been granted from time to time by the Director of the United States Geological Survey and by the Commissioner of Public Lands of the State of New Mexico within which to commence further drilling operations under the terms of said Unit Agreement, the last extension being until May 6, 1949.

IV.

That Section 19 of said Unit Agreement provides that the same shall terminate on December 31, 1949, "unless (1) such date of expiration is extended by the Secretary and by the Commissioner".

V.

That there is attached hereto, made a part hereof, and for purposes of identification marked Exhibit "A" a letter of R. E. Murphy, District Geologist for the Magnolia Petroleum Company, addressed to Mr. Foster Morrell, Supervisor of the United States Geological Survey, on December 23, 1949, outlining the

geological work which has been performed by the Magnolia Petroleum Company having a bearing upon the Unit Area, and the work which is being carried on at the present time.

That there is also attached hereto, made a part hereof, and for purposes of identification marked Exhibit "B" a letter of the Magnolia Petroleum Company to Mr. Foster Morrell, Supervisor of the United States Geological Survey, under date of December 23, 1949, outlining the drilling program which has been carried

on by the Magnolia Petroleum Company having a direct bearing upon the Black Hills Anticline Unit Area, and showing the expenditures made by the Magnolia Petroleum Company for such purpose.

VI.

That it is the intention of applicant at the present time to carry on further exploration and development operations on said Unit Area, and to drill or cause to be drilled at least one additional test well upon said Unit Area, but that it is for the best interest of all concerned to defer the location of said well until all geological and geophysical work contemplated by the Magnolia Petroleum Company in said area has been completed.

VII.

That an application similar to this application is being made by the undersigned to the Director of the United States Geological Survey, Washington, D. C.

Respectfully submitted,

MAGNOLIA PETROLEUM COMPANY

By S. P. Harrison
Authorized Representative

C O P Y

December 23, 1949
P. O. Box 672
Roswell, New Mexico

Mr. Foster Morrell
United States Geological Survey
Federal Building
Roswell, New Mexico

Re: Black Hills Unit
DAVENS COUNTY, New Mexico

Dear Sir:

In asking for an extension of the Black Hills Unit to do additional geological and geophysical work, we are still of the opinion that the area west of the Pecos River in the vicinity of the Black Hills Unit and Y-O Anticline flexure has good oil possibilities, but it requires a great deal of time and a large amount of money to locate an acceptable structural and permeability trap for possible Permian and Pre-Permian pay zones.

Magnolia is still actively engaged in surface work in the area in an effort to give structural interpretation to geophysical information with respect to the expression of the outcrop. Magnolia already has spent approximately \$225,000. in seismograph and core hole exploration, in addition to the gravity and magnetic coverage, and at the present time a seismograph crew is moving in to Artesia to go back and reshoot the area at a cost of approximately \$30,000. per month.

During the past three years Magnolia has spent approximately \$850,000. drilling, having drilled two wells to the Pre-Cambrian in the area west of the Pecos and assisted in a third well. These are the Magnolia #1 Turney-Federal, Sec. 22-14S-22E, TD 5342, \$141,000; a one-half interest in the Southern-Union Elliott, Sec. 24-18S-23E, \$200,000.; the Magnolia #1 State-2, Burrough Hills Unit, Sec. 16-21S-22E, TD 11,312', \$293,000.

Besides the deep holes Magnolia has drilled three 3500' holes; Magnolia #1 Foster, Foster Unit, Sec. 26-20-33E, TD 3502', \$78,000.; Magnolia #1 Crosby, Burrough Hills Unit, Sec. 23-21S-22E, TD 3250', \$70,300.; Magnolia #1 Golden, Burrough Hills Unit, TD 3907', cost \$68,000.

Magnolia Petroleum Company pioneered the geological exploration and drilling activity in the country west of the Pecos for the past three years at a considerable outlay of money, and is still actively engaged in surface and seismic

EXHIBIT "A"

COPY

Page -2-

Mr. Foster Morrell
Roswell, New Mexico

Re: Black Hills Unit
CHAVES COUNTY, New Mexico.

and requests an extension of time to complete the exploration work and test the oil present thereon.

Very truly yours,

R. E. Murphy
District Geologist

REM:cs

MAGNOLIA PETROLEUM COMPANY

Roswell, New Mexico

December 23, 1949

Mr. Foster Morrell
District Supervisor
U. S. Geological Survey
Roswell, New Mexico

Re: Black Hills Anticline Unit Area
Chaves County, New Mexico

Dear Sir:

In support of our application for extension of time in which to comply with further drilling requirements of the Unit Agreement for the development and operation of the Black Hills Anticline Unit, we wish to submit for your consideration the following:

Magnolia Petroleum Company completed its No. 1 Black Hills Unit well on November 6, 1946, at a total depth of 6,085 feet in granite and the well was dry and abandoned on that date. We encountered a good section of Ellenberger, Silurian, Devonian, Mississippian, Pennsylvanian, and a dolomite section in both the Basal and Upper Permian. This well was drilled on a surface structure and our gravity and magnetic work which was done after the well was started did not support the surface picture.

Since the completion of this well, in an effort to work out the right answer, or answers, to the geological problem west of the Pecos River, between the Pecos River and the mountains to the west, we have drilled and have supported the following test wells:

Magnolia State "W", Burro Hills Unit	
Section 16-21S-22E, total depth 11,312' granite	
Total cost.	\$293,000.00
Southern Union Hope Unit - One-half interest	
Section 24-18S-23E, total depth 9687' granite	
One-half interest costing.	\$200,000.00
Contribution on Etz No. 1 Shildneck well	
Section 24-16S-20E, total depth 7010' granite	
Our contribution being.	\$17,200.00

EXHIBIT "B"

- 2 - Mr. Foster Morrell, 12-23-49

Magnolia No. 1 Foster Unit
Section 26-20S-23E, total depth 3502' dry and abandoned
Total cost. \$78,000.00

Magnolia No. 1 Golden, Burro Hills Unit
Section 29-21S-22E, total depth 3907' dry and abandoned
Total cost. \$68,900.00

Magnolia No. 1 Crosby, Burro Hills Unit
Section 23-21S-22E, total depth 3043' dry and abandoned
Total cost. \$70,300.00

Magnolia No. 1 Turney, Y-0 Unit
Section 23-14S-22E, total depth 5342' granite, dry and abandoned
Total cost. \$141,000.00

This makes a total expenditure for wells, including and since the drilling of the Black Hills Unit No. well, of \$868,400.00.

In addition to the drilling of the above described wells, we have spent in the past three years and are still spending money on geophysical and geological work in an effort to work out this geological problem, and to date have spent approximately the following:

Gravity work. \$300,000.00
Seismograph work. \$200,000.00
Geological work. \$100,000.00

We have a seismograph crew working at the present time in the immediate area of the Black Hills Anticline Unit Area, doing refraction shooting. It costs approximately \$30,000.00 a month to operate one of these crews. We anticipate putting another seismograph crew in this general area between the mountains to the west and the Pecos River, in hopes that with the two crews working we will be able to work out the right answers to the geological problem posed in this area.

With this letter we are submitting for your attention a letter from Mr. R. E. Murphy, our District Geologist, in which he outlines work we are now engaged in and have been since the completion of the Black Hills No. 1 well.

We feel that we are justified in asking for an additional one year extension of time on our Black Hills Unit in order that we may be able to make a more intelligent interpretation of the information on this general area and more particularly the Black Hills Unit, and we think we will be able to pick a more satisfactory location for a second well on this unit

- 3 - Mr. Foster Morrell, 12-23-49

by coordinating the information that we now have with that which we expect to acquire by the work we are now doing.

We respectfully request the extension of time on this Unit Agreement which we have asked for be granted.

Yours very truly,

MAGNOLIA PETROLEUM COMPANY

By *S. P. Hamifur*

SPH:ms

CERTIFICATE OF APPROVAL

STATE OF NEW MEXICO

The undersigned, having this day examined an agreement for the co-operative or unit operation and development of a prospective oil or gas field or area, which agreement is entitled "Unit Agreement for the Development and Operation of the Black Hills Anticline Unit Area, Chaves County, State of New Mexico," entered into between Magnolia Petroleum Company, a corporation, Operator, and likewise subscribed by numerous Working Interest Owners and Royalty Owners, to which agreement this certificate is attached; and

WHEREAS, upon examination thereof, the Commissioner finds:

a. That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said field;

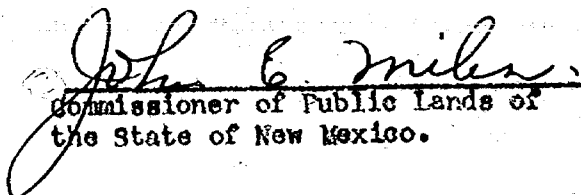
b. That under the operations proposed, the State will receive its fair share of the recoverable oil or gas in place under its lands in the area affected;

c. That the agreement is in other respects for the best interest of the State;

d. That the agreement provides for the unit operation of the field for the allocation of production, and the sharing of proceeds from a part of the area covered by the agreement on an acreage basis as specified in the agreement.

NOW, THEREFORE, by virtue of the authority conferred upon me by Chapter 88 of the Laws of the State of New Mexico, 1943, approved April 14, 1943, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said agreement, as to the lands of the State of New Mexico included in said Black Hills Anticline Unit Agreement, and subject to all the provisions of the aforesaid Chapter 88 of the Laws of the State of New Mexico, 1943.

Executed this 7th day of June, A. D., 1946.


Commissioner of Public Lands of
the State of New Mexico.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 72

ORDER NO. 446

THE APPLICATION OF THE MACGILLIA PETROLEUM
COMPANY FOR AN ORDER OF APPROVAL OF THE UNIT
AGREEMENT FOR THE DEVELOPMENT AND OPERATION
OF THE BLACK HILLS ANTICLINE UNIT AREA WITHIN

RADY, N.W.P.M., CONTAINING 17,656.65 ACRES,
MORE OR LESS, CHAVES COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at ten o'clock A. M. June 7, 1946
at Santa Fe, New Mexico before the Oil Conservation Commission of New
Mexico, hereinafter referred to as the "Commission".

NOW, on this 7th day of June, 1946, the Commission having before
it for consideration the testimony adduced at the hearing of said case,
and being fully advised in the premises;

IT IS THEREFORE ORDERED THAT:

The order herein shall be known as the:

BLACK HILLS ANTICLINE UNIT AGREEMENT ORDER

SECTION 1. (a) The project herein shall be known as the Black
Hills Anticline Unit Agreement, and shall hereinafter be referred to
as the Project.

(b) The plan by which the Project shall be operated shall be
known in the form of unit agreement for the development and
operation of the Black Hills Anticline Unit Agreement, and shall be
known and filed with said plan and said plan shall be known as
the Black Hills Anticline Unit Agreement.

SECTION 2. The Black Hills Anticline Unit Agreement shall be
and is hereby approved.

SECTION 3. (a) The Unit Agreement shall be
known as the Black Hills Anticline Unit Agreement, and shall be
known and filed with said plan and said plan shall be known as
the Black Hills Anticline Unit Agreement.

SECRET
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U. S. GEOLOGICAL SURVEY
RECEIVED
JUN 10 1946
ROSWELL, NEW MEXICO

UNIT AGREEMENT

FOR THE DEVELOPMENT AND OPERATION OF THE BLACK HILLS ANTICLINE UNIT AREA
CHAVES COUNTY
STATE OF NEW MEXICO

I. Sec. No. 448

INSPECTION BRANCH
RECEIVED
GEOLOGICAL SURVEY

This agreement, entered into, as of the 27th day of October, 1946, by and between the parties subscribing or consenting hereto,

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

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

WHEREAS, it is the purpose of the parties hereto to conserve natural resources, prevent avoidable waste, and secure other benefits obtainable through development and operation of the unit area subject to this agreement under and pursuant to the provisions of sections 17, 27, and 32 of the Act of Congress approved February 25, 1920, entitled "An Act to promote the mining of coal, phosphate, oil, oil shale, gas and sodium on the public domain, "41 Stat. 443, 448, 450, as amended or supplemented by the acts of March 4, 1931, 46 Stat. 1523, and August 21, 1935, 49 Stat. 676; 30 U.S.C. 226, 184 and 189;

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Chap. 88, Laws 1943) to consent to or approve this agreement on behalf of the state of New Mexico, insofar as it covers and includes lands and mineral interests of the State of New Mexico; and

WHEREAS, the Oil Conservation Commission of the State of New Mexico is authorized by an Act of the Legislature (Chap. 72, Laws 1935) to approve this agreement and the conservation provisions hereof;

NOW, THEREFORE, for and in consideration of the premises and the promises hereinafter contained, the parties subscribing hereto and the parties consenting

~~hereto agree as follows:~~

ENABLING ACT 1. The act of February 25, 1920, supra, as
AND
REGULATIONS amended, and all pertinent regulations heretofore and all pertinent and reasonable regulations hereafter issued thereunder, and not inconsistent with the provisions hereof, including operating regulations, are accepted and made a part of this agreement. Likewise, the Act of the Legislature of the State of New Mexico (Chap. 88, Laws 1943) and the Act of the Legislature of the State of New Mexico (Chap. 72, Laws 1935) and all pertinent regulations issued under said acts are hereby accepted and made part of this agreement.

