

6/10/03	6/30/03	ENGINEER WVS	LOGGED IN KW	TYPE NSL	PRV0316332201
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ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



### ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

#### Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

#### [1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication

☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

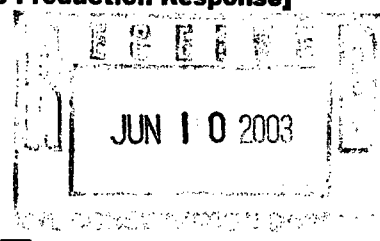
[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify \_\_\_\_\_



#### [2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☒ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO  
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☒ Waivers are Attached

#### [3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

S.F. MILLICAN

Print or Type Name

Signature

INDIAN BASIN ASSET TEAM

Title

6/09/03

Date

SFMillican@marathonoil.com  
 e-mail Address



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

June 9, 2003

Mr. Richard Ezeanyim  
Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, New Mexico 87504

***RE: Indian Hills Unit Gas Com Well No. 56 Unorthodox Location  
453' FSL & 350' FWL, Sec. 21, Township 21 South, Range 24 East (SHL),  
179' FNL & 1207' FEL, Sec. 29, Township 21 South, Range 24 East (BHL)  
Indian Basin Upper Pennsylvanian Associated Pool***

Dear Mr. Ezeanyim,

By means of this application, Marathon Oil Company respectfully requests administrative approval for a non-standard location for the proposed Indian Hills Unit Gas Com Well No. 56 with a surface location of 453' FSL & 350' FWL, Section 21, Township 21 South, Range 24 East, and a bottom hole location of 179' FNL & 1207' FEL, Section 29, Township 21 South, Range 24 East, and to be dedicated to a standard 320 acre spacing unit consisting of the East half of Section 29. Marathon is proposing to drill this well to an unorthodox location in the Upper Pennsylvanian formation. This will be a directionally drilled well.

Marathon proposes to complete the Indian Hills Unit Gas Com Well No. 56 in the "Indian Basin Upper Pennsylvanian Associated Pool" as promulgated by the New Mexico Oil Conservation Division Order Nos. R-9922, R-9922-A, R-9922-B, R-9922-C, R-9922-D and R-9922-E and the general rules for the Associated Gas Pools of Southeast New Mexico as promulgated by Division Order No. R-5353. These rules require wells to be located no closer than 660 feet to the outer boundary of the proration/spacing unit and no closer than 330 feet to the governmental quarter/quarter section lines. Indian Hills Unit Gas Com Well No. 56 location is unorthodox because the producing interval infringes upon the 660 foot setback from the northern boundary of the 320 acre "stand-up" gas proration unit dedicated to the East half of Section 29 (please see Attachment #1, 1A and 1B - Well Location and Acreage Dedication Plats, Attachment #2 - Location Verification Map and Attachment #3 - Vicinity Map). Based on the proposed directional plan, it is expected that the top of the Upper Pennsylvanian formation will be penetrated at 99' FNL & 1013' FEL in Section 29, (please see Attachment #4 - Directional Plat supplied by Baker Inteq, Marathon's proposed directional drilling company for the well).

**Participating Area:**

The proposed well is located within the Indian Hills Unit Upper Pennsylvanian Participating Area (see Attachment #5). The Indian Hills Unit is operated by Marathon Oil Company. Indian Hills Unit Gas Com Well No. 56 is proposed to be dedicated to a proration unit consisting of the East half of Section 29, Township 21 South, Range 24 East.

**Directional Wellbore:**

The Indian Hills Unit Gas Com Well No. 56 is proposed to be directionally drilled. Marathon's development of the East Indian Basin area relies heavily upon directionally drilled wellbores due to the topographical constraints of the Seven Rivers Hills, the Azotea Mesa Plateaus, and the 100 year flood plain of the Rocky Arroyo Canyon (please see Attachment #2). Therefore, the only available surface location to drill a development well for the NE/4 of Section 29 falls in the SW/4 of Section 21.

