

PATRICK H. LYONS
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

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

COMMISSIONER'S OFFICE

Phone (505) 827-5760

Fax (505) 827-5766

www.nmstatelands.org

March 11, 2003

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Jean Hayslip

2002 Plan of Development
North Indian Basin Unit
Eddy County, New Mexico

Dear Ms. Hayslip:

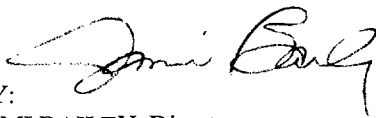
The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

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

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

Very truly yours,

PATRICK H. LYONS
COMMISSIONER OF PUBLIC LANDS

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

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xc: Reader File

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March 11, 2003

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Jean Hayslip

Re: 2003 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Dear Ms. Hayslip:

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

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

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

Very truly yours,

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Fax (505) 827-5766



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

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ROYALTY MANAGEMENT

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SURFACE RESOURCES

Phone (505) 827-5793

Fax (505) 827-5711

January 14, 2002

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Cami Bostick

2002 Plan of Development
North Indian Basin Unit
Eddy County, New Mexico

Dear Ms. Bostick:

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

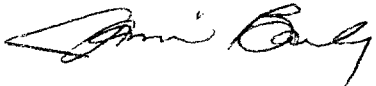
The possibility of drainage by wells outside of the unit area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

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

Very truly yours,

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

BY:


JAMI BAILEY, Director
Oil, Gas and Minerals Division
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**New Mexico State Land Office
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.**

March 11, 2002

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Attention: Ms. Ginny Larke

Re: Indian Hills Unit
Fifth Revision – Upper Pennsylvanian Participating Area
Eddy County, New Mexico

We are in receipt of your letter of January 30, 2002, together with your application for approval of the Fifth Revision to the Upper Pennsylvanian Participating Area for the Indian Hills Unit, Eddy County, New Mexico. The Fifth revision is predicated upon the knowledge and information first obtained from the Indian Hills Unit Well No. 32 located in the SW/4SW/4, Sec. 16-21S-24E, completed on June 23, 2001. It is our understanding that your plans for 2002 will include the drilling of the Indian Hills Unit Well No. 39 in the E/2 of Section 16 and the Indian Hills Unit Well No. 42 in the S/2 of Section 17.

The Commissioner of Public Lands has this date approved the above mentioned participating area effective as follows:

**FIFTH REVISION TO THE UPPER PENNSYLVANIAN PARTICIPATING AREA
Effective June 1, 2001**

WELL	DESCRIPTION	ACRES
IHU Well Nos. 32	All, Sec. 16-21S-24E	640.00
	S/2 Sec. 17-21S-24E	<u>320.00</u>
		960.00

Our approval is subject to like approval by the Bureau of Land Management and the New Mexico Oil Conservation Division.

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

Very truly yours,

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

BY:

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

RP/JB/pm

- pc: Reader File,
- OCD-Attention: Mr. Roy Johnson
- BLM-Attention: Mr. Armando Lopez
- TRD-Attention: Mr. Valdean Severson
- RMD-Attention: Mr. Kurt McFall

COMMISSIONER'S OFFICE

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February 19, 2002

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Ginny Larke

Re: Revised Fifth Revision Application
Indian Hills Unit
Upper Pennsylvanian Participating Area
Eddy County, New Mexico

Dear Ms. Larke:

We are in receipt of your letter of February 11, 2002, regarding the correction to the above-captioned participating area.

Your corrected participating area is hereby accepted, and our files have been updated.

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

Very truly yours,

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

BY: 

PETE MARTINEZ

Oil/Gas and Minerals Division

(505) 827-5791

RP/PM/cpm

xc: Reader File

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APR 30 2003

OIL CONSERVATION
DIVISION

April 29, 2003

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Jean Hayslip

Re: Corrected 2003 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Dear Ms. Hayslip:

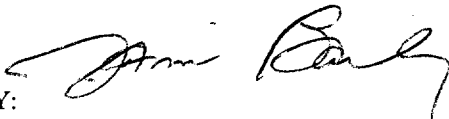
The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

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

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

Very truly yours,

PATRICK H. LYONS
COMMISSIONER OF PUBLIC LANDS



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

PL/JB/cpm
xc: Reader File

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Fax (505) 827-5711

February 19, 2002

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Ginny Larke

Re: Revised Fifth Revision Application
Indian Hills Unit
Upper Pennsylvanian Participating Area
Eddy County, New Mexico

Dear Ms. Larke:


We are in receipt of your letter of February 11, 2002, regarding the correction to the above-captioned participating area.

Your corrected participating area is hereby accepted, and our files have been updated.

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

Very truly yours,

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

BY: 
PETE MARTINEZ
Oil/Gas and Minerals Division
(505) 827-5791

RP/PM/cpm
xc: Reader File

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January 25, 2002

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Attention: Mr. K. W. Tatarzyn

Re: Indian Hills Unit
Second Revision – Lower Pennsylvanian (Morrow) Participating Area
Eddy County, New Mexico

Dear Mr. Tatarzyn:

We are in receipt of your letter of December 14, 2001 together with your application for approval of the Second Revision to the Lower Pennsylvanian (Morrow) Participating Area for the Indian Hills Unit, Eddy County, New Mexico. The Second revision is predicated upon the knowledge and information first obtained from the Indian Hills Unit Well No. 26 on December 5, 2000.

The Commissioner of Public Lands has this date approved the above mentioned participating area effective as follows:

**SECOND REVISION TO THE LOWER PENNSYLVANIAN PARTICIPATING AREA
Effective December 5, 2000**

WELL	DESCRIPTION	ACRES
IHU Well Nos. 25& 30	20-21S-24E	640.00
IHU Well No. 26	21-21S24E	<u>640.00</u>
		1,280.00

Our approval is subject to like approval by the Bureau of Land Management and the New Mexico Oil Conservation Division.

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

Very truly yours,

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

BY:

JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744
RP/JB/pm

pc: Reader File,
OCD-Attention: Mr. Roy Johnson
BLM-Attention: Mr. Armando Lopez
TRD-Attention: Mr. Valdean Severson
RMD-Attention: Mr. Kurt McFall



P.O. Box 552
Midland, TX 79702-0552
Telephone 915/682-1626

February 11, 2002

State of New Mexico
Commissioner of Public Lands
Attn: Pete Martinez
P. O. Box 1148
Santa Fe, New Mexico 87504-1148

Re: Revised Application for Fifth Revision of the Indian Hills Unit Upper Pennsylvanian Participating Area (140800018501, NMNM 70964A, 3180 (06300))

Dear Mr. Martinez:

Pursuant to phone conversations with you and Cecilia Maestas and Alexis Swoboda of the Bureau of Land Management, please find attached revised recommendations for the Indian Hills Unit Upper Pennsylvanian Participating Area and the Indian Hills Unit Lower Pennsylvanian (Morrow) Participating Area. These revised applications correct all discrepancies of the total acreages included in the Tracts that make up the recommended participating areas.

Thank you for your consideration of these revised applications. If you have any questions, please contact me at (915) 687-8321.

Sincerely,

A handwritten signature in cursive script that reads 'Ginny Larke'.

Ginny Larke
Engineer Technician
Indian Basin Asset Team

APPLICATION FOR SECOND REVISION OF PARTICIPATING AREA
LOWER PENNSYLVANIAN (MORROW) PRODUCING ZONE
INDIAN HILLS UNIT AREA
EDDY COUNTY, NEW MEXICO

February 11, 2002

Bureau of Land Management
Attn: Alexis Swoboda
2909 West Second Street
Roswell, New Mexico 88201

Re: Indian Hills Unit, Eddy County, New Mexico
Application for the approval of the second revision
of the Lower Pennsylvanian (Morrow) participating area (AFS #891-008501-A)

Dear Ms. Swoboda:

Marathon Oil Company, as unit operator under the Unit agreement for the development and operation of the Indian Hills Unit (No. 14-08-0001 8501, heretofore approved by the Commissioner of Public Lands, State of New Mexico and by the Acting Director, United States Geological Survey, effective February 20, 1963), pursuant to the provisions of section 11 thereof, respectfully submits for your approval the selection of the following described land to constitute the second revision of the participating area for the Lower Pennsylvanian (Morrow) producing zone or formation, to wit:

Township 21 South, Range 24 East, NMPM
Section 20: All – 631.54 acres
Section 21: All – 618.02 acres

The initial participating area was approved on February 17, 1969 by the Acting Director, United States Geological Survey, effective as of September 25, 1968 and the Commissioner of Public Lands of the State of New Mexico on January 24, 1969. The initial participating area included the following described 640 acres:

Township 21 South, Range 24 East, NMPM
Section 16: All – 640 acres

The first revision was submitted on January 21, 1969, and was approved on January 24, 1969 by the Commissioner of Public Lands, State of New Mexico and was approved on February 17, 1969 by the Acting Director, United States Geological Survey, effective October 1, 1968, The revised participating area then included the following 1280 acres:

Township 21 South, Range 24 East, NMPM
Section 16: All – 640 acres
Section 17: 623.86 acres (excludes SE/4 NW/4)

It is to be noted that the Southeast quarter of the Northwest quarter of Section 17, Township 21 South, Range 24 East, is not committed to the Unit Agreement.

Upon approval of this second revision, the participating area will include the following described 2,513.42 acres:

Township 21 South, Range 24 East, NMPM

Section 16: All – 640 acres
Section 17: All – 623.86 acres
Section 20: All – 631.54 acres
Section 21: All – 618.02 acres

In support of this application, the following numbered items are attached and made a part hereof:

- Exhibit A - #1 & #2 Paying well determinations showing that the wells upon which the participating area is based are capable of producing unitized substances in paying quantities.
- Exhibit B A schedule showing the lands entitled to participation in the unitized substances produced from the Lower Pennsylvanian (Morrow) formation, with the percentage of participation of each lease or tract indicated thereon.
- Exhibit C An ownership map showing thereon the boundary of the unit area, the participating area as established or revised, and the boundary of the proposed revision herein.

Also attached you will find a geological report, in triplicate, with accompanying maps supporting and justifying the proposed selection of lands for inclusion in the second revision of the Lower Pennsylvanian (Morrow) formation participating area.

This proposed second revision of the participating area is predicated upon the knowledge and information first obtained upon completion in paying quantities under the terms of the unit agreement on January 19, 2001, of Marathon Oil Company's Indian Hills Unit well No. 25 in the Southeast quarter of the Northeast quarter of Section 20, Township 21 South, Range 24 East, with an initial production of 3,981 mcf/d from the Lower Pennsylvanian (Morrow) formation at a depth of 9,964'-10,132', Indian Hills Unit well No. 26, completed on December 5, 2000, located in the Northeast quarter of the Northwest quarter of Section 21, Township 21 South, Range 24 East, with an initial production of 1,597 mcf/d from the Lower Pennsylvanian (Morrow) formation at a depth of 10,125'-10,284', and the Indian Hills Unit well No. 30, completed on October 15, 2001, located in the Northwest quarter of the Southwest quarter of Section 20, Township 21 South, Range 24 East, with an initial production of 9,861 mcf/d and 41 bcpd from the Lower Pennsylvanian (Morrow) formation at a depth of 9,866' – 9,982'.

Applicant requests your approval of the above selection of lands to constitute the second revision of the Lower Pennsylvanian (Morrow) formation participating area effective as of December 1, 2000.

Dated this 11th day of February, 2002.

MARATHON OIL COMPANY

By 
K. W. Tatarzyn
Indian Basin Asset Team Manager

EXHIBIT "B"
SECOND REVISION TO THE INDIAN HILLS UNIT
LOWER PENNSYLVANIAN (MORROW) PARTICIPATING AREA
EDDY COUNTY, NEW MEXICO