DEFINITIONS 2. For all purposes of this agreement, certain terms used herein are defined as follows:

(a) "Secretary" shall mean the Secretary of the Interior of the United States and those persons or agencies duly authorized to act for and in his behalf.

(b) "Supervisor" shall mean the Oil and Gas Supervisor of the United States Geological Survey and those persons or agencies duly authorized to act for and in his behalf.

(c) "Commissioner" shall mean the Commissioner of Public Lands of the State of New Mexico.

(d) "Commission" shall mean the Oil Conservation Commission of the State of New Mexico and those persons duly authorized to act for and in its behalf.

UNIT AREA

3. The following described lands are hereby designated and recognized as constituting the unit area:

All Sections 25, 26, 35 and 36; E $\frac{1}{2}$ Sec. 27; E $\frac{1}{2}$ Sec. 34, Township 17 South, Range 19 East; All Sections 22 and 23, S $\frac{1}{2}$ Sec. 20, S $\frac{1}{2}$ Sec. 21, All of Sections 26 to 35, inclusive, Township 17 South, Range 20 East; All Sections 1, 2, 3, 10, 11, 12, 14 and 15, Township 18 South, Range 19 East; All Sections 5 and 6, Township 18 South, Range 20 East, N.M.P.M., Chaves County, New Mexico, containing 17,636.62 acres, more or less.

The Unit Operator, with the consent of a majority in interest of the Working Interest Owners, and subject to the approval of the Secretary, the Commissioner and the Commission, may enlarge the unit area to include other lands believed to be commercially productive of the unitized substances, or shall, subject to approval of the Secretary, the Commissioner and the Commission, diminish the unit area to exclude lands not in any participating area hereunder believed to be barren of the unitized substances.

Exhibit "A" attached hereto is a map on which is outlined the herein established Unit Area, together with the ownership of the land and leases in said Area. Exhibit "B" attached hereto is a schedule showing the nature and extent of ownership of oil and gas rights in all land in the Unit Area to which this unit agreement will become applicable by signature hereto, or to a counterpart hereof by the owners of such rights, and land so committed to this agreement is hereinafter referred to as "unitized lands" or "land subject to this agreement". Said exhibits shall be revised by the Unit Operator whenever any change in the Unit Area or ownership of rights render such change necessary, and the revised exhibits shall be filed with the record of this agreement.

UNITIZED
SUBSTANCES

4. All oil, gas, natural gasoline, and associated fluid hydrocarbons producible from land subject to this agreement, in any and all sands or horizons, are unitized under the terms of this agreement and hereinafter are called "unitized substances".

UNIT OPERATOR 5. The Magnolia Petroleum Company, a corporation with offices at Dallas, Texas, is hereby designated as Unit Operator and by signature hereto commits to this agreement all interests in unitized substances vested in it as set forth in the schedule attached hereto marked Exhibit B and agrees and consents to accept the duties and obligations of Unit Operator to conduct and manage the operation of said unit area for the discovery and development of unitized substances as herein provided. Herein whenever reference is made to the Unit Operator, such reference is understood to mean the unit operator acting in that capacity and not as an owner of interests in unitized substances, and whenever reference is made to an owner of unitized substances, such a reference shall be understood to include any interests in unitized substances owned by the Unit Operator.

The Unit Operator shall have the right to resign at any time provided that any well drilled hereunder is placed in a satisfactory condition for suspension, or is satisfactorily abandoned under the Federal Oil and Gas Operating Regulations, if on Federal land, and under the laws of the State of New Mexico, and the rules and regulations of the Commission, if on state or patented land, but no Unit Operator shall so be relieved from the duties and obligations of Unit Operator for a period of three (3) months after notice of intention to relinquish such duties and obligations has been served by him on all other parties ^{hereto} and the Secretary and the Commissioner, unless a new Unit Operator shall have been selected and approved and shall have taken over and assumed the

duties and obligations of the Unit Operator prior to the date on which relinquishment by or removal of Unit Operator becomes effective. The parties hereto or a duly qualified new Unit Operator shall have an option to purchase at its then depreciated market value all or any part of the equipment, material, and appurtenances in or upon the land subject to this agreement, owned and used by the retiring Unit Operator, in its capacity as such operator, or make other arrangements satisfactory to the retiring Unit Operator for the use thereof. Any equipment, material, and appurtenances not so purchased or arranged for as to the use thereof within said time limit and not necessary for the preservation of wells may be removed by the retiring Unit Operator at any time within six (6) months after his relinquishment or removal becomes effective, but if not so removed shall become the joint property of the owners of working interest rights in land then subject to this agreement. The termination of any rights as Unit Operator under this agreement shall not of itself terminate any right, title, or interest which the Unit Operator may then have in the unitized substances, but the Unit Operator shall have the right and option in connection with its resignation to reassign or retransfer to its several predecessors in interest all of its interest in the lands and leases severally acquired from them, together with its working interest in the unitized substances, and upon such delivery be discharged from any future liability as a working interest owner hereunder; said reassignments to be effective as to said transferee thereupon, subject, however, to the approval of the Secretary as to transfers of interest in lands of the United States and subject, however, to the approval of the Commissioner as to interests in lands of the State of New Mexico.

SUCCESSOR
UNIT
OPERATOR

6. Whenever the Unit Operator shall discontinue or relinquish his rights as Unit Operator or shall fail to fulfill his duties and obligations as Unit Operator under this agreement, the owners of the unitized working interests in the participating area on an acreage basis, or the owners of working interests according to their total acreage interest in the unit area until a participating area shall have been established, shall select a new Unit Operator.

A majority vote of the working interests so qualified to vote shall be required to select a new Unit Operator; provided that if the majority of the working interests rights which are at any time qualified to vote in selecting a new Unit Operator are owned by one party to this agreement then a vote of at least two owners of working interests qualified to vote shall be required to select a new operator. Such selections shall not become effective until (a) a Unit Operator so selected shall agree and consent in writing to accept the duties and responsibilities of Unit Operator, and (b) the selection shall have been approved by the Secretary and the Commissioner. In the absence of the selection of an acceptable Unit Operator by the working interest owners within six (6) months after notice by Unit Operator of intention to relinquish its rights as Unit Operator, this Unit Agreement shall automatically terminate.

The Unit Operator shall be subject to removal by the Working Interest Owners in the same manner as herein provided for the selection of a new Unit Operator.

RIGHTS AND
OBLIGATIONS
OF
UNIT OPERATOR

7. Except as hereinafter specified, the exclusive right, privilege and duty of exercising any and all rights of the parties

signatory hereto which are necessary or convenient for prospecting for, producing, storing, and disposing of the unitized substances are hereby vested in the Unit Operator and shall be exercised by said Unit Operator as provided in this agreement. Acceptable evidence of title to said rights shall be deposited with said Unit Operator and, together with this agreement, shall constitute and define said Unit Operator's

rights, privileges, and obligations in the premises; provided, that nothing herein shall be construed to transfer title to any land, or to any operating agreement or leases, it being understood that under and pursuant to this agreement the Unit Operator, in its capacity as Unit Operator shall exercise the rights of possession and use vested in the parties hereto only and exclusively for the purposes herein specified. The Unit Operator shall pay all costs and expenses of operations with respect to the unitized land, and no part thereof shall be charged to the royalty owners. The matter of allocation and handling such costs and expenses is left to private arrangement between the Unit Operator and the other working interest owners. The Unit Operator shall render to the owners of unitized interests entitled thereto an account of the operations on unitized lands during the previous calendar month, shall pay in value or deliver to each party entitled thereto a proportionate and allocated share of the products produced hereunder, and account for all costs and benefits of operations under this agreement in conformity with operating agreements, leases or other independent contracts between the Unit Operator and the parties hereto either collectively or independently.

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

DRILLING
TO
DISCOVERY

8. Within six (6) months from the effective date of this agreement, Unit Operator shall begin to drill an adequate test well at a location upon the Unit Area to be approved by the Supervisor, if such location is upon lands of the United States, and if upon State lands or patented lands, such location shall be approved by the Commission, and having commenced such operations shall thereafter continue drilling diligently to a depth not less than 7000 feet unless oil or gas which can be produced in paying quantities is encountered in said well at a lesser depth or unless, at a lesser depth, an igneous or metamorphic formation or some other condition or formation is encountered which would render further drilling inadvisable or impracticable. If said first well, drilled as aforesaid, fails to encounter the unitized substances, Unit Operator or his successor shall thereupon commence within six (6) months after the completion of the former well, and drill, one at a time, additional wells until a productive well is

completed to the satisfaction of the Supervisor and Commissioner, or until it is reasonably proved that the unitized land is incapable of producing the unitized substances; provided that the Secretary and Commissioner may grant extension of time for the commencement of any such well; and provided further that nothing herein contained shall preclude any Operator from effectively resigning as provided in Section 5 hereof before any obligation to commence a second or subsequent well accrues hereunder, and be relieved of the obligation to commence such well. Upon failure to comply with the drilling requirements of this section the Secretary may, after reasonable notice, declare this unit agreement terminated.

PLAN OF FURTHER DEVELOPMENT AND OPERATION

9. Within sixty (60) days from completion of a well capable of producing the unitized substances as aforesaid, Unit Operator shall submit for the approval of the Supervisor, the Commissioner, and the Commission an acceptable plan of development for the Unit Area, which plan or a subsequent modification thereof, when so approved shall constitute the further drilling and operation obligations of Unit Operator. Reasonable diligence shall be exercised by the Unit Operator in complying with the drilling and producing obligations of the approved plan of development and said plan shall, subject to like approval be modified or supplemented in whole or in part from time to time as may be required to meet changed conditions or to protect the interests of all parties to this agreement and the further obligations of the Unit Operator shall be conformed thereto; provided that in no event shall the operator under any such plan, or otherwise, be under any obligation to drill any well to any formation that does not afford a fair possibility for encountering the unitized substances in paying quantities. Well drilling operations including well completions, producing practices and well abandonments, shall be in accordance with the Plan of Development and Operation. All operations thereunder shall be subject to the approval of the Supervisor as to wells on federal land and by the Commission for wells on state and private land.

During any period when it shall appear that an acceptable plan of development cannot be adopted because of the inability of the Supervisor, the Commissioner and the Commission to agree upon the terms thereof, the Unit Operator may, in accordance with the applicable regulations referred to in Section 1 hereof, proceed with reasonable diligence to drill other wells to determine the limits of production and ~~to develop the productive portion of the unit area, and may~~ and shall operate all productive wells in conformity with good operating practices, and the conservation principles of this agreement.

PARTICIPATION
AFTER
DISCOVERY

10. Upon completion of a productive well as aforesaid, Unit Operator shall submit for the approval of the Secretary, the Commissioner and the Commission a schedule of lands based on subdivisions of the public land survey, including all subdivisions one-half or more of the acreage of which is then regarded as reasonably proved to be productive of unitized substances in paying quantities; all land in said schedule, when approved, to constitute a participating area effective as of the date of first production. Said schedule shall set forth the percentage acreage interest of each owner of rights in the participating area thereby established. Such percentage acreage interest shall govern the allocation of production from and after the date the participating area becomes effective. With the approval of the Secretary, Commissioner and the Commission, a separate participating area may be established for any separate deposit of unitized substances or for any group of such deposits. The participating area or areas so established shall be enlarged

from time to time in like manner and subject to like approval whenever such action appears proper as a result of further drilling operations to include additional land then regarded as reasonably proved to be productive in paying quantities, and a new schedule of percentage acreage interests conformable thereto shall thereupon be fixed. The effective date of any such enlargement shall be the first of the month next following the month in which the well is completed which demonstrates the propriety of the enlargement.

and any unitized substances theretofore produced from such well shall be allocated to the lease on which the well is drilled. A well shall be deemed completed when equipped and successfully tested for production, all of which shall be done diligently. No land once included in a participating area shall be excluded from such participating area on account of depletion of the unitized substances therefrom, or for any cause save loss of title. It is the intent of this Section that a participating area shall at all times represent as nearly as possible the area known or reasonably estimated to be productive in paying quantities; but, regardless of any increase in the participating area, nothing herein contained shall be construed as requiring any retroactive apportionment of any sums accrued or paid for production obtained prior to the effective date of increase of the participating area.

Until a participating area or areas has or have been established as herein-provided, or in the absence of agreement at any time between the Unit Operator, the Secretary, the Commissioner, and the Commission as to the proper boundaries of a participating area, the portion of all payments affected by such absence of agreement, except the royalties due the United States and the State of New Mexico, may be impounded in a mutually acceptable bank.

ALLOCATION OF
PRODUCTION --
ROYALTIES

11. Except as provided in Section 12, all unitized substances produced under this agreement, except any part thereof used for production and development purposes thereunder, or unavoidably lost, shall be deemed to be produced equally on an acreage basis from the several tracts of land of the participating area, and for the purpose of determining any benefits that accrue on an acreage basis as a result of operations under this agreement, each such tract shall have allocated to it such percentage of said production as its area bears to the said participating area. Unitized substances produced from any participating area and used in conformity with good operating practice under an approved plan of operation for repressuring or cycling in any participating area shall be free from any royalty charge. If Unit Operator introduces gas obtained from sources other than the unitized substances into any participating area hereunder for use in repressuring, stimulation of production or increasing ultimate recovery in conformity with a plan first approved by the Supervisor, the Commissioner and the Commission, a like amount of gas, with due allowance for loss or shrinkage thereof from any cause, may be drawn from the formation into which the gas was introduced, royalty free as to dry gas but not as to the products extracted therefrom, provided that such withdrawal shall be at such time as may be provided in the plan of operation or as may otherwise be consented to by the Supervisor, the Commissioner and the Commission, as conforming to good petroleum engineering practice, and provided further that such right of withdrawal shall terminate on the termination of the unit.

Except as otherwise herein provided, royalties shall be paid or delivered as provided by existing leases or contracts,

at the lease or contract rate upon the unitized substances allocated to the lease or tract. Settlement shall be made on or before the 20th day of each month for the unitized substances produced during the preceding calendar month. Such royalties shall be paid by the party operating the wells, but nothing herein shall operate to relieve the lessees, or any of them, of their obligation to pay rentals and royalties under the terms of their respective leases.

The right is hereby secured to the United States and the State of New Mexico under existing or future laws and regulations to elect to take their respective royalty shares in kind or value.

DEVELOPMENT
OR OPERATION
ON NON-PARTICI-
PATING LAND

12. Any party hereto other than Unit Operator owning or controlling a majority of the working interest rights in any unitized tract included in the non-participating area having thereon a regular well location in accordance with a well-spacing pattern established under an approved plan of development and operation may drill a well at such location at his own expense, unless within 90 days of receipt of notice from said party of his intention to drill the well Unit Operator elects and commences to drill such well in like manner as other wells are drilled by Unit Operator under this agreement.

If such well is not drilled by Unit Operator and results in production such that the land upon which it is situated may properly be included in a participating area, the party paying the cost of drilling such well shall be reimbursed one hundred fifty percent (150%) of the average cost of drilling similar producing wells in the unitized area, and the well

shall be operated pursuant to the terms of this agreement all as though the well had been drilled by the Unit Operator.

If any well drilled by Unit Operator or by an owner of working interest rights as provided in this section obtains production insufficient to justify inclusion in a participating area of the land on which said well is situated, said owner of working interests at his election, within 30 days of determination of such insufficiency, shall be wholly responsible for and may operate and produce the well at his

sole expense and for his sole benefit. If a well is drilled by Unit Operator, said owner of working interests shall pay the Unit Operator a fair salvage-value price for the casing and other equipment left in the well.

Wells drilled at the sole expense of any party other than Unit Operator or produced at his sole expense and for his sole benefit shall be subject to the drilling and producing requirements of this agreement the same as though drilled or produced by Unit Operator; and royalties in amount or value of production from any such well as well as rental charges, if any, shall be paid as specified in the lease affected, unless otherwise authorized in writing by the lessor.

RENTAL AND
ROYALTY
PAYMENTS

13. The Unit Operator, on behalf of the respective lessees, shall pay, or at the election of the Secretary of the Interior as to Federal leases and at the election of the Commissioner as to State leases shall deliver in kind, all royalties and shall pay all rentals due the United States and the State of New Mexico respectively, on account of operations by Unit Operator on unitized land and shall distribute the cost

thereof to the appropriate parties conformably with their respective rental and royalty obligations; provided, that nothing herein contained shall operate to relieve the lessees, or any of them, of their obligation to pay rentals and royalties under the terms of their respective leases.

On request of any party, Unit Operator at its election ~~shall pay other royalties on his behalf in accordance with a~~ schedule furnished by him and charge the cost thereof to his account; provided, that Unit Operator shall incur thereby no responsibility to any royalty owner, but such responsibility shall be and remain an obligation of the parties requesting payment thereof.

GOVERNMENT
ROYALTIES
AND RENTALS

14. Royalty due the United States on account of unitized Federal land shall be computed as provided in the operating regulations and paid as to all unitized substances on the basis of the amounts thereof allocated to such land as provided herein at the rates specified in the respective Federal leases; provided, that, for leases on which the royalty rate depends on the daily average production per well, said average production for any participating area shall be determined in accordance with the operating regulations as though all the unitized land within the same participating area were a single consolidated lease, and provided that during the period of the national emergency declared by the President May 27, 1941, Proclamation No. 2487, 55 Stat. 1647, upon a determination by the Secretary of the Interior that a new oil or gas field or deposit has been discovered by virtue of a well or wells drilled under this agreement, the royalty on production from such new field or

deposit allocated to Federal land subject to this agreement at the time of such discovery shall, during the 10-year period following the date of such discovery, be paid in value or delivered in kind at a flat rate of 12½ per centum unless a lower rate is prescribed in the lease.

Rental for land of the United States subject to this agreement at the rates specified in the respective Federal leases shall be paid, suspended, or reduced as determined by the Secretary of the Interior, pursuant to applicable law and regulations.

CONSERVATION 15. Operations and production of unitized substances shall be conducted so as to provide for the most economical and efficient recovery of said substances to the end that maximum yield may be obtained without waste, as defined by or pursuant to State or Federal law or regulation; and shall be limited to such production as can be put to beneficial use with adequate realization of fuel and other values.

DRAINAGE 16. Unit Operator shall take appropriate and adequate measures to prevent drainage of unitized substances from unitized land by wells on land not subject to this agreement, or, with the approval of the Secretary as to federal interests and of the Commissioner as to state interests, and at the election of the Unit Operator as to private interests, pay a fair and reasonable compensatory royalty, as determined by the Supervisor as to federal interests, and the Commissioner as to state interests subject to this agreement and by agreement between the Unit Operator and royalty owners, as to private interests.

LEASES AND CON-
TRACTS CONFORMED
TO AGREEMENT

17. The parties hereto or consenting hereto holding interests in leases embracing unitized land of the United States or of the State of New Mexico consent that the Secretary and Commissioner, respectively, may, and said Secretary and Commissioner, by their approval of this agreement, do hereby establish, alter, change or revoke the drilling, ~~producing, and royalty requirements of such leases and the~~ regulations in respect thereto, to conform said requirements to the provisions of this agreement, but otherwise the terms and conditions of said leases shall remain in full force and effect.

Owners and lessors of privately owned lands or of interests therein, including royalty interests, and including their heirs, executors, administrators, successors and assigns, by subscribing or consenting to this agreement, in person or by attorney in fact, do hereby severally agree that the respective leases covering their several lands or interests therein, may be and remain in force and effect for the respective primary terms therein stated, and so long thereafter as oil or gas may be produced therefrom in quantities sufficient to justify (the cost of production; and also in the event that any of the land embraced in any such lease is during the primary term of such lease included within a participating area duly selected and approved under this unit plan of development, so that each owner becomes entitled to a share in the proceeds of production from the participating area, payable at the respective lease rates on the production allocated on an acreage basis to the portion of the lease within the participating area, then each such lease is hereby extended, without

further delay rental obligation, as to the land embraced therein which is so included in such participating area, for the full term of this unit plan as herein stated.

The Secretary, Commissioner and, except as otherwise provided in the preceding paragraph of this Section, all parties hereto further determine, agree and consent that during the effective life of this agreement, drilling and producing operations performed by the Unit Operator upon any unitized land will be accepted and deemed to be opera-

tions under and for the benefit of all unitized leases subject hereto; that no such lease shall be deemed to expire by reason of failure to produce wells situated on land therein embraced; that if a discovery of a valuable deposit of unitized substances is made anywhere on the unitized land, each such lease in effect on or after the date of such discovery shall be deemed to continue in force and effect as to land in the unit area, as long as unitized substances are produced anywhere on unitized land in paying quantity; that prior to such discovery of unitized substances anywhere on unitized land, the expiration date of each unitized lease embracing lands of the United States shall be the date prescribed in such lease subject to such preferential right to a new lease as may be authorized by law; and the suspension of all operations and production on the unitized land pursuant to direction or consent of said Secretary and Commissioner shall be deemed to constitute such suspension pursuant to such direction or consent with respect to each such lease and that no lease shall expire on account of such suspension, as to land in the unit area.

The parties hereto or consenting hereto, holding interests in leases subject to this agreement embracing

lands other than those of the United States or of the State of New Mexico or holding interests in any other agreements that involve oil and gas rights in lands in the Unit Area, consent and agree, to the extent of their respective interests, that all such leases and agreements shall conform to the provisions of this agreement.

COVENANTS

18. The covenants herein run with the

RUN

land until this agreement terminates,

and any grant, transfer or lease or interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee, lessee, or other successor in interest and as to federal land, shall be subject to approval by the Secretary, and as to lands of the State of New Mexico, shall be subject to the approval of the Commissioner. No transfer of any interest in and to any of the unitized lands or affecting the production therefrom shall be binding upon the Unit Operator until the first day of the next calendar month after the Unit Operator has been furnished with an original, photostatic or certified copy of the instrument of transfer.

EFFECTIVE

DATE

AND TERM

19. This agreement shall become effective

on the first day of the calendar month

next following approval by the Secretary of the Interior and the Commissioner, provided however that nothing herein shall be construed to waive or limit the right of the Commission to approve this agreement pursuant to applicable state law. Except as otherwise provided as to private leases by the second paragraph of Section 17 hereof, this agreement shall terminate on December 31, 1949, unless (1) such date of

expiration is extended by the Secretary and the Commissioner;
or (2) a valuable discovery of unitized substances has
been made on unitized land, in which case the agreement
shall remain in effect as long as unitized substances can
be produced from the unitized land in paying quantities;

~~or (3) it is reasonably determined at an earlier date that~~
the unitized land is incapable of commercial production
of unitized substances, and, with approval of the Secretary
and the Commissioner, notice of termination is given by
Unit Operator to all parties in interest at their last
known address; or (4) it is terminated as provided in
sections 6 or 8 hereof; provided that this agreement may
be terminated at any time by consent of the owners of 75
per centum, on an acreage basis, of the owners of working
interests signatory hereto with the approval of the Secretary
and the Commissioner.

RATE OF PROSPECT- 20. All production and the disposal
ING, DEVELOPMENT,
AND PRODUCTION thereof, shall be in conformity
with allocations, allotments and quotas made or fixed by
the Commission under any State Statute, provided however
that the Secretary is vested with authority pursuant to
the amendatory acts of Congress of March 4, 1931, and
August 21, 1935, supra, to alter or modify from time to
time in his discretion the rate of prospecting and develop-
ment, and, within the limits made or fixed by the Commission
to modify the quantity and rate of production under this
agreement, such authority being hereby limited to alteration
or modification in the public interest, the purpose thereof

and the public interest to be served thereby to be stated in the order of alteration or modification; provided further that no such alteration or modification shall be effective as to any lands of the State of New Mexico as to the rate of prospecting and development in the absence of the specific written approval thereof by the Commissioner and as to any lands of the State of New Mexico or privately

~~owned lands subject to this agreement as to the quantity~~

and rate of production in the absence of specific written approval thereof by the Commission.

UNAVOIDABLE
DELAY

21. All obligations under this agreement requiring Unit Operator to commence or continue drilling or to operate on or produce oil or gas from any of the lands covered by this agreement shall be suspended while, but only as long as, the Unit Operator is prevented from complying with such obligations, in whole or in part, by strikes, lockouts, acts of God, Federal, State or municipal law or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market, or other matters beyond the reasonable control of the Unit Operator whether similar to the matters herein enumerated or not.

CONFLICT
OF
SUPERVISION

22. Neither the Unit Operator nor the working Interest Owners nor any of them shall be subject to any forfeiture, termination or expiration of any rights hereunder or under any leases or contracts subject hereto, or to any penalty or liability for delay or failure in whole or in part to comply therewith to the extent that said Unit Operator, Working Interest Owners or any of them are hindered, delayed, or prevented from complying therewith

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

NON-
DISCRIMINATION

23. The Unit Operator expressly agrees that in any and all operations conducted hereunder, it shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin and shall require an identical provision to be included in all subcontracts.