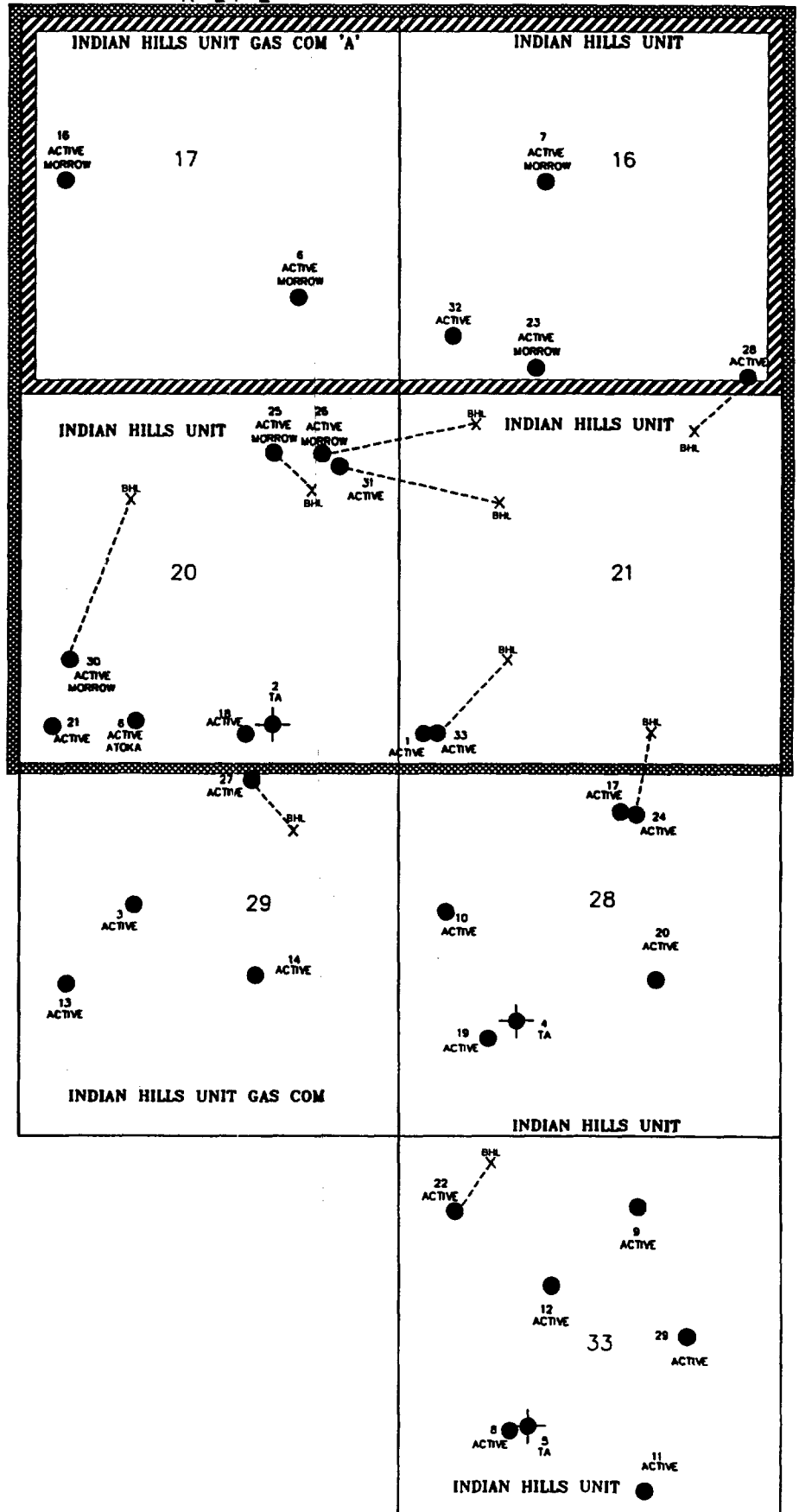
Unit Tract Number	Description of Land	Serial Number	Number of Acres	Basic Royalty & Percentage	Lessee of Record & Percentage	Working Interest & Percentage	Allocation Percentage
FEDERAL LANDS							
T-21-S, R-24-E, NMPIM							
3	All Section 21	NM 07260	618.02	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	24.588807
6	S/2, N/2 NE/4 Section 17	LC 064243-A	423.86	US - 12.5%	Marathon Oil Company	Fasken Oil & Ranch - 60.00000%, Marathon Oil Company - 36.56250%, Brooks Oil & Gas Interests - 1.87500%, Texas Commerce Bank - 0.78125%, Marcella B. Christensen - 0.78125%	16.863875
7	NE/4 NW/4 Section 17	LC 064243-D	40.00	US - 12.5%	Nearburg Prod. Co. - 50.00%, Marathon Oil Company - 37.50%, Lowe Partners - 12.50%	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	1.591457
8	All Section 20	LC 064391-B	631.54	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	25.126720
STATE LANDS							
T-21-S, R-24-E, NMPIM							
10	SE/4 NW/4 Section 17	K 2959	40.00	NM - 12.5%	Marathon Oil Company	(NOT COMMITTED TO UNIT)	0.00000
11	S/2 SW/4, NW/4 SE/4, SE/4 NE/4, SE/4 SE/4 Section 16; SE/4 NE/4 Section 17	OG 6063	240.00	NM - 12.5%	Marathon Oil Company	Section 16: Fasken Oil & Ranch - 61.4375%, Marathon Oil Company - 36.56250%, Brooks Oil & Gas Interests - 2.00000% Section 17: Fasken Oil & Ranch - 60.00000%, Marathon Oil Company - 36.56250%, Brooks Oil & Gas Interests - 1.87500%, Texas Commerce Bank - 0.78125%, Marcella B. Christensen - 0.78125%	9.54874
12	NW/4, W/2 NE/4, NE/4 NE/4, NE/4 SW/4, NE/4 SE/4 Section 16, W/2 NW/4, SW/4 NE/4 Section 17	E 7437	480.00	NM - 12.5%	Marathon Oil Company	Section 16: Fasken Oil & Ranch - 61.4375%, Marathon Oil Company - 36.56250%, Brooks Oil & Gas Interests - 2.00000% Section 17: Fasken Oil & Ranch - 60.00000%, Marathon Oil Company - 36.56250%, Brooks Oil & Gas Interests - 1.87500%, Texas Commerce Bank - 0.78125%, Marcella B. Christensen - 0.78125%	19.09749
13	NW/4 SW/4, SW/4 SE/4 Section 16	E 10169	80.00	NM - 12.5%	Marathon Oil Company	Fasken Oil & Ranch - 60.00000%, Marathon Oil Company - 36.56250%, Brooks Oil & Gas Interests - 1.87500%	3.18291

Summary	
Federal Lands	1,713.42 68.1709%
State Lands	800.00 31.8291%
Fee Lands	0.00 0%
Total	2,513.42 100%

Total 100.00000

EXHIBIT "C"
INDIAN HILLS UNIT
LOWER PENNSYLVANIAN (MORROW) PARTICIPATING AREA
EDDY COUNTY, NEW MEXICO

R-24-E



T-21-S

T-21-S



PROPOSED LOWER PENNSYLVANIAN (MORROW) PARTICIPATING AREA



EXISTING LOWER PENNSYLVANIAN (MORROW) PARTICIPATING AREA

NOT TO SCALE

R-24-E

12/3/01
MORROWPA.DWG
BY: V. L. LARSON

GEOLOGIC AND ENGINEERING REPORT
INDIAN HILLS UNIT
LOWER PENNSYLVANIAN (MORROW) PARTICIPATING AREA
EDDY COUNTY, NEW MEXICO

The second revision to the Lower Pennsylvanian (Morrow) participating area, respectfully requested by this application is predicated upon the completion of the Indian Hills Unit Wells #25, #26, and #30. The development of these Lower Pennsylvanian (Morrow) producers in Sections 20 and 21, Township 21 South, Range 24 East, Eddy County, New Mexico, provide the basis for this request for approval of the revised participating area to include all of Sections 16, 17, 20 and 21, Township 21 South, Range 24 East, Eddy County, New Mexico.

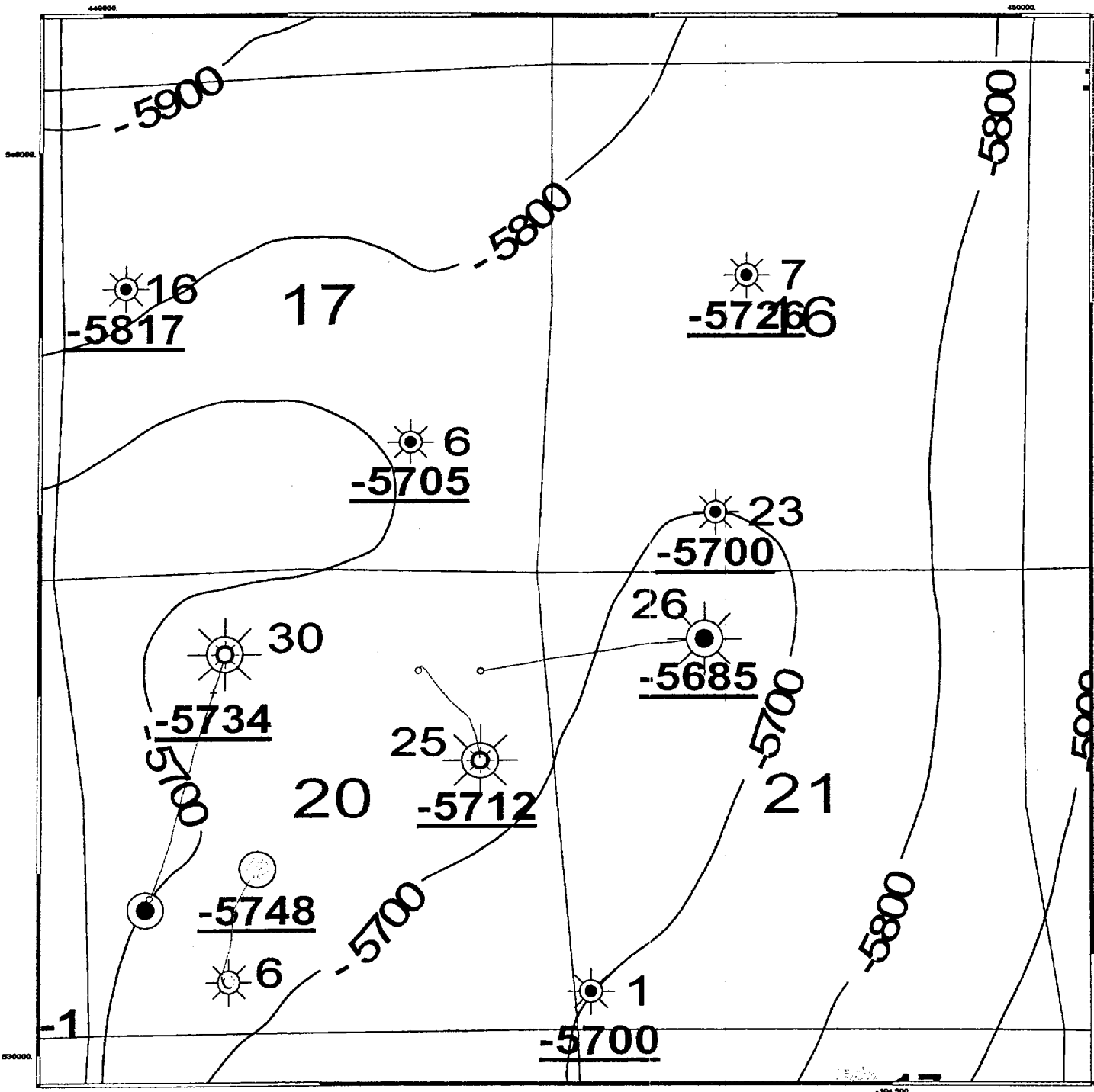
The Indian Hills Unit #26, located in the Northeast quarter of the Northwest quarter of Section 21 was drilled to a total depth of 10,575 feet measured depth. The Morrow was perforated from 10,125 to 10,284 measured depth. The well was completed on December 5, 2000 for 1,597 MCFGPD. On December 9, 2000 the well was fracture stimulated and flowed at 3,045 MCFGPD. The well has produced gross reserves of 1,208,195 MCFG as of December 5, 2001 from 54 feet of gross sand and 50 feet of net porosity greater than or equal to 6%. The subsea structural elevation of the top of the Lower Morrow is -5685 feet true vertical depth (see Attachment 1). The producing zone is the same stratigraphic interval as wells in the first revised participating area in Sections 16 and 17, Township 21 South, Range 24 East, Eddy County, New Mexico.

The Indian Hills Unit #25, located in the Southeast quarter of the Northeast quarter of Section 20, Township 21 South, Range 24 East, Eddy County, New Mexico, was drilled to a total depth of 10,400 feet measured depth. The Morrow was perforated and fracture stimulated from 9,964 to 10,132 feet measured depth. The well was completed on January 19, 2001 for 3,981 MCF from 76 feet of gross sand and 36 feet of net porosity greater than or equal to 6%. The well has produced gross reserves of 279,222 MCFG as of December 5, 2001. The subsea structural elevation of the top of the Lower Morrow is -5712 feet true vertical depth (see Attachment 1). The producing zone is the same stratigraphic interval as wells in the first revised participating area in Sections 16 and 17, Township 21 South, Range 24 East, Eddy County, New Mexico.

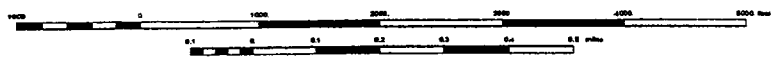
The Indian Hills Unit #30, Section 20, Township 21 South, Range 24 East, Eddy County, New Mexico, was drilled to total depth of 10,760 feet measure depth. The Morrow was perforated from 9,866 to 9,982 feet measured depth. The well was completed on October 16, 2001 for 9,861 MCFGPD from 53 feet of gross sand and 41 feet of net porosity greater than or equal to 6%. The well has produced gross reserves of 359,944 MCFG as of December 5, 2001. The subsea structural elevation of the top of the Lower Morrow is -5734 feet true vertical depth (see Attachment 1). The producing zone is the same stratigraphic interval as wells in the first revised participating area in Section 16 and 17, Township 21 South, Range 24 East, Eddy County, New Mexico.

I. Conclusion

Based on the study of logs and production data, Sections 20 & 21, T-21-S, R-24-E, are reasonably proven to be productive of gas and gas liquids in commercial quantities from the Lower Pennsylvanian (Morrow) formation.



State Plane Coordinate System
 NAD 83
 Zone 18N UTM



Marathon Oil Company		
ATTACHMENT 1 - GEOLOGICAL REPORT SECOND REVISION TO INDIAN HILLS UNIT LOWER PENNSYLVANIAN (MORROW) P. A.		
Grey Leds	1:3000	12/14/2001
	Scale 1:19832.4	MORROWPA.GPJ

-104.500

APPLICATION FOR FIFTH REVISION OF PARTICIPATING AREA
UPPER PENNSYLVANIAN PRODUCING ZONE
INDIAN HILLS UNIT AREA
EDDY COUNTY, NEW MEXICO

February 11, 2002

Bureau of Land Management
Attn: Alexis Swoboda
2909 West Second Street
Roswell, New Mexico 88201

Re: Indian Hills Unit, Eddy County, New Mexico
Application for the approval of the Fifth revision
of the Upper Pennsylvanian participating area

Dear Ms. Swoboda,

Marathon Oil Company, as unit operator under the Unit Agreement for the development and operation of the Indian Hills Unit (No. 14-08-0001 8501, heretofore approved by the Commissioner of Public Lands, State of New Mexico and by the Acting Director, United States Geological Survey, effective February 20, 1963), pursuant to the provisions of section 11 thereof, respectfully submits for your approval the selection of the following described land to constitute the fifth revision of the participating area for the Upper Pennsylvanian producing zone or formation, to wit:

Township 21 South, Range 24 East, NMPM
Section 16: All - 640 acres
Section 17: South ½ - 343.86 acres

The initial participating area was approved on May 3, 1965 by the Acting Director, United States Geological Survey, effective as of June 14, 1963 and the Commissioner of Public Lands of the State of New Mexico on March 15, 1965. The initial participating area included the following described 1,440 acres:

Township 21 South, Range 24 East, NMPM
Section 20: E ½ - 320 acres
Section 21: All - 640 acres
Section 28: N ½ - 320 acres
Section 29: NE ¼ - 160 acres

The first, second, third and fourth revisions were submitted on March 11, 1966, and were approved on March 21, 1966 by the Commissioner of Public Lands, State of New Mexico and were approved on April 14, 1966 by the Acting Director, United States Geological Survey, first revision effective January 1, 1964, second revision effective February 1, 1964, third revision effective July 1, 1964 and fourth revision effective December 1, 1965. The revised participating area then included the following 3,200 acres:

Township 21 South, Range 24 East, NMPM
Section 20: All - 640 acres
Section 21: All - 640 acres
Section 28: All - 640 acres
Section 29: All - 640 acres
Section 33: All - 640 acres

Upon approval of this fifth revision the participating area will include the following described 4233.66 acres:

Township 21 South, Range 24 East, NMPM

Section 16: All – 640 acres
Section 17: South ½ – 343.86 acres
Section 20: All – 631.54 acres
Section 21: All – 618.02 acres
Section 28: All – 640 acres
Section 29: All – 677.35 acres
Section 33: All – 682.89 acres

In support of this application, the following numbered items are attached and made a part hereof:

- Exhibit A A paying well determination showing that the well upon which the participating area is based is capable of producing unitized substances in paying quantities.
- Exhibit B A schedule showing the lands entitled to participation in the unitized substances produced from the Upper Pennsylvanian formation, with the percentage of participation of each lease or tract indicated thereon.
- Exhibit C An ownership map showing thereon the boundary of the unit area, the participating area as established or revised, and the boundary of the proposed revision herein.