SUBSEQUENT
JOINDER

24. Any person owning rights in the unitized substances within the unit area who does not commit such rights hereto prior to the effective date hereof, may thereafter become parties hereto by subscribing this agreement, and if such parties are working interest owners they shall also subscribe the operating contract and comply with all terms and conditions therein set forth.

COUNTERPARTS

25. This agreement may be executed in any number of counterparts with the same force and effect as if all parties had signed the same document.

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

5-27-46
Date

5-27-46
Date

5/27/46
Date

5/27/46
Date

5-27-46
Date

5-29-46
Date

5-29-46
Date

5/29/46
Date

5/28/46
Date

5/28/46
Date

5/28/46
Date

6/5/46
Date

Robert T. Anderson
Barbara Phelps Anderson ROA

Napoleon C. Lackey
Joe W. Lackey NCL and JWL

Johanna Headley
J. B. Headley JBH ✓

James H. Highmore
Margaret Highmore JH

Thomas J. Jackson
Anna Mae Jackson TJJ x

Margerie Mayson
Lowell F. Mayson LFN

Harold H. Everett
Ellen Everett HUE
Margery Frances Orton
By Charles M. Orton
Her Attorney In Fact MFO

H. H. Stenberg
Dorothy Stenberg HJS and DS

J. C. Stenberg
Mrs. J. C. Stenberg TCS and Mrs. TCS

John E. Cochran, Jr.
Norjett Justice Cochran JEC, Jr.

Herman R. Grile
Lucille W. Grile HRC

Only following leasehold ownership
of Herman R. Grile is hereby com-
mitted, SE 1/4 Section 2, Twp. 18 S.
Rge. 19 E. N. 1/4 P.M.

MALCO REFINERIES, INC.,

By *R. T. Good*

ATTEST:

James W. Lacy
Secretary

MAGNOLIA PETROLEUM COMPANY

By *R. T. Good*

James W. Lacy
Secretary

THE OHIO OIL COMPANY

By *J. D. Williams*
(The President)

ATTEST:

James W. Lacy
Secretary

23a

Unit agreement

Black Hills

APPROVAL - CERTIFICATION - DETERMINATION

Pursuant to the Statutory authority in the Secretary of the Interior, under the act approved March 4, 1931, 46 Stat. 1523, and the act approved August 21, 1935, 49 Stat. 674, amending the act approved February 25, 1920, 41 Stat. 437; 30 U. S. C. 226, 184 and 189, in order to secure the proper protection of the public interest,

~~CH. GIRARD DAVIDSON~~ Assistant Secretary of the Interior, this 26 day of July, 1942, hereby take the following action:

- A. Approve the attached agreement for the development and operation of The Black Hills Anticline Unit Area.
- B. Determine and certify that the plan of development and operation contemplated in said agreement is for the purpose of more properly conserving oil or gas resources of said unit area and is necessary or advisable in the public interest.
- C. Certify that each and every lease heretofore or hereafter issued for lands of the United States subject to, or which may hereafter become subject to, said agreement shall be excepted in determining holdings or control under the provisions of any section of the Act of Congress approved February 25, 1920, and amendments thereto.

Girard Davidson
Assistant Secretary of the Interior

STATE OF NEW MEXICO)

COUNTY OF CHAVES)

On this 27th day of MAY, 1946, before me personally appeared ROBERTO ANDERSON AND BARBARA PHELPS ANDERSON to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as THEIR free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

Clark A. Seay

STATE OF NEW MEXICO)

COUNTY OF CHAVES)

On this 27th day of MAY, 1946, before me personally appeared NAYDEEN C. LACKEY AND JOE W. LACKEY to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as THEIR free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

Clark A. Seay

My commission expires:

Notary Public

STATE OF New Mexico)

COUNTY OF Chaves)

On this 27th day of May, 1946, before me personally appeared J. H. Bradley and his wife to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

Charles W. Cass

My commission expires:

May 14, 1949

Notary Public

STATE OF NEW MEXICO)

COUNTY OF CHAVEZ)

On this 27th day of MAY, 1946, before me personally appeared THOMAS J. JACKSON AND ANNA MAE JACKSON to me known to be the person s described in and who executed the foregoing instrument, and acknowledged that they executed the same as THEIR free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires

MY COMMISSION EXPIRES APRIL 22, 1950

Whitney A. Adams
Notary Public

STATE OF New Mexico)

COUNTY OF Eddy)

On this 28 day of May, 1946, before me personally appeared Charles Morton to me known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed. and as the free act and deed of Margery Frances Morton

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires:

April 15, 1946

Luthe D. Marshall
Notary Public

STATE OF New Mexico)

COUNTY OF Eddy)

On this 28 day of May, 1946, before me personally appeared I.C. Stromberg and Mrs I.C. Stromberg his wife to me known to be the person s described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires:

April 15, 1950

Luthe D. Marshall
Notary Public

STATE OF New Mexico
COUNTY OF Eddy

On this 28 day of May, 1946, before me personally appeared James Hightower and Margaret Hightower to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires
4/3/48

Pauline D. Luce
Notary Public

STATE OF New Mexico
COUNTY OF Eddy

On this 28 day of May, 1946, before me personally appeared John E. Cochran Jr. and Harriett Justine Cochran, his wife to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires:
April 15, 1950

Lucie Marshall
Notary Public

STATE OF NEW MEXICO
COUNTY OF CHAVES

On this 29th day of MAY, 1946, before me personally appeared LIDWELL F. NAYLOR and MARJORIE NAYLOR to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as THEIR free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires:
MY COMMISSION EXPIRES APRIL 22, 1950

Clark S. Seay
Notary Public

STATE OF New Mexico
COUNTY OF Chavez

On this 28 day of May, 1946, before me personally appeared H. J. Steinberger and Dorothy Steinberger to me known to be the person described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires: April 9, 1950

Helio Rumbel

STATE OF Oklahoma
COUNTY OF Tulsa

On this 24 day of May, 1946, before me personally appeared Harold H. Everett & Ella V. Everett, his wife to me known to be the person described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My Commission Expires March 27, 1950

My commission expires:

Charles H. Hill
Notary Public

STATE OF Arizona
COUNTY OF Maricopa

On this 5 day of June, 1946, before me personally appeared William R. Davis and Daniel W. Davis to me known to be the person described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires:

My Commission Expires Sept. 17, 1948

Allen L. Burns
Notary Public

STATE OF NEW MEXICO

COUNTY OF ~~DO~~ CHAVES

On this 27th day of MAY, 1946, before me personally appeared ROBERT D. ANDERSON, personally known to me, who being by me duly sworn did say that he is the President of Malco Refineries, Inc., and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors; and said ROBERT D. ANDERSON acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My Commission Expires:

Notary Public

STATE OF TEXAS

COUNTY OF Dallas ss

On this 31st day of May, 1946, before me personally appeared C. M. Chan, personally known to me, who being by me duly sworn did say that he is the Vice President of Magnolia Petroleum Company, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors; and said C. M. Chan acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My Commission Expires:
My commission expires
June 1, 1947

Evelyn Bondurant
Notary Public
EVELYN BONDURANT, Notary Public
in and for Dallas County, Texas

STATE OF Texas
COUNTY OF Harris ss

On this 21st day of June, 1946, before me personally appeared A. C. Swillman, personally known to me, who being by me duly sworn did say that he is the President of The Ohio Oil Co., and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors; and said A. C. Swillman acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My Commission Expires:
June 1, 1947

R. W. Ratcliffe
Notary Public
R. W. RATCLIFFE
Notary Public, Harris County, Texas

A REPORT

ON

THE BLACK HILLS ANTICLINE
CHAVES COUNTY, NEW MEXICO

BY

J. B. HEADLEY

THE BLACK HILLS ANTICLINE
CHAVES COUNTY, NEW MEXICO

A Report on Structure

Scope of Report. The purpose of this report is to describe briefly the above mentioned structure, to be accompanied by a map showing more definite detail and to accompany a Unit Plan of Operation, submitted by the owners of the oil and gas leases thereon to the Department of Conservation, New Mexico. This unit plan itself has been previously submitted to the Department as part of a former unit plan now cancelled.

The anticline was discovered by the author in the early part of 1925 and he is believed to be the first to map and report the structure. After a reconnaissance survey the structure was thoroughly mapped in detail, by the plane table method, by the author with the assistance of Mr. H. R. Van Gilder, instrument man. The work consumed several weeks' time and the entire survey was based on a camp situated in the area.

Location. The Black Hills Anticline is located in Southwestern Chaves County, New Mexico, in Townships 17 South, Range 19 East; 17 South, Range 20 East; 18 South, Range 19 East; and 18 South, Range 20 East. It is approximately 10 miles due west of the Town of Hope.

Topography. The topography is that of rough limestone hills with greatest relief of 500 feet above the deepest cut drainage. The area is part of the hilly limestone country west of the plains of the Pecos Valley and being the forerunner of the foothills of the Sacramento Mountains some 40 miles to the west. The Penasco River, a tributary to the Pecos River, flows east along the northern flank of the structure and a few of its small tributaries dissect the limestone hills in small deep-cut arroyos heading near the apex of the structure. The Penasco generally runs water the

year around. Walnut Creek, another tributary to the Pecos, parallels the Penasco on the south flank of the structure.

A graded main highway from Artesia to Hope to Cloudcroft borders the structure to the north and all transportation will approach the area by means of this highway. A few ranch roads or trails traverse the area and these are mostly on hard limestone, are rough, but will be serviceable in any weather.

Stratigraphy. The outcropping rocks belong to the lower portion of the San Andres formation, a part of the general classification of Chupadera, so named by Darton. The upper 250 feet of outcrop is composed of dense gray to dark gray, thinly bedded limestones with inter-bedded redbeds and gypsum. The lower portion of the outcrop is composed of massive dense dark gray to black limestone, fossiliferous and containing ferruginous nodules. These lower beds weather into massive jutting outcrops with steep-sided jagged cliffs and make an abrupt change in the local detailed topography, differing from the softer slopes of the overlying beds. The contact between these two formations was used as the datum for mapping the structure.

It is thought that the above lie approximately 700 feet above the Glorieta Sandstone, the latter being 50 feet to 100 feet in thickness, and the dividing formation between the San Andres above and the Yeso formation below. The Yeso formation, usually of redbeds, has shale with sands as found in the Texas Duncan Well seven miles to the west, and is approximately 2,000 feet thick. Below the Yeso is the Abo formation consisting of Red Sands, arkosic material, red shales, some limestones; is 1100 feet thick as found in the Texas Duncan Dome Well. Immediately underlying the Abo is the Magdalena of the Pennsylvanian period and is estimated to be 1500 feet thick. This consists of dark petroliferous limestones with several inter-bedded sands. Below the Pennsylvanian the following are estimated: 150 feet of Lake Valley, Mississippian; 100 feet of Percha, Devonian; 130 feet of Fusselman, Silurian;

180 feet of Montoya; and 250 feet of El Paso, making a total of 6560 feet plus of section to be drilled to thoroughly test the sedimentary section petroleum possibilities.

Structure. The structure is that of an anticline, located immediately east of an over-thrust fault. The fault, known as the Y0 fault, is a prominent feature extending several miles southwest of the structure and running in a northeasterly direction for many miles and has been traced by the writer to the northeastern part of Township 14 South, 23 East, and from all indications extends many miles beyond that point. The fault, as measured by the writer, has a throw of 137 feet along its vertical trace as observed in the north bank of the Penasco River in Section 2, Township 17 South, Range 19 East.

The anticlinal axis runs from Section 5-18S-19E northeasterly to Section 14-17S-20E. Along the axis are several domes or highs, the chief of which is located in Sections 25 and 36, 17 South, 19 East and Sections 29, 30, 31 and 32 in 17 South, 20 East, forming the main feature of the entire structure. The apex of the dome is located in the Northwest Quarter of Section 31-17S-20E. The closure on this dome itself is 130 feet. The closure of the anticline, as mapped, is the same but a considerably greater closure against the Y0 fault is indicated. The structural dips are rather steep and extend for long distances to the north and east, less steep to the east and south but extending as far as outcrops are observed to the gravel caliche plain below. To the west the dips are interrupted by several highs and reversals but eventually culminate against the fault. North and west of the anticlinal axis is a syncline forming the north and west closures before the beds are again folded against the fault. To the south is a syncline along Walnut Creek limiting the structure to the south. A study of the attached map gives a much better conception than the above description.

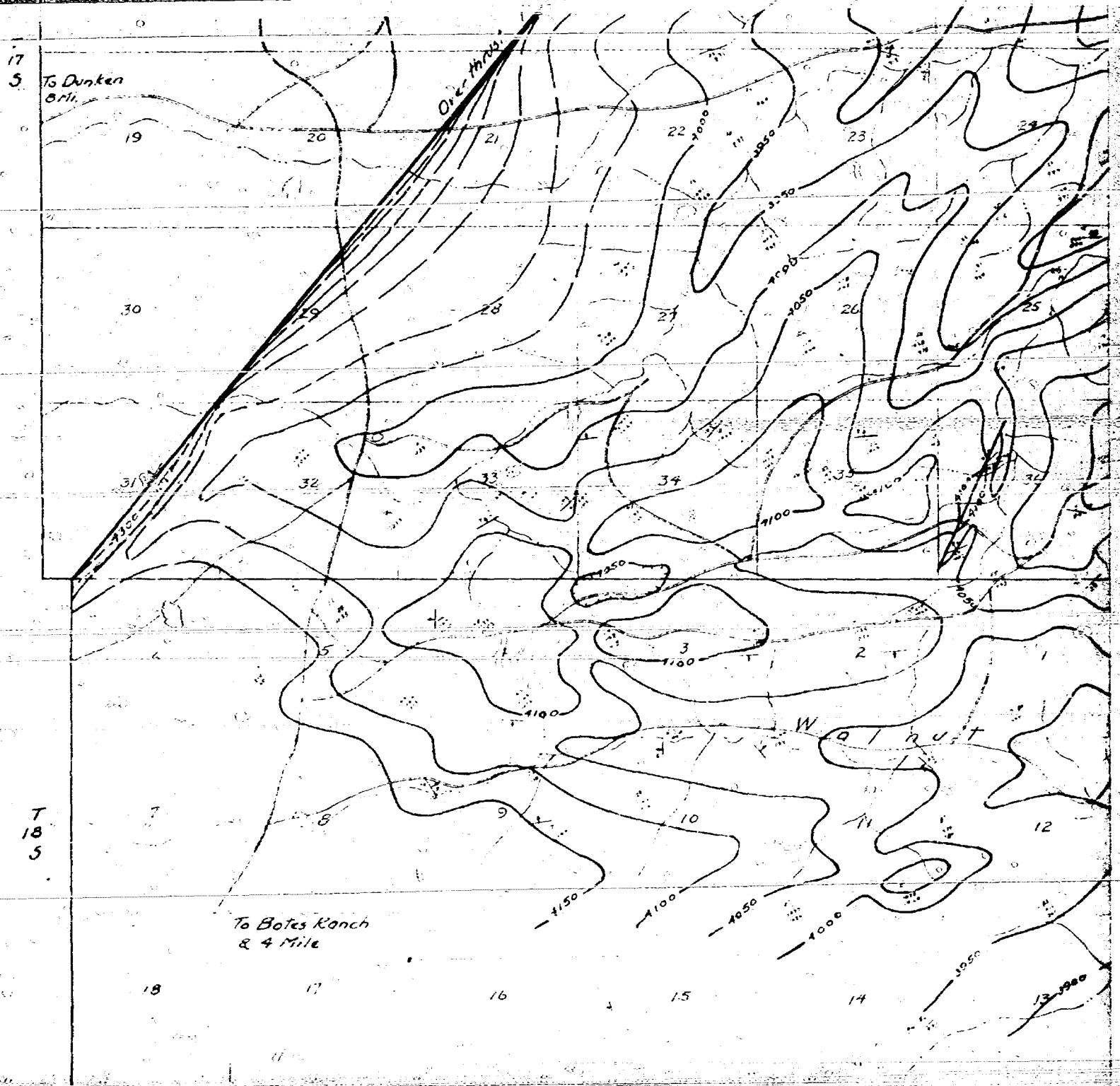
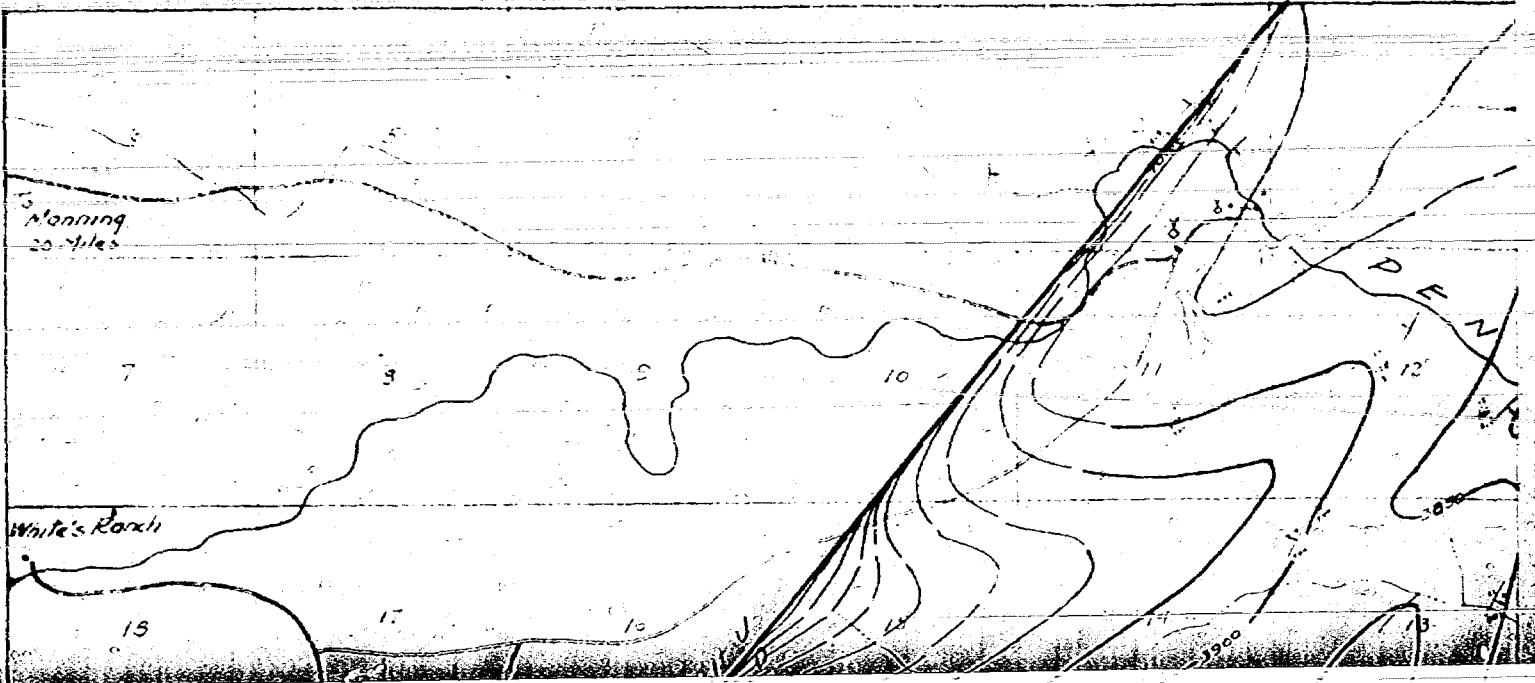
Conclusion. The Black Hills Anticline is one of the main structural features, from an oil prospecting point of view, in the limestone hill country west of the Pecos River. Two other prominent features, Manning Dome in 14 South, 17 East, and Duncan Dome in 17 South, 18 East, have been drilled without discovery of commercial oil. The Duncan Dome was drilled to 4900 feet with a show of gas in the Abo and Pennsylvanian but was not drilled deep enough to completely test the Pennsylvanian nor the older formations. The Manning Dome, being located approximately in the testing the Pennsylvanian and lower formations. The Pecos Structure in 12 North, 18 East is now being tested.

The Black Hills Anticline is the only one of these that is located completely out of the mountains and on the basin-ward side of the Y0 fault. The oil and gas possibilities, being unknown, are left to the conjecture of the reader, it being inferred that the only one who reads this far is the one who is sufficiently interested to have made a study of the general area of Southeastern New Mexico and can make his own deductions.

Respectfully submitted,

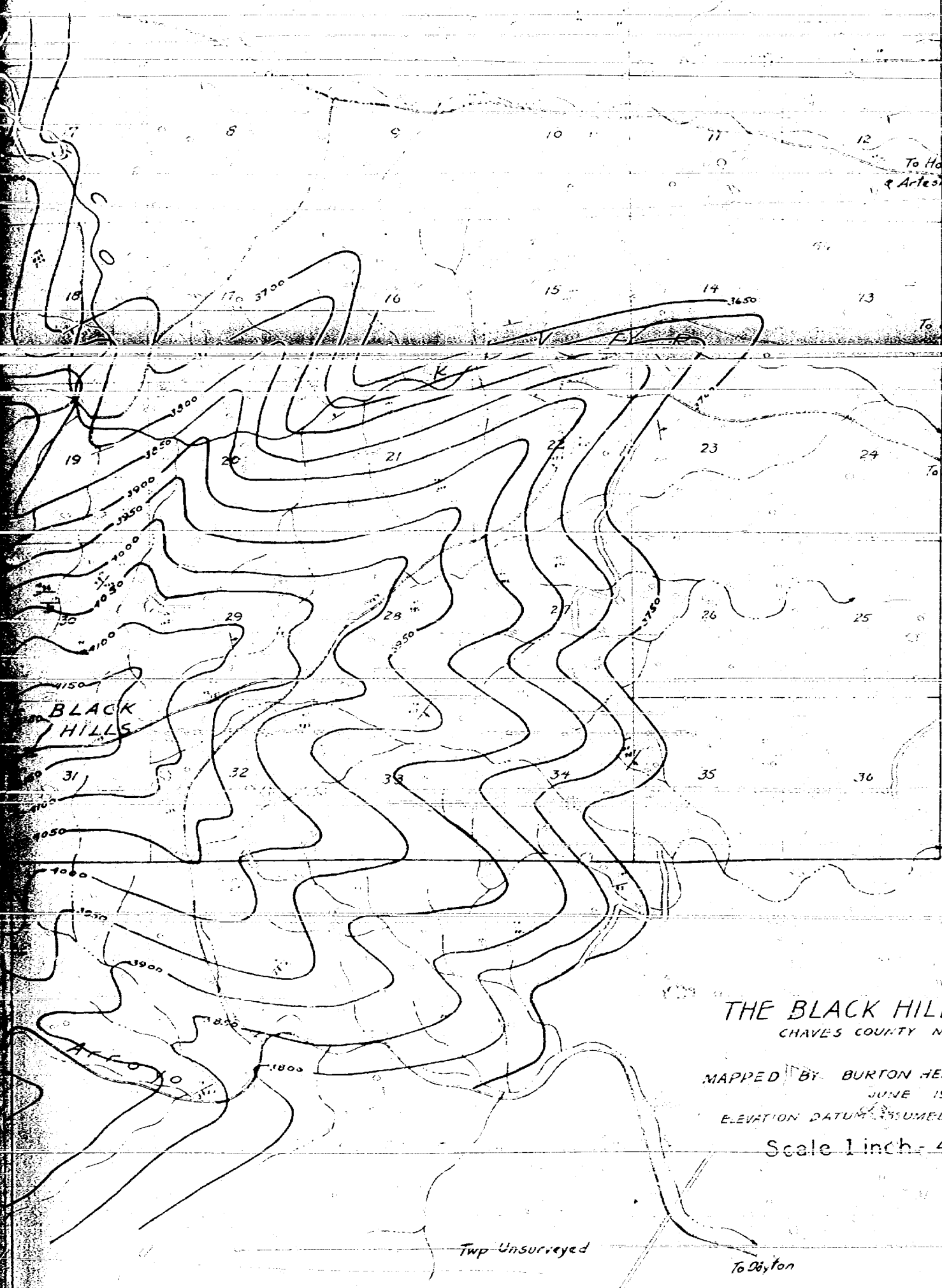
J. B. Headley
J. B. Headley

R 19 E



R 19 E

Reams 11
50 miles



Thinly bedded
Limestones with
100% bedded top

30' thin bedded
Limestones

DATUM

Massive Limestone
irregular nodules
10' thick

Thin bedded as near as
from top

Surface Section

THE BLACK HILLS ANTICLINE

CHAVES COUNTY NEW MEXICO

MAPPED BY BURTON HEADLEY AND H.R. VAN GILDER
JUNE 1925

ELEVATION DATUM ASSUMED SE 36-17-19 = 4000

Scale 1 inch = 4000 feet

Twp Unsurreyed

To Dayton

R 20 E

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Application for Approval of Black Hills Anticline
Unit Area, Chaves County, New Mexico

New Mexico Oil Conservation Commission
Santa Fe
New Mexico

COMES the undersigned the Magnolia Petroleum Company,
incorporated in Dallas, Texas, and files herewith three copies

of a proposed unit agreement for the development and operation
of the Black Hills Anticline Unit Area, Chaves County, New
Mexico, and hereby makes application for the approval of said
agreement by the New Mexico Oil Conservation Commission and in
support thereof, shows:

1. That the unit area designated in said agreement covers
17,626.62 acres situated in Townships 17 and 18 South, Ranges 19
and 20 East, N.M.P.M., Chaves County, New Mexico. All of the
lands embraced in said unit area are lands of the United States
except the following described lands which are lands of the
State of New Mexico, to-wit:

SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 27; All Sec. 36, T 17 S., R 19 E., S $\frac{1}{4}$ SE $\frac{1}{4}$
Sec. 29; All Sec. 32, W $\frac{1}{2}$ SW $\frac{1}{4}$ Sec. 34, T 17 S., R 20 E.,
All Sec. 2, T 18 S., R 19 E., N.M.P.M. containing
2,170.56 acres, more or less.