Also attached you will find a geological report, in triplicate, with accompanying maps supporting and justifying the proposed selection of lands for inclusion in the fifth revision of the Upper Pennsylvanian formation participating area.

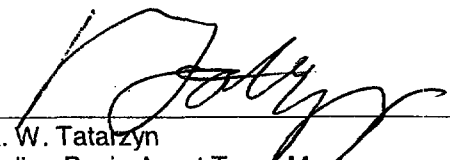
This proposed fifth revision of the participating area is predicated upon the knowledge and information first obtained upon completion in paying quantities under the terms of the unit agreement on June 23, 2001, of unit well No. 32 in the Southwest quarter of the Southwest quarter of Section 16, Township 21 South, Range 24 East, with an initial production of 14,839 mcf/d from the Upper Pennsylvanian formation at a depth of 7870'-8360'.

Applicant requests your approval of the above selection of lands to constitute the fifth revision of the Upper Pennsylvanian formation participating area effective as of June 1, 2001.

Dated this 11th day of February, 2002.

MARATHON OIL COMPANY

By _____


K. W. Tatarzyn
Indian Basin Asset Team Manager

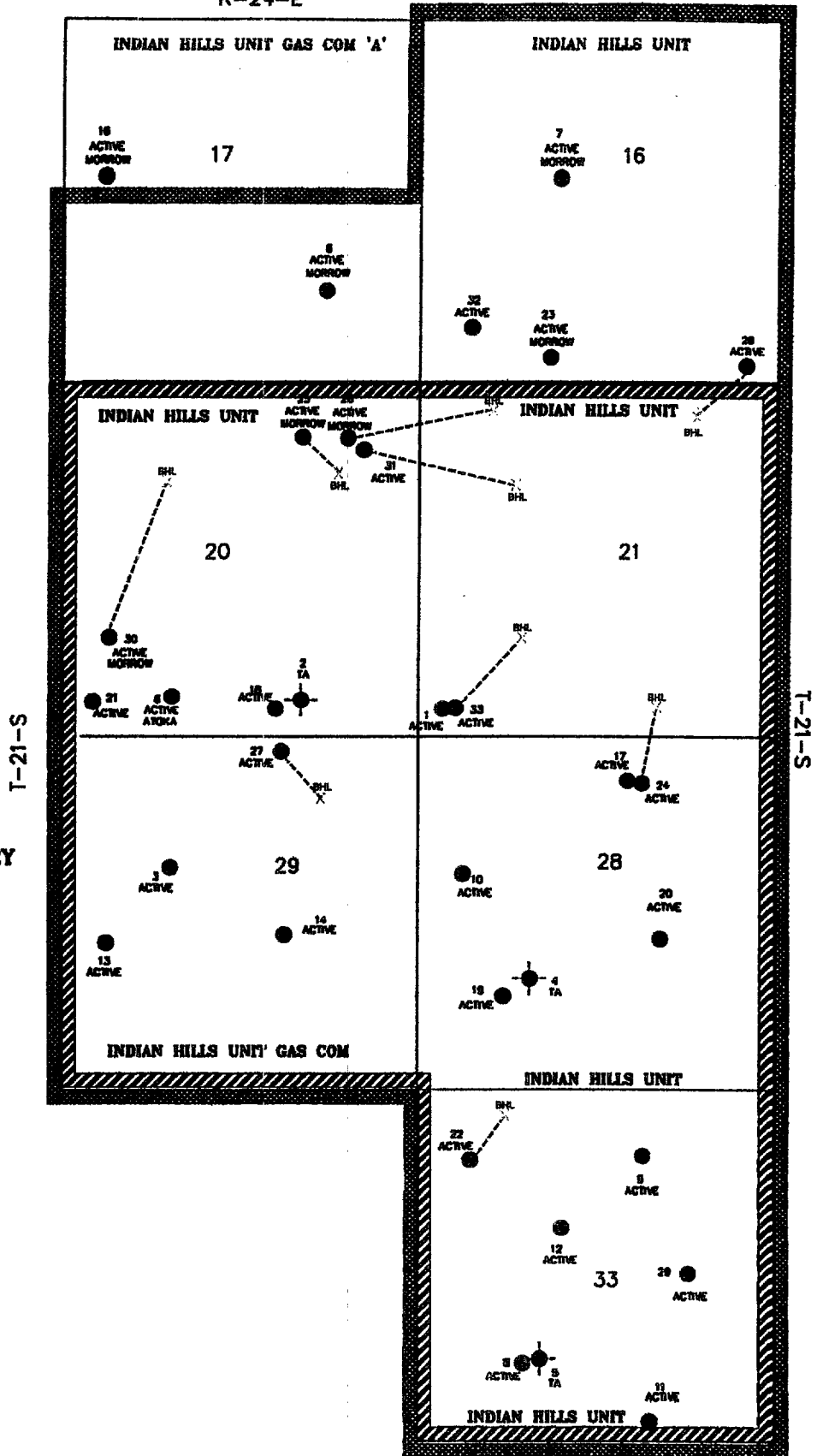
xc: Pete Martinez
State of New Mexico
Office of Commissioner of Public Lands

EXHIBIT "B"
FIFTH REVISION TO THE INDIAN HILLS UNIT
UPPER PENNSYLVANIAN PARTICIPATING AREA
EDDY COUNTY, NEW MEXICO

Unit Tract Number	Description of Land	Serial Number	Number of Acres	Basic Royalty & Percentage	Lessee of Record & Percentage	Working Interest & Percentage	Allocation Percentage
FEDERAL LANDS							
T-21-S, R-24-E, NMPM							
1	NW/4, S/2 NE/4, NW/4 NE/4 Section 28	NM 06293	280.00	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	6.61366%
2	NE/4 NE/4 Section 28	NM 06293-A	40.00	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	0.94481%
3	All of Section 21 and S/2, NW/4, S/2 NE/4, NW/4 NE/4 Section 33	NM 07260	1,258.10	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	29.71660%
4	S/2 Section 28	NM 030482	320.00	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	7.55847%
5	SE/4 SE/4 Section 29	NM 0330449	42.53	US - 12.5%	Devon Energy Corp.	Marathon Oil Company - 93.32385%, Claremont Corp. - 1.40937%, TX Independent Explor. - 1.28128%, Devon Energy Corp. - 1.15313%, Nolan Brunson, Jr. - 0.56250%, Nearburg Exploration - 0.42615, Tandem Energy Corp. - 1.28125%, Hugh Haniagan - 0.28125%, Hanagan Properties - 0.28125%	1.00457%
6	S/2 Section 17	LC 064243-A	343.86	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	8.12205%
8	All Section 20 and N/2, SW/4, N/2 SE/4, SW/4 SE/4 Section 29	LC 064391-B	1,266.36	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	29.91171%
9	NE/4 NE/4 Section 33	LC 067649-A	42.81	US - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	1.01118%
STATE LANDS							
T-21-S, R-24-E, NMPM							
11	S/2 SW/4, NW/4 SE/4, SE/4 SE/4, SE/4 NE/4 Section 16	OG 6063	200.00	NM - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	4.72404%
12	NE/4 SE/4, NE/4 SW/4, NW/4, N/2 NE/4, SW/4 NE/4 Section 16	E 7437	360.00	NM - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	8.50328%
13	NW/4 SW/4, SW/4 SE/4 Section 16	E 10169	80.00	NM - 12.5%	Marathon Oil Company	Marathon Oil Company - 99.54544%, Nearburg Producing Co. - 0.45456%	1.88962%
Summary							Total
Federal Lands		3,593.66	84.8831%				
State Lands		640.00	15.1169%				
Fee Lands		0.00	0%				
Total		4,233.66	100%				

EXHIBIT "C"
INDIAN HILLS UNIT
UPPER PENNSYLVANIAN PARTICIPATING AREA
EDDY COUNTY, NEW MEXICO

R-24-E



T-21-S

T-21-S

INDIAN HILLS UNIT BOUNDARY



PROPOSED UPPER PENNSYLVANIAN PARTICIPATING AREA



EXISTING UPPER PENNSYLVANIAN PARTICIPATING AREA

NOT TO SCALE

R-24-E

1/20/88
 LITHOLOGY
 BY: GERRY LARKE

GEOLOGIC AND ENGINEERING REPORT
INDIAN HILLS UNIT
UPPER PENNSYLVANIAN PARTICIPATING AREA
EDDY COUNTY, NEW MEXICO

The fifth revision to the Upper Pennsylvanian participating area respectfully requested by this application is predicated upon the completion of Indian Hills Unit Well #32, located in the SW/4 of the SW/4 of section 16, Township 21 South, Range 24 East, Eddy County, New Mexico. The information available as of December 1, 2001 as shown in the attached geological and engineering report reasonably proves that the entire acreage within the proposed fifth revision to the initial Indian Hills Unit Upper Pennsylvanian participating area, as requested, to be productive of unitized substances in paying quantities from this formation.

For the reasons given above, and on the basis of information available as of December 1, 2001, it is reasonable to include all of the following described land in the Upper Pennsylvanian participating area:

Township 21 South, Range 24 East, N.M.P.M.

Section 16: All- 640 acres
Section 17: South ½ - 343.86 acres
Section 20: All- 631.54 acres
Section 21: All- 618.02 acres
Section 28: All- 640 acres
Section 29: All- 677.35 acres
Section 33: All- 682.89 acres

It is respectfully submitted that all of such lands above described and so included were reasonably proved as of the respective dates to be within the productive area of the structure. This determination is adequately supported by the information contained in the attached revised geologic and engineering report.

This geological report includes information about the successful well (Indian Hills Unit #32) that supports the requested extension of the participating area in all of section 16 and the southern half of sections 17.

Geological Report

Indian Basin is a combined structural and stratigraphic trap. The original oil water contact is at an elevation of -4100 feet subsea and the stratigraphic trap is provided by a facies change between the porous and productive dolomite in East Indian Basin and the tight and unproductive surrounding limestone (see Attachment 1). Based on subsurface data (well logs), the northern limit of the Cisco dolomitic reservoir (economic reservoir) shown on the attached map crosses both section 16 and 17.

The map indicates that 68% of section 16 and only 38% section 17, located in the southern half of section 17, is expected to be productive in the Cisco and thus considered to be economic for an Upper Pennsylvanian well.

All of Section 16

Indian Hills Unit Well No. 32 was drilled in March of 2001 as a step out well. The well, located 1293' FSL and 660' FWL, encountered close to 500' of Upper Pennsylvanian Cisco Canyon dolomite reservoir of which a 350' thick section is above the oil water contact. The well IP'ed at 1000 bopd and 14 mmcf/d and is presently producing 460 bopd and 7.6 mmcf/d. The reservoir produces from the same structure, the East Indian Basin structure, (see Attachment 1), as the Upper Pennsylvanian wells located in the present participating area. The success of Indian Hills Unit Well No. 32 indicates that section 16 is productive of unitized substances in paying quantities from the Upper Pennsylvanian Formation.

South Half of Section 17

The success of Indian Hills Unit Well No. 32 high graded the hydrocarbon reserves in the southern half of section 17 by pushing the dolomite facies (reservoir) slightly to the north (see Attachment 1). Drilling and log data from the 2 wells drilled in the southern half of section 17 were revisited (Indian Hills Unit Gas Com "A" #6 and Indian Hills Unit #15). Data (listed below) indicated that the wells, despite being classified respectively as Morrow producer and dry hole, penetrated the northernmost portion of the Cisco-Canyon Upper Pennsylvanian reservoir.

Data indicating that Indian Hills Unit Gas Com "A" #6 (spud date of 1-18-1967) penetrated the Upper Pennsylvanian reservoir are listed below:

- Logs and mudlogs indicate that the well penetrated 40' of dolomite with porosity up to 16%.
- 2 DST in just the top 30' (7945' to 7975') of the Cisco limestone recovered gas to surface and 4200' of gas cut mud.
- However, the well was never completed in the Upper Pennsylvanian but instead was deepened into the Morrow where it resulted in a calculated open flow of 34 mmcf/d. It is clear that some Upper Pennsylvanian potential remains untested in this well.