That said unit area is more particularly shown by the
plat attached to the copies of the proposed unit agreement
filed herewith as Exhibit "A" and made a part thereof. The owners
of all of the oil and gas leases or pending applications therefor
embracing lands within the unit area have agreed to commit said
leases to said agreement except the owner of State oil and gas
lease B-7046 covering Lot 3, SE $\frac{1}{4}$ SW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ Sec. 2; and the
owner of State oil and gas lease B-10102 covering Lots 1 and 2,
S $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 2, T 18 S., R 19 E., N.M.P.M.

2. That said unit area described in the unit agreement was designated by the Director of the United States Geological Survey on December 6, 1945 as one suitable and proper for unitization and all of the lands embraced therein are believed to be situated upon the same geological structure.

3. That the undersigned, Magnolia Petroleum Company is designated as unit operator in said agreement and the Unit Operator is given the authority under the terms of said agreement to carry on operations necessary for the exploration and development of the unit area for oil and gas, subject to the regulations of the Secretary of the Interior, the Commissioner of Public Lands of the State of New Mexico and the New Mexico Oil Conservation Commission, and that under the terms thereof a test well for oil or gas is to be drilled upon some part of the unit area to a depth of 7,000 feet, unless oil or gas is found at a lesser depth, or unless at a lesser depth, an igneous or metamorphic formation or some other condition or formation is encountered which would render further drilling inadvisable or impracticable.

4. That said proposed unit agreement was approved as to form by the Acting Secretary of the Interior of the United States on March 14, 1946, and is in substantially the same form as unit agreements heretofore approved by the Commissioner of Public Lands of the State of New Mexico, the Secretary of the Interior and the New Mexico Oil Conservation Commission and it is believed that operations to be carried on under the terms thereof will promote the economical and efficient recovery of oil and gas to the end that the maximum yield may be obtained from the field or area if oil or gas should be discovered in paying quantities, and the production is to be limited to such production as may be put to beneficial use with adequate realization of fuel and other values, and it is further believed that such agreement will be in the interest of conservation of oil and gas and the prevention of waste as contemplated by the oil conservation statutes of the

State of New Mexico.

5. That upon an order being entered by the New Mexico Oil Conservation Commission approving said unit agreement and after the approval thereof by the Commissioner of Public Lands of the State of New Mexico and the Secretary of the Interior of the United States, an approved copy of said agreement will be filed with the New Mexico Oil Conservation Commission.

WHEREFORE, the undersigned applicant respectfully requests that a public hearing be held on the matter of the approval of said unit agreement as provided by the statutes of the State of New Mexico and the regulations of the New Mexico Oil Conservation Commission, and that upon said hearing said unit agreement be approved by the New Mexico Oil Conservation Commission.

Respectfully submitted,

MAGNOLIA PETROLEUM COMPANY

BY L. P. Hannifin

UNIT AGREEMENT

FOR THE DEVELOPMENT AND OPERATION OF THE BLACK HILLS ANTICLINE UNIT AREA

CHAVES COUNTY

STATE OF NEW MEXICO

I. Sec. No. _____

This agreement, entered into, as of the _____ day of _____, 194____, by and between the parties hereinafter named or consenting hereto,

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

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

WHEREAS, it is the purpose of the parties hereto to conserve natural resources, prevent avoidable waste, and secure other benefits obtainable through development and operation of the unit area subject to this agreement under and pursuant to the provisions of sections 17, 27, and 32 of the Act of Congress approved February 25, 1920, entitled "An Act to promote the mining of coal, phosphate, oil, oil shale, gas and sodium on the public domain, "41 Stat. 443, 448, 450, as amended or supplemented by the acts of March 4, 1931, 46 Stat. 1523, and August 21, 1935, 49 Stat. 676; 30 U.S.C. 226, 184 and 189;

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Chap. 88, Laws 1943) to consent to or approve this agreement on behalf of the state of New Mexico, insofar as it covers and includes lands and mineral interests of the State of New Mexico; and

WHEREAS, the Oil Conservation Commission of the State of New Mexico is authorized by an Act of the Legislature (Chap. 72, Laws 1935) to approve this agreement and the conservation provisions hereof;

NOW, THEREFORE, for and in consideration of the premises and the promises hereinafter contained, the parties subscribing hereto and the parties consenting hereto agree as follows:

ENABLING ACT
AND
REGULATIONS

1. The act of February 25, 1920, supra, as amended, and all pertinent regulations heretofore and all pertinent and reasonable regulations hereafter issued thereunder, and not inconsistent with the provisions hereof, including operating regulations, are accepted and made a part of this agreement. Likewise, the Act of the Legislature of the State of New Mexico (Chap. 88, Laws 1943) and the Act of the Legislature of the State of New Mexico (Chap. 72, Laws 1935) and all pertinent regulations issued under said acts are hereby accepted and made part of this agreement.

DEFINITIONS

2. For all purposes of this agreement, certain terms used herein are defined as follows:

(a) "Secretary" shall mean the Secretary of the Interior of the United States and those persons or agencies duly authorized to act for and in his behalf.

(b) "Supervisor" shall mean the Oil and Gas Supervisor of the United States Geological Survey and those persons or agencies duly authorized to act for and in his behalf.

(c) "Commissioner" shall mean the Commissioner of Public Lands of the State of New Mexico.

(d) "Commission" shall mean the Oil Conservation Commission of the State of New Mexico and those persons duly authorized to act for and in its behalf.

UNIT AREA

3. The following described lands are hereby designated and recognized as constituting the unit area:

All Sections 25, 26, 35 and 36; E $\frac{1}{2}$ Sec. 27; E $\frac{1}{2}$ Sec. 34, Township 17 South, Range 19 East; All Sections 22 and 23, S $\frac{1}{2}$ Sec. 20, S $\frac{1}{2}$ Sec. 21, All of Sections 26 to 35, inclusive, Township 17 South, Range 20 East; All Sections 1, 2, 3, 10, 11, 12, 14 and 15, Township 18 South, Range 19 East; All Sections 5 and 6, Township 18 South, Range 20 East, N.M.P.M., Chaves County, New Mexico containing 17,462.63 acres, more or less.

The Unit Operator, with the consent of a majority in interest of the Working Interest Owners, and subject to the approval of the Secretary, the Commissioner and the Commission, may enlarge the unit area to include other lands believed to be commercially productive of the unitized substances, or shall, subject to approval of the Secretary, the Commissioner and the Commission, diminish the unit area to exclude lands not in any participating area hereunder believed to be barren of the unitized substances.

Exhibit "A" attached hereto is a map on which is outlined the herein established Unit Area, together with the ownership of the land and leases in said Area. Exhibit "B" attached hereto is a schedule showing the nature and extent of ownership of oil and gas rights in all land in the Unit Area to which this unit agreement will become applicable by signature hereto, or to a counterpart hereof by the owners of such rights, and land so committed to this agreement is hereinafter referred to as "unitized lands" or "land subject to this agreement". Said exhibits shall be revised by the Unit Operator whenever any change in the Unit Area or ownership of rights render such change necessary, and the revised exhibits shall be filed with the record of this agreement.

UNITIZED
SUBSTANCES

4. All oil, gas, natural gasoline, and associated fluid hydrocarbons producible from land subject to this agreement, in any and all sands or horizons, are unitized under the terms of this agreement and hereinafter are called "unitized substances".

UNIT OPERATOR 5. The Magnolia Petroleum Company, a corporation with offices at Dallas, Texas, is hereby designated as Unit Operator and by signature hereto commits to this agreement all interests in unitized substances vested in it as set forth in

the schedule attached hereto marked Exhibit B and agrees and consents to accept the duties and obligations of Unit Operator to conduct and manage the operation of said unit area for the discovery and development of unitized substances as herein provided. Herein whenever reference is made to the Unit Operator, such reference is understood to mean the unit operator acting in that capacity and not as an owner of interests in unitized substances, and whenever reference is made to an owner of unitized substances, such a reference shall be understood to include any interests in unitized substances owned by the Unit Operator.

The Unit Operator shall have the right to resign at any time provided that any well drilled hereunder is placed in a satisfactory condition for suspension, or is satisfactorily abandoned under the Federal Oil and Gas Operating Regulations, if on Federal land, and under the laws of the State of New Mexico, and the rules and regulations of the Commission, if on state or patented land, but no Unit Operator shall so be relieved from the duties and obligations of Unit Operator for a period of three (3) months after notice of intention to relinquish such duties and obligations has been served by him on all other parties ^{hereto} and the Secretary and the Commissioner, unless a new Unit Operator shall have been selected and approved and shall have taken over and assumed the

duties and obligations of the Unit Operator prior to the date on which relinquishment by or removal of Unit Operator becomes effective. The parties hereto or a duly qualified new Unit Operator shall have an option to purchase at its then depreciated market value all or any part of the equipment, material, and appurtenances in or upon the land subject to this agreement, owned and used by the retiring Unit Operator, in its capacity as such operator, or make other arrangements satisfactory to the retiring Unit Operator for the use thereof. Any equipment, material, and appurtenances not so purchased or arranged for as to the use thereof within said time limit and not necessary for the preservation of wells may be removed by the retiring Unit Operator at any time within six (6) months after his relinquishment or removal becomes effective, but if not so removed shall become the joint property of the owners of working interest rights in land then subject to this agreement. The termination of any rights as Unit Operator under this agreement shall not of itself terminate any right, title, or interest which the Unit Operator may then have in the unitized substances, but the Unit Operator shall have the right and option in connection with its resignation to reassign or retransfer to its several predecessors in interest all of its interest in the lands and leases severally acquired from them, together with its working interest in the unitized substances, and upon such delivery be discharged from any future liability as a working interest owner hereunder; said reassignments to be effective as to said transferee thereupon, subject, however, to the approval of the Secretary as to transfers of interest in lands of the United States and subject, however, to the approval of the Commissioner as to interests in lands of the State of New Mexico.

SUCCESSOR
UNIT
OPERATOR

6. Whenever the Unit Operator shall discontinue or relinquish his rights as Unit Operator or shall fail to fulfill his duties and obligations as Unit Operator under this agreement, the owners of the unitized working interests in the participating area on an acreage basis, or the owners of working interests according to their total acreage interest in the unit area until a participating area shall have been established, shall select a new Unit Operator. A majority vote of the working interests so qualified to vote shall be required to select a new Unit Operator, provided that the majority of the working interests rights which are at any time qualified to vote in selecting a new Unit Operator are owned by one party to this agreement then a vote of at least two owners of working interests qualified to vote shall be required to select a new operator. Such selections shall not become effective until (a) a Unit Operator so selected shall agree and consent in writing to accept the duties and responsibilities of Unit Operator, and (b) the selection shall have been approved by the Secretary and the Commissioner. In the absence of the selection of an acceptable Unit Operator by the working interest owners within six (6) months after notice by Unit Operator of intention to relinquish its rights as Unit Operator, this Unit Agreement shall automatically terminate.

The Unit Operator shall be subject to removal by the Working Interest Owners in the same manner as herein provided for the selection of a new Unit Operator.

RIGHTS AND
OBLIGATIONS
OF
UNIT OPERATOR

7. Except as hereinafter specified, the exclusive right, privilege and duty of exercising any and all rights of the parties

signatory hereto which are necessary or convenient for prospecting for, producing, storing, and disposing of the unitized substances are hereby vested in the Unit Operator and shall be exercised by said Unit Operator as provided in this agreement. Acceptable evidence of title to said rights shall be deposited with said Unit Operator and, together with this agreement, shall constitute and define said Unit Operator's rights, privileges, and obligations in the premises; provided, that nothing herein shall be construed to transfer title to any land, or to any operating agreement or leases, it being understood that under and pursuant to this agreement the Unit Operator, in its capacity as Unit Operator shall exercise the rights of possession and use vested in the parties hereto only and exclusively for the purposes herein specified. The Unit Operator shall pay all costs and expenses of operations with respect to the unitized land, and no part thereof shall be charged to the royalty owners. The matter of allocation and handling such costs and expenses is left to private arrangement between the Unit Operator and the other working interest owners. The Unit Operator shall render to the owners of unitized interests entitled thereto an account of the operations on unitized lands during the previous calendar month, shall pay in value or deliver to each party entitled thereto a proportionate and allocated share of the products produced hereunder, and account for all costs and benefits of operations under this agreement in conformity with operating agreements, leases or other independent contracts between the Unit Operator and the parties hereto either collectively or independently.