Data indicating that Indian Hills Unit #15 (spud date of 09-03-1997) penetrated the Upper Pennsylvanian reservoir are listed below:

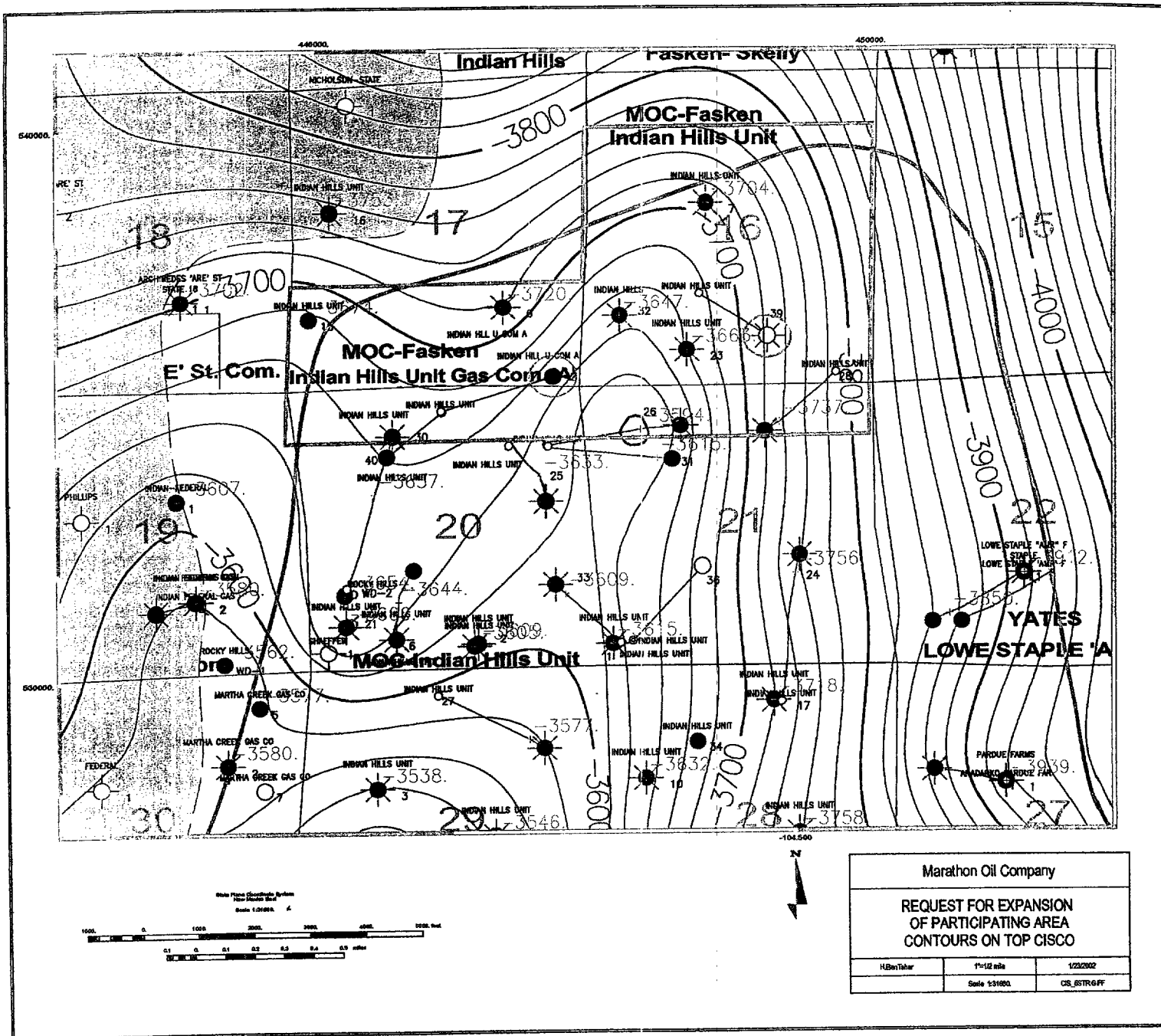
- The well lost all returns at top Upper Pennsylvanian Canyon Formation. Typically in Indian Basin, macro porosity (vugular or fracture systems) responsible for total loss of circulation are present in the dolomite reservoir facies.
- Limestone in the overlying Cisco was described in the mudlog as dolomitic, indicating reservoir potential.
- However, the well was "Junked and Abandoned" after losing circulation, and some Canyon potential remains untested in this well.

It is clear that the northern half of section 17 should not be included to be productive of unitized substances in paying quantities from the Upper Pennsylvanian Formation as attested by Indian Hills Unit Well No. 16 well data. Electric logs and mudlogs from this well indicated no dolomite reservoir and no porosity development in the Upper Pennsylvanian section.

On January 23, 2002, John Simitz, from the BLM, called Hedi BenTahar, the Marathon Geologist for the Indian Basin Field, to discuss the northern extension of the reservoir in section 17. The discussion included a review of log data in the surrounding wells and a summary of the evidence for the northern half of section 17 as being non-productive (poor economics) in the Upper Pennsylvanian. The discussion also included some examples in the field where the lateral transition from dolomite reservoir to limestone non-reservoir was rather abrupt. John asked about Marathon's plans to drill in both sections. Hedi pointed out that 2 wells were scheduled for 2002: Indian Hills Unit Well No. 39 in section 16 and Indian Hills Unit Well No. 42 in the southeast corner of section 17 where the reservoir risk is expected to be minimal.

Attachment 1

Geologic and Engineering Report INDIAN HILLS UNIT Upper Pennsylvanian Participating Area Eddy County, New Mexico



COMMISSIONER'S OFFICE

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Fax (505) 827-5766

ADMINISTRATION

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Fax (505) 827-5853

GENERAL COUNSEL

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

PUBLIC AFFAIRS

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



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

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Fax (505) 827-6157

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Fax (505) 827-4739

ROYALTY MANAGEMENT

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

SURFACE RESOURCES

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

January 25, 2002

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Attention: Mr. K. W. Tatarzyn

Re: Indian Hills Unit
Second Revision – Lower Pennsylvanian (Morrow) Participating Area
Eddy County, New Mexico

Dear Mr. Tatarzyn:

We are in receipt of your letter of December 14, 2001 together with your application for approval of the Second Revision to the Lower Pennsylvanian (Morrow) Participating Area for the Indian Hills Unit, Eddy County, New Mexico. The Second revision is predicated upon the knowledge and information first obtained from the Indian Hills Unit Well No. 26 on December 5, 2000.

The Commissioner of Public Lands has this date approved the above mentioned participating area effective as follows:

**SECOND REVISION TO THE LOWER PENNSYLVANIAN PARTICIPATING AREA
Effective December 5, 2000**

WELL	DESCRIPTION	ACRES
IHU Well Nos. 25& 30	20-21S-24E	640.00
IHU Well No. 26	21-21S24E	640.00
		1,280.00

Our approval is subject to like approval by the Bureau of Land Management and the New Mexico Oil Conservation Division.

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

Very truly yours,

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

BY:

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

RP/JB/pm

pc: Reader File,
OCD-Attention: Mr. Roy Johnson
BLM-Attention: Mr. Armando Lopez
TRD-Attention: Mr. Valdean Severson
RMD-Attention: Mr. Kurt McFall

COMMISSIONER'S OFFICE

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

January 25, 2002

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Attention: Mr. K. W. Tatarzyn

Re: Indian Hills Unit
Fifth Revision – Upper Pennsylvanian Participating Area
Eddy County, New Mexico

Dear Mr. Tatarzyn:

We are in receipt of your letter of December 14, 2001 together with your application for approval of the Fifth Revision to the Upper Pennsylvanian Participating Area for the Indian Hills Unit, Eddy County, New Mexico.

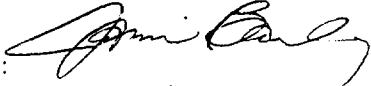
We concur with your determination that the Indian Hills Unit Well No. 32 is a paying well in the Upper Pennsylvanian formation.

We regret to inform you that we do not feel that the S/2 of Section 16, and the S/2 of Section 17, Township 21 South, Range 24 East are appropriate for the fifth revision to the Upper Pennsylvanian Participating Area at this time. Since the NMOCD well spacing for the Indian Hills Unit Well No. 32 is the W/2 of Section 16, for this pool, we recommend that only the W/2 of Section 16, Township 21 South, Range 24 East be included in the fifth expansion at this time.

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

Very truly yours,

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

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

pc: Reader File,
OCD-Attention: Mr. Roy Johnson
BLM-Attention: Mr. Armando Lopez
TRD-Attention: Mr. Valdean Severson
RMD-Attention: Mr. Kurt McFall

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#2748

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

January 14, 2001

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Cami Bostick

Re: 2002 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Dear Ms. Bostick:

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

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

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

Very truly yours,

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

A handwritten signature in black ink, appearing to read "Jami Bailey".

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

RP/JB/cpm
xc: Reader File

OCD

BLM

2748



State of New Mexico
Commissioner of Public Lands

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

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

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

February 4, 1998

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Debbie Reese

Re: 1998 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Dear Ms. Reese:

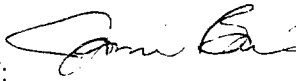
The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

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

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

Very truly yours,

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

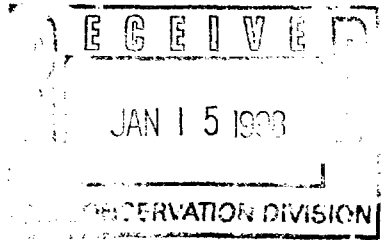
BY: 
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
xc: Reader File

OCD

BLM

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State of New Mexico
Commissioner of Public Lands

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

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

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

January 14, 1998

Fasken Oil & Ranch, Ltd.
303 West Wall Avenue
Suite 1900
Midland, Texas 79701

Attn: Ms. Sally M. Kvasnicka

Re: First Amendment
1997 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Dear Ms. Kvasnicka:


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

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

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

Very truly yours,

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

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

RP/JB/cpm
xc: Reader File

OCD

BLM



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PLANNING
(505)-827-5752

State of New Mexico
Commissioner of Public Lands

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

January 29, 1997

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Debbie Reese

Re: 1997 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Dear Ms. Reese:


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

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

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

Very truly yours,

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

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

RP/JB/cpm
cc: Reader File

OCD

BLM



Oil and Gas Division
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SURFACE RESOURCES
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MINERAL RESOURCES
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ROYALTY
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State of New Mexico
Commissioner of Public Lands
 Ray Powell, M.S., D.V.M.
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 (505)-827-5765
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 (505)-827-5700
LEGAL
 (505)-827-5713
PLANNING
 (505)-827-5752

January 9, 1997

Marathon Oil Company
 P.O. Box 552
 Midland, Texas 79702-0552

Attn: Ms. Debbie Reese

Re: 1997 Plan of Development
 Indian Hills Unit
 Eddy County, New Mexico

Dear Ms. Reese:

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

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

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

Very truly yours,

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

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

RP/JB/cpm
 cc: Reader File

OCD-Roy Johnson

BLM



2748

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

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL P.O. BOX 1148

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

January 26, 1996

SANTA FE, NEW MEXICO 87504-1148

Marathon Oil Company
Post Office Box 552
Midland, Texas 79702-0552

Attn: Mr. Richard E. Pollard

Re: 1996 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Dear Mr. Pollard:

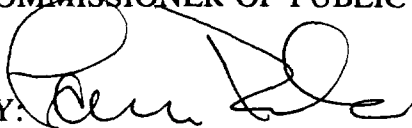
The Commissioner of Public Lands has this date approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

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

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

Very truly yours,

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

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

JAN 29 1996

RP/LK/cpm
Enclosure

cc: Reader File

OCD ✓

TRD

BLM



2748

State of New Mexico
Commissioner of Public Lands

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

310 OLD SANTA FE TRAIL P.O. BOX 1148

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

SANTA FE, NEW MEXICO 87504-1148

SLO REF NO. OG-1335

January 3, 1994

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

Attn: Ms. Debbie Reese

Re: 1994 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Gentlemen:

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

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

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

Very truly yours,

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

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

RBP/FOP/pm

cc: OCD-Roy Johnson
BLM



JIM BACA
COMMISSIONER

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

#2748

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

SLO REF NO. OG-1183

September 28, 1992

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702

Attn: Debbie Reese

Re: 1992 (Twenty-ninth) Plan of Development
North Indian Basin Unit
Eddy County, New Mexico

Gentlemen:

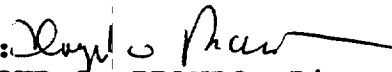
The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

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

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

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

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

JB/FOP/pm
cc: OCD
BLM



JIM BACA
COMMISSIONER

State of New Mexico

OFFICE OF THE

Commissioner of Public Lands

Santa Fe

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

August 4, 1992

Fasken Oil and Ranch Interests
303 West Wall Avenue, Suite 1900
Midland, Texas 79701-5116

Attn: Ms. Sally M. Kvasnicka

Re: Approval of Designation of Sub-Operator

Dear Ms. Kvasnicka:

This office has received and reviewed your designation of sub-operator in which your company has agreed to assume all the rights, duties and obligations as the unit operator for the Upper and Lower Pennsylvanian Formations in the Indian Hills Unit. We are also in receipt of the required Surface Improvement Damage Bond for State Trust Lands.

Please be advised that the Commissioner of Public Lands has this date approved your company as the sub-operator of the Pennsylvanian Formations in the Indian Hills Unit. Your company is now responsible for reporting all unit operations and production for which they are designated as sub-operators including existing production from the Pennsylvanian Participating Areas. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

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

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando* for FOP
FLOYD O. PRANDO, Director
Oil/Gas and Minerals Division
(505) 827-5744
JB/FOP/pm
encls.

cc: Reader File

BLM
OCID



JIM BACA
COMMISSIONER

State of New Mexico

OFFICE OF THE

Commissioner of Public Lands

Santa Fe

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

SLO REF NO. OG-1167

June 26, 1992

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Attn: Ms. Debbie Reese

Re: 1992 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Gentlemen:

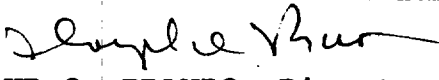
The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

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

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

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

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

JB/FOP/pm
cc: OCD
BLM



JIM BACA
COMMISSIONER

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

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

April 13, 1992

CERTIFIED MAIL # 173 - RETURN RECEIPT REQUESTED

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Attn: Land Department

Re: Indian Hills Unit, Eddy County, New Mexico
Operation of the Indian Hills Unit Well No. 7-F

RECEIVED

APR 13 1992

OIL CONSERVATION DIVISION

Gentlemen:

Our records reflect that Marathon Oil Company is the current operator of record for the Indian Hills Unit area, Eddy County, New Mexico.


It has been brought to our attention that Barbara Fasken is operating and reporting production for the Indian Hills Unit Well No. 7 located in the SW/4NW/4 of Section 16, Township 21 South, Range 24 East, Eddy County, NM. Since this well is a "unit well" within the Lower Pennsylvanian Participating Area, Marathon Oil Company is responsible for all operations and reporting of all production from this well.

Please be advised that you have 60 days from receipt of this letter to take over all operations and reporting of production from this well. As an alternative, you may request approval of Barbara Fasken as Sub-Operator for the Lower Pennsylvanian Participating Area. In the case of any default on the part of the Sub-Operator, Marathon Oil Company will still be the responsible party under the terms of the unit agreement.

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

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil/Gas and Minerals Division
(505) 827-5744
JB/FOP/pm
encls.
cc: Reader File
OCD

#2748

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

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

October 5, 1990

Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Attn: Debbie Reese

Re: Indian Hills Unit
Eddy County, New Mexico
1990 Plan of Development

Dear Ms. Reese:

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

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

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

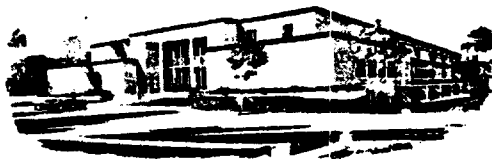
Sincerely,

W. R. HUMPHRIES
Floyd O. Prando

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

cc: OCD
Unit Corresp.
Unit POD

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

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

June 27, 1990

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702

ATTN: Ms. Debbie Reese

RE: Indian Hills Unit
1990 Plan of Development

Gentlemen:

The Commissioner of Public Lands has this date approved the 1990 Plan of Development for the Indian Hills Unit. Our approval is subject to like approval by all other appropriate agencies.

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

Enclosed is an approved copy of the 1990 Plan of Development for your files. If we may be of further help, please do not hesitate to contact this office at (505) 827-5746.

Very truly yours,

W.R. HUMPHRIES,
COMMISSIONER OF PUBLIC LANDS

BY:

Floyd O. Prando by BS

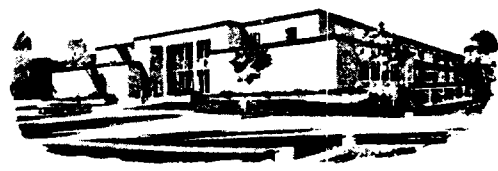
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5746

cc: **OCD** - Santa Fe, New Mexico
BLM
Unit Correspondence File
Unit P.O.D. File

WRH/FOP/bs

#2748

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

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

November 27, 1989

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702

ATTN: Mr. Steve Daniels

RE: Commercial Well Determination
~~Indian Hills Unit Well No. 1~~

Gentlemen:

We received your letter, dated October 17, 1989, and enclosed information regarding your determination that the above captioned well is not commercial and should not be included in the Indian Hills Unit Lower Pennsylvanian Participating Area.

Please be advised that the Commissioner of Public Lands concurs with your determination that this well is not commercial and should not be included in the Indian Hills Unit Pennsylvanian Participating Area.

If you have any questions, please contact Susan Howarth at (505) 827-5791.

Very truly yours,

W. R. HUMPHRIES,
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5749

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

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

November 27, 1989

Marathon Oil Company
P.O. Box 552
Midland, Texas 79702

ATTN: Mr. Steve Daniels

RE: Commercial Well Determination
~~XXXXXXXXXXXX~~ Well No. 6

Gentlemen:

We received your letter, dated October 17, 1989, and enclosed information regarding your determination that the above captioned well is not commercial and should not be included in the Indian Hills Unit Lower Pennsylvanian Participating Area.

Please be advised that the Commissioner of Public Lands concurs with your determination that this well is not commercial and should not be included in the Indian Hills Unit Pennsylvanian Participating Area.

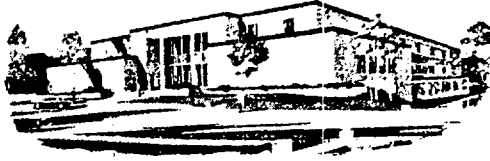
If you have any questions, please contact Susan Howarth at (505) 827-5791.

Very truly yours,

W. R. HUMPHRIES,
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5749

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

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

SLO REF NO. OG-1014

February 7, 1989

Marathon Oil Company
Attn: Mr. S. C. Schraub
P. O. Box 552
Midland, Texas 79702

#2748

Re: 1989 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development.

Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

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

cc: OCD
BLM



JIM BACA
COMMISSIONER

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

2748

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

December 11, 1986

Marathon Oil Company
ATTENTION: Mr. S. C. Schraub
P. O. Box 552
Midland, Texas 79702

23rd Plan of Development and
Operation for the Indian Hills
Unit, Eddy County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved your Twenty-third Plan of Development and Operation for the Indian Hills Unit Area Eddy County, New Mexico, covering the period from January 1, 1987 to January 1, 1988. Such plan calls for the drilling of no wells.

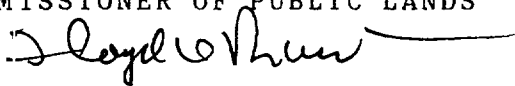
Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

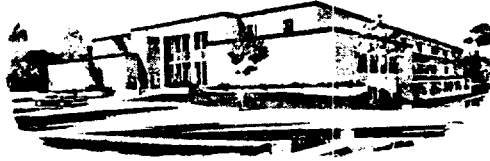
BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

JB/FOP/pm
encls.

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

State of New Mexico

#2748



JIM BACA
COMMISSIONER

Commissioner of Public Lands

January 3, 1986

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Re: 1986 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. John P. Duddleston

Gentlemen:

The Commissioner of Public Lands has this date approved your Twenty-Second Plan of Development and Operation for the Indian Hills Unit area, Eddy County, New Mexico. Such plan calls for no further drilling operations but will continue to study and evaluate the geology, engineering, and production data applicable to the unit area. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

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

JB/RDG/pm
encls.

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

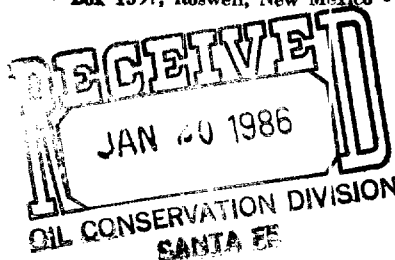


United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Box 1397, Roswell, New Mexico - 88201

14-08-0001-8501
3180 (065)



JAN 16 1986

Marathon Oil Company
Attention: Mr. John P. Duddleston
P. O. Box 552
Midland, Texas 79702

Re: 1986 Plan of Development (Twenty-Second),
Indian Hills Unit, Eddy County, New Mexico

Gentlemen:

Enclosed is an approved copy of your 1986 Plan of Development (Twenty-Second) for the Indian Hills Unit, Eddy County, New Mexico.

Such plan proposes no further drilling operations, although the geology, engineering, and production data applicable to the unit area and the immediate surrounding area will continue to be studied and evaluated.

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

Sincerely,

S/Frieda Hunley

FOR: Francis R. Cherry, Jr.
District Manager

cc:

Commissioner of Public Lands, Santa Fe

✓ NMOCD, Santa Fe

CRA

NMSO, Micrographics (943B-4)



United States Department of the Interior

IN REPLY REFER TO

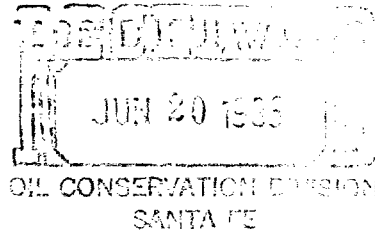
BUREAU OF LAND MANAGEMENT

Box 1397, Roswell, New Mexico - 88201

14-08-0001-8501

3180(060)

June 17, 1985



#2740

Marathon Oil Company
Attention: John P. Duddleston
P.O. Box 552
Midland, TX 79702

Re: 1985 Plan of Development, (Twenty-First)
Indian Hills Unit, Eddy County, New Mexico

Gentlemen:

Enclosed is an approved copy of your 1985 Plan of Development (Twenty-First) for the Indian Hills Unit, Eddy County, New Mexico.

Such plan proposes no drilling or recompletion activities and is hereby approved effective as of January 1, 1985.

Sincerely,

Orig. Sgd. David L. Marl

FOR Francis R. Cherry, Jr.
District Manager

cc:

Commissioner of Public Lands, Santa Fe

/NMOCD, Santa Fe



United States Department of the Interior

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

2748

IN REPLY
REFER TO:

14-08-0001-8501 (060)

March 21, 1985

Marathon Oil Company
Attention: John P. Duddleston
P.O. Box 552
Midland, Texas 79702

RE: 1985 Plan of Development
(Twenty-First)
Indian Hills Unit
Eddy County, New Mexico

Gentlemen:

We are in receipt of your letter dated December 12, 1984 which describes your 1985 Plan of Development for the Indian Hills Unit, Eddy County, New Mexico.

Such plan proposing no drilling or recompletion operations during 1985 is approved effective January 1, 1985.

Sincerely yours,

S/T. Kreager

~~2/2/85~~ District Manager

cc:

Commissioner of Public Lands, Santa Fe

NMOCD, Santa Fe

NMSO, Micrographics (943B)

State of New Mexico



JIM BACA
COMMISSIONER

Commissioner of Public Lands

May 2, 1985

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Re: 1985 Plan of Development (21st)
Indian Hills unit
Eddy County, New Mexico

ATTENTION: Mr. John P. Duddleston

Gentlemen:

The Commissioner of Public Lands has this date approved your Twenty First Plan of Development and Operation for the Indian Hills Unit Area, covering the period from January 1, 1985 to January 1, 1986. Such plan calls for no further drilling or recompletion operations during this period. Our approval is subject to like approval by the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

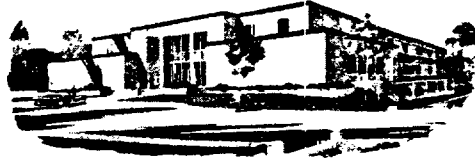
BY: *Ray D. Graham*
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

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

State of New Mexico

#2748



JIM BACA
COMMISSIONER

Commissioner of Public Lands

December 13, 1983

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Re: 1984 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. John P. Duddleston

Gentlemen:

The Commissioner of Public Lands has this date approved your Twentieth Plan of Development and Operation for the Indian Hills Unit Area covering the period from January 1, 1984 to January 1, 1985. This plan calls for no drilling or recompletion operations. Our approval is subject to like approval by the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

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

JB/RDG/pm
encls.

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

State of New Mexico



Commissioner of Public Lands

December 18, 1981

ALEX J. ARMIJO
COMMISSIONER

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

Re: 1982 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

2748

ATTENTION: Mr. Wilford H. Legg

Gentlemen:

The Commissioner of Public Lands has this date approved your 1982 Plan of Development for the Indian Hills Unit, Eddy County, New Mexico. Such plan proposes no additional drilling or re-completion operations during the eighteenth plan of development and operation. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed are six approved instruments surplus to our need.

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

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

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

AJA/RDG/pm
cc:

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

State of New Mexico



ALEX J. ARMIJO
COMMISSIONER

Commissioner of Public Lands

December 15, 1982

P. O. BOX 1148
SANTA FE, N. M. 87504-1148

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

2748

Re: 1983 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. John P. Duddleston

Gentlemen:


The Commissioner of Public Lands has this date approved your Nineteenth Plan of Development and Operation for the Indian Hills Unit Area covering the period from January 1, 1983, to January 1, 1984. This plan calls for no drilling or recompletion operations. Our approval is subject to like approval by the United States Minerals Management Service.

Enclosed two approved copies for your files.

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

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Assistant Director
Oil and Gas Division
AC 505/827-5744

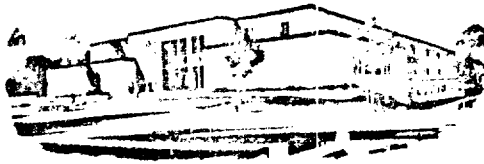
AJA/FOP/pm
encls.

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

State of New Mexico



ALEX J. ARMIJO
COMMISSIONER



Commissioner of Public Lands

February 10, 1981

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

2748

Re: Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. Wilford H. Legg

Gentlemen:

The Commissioner of Public Lands has this date approved your 1981 Plan of Development for the Indian Hills Unit, Eddy County, New Mexico. Our approval is subject to like approval by the United States Geological Survey.

Enclosed is one approved copy for your files.

Please be advised that your timely attention to our request for additional information in regard to this plan of development has greatly facilitated our review of same. Your cooperation in this matter is appreciated.

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

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
FLOYD O. PRANDO, Assistant Director
Oil and Gas Division
AC 505-827-2748

AJA/FOP/s
encl.
cc:

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

State of New Mexico



Commissioner of Public Lands
December 28, 1979

ALEX J. ARMIJO
COMMISSIONER

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

2748

Re: 1980 Plan of Development
Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. A. W. Hanley

Gentlemen:

The Commissioner of Public Lands has this date approved your 1980 Plan of Development for the Indian Hills Unit, Eddy County, New Mexico. Such plan provides for no further drilling or recompletion operations during the year 1980. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Commission.

Enclosed are two approved copies for your files.

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

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

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

AJA/RDG/s
encls.

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



United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Box 26124
Albuquerque, New Mexico 87125

JAN 11 1979

Marathon Oil Company
Attention: Mr. M. M. Hanley
P. O. Box 552
Midland, Texas 79702

No. 2748

Gentlemen:

On this date, your 1979 plan of development and operation for the Indian Hills unit area, Eddy County, New Mexico, wherein you propose the continuation of unit operations with no additional drilling, was approved. Such approval is subject to like approval by the appropriate State officials.

Two approved copies are enclosed.

Sincerely yours,

(ORIG. SGD.) JAMES W. SUTHERLAND

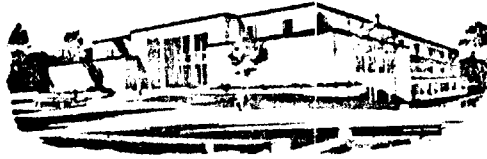
Oil and Gas Supervisor, SRMA

Enclosures (2)

CC:
NMOCD, Santa Fe (1tr. only) ← This Copy for
Com. Pub. Lands, Santa Fe (1tr. only)

[Faint, illegible stamp or handwritten notes]

State of New Mexico



Commissioner of Public Lands

January 12, 1979

ALEX J. ARMIJO
COMMISSIONER

P. O. Box 1148
SANTA FE, NEW MEXICO

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

no. 2748

Re: Indian Hills Unit
Eddy County, New Mexico
1979 PLAN OF DEVELOPMENT

ATTENTION: Mr. A. W. Hanley

Gentlemen:

The Commissioner of Public Lands has this date approved your 1979 Plan of Development for the Indian Hills Unit, Eddy County, New Mexico. Such plan proposes the continuation of unit operations with no additional drilling. This approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy for your files.