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

DRILLING
TO
DISCOVERY

8. Within six (6) months from the effective date of this agreement, Unit Operator shall begin to drill an adequate test well at a location upon the Unit Area to be approved by the Supervisor, if such location is upon lands of the United States, and if upon State lands or patented lands, such location shall be approved by the Commission, and having commenced such operations shall thereafter continue drilling diligently to a depth not less than 7000 feet unless oil or gas which can be produced in paying quantities is encountered in said well at a lesser depth or unless, at a lesser depth, an igneous or metamorphic formation or some other condition or formation is encountered which would render further drilling inadvisable or impracticable. If said first well, drilled as aforesaid, fails to encounter the unitized substances, Unit Operator or his successor shall thereupon commence within six (6) months after the completion of the former well, and drill, one at a time, additional wells until a productive well is

completed to the satisfaction of the Supervisor and Commissioner, or until it is reasonably proved that the unitized land is incapable of producing the unitized substances; provided that the Secretary and Commissioner may grant extension of time for the commencement of any such well; and provided further that nothing herein contained shall preclude any Operator from effectively resigning as provided in Section 5 hereof before any obligation to commence a second or subsequent well accrues hereunder, and be relieved of the obligation to commence such well. Upon failure to comply with the drilling requirements of this section the Secretary may, after reasonable notice, declare this unit agreement terminated.

PLAN OF FURTHER DEVELOPMENT AND OPERATION

9. Within sixty (60) days from completion of a well capable of producing the unitized substances as aforesaid, Unit Operator shall submit for the approval of the Supervisor, the Commissioner, and the Commission an acceptable plan of development for the Unit Area, which plan or a subsequent modification thereof, when so approved shall constitute the further drilling and operation obligations of Unit Operator. Reasonable diligence shall be exercised by the Unit Operator in complying with the drilling and producing obligations of the approved plan of development and said plan shall, subject to like approval be modified or supplemented in whole or in part from time to time as may be required to meet changed conditions or to protect the interests of all parties to this agreement and the further obligations of the Unit Operator shall be conformed thereto; provided that in no event shall the operator under any such plan, or otherwise, be under any obligation to drill any well to any formation that does not afford a fair possibility for encountering the unitized substances in paying quantities. Well drilling operations including well completions, producing practices and well abandonments, shall be in accordance with the Plan of Development and Operation. All operations thereunder shall be subject to the approval of the Supervisor as to wells on federal land and by the Commission for wells on state and private land.

During any period when it shall appear that an acceptable plan of development cannot be adopted because of the inability of the Supervisor, the Commissioner and the Commission to agree upon the terms thereof, the Unit Operator may, in accordance with the applicable regulations referred to in Section 1 hereof, proceed with reasonable diligence to drill other wells to determine the limits of production and to develop the productive portion of the unit area, and may and shall operate all productive wells in conformity with good operating practices, and the conservation principles of this agreement.

**PARTICIPATION
AFTER
DISCOVERY**

10. Upon completion of a productive well as aforesaid, Unit Operator shall submit for the approval of the Secretary, the Commissioner and the Commission a schedule of lands based on subdivisions of the public land survey, including all subdivisions one-half or more of the acreage of which is then regarded as reasonably proved to be productive of unitized substances in paying quantities; all land in said schedule, when approved, to constitute a participating area effective as of the date of first production. Said schedule shall set forth the percentage acreage interest of each owner of rights in the participating area thereby established. Such percentage acreage interest shall govern the allocation of production from and after the date the participating area becomes effective. With the approval of the Secretary, Commissioner and the Commission, a separate participating area may be established for any separate deposit of unitized substances or for any group of such deposits. The participating area or areas so established shall be enlarged

from time to time in like manner and subject to like approval whenever such action appears proper as a result of further drilling operations to include additional land then regarded as reasonably proved to be productive in paying quantities, and a new schedule of percentage acreage interests conformable thereto shall thereupon be fixed. The effective date of any such enlargement shall be the first of the month next following the month in which the well is completed which demonstrates the propriety of the enlargement, and any unitized substances theretofore produced from such well shall be allocated to the lease on which the well is drilled. A well shall be deemed completed when equipped and successfully tested for production, all of which shall be done diligently. No land once included in a participating area shall be excluded from such participating area on account of depletion of the unitized substances therefrom, or for any cause save loss of title. It is the intent of this Section that a participating area shall at all times represent as nearly as possible the area known or reasonably estimated to be productive in paying quantities; but, regardless of any increase in the participating area, nothing herein contained shall be construed as requiring any retroactive apportionment of any sums accrued or paid for production obtained prior to the effective date of increase of the participating area.

Until a participating area or areas has or have been established as herein-provided, or in the absence of agreement at any time between the Unit Operator, the Secretary, the Commissioner, and the Commission as to the proper boundaries of a participating area, the portion of all payments affected by such absence of agreement, except the royalties due the United States and the State of New Mexico, may be impounded in a mutually acceptable bank.

ALLOCATION OF
PRODUCTION --
ROYALTIES

11. Except as provided in Section 12, all unitized substances produced under this agreement, except any part thereof used for production and development purposes thereunder, or unavoidably lost, shall be deemed to be produced equally on an acreage basis from the several tracts of land of the participating area, and for the purpose of determining any benefits that accrue on an acreage basis as a result of operations under this agreement, each such tract shall have allocated to it such percentage of said production as its area bears to the said participating area. Unitized substances produced from any participating area and used in conformity with good operating practice under an approved plan of operation for repressuring or cycling in any participating area shall be free from any royalty charge. If Unit Operator introduces gas obtained from sources other than the unitized substances into any participating area hereunder for use in repressuring, stimulation of production or increasing ultimate recovery in conformity with a plan first approved by the Supervisor, the Commissioner and the Commission, a like amount of gas, with due allowance for loss or shrinkage thereof from any cause, may be drawn from the formation into which the gas was introduced, royalty free as to dry gas but not as to the products extracted therefrom, provided that such withdrawal shall be at such time as may be provided in the plan of operation or as may otherwise be consented to by the Supervisor, the Commissioner and the Commission, as conforming to good petroleum engineering practice, and provided further that such right of withdrawal shall terminate on the termination of the unit.

Except as otherwise herein provided, royalties shall be paid or delivered as provided by existing leases or contracts,

at the lease or contract rate upon the unitized substances allocated to the lease or tract. Settlement shall be made on or before the 20th day of each month for the unitized substances produced during the preceding calendar month. Such royalties shall be paid by the party operating the wells, but nothing herein shall operate to relieve the lessees, or any of them, of their obligation to pay rentals and royalties under the terms of their respective leases.

The right is hereby secured to the United States and the State of New Mexico under existing or future laws and regulations to elect to take their respective royalty shares in kind or value.

DEVELOPMENT
OR OPERATION
ON NON-PARTICI-
PATING LAND

12. Any party hereto other than Unit Operator owning or controlling a majority of the working interest rights in

any unitized tract included in the non-participating area having thereon a regular well location in accordance with a well-spacing pattern established under an approved plan of development and operation may drill a well at such location at his own expense, unless within 90 days of receipt of notice from said party of his intention to drill the well Unit Operator elects and commences to drill such well in like manner as other wells are drilled by Unit Operator under this agreement.

If such well is not drilled by Unit Operator and results in production such that the land upon which it is situated may properly be included in a participating area, the party paying the cost of drilling such well shall be reimbursed one hundred fifty percent (150%) of the average cost of drilling similar producing wells in the unitized area, and the well

shall be operated pursuant to the terms of this agreement all as though the well had been drilled by the Unit Operator.

If any well drilled by Unit Operator or by an owner of working interest rights as provided in this section obtains production insufficient to justify inclusion in a participating area of the land on which said well is situated, said owner of working interests at his election, within 30 days of determination of such insufficiency, shall be wholly responsible for and may operate and produce the well at his sole expense and for his sole benefit. If such well was drilled by Unit Operator, said owner of working interests shall pay the Unit Operator a fair salvage-value price for the casing and other equipment left in the well.

Wells drilled at the sole expense of any party other than Unit Operator or produced at his sole expense and for his sole benefit shall be subject to the drilling and producing requirements of this agreement the same as though drilled or produced by Unit Operator; and royalties in amount or value of production from any such well as well as rental charges, if any, shall be paid as specified in the lease affected, unless otherwise authorized in writing by the lessor.

**RENTAL AND
ROYALTY
PAYMENTS**

13. The Unit Operator, on behalf of the respective lessees, shall pay, or at the election of the Secretary of the Interior as to Federal leases and at the election of the Commissioner as to State leases shall deliver in kind, all royalties and shall pay all rentals due the United States and the State of New Mexico respectively, on account of operations by Unit Operator on unitized land and shall distribute the cost

thereof to the appropriate parties conformably with their respective rental and royalty obligations; provided, that nothing herein contained shall operate to relieve the lessees, or any of them, of their obligation to pay rentals and royalties under the terms of their respective leases.

On request of any party, Unit Operator at its election shall pay other royalties on his behalf in accordance with a schedule furnished by him and charge the cost thereof to his account; provided, that Unit Operator shall incur thereby no responsibility to any royalty owner, but such responsibility shall be and remain an obligation of the parties requesting payment thereof.

**GOVERNMENT
ROYALTIES
AND RENTALS**

14. Royalty due the United States on account of unitized Federal land shall be computed as provided in the operating regulations and paid as to all unitized substances on the basis of the amounts thereof allocated to such land as provided herein at the rates specified in the respective Federal leases; provided, that, for leases on which the royalty rate depends on the daily average production per well, said average production for any participating area shall be determined in accordance with the operating regulations as though all the unitized land within the same participating area were a single consolidated lease, and provided that during the period of the national emergency declared by the President May 27, 1941, Proclamation No. 2487, 55 Stat. 1647, upon a determination by the Secretary of the Interior that a new oil or gas field or deposit has been discovered by virtue of a well or wells drilled under this agreement, the royalty on production from such new field or

deposit allocated to Federal land subject to this agreement at the time of such discovery shall, during the 10-year period following the date of such discovery, be paid in value or delivered in kind at a flat rate of 12½ per centum unless a lower rate is prescribed in the lease.

Rental for land of the United States subject to this agreement at the rates specified in the respective Federal leases shall be paid, suspended, or reduced as determined by the Secretary of the Interior, pursuant to applicable law and regulations.

CONSERVATION 15. Operations and production of unitized substances shall be conducted so as to provide for the most economical and efficient recovery of said substances to the end that maximum yield may be obtained without waste, as defined by or pursuant to State or Federal law or regulation; and shall be limited to such production as can be put to beneficial use with adequate realization of fuel and other values.

DRAINAGE 16. Unit Operator shall take appropriate and adequate measures to prevent drainage of unitized substances from unitized land by wells on land not subject to this agreement, or, with the approval of the Secretary as to federal interests and of the Commissioner as to state interests, and at the election of the Unit Operator as to private interests, pay a fair and reasonable compensatory royalty, as determined by the Supervisor as to federal interests, and the Commissioner as to state interests subject to this agreement and by agreement between the Unit Operator and royalty owners, as to private interests.

LEASES AND CON-
TRACTS CONFORMED
TO AGREEMENT

17. The parties hereto or consenting hereto holding interests in leases embracing unitized land of the United States or of the State of New Mexico consent that the Secretary and Commissioner, respectively, may, and said Secretary and Commissioner, by their approval of this agreement, do hereby establish, alter, change or revoke the drilling, producing, and royalty requirements of such leases and the regulations in respect thereto, to conform said requirements to the provisions of this agreement, but otherwise the terms and conditions of said leases shall remain in full force and effect.

Owners and lessors of privately owned lands or of interests therein, including royalty interests, and including their heirs, executors, administrators, successors and assigns, by subscribing or consenting to this agreement, in person or by attorney in fact, do hereby severally agree that the respective leases covering their several lands or interests therein, may be and remain in force and effect for the respective primary terms therein stated, and so long thereafter as oil or gas may be produced therefrom in quantities sufficient to justify the cost of production; and also in the event that any of the land embraced in any such lease is during the primary term of such lease included within a participating area duly selected and approved under this unit plan of development, so that each owner becomes entitled to a share in the proceeds of production from the participating area, payable at the respective lease rates on the production allocated on an acreage basis to the portion of the lease within the participating area, then each such lease is hereby extended, without

further delay rental obligation, as to the land embraced therein which is so included in such participating area, for the full term of this unit plan as herein stated.