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

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

AJA/RDG/s
encl.

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



United States Department of the Interior

GEOLOGICAL SURVEY

P. O. Box 26124
Albuquerque, New Mexico 87125

JAN 19 1978

Marathon Oil Company
Attention: Mr. A. W. Hanley
P. O. Box 552
Midland, Texas 79702

No. 2748

Gentlemen:

The 1978 plan of development submitted for the Indian Hills unit area, Eddy County, New Mexico, was approved on this date subject to like approval by the appropriate State of New Mexico officials.

Such plan proposes continuation of unit operations with no additional drilling and two approved copies are enclosed.

Sincerely yours,

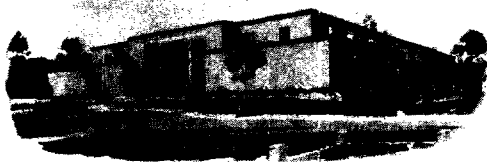
(ORIG. SGD.) JAMES W. SUTHERLAND

Area Oil & Gas Supervisor

Enclosures

cc:
NMOCC, Santa Fe (1tr. only) ← This copy for
Com. Pub. Lands, Santa Fe (1tr. only)

State of New Mexico



Commissioner of Public Lands

PHIL R. LUCERO
COMMISSIONER

December 22, 1977

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79702

No. 2748

Re: Indian Hills Unit
Eddy County, New Mexico
PLAN OF DEVELOPMENT FOR 1978

ATTENTION: Mr. A. W. Hanley

Gentlemen:

The Commissioner of Public Lands has this date approved your Plan of Development covering the period from January 1, 1978 to January 1, 1979. Your plan calls for the drilling of no wells during the Fourteenth Plan of Development and Operation. Our approval is subject to like approval by the United States Geological Survey.

Enclosed are two approved copies of the plan as requested.

Please remit a Four (\$4.00) Dollar filing fee.

Very truly yours,

PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

PRL/RDG/s
encls.
cc:

OCC-Santa Fe, New Mexico
USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico 87102

Oil Conservation Commission
RECEIVED
JAN 3 - 1978



United States Department of the Interior

GEOLOGICAL SURVEY
Conservation Division
Western Bank Building
505 Marquette, NW, Room 815
Albuquerque, New Mexico 87102

911 11 11

Marathon Oil Company
Attention: Mr. A. W. Hanley
P. O. Box 552
Midland, Texas 79701

Gentlemen:

Two approved copies of your 1977 plan of development for the Indian Hills unit area, Eddy County, New Mexico, proposing one plugback workover in the Upper Penn and continued review of data to determine additional operations are enclosed. Such plan was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

(Signature)

Area Oil and Gas Supervisor

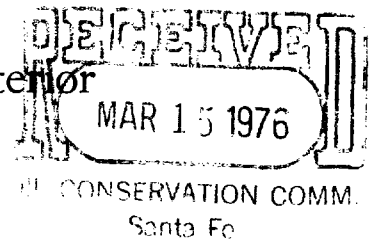
Enclosures

cc:
NMOCC, Santa Fe (ltr. only) ← This Copy for
Com. Pub. Lands, Santa Fe (ltr. only)



United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Drawer 1857
Roswell, New Mexico 88201



March 12, 1976

2748

Marathon Oil Company
Attention: Mr. A. W. Hanley
P. O. Box 552
Midland, Texas 79701

Gentlemen:

Four approved copies of your 1976 plan of development for the Indian Hills unit area, Eddy County, New Mexico, proposing reworking of unit well No. 1 to test Pennsylvanian Age formations, are enclosed. Such plan was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

(ORIG. SGD.) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Area Oil and Gas Supv.

Enclosures

cc:
Artesia
NMOCC, Santa Fe (ltr. only)
Com. Pub. Lands, Santa Fe (ltr. only)

← This Copy for

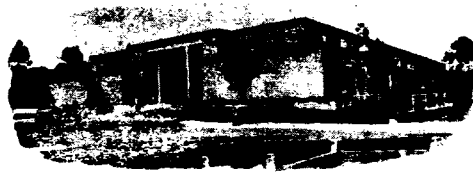
JAGillham:dlk

State of New Mexico

TELEPHONE
505-827-2748



PHIL R. LUCERO
COMMISSIONER



Commissioner of Public Lands
December 31, 1975

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

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Indian Hills Unit
1976 Plan of Development
Eddy County, New Mexico

ATTENTION: Mr. A. W. Hanley

Gentlemen:

The Commissioner of Public Lands has this date approved your Plan of Development covering the period from January 1, 1976 to January 1, 1977. Such plan proposes the investigation of further development of the Morrow formation. This approval is subject to like approval by the United States Geological Survey.

Enclosed are two (2) approved copies as requested in your letter.

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

Very truly yours,

PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

PRL/EDG/s
encls.
cc:

USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico



United States Department of the Inte

GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

January

Marathon Oil Company
Attention: Mr. Charles L. Southard
P. O. Box 552
Midland, Texas 79701

Gentlemen:

The 1975 plan of development submitted for the Indian Hills unit area, Eddy County, New Mexico, was approved on this date subject to like approval by the appropriate State officials.

Such plan proposes the investigation of further development of the Morrow by reworking either unit well No. 4 or 5, or both, if the results are successful in the first rework.

Three approved copies are enclosed.

Sincerely yours,

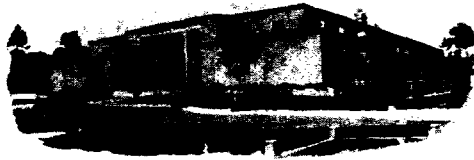
CARL C. TRAYWICK
Acting Area Oil and Gas Supervisor

cc:
Artesia (w/cy plan)
NMOCC, Santa Fe (ltr. only)✓
Com. Pub. Lands, Santa Fe (ltr. only)

JAGillham:lh

State of New Mexico

TELEPHONE
505-827-2748



2/14/8

Commissioner of Public Lands

December 27, 1974

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Indian Hills Unit
ELEVENTH PLAN OF DEVELOPMENT
AND OPERATIONS
Eddy County, New Mexico

ATTENTION: Mr. Charles L. Southard

Gentlemen:

The Commissioner of Public Lands has this date approved your Eleventh Plan of Development and Operations for the Indian Hills Unit Area covering the period from January 1, 1975 to January 1, 1976. Your plan calls for investigation of further development in the Morrow and rework either well No. 4 or 5. This approval is subject to like approval by the United States Geological Survey.

Two approved copies of the plan are enclosed herewith.

Please remit a Four (\$4.00) Dollar filing fee.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s

encls.

cc: USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico ✓

State of New Mexico

2745
TELEPHONE
505-827-2745



Commissioner of Public Lands
January 24, 1974

ALEX J. ARMIJO
COMMISSIONER

P. O. Box 9148
SANTA FE, NEW MEXICO

Marathon Oil Company
P. O. Box 352
Midland, Texas 79701

Re: Indian Hills Unit
TENTH PLAN OF DEVELOPMENT
Seddy County, New Mexico

ATTENTION: Mr. Charles W. Southard

Gentlemen:

The Commissioner of Public Lands has this date approved your Tenth Plan of Development and Operations for the Indian Hills Unit covering the period from January 1, 1974 to January 1, 1975. This approval is subject to like approval by the United States Geological Survey.

Two approved copies of the plan are enclosed herewith.

Please remit a four (\$4.00) Dollar filing fee.

Very truly yours,

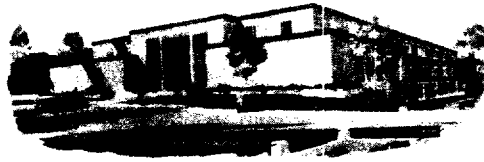
RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDC/s
encls.
cc:

USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico ✓

State of New Mexico

TELEPHONE
505-827-2748



2748

Commissioner of Public Lands

December 27, 1972

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Indian Hills Unit
Ninth Plan of Development
Eddy County, New Mexico

ATTENTION: Mr. M. B. Todd

Gentlemen:

The Commissioner of Public Lands has this date approved your Ninth Plan of Development and Operations for the Indian Hills Unit Area covering the period from January 1, 1973, to January 1, 1974. This Plan of Development anticipates no further drilling. However, will continue to study and evaluate the geology, engineering and production data applicable to the unit area. This approval is subject to like approval by the United States Geological Survey.

Two approved copies of the plan are enclosed herewith.

Please remit a four (\$4.00) Dollar filing fee.

Very truly yours,

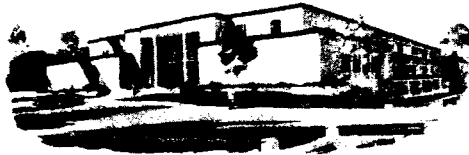
RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s
encls.

cc: OCC-Santa Fe, New Mexico
USGS-Roswell, New Mexico

State of New Mexico

2748



Commissioner of Public Lands

ALEX J. ARMIJO
COMMISSIONER

January 7, 1972

P. O. BOX 1148
SANTA FE, NEW MEXICO

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Indian Hills Unit
Eighth Plan of Development
Eddy County, New Mexico

ATTENTION: Mr. Charles L. Southard

Gentlemen:

The Commissioner of Public Lands has this date approved your Eighth Plan of Development for the Indian Hills Unit, Eddy County, New Mexico. This Plan of Development anticipates no further drilling during 1972. However, will continue to study and evaluate the geology, engineering and production data applicable to the unit area. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Two approved copies of the plan are enclosed herewith.

Please remit a four (\$4.00) Dollar filing fee.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s

encls.

cc:

USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico ✓

1969

December 29, 1969

2/4/3

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Indian Hills Unit
Sixth Plan of Development
Eddy County, New Mexico

ATTENTION: Mr. Charles L. Southard

Gentlemen:

The Commissioner of Public Lands has this date approved your Sixth Plan of Development for the Indian Hills Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

This Plan of Development covers the period from January 1, 1970 to January 1, 1971.

Enclosed are two approved copies of the plan.

Very truly yours,

Ted Bilberry, Director
Oil and Gas Department

TE/ML/s
encls.

cc: USGS-Roswell, New Mexico
OCC-Santa Fe, New Mexico

C
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70 DEC 30 11 11

December 28, 1970

Continental Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Indian Hills Unit
Seventh Plan of Development
Eddy County, New Mexico

ATTENTION: Mr. Charles L. Southard

Gentlemen:

The Commissioner of Public Lands has this date approved your Seventh Plan of Development for the Indian Hills Unit, Eddy County, New Mexico. No further drilling operations or recompletions are anticipated.

This approval is subject to like approval by the United States Geological Survey.

Enclosed are two approved copies of the plan.

Sincerely yours,

GORDON G. MARCUM, II, Director
Oil and Gas Department

AJA/GM/s
encls.

cc: USGS-Roswell, New Mexico
OCC-Santa Fe, New Mexico

1969 JAN 28 AM 13 09

2145

January 24, 1969

Marathon Oil Company
P. O. Box 3128
Houston, Texas 77001

Re: Indian Hills Unit
Initial Participating Area,
Lower Pennsylvanian (Morrow)
Eddy County, New Mexico

ATTENTION: Mr. J Robert Taylor

Gentlemen:

The Commissioner of Public Lands has this date approved your application for the Initial Participating Area, Lower Pennsylvanian (Morrow) for the Indian Hills Unit, effective as of September 25, 1968. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Enclosed are two approved copies for your files.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil and Gas Department

AJA/TE/ML/s
encl. 2

cc: USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico

C
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RECEIVED
JAN 6 11 03 AM '69

December 31, 1968

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Indian Hills Unit
Fifth Plan of Development
Eddy County, New Mexico

ATTENTION: Mr. Charles L. Southard

Gentlemen:

The Commissioner of Public Lands has this date approved your Fifth Plan of Development for the Indian Hills Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey.

This Fifth Plan of Development calls for no further drilling during 1969.

Enclosed are two approved copies of the plan.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Malcolm L. Long, Supervisor
Unit Division

GBH/TB/ML/s
encls.

cc: USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico

MAIN
69 JAN 28 AM 8 09

January 24, 1969

Marathon Oil Company
P. O. Box 3128
Houston, Texas 77001

Re: Indian Hills Unit
First Revision of
Participating Area,
Lower Pennsylvanian (Morrow)
Eddy County, New Mexico

ATTENTION: Mr. J. Robert Taylor

Gentlemen:

The Commissioner of Public Lands has this date approved your application for the First Revision of Participating Area, Lower Pennsylvanian (Morrow) for the Indian Hills Unit, effective as of October 1, 1968. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Enclosed are two approved copies for your files.

Very truly yours,

ALEX J. AMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry Director
Oil and Gas Department

AJA/TE/ML/s
encls. 2

cc: USGS-Roswell, New Mexico
OCC- Santa Fe, New Mexico

COPY

State of New Mexico



Commissioner of Public Lands

GUYTON B. HAYS
COMMISSIONER



P. O. BOX 1148
SANTA FE, NEW MEXICO

August 15, 1968

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: First Amendment to Fourth
Plan of Development
Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. Charles L. Southard

Gentlemen:

The Commissioner of Public Lands has this date approved the First Amendment to the Fourth Plan of Development for the Indian Hills Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey.

This first amendment calls for the re-entry of well No. 6 in Section 17, T-21-S, R-25-E, to test the Morrow formation within ninety days after completion or abandonment of the Indian Hills Unit Well No. 7, or Section 17 will be eliminated from the Unit Agreement and Unit Area.

Enclosed are two approved copies of the plan.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

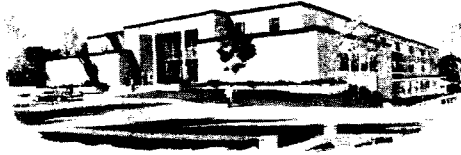
BY:
Ted Bilberry, Director
Oil and Gas Department

GBH/TB/s
encls.

cc: USGS-Roswell, New Mexico
OCC-Santa Fe, New Mexico

61 100 1 111

State of New Mexico



Commissioner of Public Lands

GUYTON B. HAYS
COMMISSIONER



March 28, 1968

P. O. BOX 1148
SANTA FE, NEW MEXICO

Marathon Oil Company
P. O. Box 552
Midland, Texas 79701

Re: Revised Fourth Plan of Development
Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. Charles L. Southard

Gentlemen:

68 MAR 29 11:11 AM

The Commissioner of Public Lands has this date approved your Revised Fourth Plan of Development and Operation for the Indian Hills Unit, Eddy County, New Mexico, subject to like approval by the United States Geological Survey.

This revised plan is for the period from January 1, 1968, to January 1, 1969, and calls for either the commencement of a Morrow test in Section 16, Township 21-South, Range 24-East, on or before June 30, 1968, or Section 16 and 17, not within a participating area, shall be eliminated.

Enclosed are to approved copies of the plan.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Eddie Lopez, Supervisor
Unit Division

GBH/TE/EL/s
encls.

cc: USGS-Roswell, New Mexico
OCC-Santa Fe, New Mexico

January 10, 1967

Marathon Oil Company
P. O. Drawer 1398
Roswell, New Mexico

Re: Indian Hills Unit
Eddy County, New Mexico

ATTENTION: Mr. John L. Anderson, Jr.

Gentlemen:

The Commissioner of Public Lands approves your Third Plan of Development for the Indian Hills Unit, subject to like approval by the United States Geological Survey.

Our approval is also subject to compliance with statements contained in letter, from the Operator, which is dated January 5, 1967, and provides for the commencement of a well prior to February 1, 1967, to be located in Section 17, Township 21 South, Range 24 East.

We are returning two approved copies.

Very Truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil and Gas Department

GBH/MMR/s
encl.

Marathon Oil Company
Mr. John L. Anderson, Jr.
January 10, 1967
Page -2-

cc: United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico, 88201

New Mexico Oil Conservation
Commission
P. O. Box 2088
Santa Fe, New Mexico



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

2148

April 27, 1966

George H. Hunker, Jr.
P. O. Box 2086
Roswell, New Mexico 88201

Dear Mr. Hunker:

The first, second, third, and fourth revisions of the upper Pennsylvanian participating area for the Indian Hills unit, Eddy County, New Mexico, were approved on April 14, 1966, by the Acting Director, Geological Survey, effective as of January 1, 1964, February 1, 1964, July 1, 1964, and December 1, 1965, respectively.

Four copies of the approved application are enclosed. You are requested to furnish the State of New Mexico and any other interested party with appropriate evidence of this approval.

Sincerely yours,

[Orig. Sgd.] CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil and Gas Supervisor MAIN OFFICE OGC

cc:
Washington (ltr. only)
Artesia (w/cy appd. appln.)
Com. of Pub. Lands - Santa Fe (ltr. only)
NMOCC - Santa Fe (ltr. only) ✓

'66 APR 29 PM 1 13

JWSutherland:jh:4-27-66

June 8, 1965

27-3

Mr. Ralph Lowe
P. O. Box 832
Midland, Texas

Attention: Mr. Fred G. Goodman

Re: Indian Hills Unit
Eddy County, New Mexico
Plan of Development

Gentlemen:

The Commissioner of Public Lands approved as of June 8, 1965, the Plan of Development for the Indian Hills Unit, Eddy County, New Mexico.

This Plan of Development covers the drilling of at least two wells in the unit area in addition to Well No. 2 Indian Hills Unit, which you state you are drilling in Section 20, Township 21 South, Range 24 East.

The Plan of Development covers the period from July 1, 1965 to January 1, 1966, and is subject to like approval by the United States Geological Survey.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
(Mr.) Ted Bilberry, Director
Oil and Gas Department

GBH/MBR/d
Enclosures

cc: United States Geological Survey
P. O. Drawer 1857, Roswell, New Mexico
Attention: Mr. John A. Anderson
New Mexico Oil Conservation Commission
P. O. Box 2088, Santa Fe, New Mexico



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

May 11, 1965

Ralph Lowe
c/o George H. Runkler, Jr.
P. O. Box 2086
Roswell, New Mexico

Dear Mr. Lowe:

The initial Upper Pennsylvanian participating area for the Indian Hills unit agreement, Eddy County, New Mexico, was approved on May 3, 1965, by the Acting Director, Geological Survey, effective as of June 14, 1963.

Two copies of the approved application are enclosed. You are requested to furnish the State of New Mexico and any other interested party with appropriate evidence of this approval.

Sincerely yours,

(ORIG. SGD.) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

cc:
Washington (ltr. only)
ELM, Santa Fe (w/cy of appd. appln.)
Artesia (w/cy of appd. appln.)
Com. of Pub. Lands, Santa Fe (ltr. only)
NMOCC, Santa Fe (ltr. only) ✓

March 17 1965

March 16, 1965

Mr. George H. Hunker, Jr.
Attorney at Law
P. O. Box 2086
Roswell, New Mexico 88201

Re: Indian Hills Unit
Eddy County, New Mexico

Dear Mr. Hunker:

The Commissioner of Public Lands approves as of March 15, 1965, your Application for Initial Participating Area for the Indian Hills Unit, subject to like approval by the United States Geological Survey.

This initial participating area for the Upper Penn formation becomes effective June 14, 1963, and consists of 1,440 acres. The participating area is predicated upon the Indian Hills Unit Well No. 1 located in the Southwest Quarter of the Southwest Quarter of Section 21, Township 21 South, Range 24 East, Eddy County, New Mexico.

We are returning four approved copies of this initial participating area application. Please notify this office at such time as you receive the approval of the United States Geological Survey.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
(Mr.) Ted Bilberry, Director
Oil and Gas Department

GBH/mxr/d
Enclosures

cc: United States Geological Survey

Mr. Fred Goodman
P. O. Box 212, Midland, Texas

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

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

February 6, 1963

Mr. Howard Bratton
Hervey, Dow & Hinkle
Attorneys at Law
Post Office Box 10
Roswell, New Mexico

Re: Case No. 2748
Order No. R-2420
Applicant:
Ralph Lowe

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, JR.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Astec OCC

OTHER

State of New Mexico



Commissioner of Public Lands

E. S. JOHNNY WALKER
COMMISSIONER



P. O. BOX 791
SANTA FE, NEW MEXICO

January 17, 1963

Mr. Clarence E. Hinkle
Hervey, Dow & Hinkle
P. O. Box 10
Roswell, New Mexico

Re: Proposed Indian Hills Unit
Agreement, Eddy County, New
Mexico.

Dear Mr. Hinkle:

This letter is to verify our telephone conversation of this date, in which we verbally approved as to form and content the Proposed Indian Hills Unit Agreement.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

Marian M. Rhea
BY:

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

ESW/mmr/e

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

JAN 15 1963

Harvey, Bow & Hinkle
P. O. Box 10
Roswell, New Mexico

Attention: Mr. Clarence E. Hinkle

Gentlemen:

Your application of January 7 filed with the Regional Oil and Gas Supervisor, Roswell, New Mexico, for Ralph Lowe, Midland, Texas, requests the designation of 4,480 acres, more or less, in Eddy County, New Mexico, as logically subject to exploration and development under the unitization provisions of the Mineral Leasing Act, as amended.

Pursuant to the Unit Plan Regulations of December 22, 1960, 30 CFR 226.3 (1961 reprint) the lands requested, as outlined on your land map marked "Unit A Proposed Indian Hills Unit", are hereby designated as a logical unit area.

Any unit agreement submitted for the area designated should require a well to test formations of Devonian age, or to a depth of 10,500 feet. The 1961 reprint of the standard form of unit agreement should be used, modified only by the language required for State of New Mexico lands and the following:

1. The "Fair Employment" section of the 1961 reprint should be replaced with the following new section:

"**Performance:** In connection with the performance of this unit agreement, the operator agrees to comply with all of the provisions of section 301 (1) to (3) inclusive, of Executive Order 10925 (26 F.R. 1977), which are hereby incorporated by reference in this agreement."

2. Change item 6 (b) (beginning on line 5, page 7 of the 1961 reprint) to read as follows:

"(b) The selection shall have been filed with the supervisor. If no successor unit operator is selected and qualified as herein provided, the Director at his discretion may declare this unit agreement terminated."

ILLEGIBLE

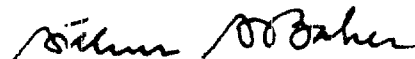
If conditions are such that further modification of said standard form is deemed necessary, three copies of the form so modified, with all deviations plainly marked and with explanations and justifications, must be submitted through the Oil and Gas Supervisor for preliminary approval by the Director. However, if some simple change is deemed advisable or essential, three copies thereof in lieu of the complete form, may be so submitted.

In the absence of any other type of land requiring special provisions, or of any objections not now apparent, a duly executed agreement identical with said form, modified as outlined above, will be approved if submitted in approvable status within a reasonable period of time. However, notice is hereby given that the right is reserved to deny approval of any executed agreement submitted which, in our opinion, does not have full commitment of sufficient lands to afford effective control of unit operations.

When the executed agreement is transmitted to the Supervisor for approval, include the latest status of all acreage. In preparation of exhibits A and B, follow closely the format of the sample exhibits attached to the 1961 reprint of the standard form.

Inasmuch as this unit area contains State of New Mexico lands, we are sending a copy of this letter to the Commissioner of Public Lands at Santa Fe, and we hereby request you to contact said Commissioner promptly in connection with this letter before soliciting joinders.

Sincerely yours,



Acting Director

ILLEGIBLE

J. M. HERVEY 1874-1953
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY
LEWIS C. COX
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.

MAIN OFFICE ORG

LAW OFFICES

HERVEY, DOW & HINKLE

HINKLE BUILDING

ROOSEWELL, NEW MEXICO

1963 JAN 17 PM 1:33

TELEPHONE 622-6510
AREA CODE 505
POST OFFICE BOX 10

January 16, 1963

Case 2748

New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico

Attention: Mr. Dan Nutter

Re: Indian Hills Unit Agreement

Gentlemen:


We enclose herewith three copies of the proposed Unit Agreement for the operation and development of the Indian Hills Unit Area, Eddy County, New Mexico, together with application of Ralph Lowe for approval thereof by the Conservation Commission.

From the writer's telephone conversation today with Mr. Nutter, we understood that this matter would be included in the Examiner's hearing to be held on February 6th, and that notice would be given accordingly. We would appreciate your sending us a copy of the notice.

Thanking you for your cooperation in connection with this matter, we are

Yours sincerely,

HERVEY, DOW & HINKLE

By 

CEH: ev

Encls.

cc: Mr. Charles Perry
c/o Ralph Lowe
P.O. Box 832
Midland, Texas

DOCKET MAILED

Date 1/23/63

Drawer 1857
Roswell, New Mexico 88201

December 5, 1963

Mr. Ralph Lowe
Box 332
Midland, Texas

Dear Mr. Lowe:

Your letter of October 14 advises that as operator of the Indian Hill unit, Eddy County, New Mexico, you have determined that unit well No. 1 in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21, T. 21 S., R. 24 E., N.M.P.M., lease NM 07260-F, is capable of producing unitized substances in paying quantities from the Pennsylvanian Cisco Series.

Indian Hills unit well No. 1 was completed on June 14, 1963, for a calculated absolute open flow potential of 21,500 MCF of gas per day from the Cisco 7,316 - 7,332 feet. The well is currently shut-in due to lack of a pipeline.

This office concurs with your determination that the well is capable of producing unitized substances in paying quantities.

Sincerely yours,

(ORIG. SGD.) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil & Gas Supervisor

cc:
Washington (w/cy ltr.)
Artesia (w/cy ltr.)
NMOCC, Santa Fe (ltr. only) ✓
N. Mex. Com. of Pub. Lands, Santa Fe (ltr. only)
Accounts

WEST TEXAS OIL REPORTS
AND ENGINEERING SERVICE
TELEPHONE MU 4-6381 — P. O. BOX 953
401 WILKINSON-FOSTER BUILDING
MIDLAND, TEXAS

EVERETT L. SMITH
REGISTERED PROFESSIONAL ENGINEER

LAMAR ESCHBERGER
REGISTERED PROFESSIONAL ENGINEER

June 18, 1963

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

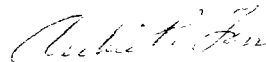
Gentlemen:

Attached are Form C-122 and back pressure curve showing the results of a 4-point back pressure test made June 14-15, 1963, on Ralph Lowe's Indian Hills Unit No. 1 discovery gas well located in unit M-21-21S-24E, Eddy County, New Mexico. Due to the exceptionally high permeability (maximum shut-in pressure was observed 15 minutes after well was shut in), the calculated working pressure draw-down for the first three data points was either too small to be plotted or slightly greater than the shut-in pressure although the flow rates ranged from 2492 MCF to 4180 MCF per day. Even the highest rate of 5774 MCF per day resulted in a draw-down of less than 4 percent.

The attached back pressure curve was constructed by drawing a straight line with a slope "n" of .500 through the plotted fourth data point. This curve indicates an absolute potential of 21,500 MCF per day which is believed to be reasonably accurate and certainly the smallest absolute potential that might be expected.

Mr. Landua discussed with Mr. Utz by phone the various problems involved in obtaining sufficient working pressure draw-down for a regular multi-point curve. Due to the absence of a pipeline connection and the extremely large volume of gas that would have to be vented in order to comply with the Commission's suggested 5 to 30 percent draw-down, it was decided to file the single point test.

Yours very truly,



Archie P. Farr
Petroleum Engineer

APF/jt

Attachments: 2

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Formation Upper Perm County Eddy
 Initial X Annual _____ Special _____ Date of Test June 14-15, 1963
 Company Ralph Lowe Lease Indian Hills Unit Well No. 1
 Unit M Sec. 21 Twp. 21-S Rge. 24-E Purchaser None
 Casing 7" Wt. 26.00 I.D. 6.276 Set at 10,160 Perf. 7316 To 7332
 Tubing 2-3/8" Wt. 4.70 I.D. 1.995 Set at 7270 Perf. _____ To _____
 Gas Pay: From 7316 To 7332 L 7270 α 0.664 -GL 4827 Bar. Press. 13.2
 Producing Thru: Casing _____ Tubing X Type Well Single - Gas
 Date of Completion June 7, 1963 Packer I. W. 6974 Reservoir Temp. 134° F
 Single-Bradenhead-G. G. or G.O. Dual

OBSERVED DATA

Tested Through (Blowover) (Orifice) (Meter) Type Taps Flange

No.	Flow Data			Tubing Data		Casing Data		Duration of Flow Hr.
	(Line) Size	(Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	
SI						2396		15 Minutes*
1.	3.068	1.750	855	16.5	75	2358		6
2.	3.068	1.750	860	25.0	71	2348		6
3.	3.068	1.750	845	47.0	74	2295		6
4.	3.068	1.750	840	90.0	73	2097		6
5.								