The Secretary, Commissioner and, except as otherwise provided in the preceding paragraph of this Section, all parties hereto further determine, agree and consent that during the effective life of this agreement, drilling and producing operations performed by the Unit Operator upon any unitized land will be accepted and deemed to be operations under and for the benefit of all unitized leases subject hereto; that no such lease shall be deemed to expire by reason of failure to produce wells situated on land therein embraced; that if a discovery of a valuable deposit of unitized substances is made anywhere on the unitized land, each such lease in effect on or after the date of such discovery shall be deemed to continue in force and effect as to land in the unit area, as long as unitized substances are produced anywhere on unitized land in paying quantity; that prior to such discovery of unitized substances anywhere on unitized land, the expiration date of each unitized lease embracing lands of the United States shall be the date prescribed in such lease subject to such preferential right to a new lease as may be authorized by law; and the suspension of all operations and production on the unitized land pursuant to direction or consent of said Secretary and Commissioner shall be deemed to constitute such suspension pursuant to such direction or consent with respect to each such lease, and that no lease shall expire on account of such suspension, as to land in the unit area.

The parties hereto or consenting hereto, holding interests in leases subject to this agreement embracing

lands other than those of the United States or of the State of New Mexico or holding interests in any other agreements that involve oil and gas rights in lands in the Unit Area, consent and agree, to the extent of their respective interests, that all such leases and agreements shall conform to the provisions of this agreement.

**COVENANTS
RUN
WITH LAND**

18. The covenants herein run with the land until this agreement terminates, and any grant, transfer or lease of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee, lessee, or other successor in interest and as to federal land, shall be subject to approval by the Secretary, and as to lands of the State of New Mexico, shall be subject to the approval of the Commissioner. No transfer of any interest in and to any of the unitized lands or affecting the production therefrom shall be binding upon the Unit Operator until the first day of the next calendar month after the Unit Operator has been furnished with an original, photostatic or certified copy of the instrument of transfer.

**EFFECTIVE
DATE
AND TERM**

19. This agreement shall become effective on the first day of the calendar month next following approval by the Secretary of the Interior and the Commissioner, provided however that nothing herein shall be construed to waive or limit the right of the Commission to approve this agreement pursuant to applicable state law. Except as otherwise provided as to private leases by the second paragraph of Section 17 hereof, this agreement shall terminate on December 31, 1949, unless (1) such date of

expiration is extended by the Secretary and the Commissioner;
or (2) a valuable discovery of unitized substances has
been made on unitized land, in which case the agreement
shall remain in effect as long as unitized substances can
be produced from the unitized land in paying quantities;
or (3) it is reasonably determined at an earlier date that
the unitized land is incapable of commercial production
of unitized substances, and, with approval of the Secretary
and the Commissioner, notice of termination is given by
Unit Operator to all parties in interest at their last
known address; or (4) it is terminated as provided in
sections 6 or 8 hereof; provided that this agreement may
be terminated at any time by consent of the owners of 75
per centum, on an acreage basis, of the owners of working
interests signatory hereto with the approval of the Secretary
and the Commissioner.

RATE OF PROSPECT-
ING, DEVELOPMENT,
AND PRODUCTION

20. All production and the disposal
thereof, shall be in conformity
with allocations, allotments and quotas made or fixed by
the Commission under any State Statute; provided however
that the Secretary is vested with authority pursuant to
the amendatory acts of Congress of March 4, 1931, and
August 21, 1935, supra, to alter or modify from time to
time in his discretion the rate of prospecting and develop-
ment, and, within the limits made or fixed by the Commission
to modify the quantity and rate of production under this
agreement, such authority being hereby limited to alteration
or modification in the public interest, the purpose thereof

and the public interest to be served thereby to be stated in the order of alteration or modification; provided further that no such alteration or modification shall be effective as to any lands of the State of New Mexico as to the rate of prospecting and development in the absence of the specific written approval thereof by the Commissioner and as to any lands of the State of New Mexico or privately owned lands subject to this agreement as to the quantity and rate of production in the absence of specific written approval thereof by the Commission.

**UNAVOIDABLE
DELAY**

21. All obligations under this agreement requiring Unit Operator to commence or continue drilling or to operate on or produce oil or gas from any of the lands covered by this agreement shall be suspended while, but only as long as, the Unit Operator is prevented from complying with such obligations, in whole or in part, by strikes, lockouts, acts of God, Federal, State or municipal law or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials in open market, or other matters beyond the reasonable control of the Unit Operator whether similar to the matters herein enumerated or not.

**CONFLICT
OF
SUPERVISION**

22. Neither the Unit Operator nor the working Interest Owners nor any of them shall be subject to any forfeiture, termination or expiration of any rights hereunder or under any leases or contracts subject hereto, or to any penalty or liability for delay or failure in whole or in part to comply therewith to the extent that said Unit Operator, Working Interest Owners or any of them are hindered, delayed, or prevented from complying therewith

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

NON-
DISCRIMINATION

23. The Unit Operator expressly agrees that in any and all operations conducted hereunder, it shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin and shall require an identical provision to be included in all subcontracts.

SUBSEQUENT
JOINDER

24. Any person owning rights in the unitized substances within the unit area who does not commit such rights hereto prior to the effective date hereof, may thereafter become parties hereto by subscribing this agreement, and if such parties are working interest owners they shall also subscribe the operating contract and comply with all terms and conditions therein set forth.

COUNTERPARTS

25. This agreement may be executed in any number of counterparts with the same force and effect as if all parties had signed the same document.

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

Date

Date

Date

Date

Date

Date

Date

Date

Date

Date

Date

Date

STATE OF _____)
COUNTY OF _____)

On this _____ day of _____, 194____, before me personally appeared _____, to me known to be the person described in and who executed the foregoing instrument, and acknowledged that _____ he _____ executed the same as _____ free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires _____

Notary Public

STATE OF _____)
COUNTY OF _____)

On this _____ day of _____, 194____, before me personally appeared _____, to me known to be the person described in and who executed the foregoing instrument, and acknowledged that _____ he _____ executed the same as _____ free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires: _____

Notary Public

STATE OF _____)
COUNTY OF _____)

On this _____ day of _____, 194____, before me personally appeared _____, to me known to be the person described in and who executed the foregoing instrument, and acknowledged that _____ he _____ executed the same as _____ free act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate above written.

My commission expires: _____

Notary Public

APPROVAL - CERTIFICATION - DETERMINATION

Pursuant to the Statutory authority in the Secretary of the Interior, under the act approved March 4, 1931, 46 Stat. 1523, and the act approved August 21, 1935, 49 Stat. 674, amending the act approved February 25, 1920, 41 Stat. 437; 30 U. S. C. 226, 184 and 189, in order to secure the proper protection of the public interest,

I, _____, Secretary of the Interior, this ____ day of _____, 19____, hereby take the following action:

- A. Approve the attached agreement for the development and operation of The Black Hills Anticline Unit Area.
- B. Determine and certify that the plan of development and operation contemplated in said agreement is for the purpose of more properly conserving oil or gas resources of said unit area and is necessary or advisable in the public interest.
- C. Certify that each and every lease heretofore or hereafter issued for lands of the United States subject to, or which may hereafter become subject to, said agreement shall be excepted in determining holdings or control under the provisions of any section of the act of Congress approved February 25, 1920, and amendments thereto.

Secretary of the Interior

EXHIBIT "B"

Black Hills Anticline Unit Agreement
Chaves County, New Mexico

Schedule Showing the Nature and Extent of Ownership
of Oil and Gas Rights in All Lands in the Unit Area

FEDERAL LANDS

<u>OWNERSHIP OIL AND GAS LEASES OR APPLICATIONS</u>	<u>NO. OF ACRES</u>	<u>LAS CRUCES SERIAL NUMBER</u>
<u>Robert O. Anderson</u>	151.73	060433
E/2 Sec. 34; W/2, S/2NE/4, SE/4 Sec. 35, T. 17S., R. 19 E., All Sec. 3, T. 18 S., R. 19E.		
<u>Maydeen C. Lackey</u>	2420.19	060486
Lots 1, 2, 3, 4, NW/4, S/2 Sec. 22; All Sec. 23; W/2W/2 Sec. 26; W/2 Sec. 27; Lots 1 to 14, inclusive, Section 34; and Lots 4 and 5 of Sec. 35, Twp. 17 S., R. 20 E.		
<u>J. B. Headley</u>	324.90	063401
Lots 5 to 12, inclusive, Sec. 31, T. 17 S., R. 20 E.		
<u>James Hightower</u>	423.81	061680
Lots 1 and 2, and Lots 9 to 16, inclusive, Sec. 35, T. 17 S., R. 20 E.		
<u>Thomas J. Jackson</u>	40.00	063806
SE/4 NE/4 Sec. 15, T. 18 S., R. 19 E.		
<u>Joe W. Lackey</u>	1691.13	060430
All Sec. 1, T. 18 S., R. 19 E., All Sec. 5, All Sec. 6, T. 18 S., R. 20 E.		

<u>OWNERSHIP OIL AND GAS LEASES OR APPLICATIONS</u>	<u>NO. OF ACRES</u>	<u>LAS CRUCES SERIAL NUMBER</u>
<u>Lowell F. Naylor</u> Lots 3, 6, 7 and 8 Sec. 35, T. 17 S., R. 20 E.; All Sec. 14; 3/2 NW/4, SW/4 NE/4, S/2 Sec. 15, T. 18 S., R. 19 E.	1251.28	060493
<u>Harold U. Everett</u> E/2 Sec. 27, T. 17 S., R. 20 E.	320.00	063673
<u>Margery Frances Orton</u> E/2 W/2, E/2 Sec. 26, T. 17 S., R. 20 E.	480.00	061652
<u>H. J. Steinberger</u> N/2 S/2 Sec. 20, S/2 Sec. 21; All Sec. 28; All Sec. 29; N/2 NE/4 Sec. 30; All Sec. 33, T. 17 S., R. 20 E.	2499.53	060432
<u>Mrs. Dorothy Steinberger</u> NE/4 NW/4, E/2 Sec. 11; All Sec. 12, T. 18 S., R. 19 E.	1000.00	060488
<u>T. C. Stromberg</u> Lots 1, 2, 3, 4, S/2 NE/4, SE/4, E/2 NW/4, E/2 SW/4 Sec. 30; Lots 13 to 20 inclusive, Sec. 31, T. 17 S., R. 20 E; All Sec. 25, All Sec. 26; N/2 NE/4 Section 35, T. 17 S., T. 19 E.	2233.50	060431
<u>Mrs. T. C. Stromberg</u> N/2 NE/4, SE/4 Sec. 27, T. 17 S., R. 19 E.; W/2, E/2 E/2 Section 10; NW/4 NW/4, S/2 NW/4, SW/4, Section 11, T. 18 S., R. 19 E.	1000.00	060485
<u>John E. Cochran, Jr.</u> W/2 E/2 Sec. 10; N/2 N/2 Sec. 15, T. 18 S., R. 19 E.	320.00	064179

STATE LANDS

<u>OWNERSHIP</u> <u>OIL AND GAS LEASES</u>	<u>NO. OF</u> <u>ACRES</u>	<u>SERIAL</u> <u>NUMBER</u>
<u>Herman R. Grile</u>	302.70	B-7046
Lot 3, SE/4 NW/4, E/2 SW/4, SE/4 Sec. 2, T. 18 S., R. 19 E.		
<u>Malco Refineries, Inc.</u>	1382.82	B-11324
3/2 S/2 Sec. 20; E/2, SW/4 SW/4, NE/4 SE/4, SW/4 SE/4 Sec. 32, T. 17 S., R. 20 E.; All Sec. 36, T. 17 S., R. 19 E.; Lot 4, SW/4 NW/4, E/3 SW/4 Sec. 2, T. 18 S., R. 19 E.		
<u>Malco Refineries, Inc.</u>	120.00	B-8976
NE/4 SW/4, NW/4 SE/4, SE/4 SW/4 Sec. 32, T. 17 S., R. 20 E.		
<u>Malco Refineries, Inc.</u>	160.00	B-9543
W/2 NW/4 Sec. 34, T. 17 S., R. 20 E.; 3/2 NE/4 Sec. 27, T. 17 S., R. 19 E.		
<u>Ohio Oil Company</u>	80.00	B-11117
NE/4 SW/4, SE/4 SE/4 Sec. 32, T. 17 S., R. 20 E.		
<u>Intercoast Petroleum Corp.</u>	125.04	B-10102
Lots 1 and 2; 3/2 NE/4 Sec. 2, T. 18 S., R. 19 E.		
 TOTAL	 17,626.62 acres	