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wp} F}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	20.15	119.69		.9859	.9721	1.078	2192
2.	20.15	147.75		.9896	.9721	1.080	3093
3.	20.15	200.83		.9868	.9721	1.077	4180
4.	20.15	277.11		.9877	.9721	1.077	5774
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 93,834 cf/bbl.
 Gravity of Liquid Hydrocarbons 58.4 deg.
 F_c 9.936 (1-e^{-s}) .283
 Specific Gravity Separator Gas 635
 Specific Gravity Flowing Fluid 7451
 P_c 2409.2 P_c 5804.2

No.	$1/P_w$ Pt (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w /P _c
1.	2372.2	5627.3	24.76	613.0	173.5	5800.8	3.4	4408.5	.9997
2.	2361.2	5575.3	30.73	944.3	267.2	5842.5		4417.1	1.0032
3.	2308.2	5327.8	41.53	1724.7	498.1	5815.9		4411.6	1.0010
4.	2110.2	4452.9	57.37	3291.3	931.4	5384.3	419.9	4320.4	.9631
5.									

Absolute Potential: 21,500 MCFPD; n .500

COMPANY Ralph Lowe
 ADDRESS P. O. Box 832, Midland, Texas
 AGENT and TITLE Archie F. Farr, Petroleum Engineer
 WITNESSED _____
 COMPANY _____

Point No.	Choke Size	Distillate, bbl/day	Water, bbl/day	REMARKS
1	12/64	20.3	0	*Highest pressure observed. Bridging plug set at 7395'
2	14/64	28.6	0	
3	17/64	44.2	0	
4	21/64	45.8	26.7	

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 371, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_f = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_t = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

P_g = Gravity correction factor.

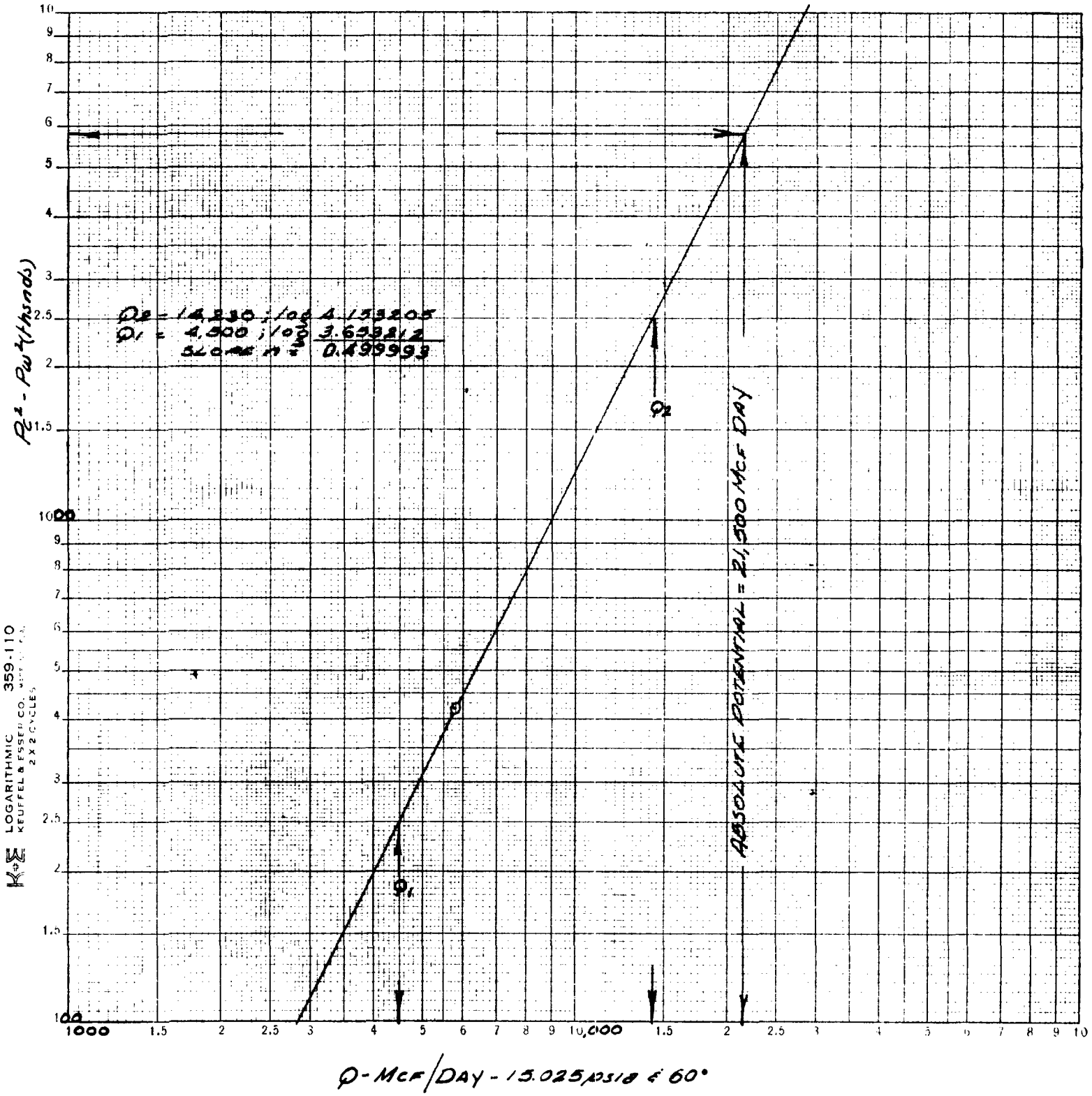
P_t = Flowing temperature correction factor.

P_{pv} = Supercompressibility factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

RALPH LOWE
 INDIAN HILLS UNIT NO 1 (PENN.)
 M. 21-21-24, EDDY CO. N.M.
 A.P. = 21,500 MCF DAY
 $\theta = 63.5$; $n = .500$



LOGARITHMIC 359-110
 KEUFFEL & ESSER CO. MFG. U.S.A.
 2 X 2 CYCLES

SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

June 17, 1963

PLEASE REPLY TO
PERMIAN BASIN DIVISION
708 PETROLEUM LIFE BLDG.
P. O. BOX 632
MIDLAND, TEXAS

Ralph Lowe
Box 832
Midland, Texas

Gentlemen:

We have analyzed the porosity from the Sonic log on your Indian Hills Unit #1, Wildcat, Eddy County, N. M. The section analyzed was from 7306 to 7896. The integrated curve gives an average travel time of 54.3 micro seconds per foot. Using a matrix velocity of 23000 feet per second for Dolomite, we get an average porosity of 7.3% for the entire 590 feet. We have tabulated these porosities on a two foot basis.

These interpretations represent our best judgment, and we are happy to give them to you. Nevertheless, since all interpretations are based on inferences from electrical measurements, we cannot and do not guarantee their accuracy or correctness, and we shall not be liable or responsible, except in the case of willful negligence on our part, for any loss, costs, damages or expenses that may be incurred or sustained from such interpretations.

<u>Interval</u>	<u>Sonic Porosity</u>	<u>Interval</u>	<u>Sonic Porosity</u>
7306 - 08	4.0	7356 - 58	9.0
7308 - 10	7.0	7358 - 60	10.0
7310 - 12	8.5	7360 - 62	11.0
7312 - 14	5.5	7362 - 64	9.5
7314 - 16	2.5	7364 - 66	7.0
7316 - 18	6.0	7366 - 68	8.3
7318 - 20	9.0	7368 - 70	9.5
7320 - 22	5.8	7370 - 72	7.5
7322 - 24	6.0	7372 - 74	8.0
7324 - 26	10.0	7374 - 76	6.3
7326 - 28	8.0	7376 - 78	5.0
7328 - 30	10.0	7378 - 80	2.5
7330 - 32	8.5	7380 - 82	1.5
7332 - 34	6.0	7382 - 84	6.0
7334 - 36	10.3	7384 - 86	3.0
7336 - 38	4.0	7386 - 88	5.0
7338 - 40	10.5	7388 - 90	14.0
7340 - 56	washed out unable to obtain porosity value	7390 - 92	10.0
		7392 - 94	5.5

<u>Interval</u>	<u>Sonic Porosity</u>	<u>Interval</u>	<u>Sonic Porosity</u>
7394-96	8.0	7500-02	11.0
7396-98	3.6	7502-04	11.0
7398-7400	12.0	7504-06	2.0
7400-02	5.0	7506-08	4.0
7402-04	5.3	7508-10	5.5
7404-06	9.0	7510-12	4.0
7406-08	6.0	7512-14	6.0
7408-10	6.5	7514-16	3.7
7410-12	6.0	7516-18	6.4
7412-14	8.0	7518-20	2.7
7414-16	6.0	7520-22	6.0
7416-18	5.5	7522-24	9.0
7418-20	5.3	7524-26	7.0
7420-22	6.0	7526-28	6.5
7422-24	5.7	7528-30	7.7
7424-26	7.7	7530-32	7.7
7426-28	4.7	7532-34	8.0
7428-30	9.5	7534-36	3.5
7430-32	8.3	7536-38	5.0
7432-34	6.2	7538-40	1.5
7434-36	6.0	7540-42	6.2
7436-38	8.0	7542-44	5.7
7438-40	5.7	7544-46	6.0
7440-42	3.0	7546-48	8.2
7442-44	1.5	7548-50	8.7
7444-46	1.5	7550-52	6.3
7446-48	3.0	7552-54	5.8
7448-50	5.2	7554-56	6.3
7450-52	9.0	7556-58	4.0
7452-54	6.0	7558-60	3.8
7454-56	7.7	7560-62	4.0
7456-58	8.0	7562-64	3.0
7458-60	9.5	7564-66	1.0
7460-62	3.0	7566-68	2.0
7462-64	3.0	7568-70	5.0
7464-66	6.5	7570-72	3.5
7466-68	5.0	7572-74	1.0
7468-70	9.0	7574-76	7.5
7470-72	6.5	7576-78	2.5
7472-74	4.7	7578-80	3.0
7474-76	8.2	7580-82	5.5
7476-78	5.7	7582-84	3.0
7478-80	5.5	7584-86	7.0
7480-82	7.0	7586-88	4.5
7482-84	8.0	7588-90	5.0
7484-86	6.0	7590-92	4.0
7486-88	4.0	7592-94	1.5
7488-90	3.5	7594-96	5.0
7490-92	1.7	7596-98	8.5
7492-94	4.0	7598-7600	6.5
7494-96	5.5	7600-02	6.3
7496-98	12.0	7602-04	9.2
7498-7500	3.0	7604-06	10.0

<u>Interval</u>	<u>Sonic Porosity</u>	<u>Interval</u>	<u>Sonic Porosity</u>
7606-08	5.0	7714-16	3.0
7608-10	8.2	7716-18	3.0
7610-12	4.0	7718-20	3.0
7612-14	3.5	7720-22	5.7
7614-16	5.0	7722-24	3.8
7616-18	3.6	7724-26	2.5
7618-20	2.6	7726-28	4.0
7620-22	3.0	7728-30	5.8
7622-24	9.0	7730-32	7.0
7624-26	7.0	7732-34	5.7
7626-28	5.0	7734-36	6.2
7628-30	4.0	7736-38	4.2
7630-32	7.5	7738-40	4.3
7632-34	4.0	7740-42	3.7
7634-36	4.0	7742-44	5.7
7636-38	2.0	7744-46	3.0
7638-40	4.3	7746-48	1.8
7640-42	4.0	7748-50	1.5
7642-44	16.0	7750-52	1.8
7644-46	5.5	7752-54	1.6
7646-48	5.0	7754-56	2.0
7648-50	3.6	7756-58	2.0
7650-52	6.0	7758-60	4.7
7652-54	6.0	7760-62	4.5
7654-56	10.0	7762-64	3.5
7656-58	1.0	7764-66	2.5
7658-60	4.2	7766-68	5.5
7660-62	7.8	7768-70	1.5
7662-64	2.0	7770-72	2.5
7664-66	5.5	7772-74	14.0
7666-68	3.0	7774-76	1.0
7668-70	2.5	7776-78	4.0
7670-72	5.5	7778-80	6.5
7672-74	7.0	7780-82	5.5
7674-76	6.0	7782-84	4.0
7676-78	4.5	7784-86	4.5
7678-80	5.0	7786-88	7.3
7680-82	4.0	7788-90	6.2
7682-84	3.8	7790-92	6.0
7684-86	4.5	7792-94	8.0
7686-88	7.7	7794-96	9.5
7688-90	2.0	7796-98	8.0
7690-92	4.0	7798-7800	5.8
7692-94	4.0	7800-02	5.0
7694-96	7.8	7802-04	3.5
7696-98	1.0	7804-06	2.0
7698-7700	3.0	7806-08	4.0
7700-02	5.0	7808-10	1.5
7702-04	2.5	7810-12	3.0
7704-06	5.0	7812-14	3.8
7706-08	7.0	7814-16	4.0
7708-10	5.5	7816-18	5.5
7710-12	2.5	7818-20	6.2
7712-14	2.0	7820-22	6.5

<u>Interval</u>	<u>Sonic Porosity</u>	<u>Interval</u>	<u>Sonic Porosity</u>
7822-24	7.0	7860-62	1.6
7824-26	5.7	7862-64	1.8
7826-28	5.5	7864-66	1.8
7828-30	6.0	7866-68	2.0
7830-32	5.8	7868-70	2.5
7832-34	6.2	7870-72	3.0
7834-36	5.0	7872-74	5.7
7836-38	2.5	7874-76	5.2
7838-40	2.7	7876-78	3.2
7840-42	3.0	7878-80	3.5
7842-44	5.5	7880-82	5.5
7844-46	8.0	7882-84	5.0
7846-48	5.8	7884-86	4.0
7848-50	3.0	7886-88	2.5
7850-52	5.5	7888-90	4.5
7852-54	2.0	7890-92	4.0
7854-56	4.0	7892-94	3.8
7856-58	3.4	7894-96	3.0
7858-60	5.5		

If we can be of further service, please let us know.


George Horst

GFH/blm