**Reservoir Management Plan:**

Currently three (3) wells, the Indian Hills Unit Gas Com Well Nos. 14 (API No. 30-015-30624), 27 (API No. 30-015-31406) and 47 (API No. 30-015-32536), produce from the Indian Basin Upper Pennsylvanian Associated Pool in the East half of Section 29, with the Indian Hills Unit Gas Com Well No. 27 being the only well located in the NE/4 of Section 29. The proposed Indian Hills Unit Gas Com Well No. 56 will develop the northern 80 acre "lay-down" in the Upper Pennsylvanian in the N/2 NE/4 of Section 29.

Marathon is entering its final anticipated infill development phase of the Indian Basin Upper Pennsylvanian Associated Gas Pool. The objective of this program is to infill drill the oil column from the current ~160-acre well density to an ~80-acre well density. It is Marathon's belief that the oil zone should be developed on tighter spacing than the current ~160 acre development of the gas zone. The proposed ~80-acre infill program will improve oil recovery while minimizing both economic and reservoir waste.

Due to current pool rules allowing one well per 80 acres, only one (1) additional well can be drilled in the East half of Section 29. The BHL of the Upper Pennsylvanian in the Indian Hills Unit Gas Com Well No. 56 provides a well balanced and near equal inter-well spacing between the existing wells. This 'equal' inter-well spacing will minimize well-to-well interference and hence maximize reserve recovery. By placing the well at the proposed BHL, Marathon can maximize and adequately drain reserves from the East half of Section 29. It is Marathon's belief that the proposed unorthodox location represents a superior location in regard to optimal reservoir drainage.

**Geologic Issues:**

The Indian Basin Upper Pennsylvanian Associated Pool is predominantly composed of dolomite and limestone sequences. With current technology, only the dolomite sequences have proved productive and economic. The Indian Hills Unit Gas Com Well No. 27 encountered over 100' of non-reservoir quality limestone above the oil water contact. As a result, the well has been a poor oil take point. Based on other open hole logs in the area, the limestone facies thin moving north

and east from Indian Hills Unit Gas Com Well No. 27. This is illustrated by the blue shaded areas in the attached cross-section between Indian Hills Unit Gas Com Well No. 27 and Indian Hills Unit Well No. 18 (API No. 30-015-30564) (please see Attachment #6 - Upper Pennsylvanian Structure Map and Attachment #7 – Cross-Section). The Indian Hills Unit Well No. 1 (API No. 30-015-10066) in U/L 'M' of Section 21 has no limestone in the pay interval.

The proposed location for the Indian Hills Unit Gas Com Well No. 56 is expected to encounter minimal limestone because the unorthodox location is approximately 1300' north from the Indian Hills Unit Gas Com Well No. 27 (which has 100' of limestone above the oil water contact) and approximately 1300' east from the Indian Hills Unit Well No. 18 (which has 20' of limestone above the oil water contact). Furthermore, the proposed penetration point at 99' FNL & 1013' FEL in Section 29 is approximately 10' structurally down dip from a standard location in the NE/4 NE/4 (UL "A"). If limestone is encountered, being farther downdip will be beneficial because it is more likely the limestone will be below the oil water contact. Therefore, it is Marathon's opinion that the proposed unorthodox location is geologically superior to a standard location.

#### **Notifications and Waivers:**

The mineral ownership of the East half 320 acre proration unit of Section 29 is not the same as the South half of Section 20 which offsets the proposed unorthodox location in the Upper Pennsylvanian formation. In Sections 16, 17, 20, 21, 28 and 33 Marathon Oil Company has a 99.54544% working interest while Nearburg Exploration has a 0.45456% working interest. The following is a breakdown of the working interest owners in Section 29:

Marathon Oil Company --- 93.323865%  
Texas Independent Exploration --- 1.28125%  
Claremont Corporation --- 1.40937%  
Tandem Energy Corporation --- 1.28125%  
Hanagan Properties --- 0.28125%  
Hugh E. Hanagan --- 0.28125%  
Nolan Brunson, Jr. --- 0.5625%  
Devon Energy --- 1.15313%  
Nearburg Exploration --- 0.426135%

As the only offsetting interest owner, Nearburg Exploration has been notified in writing of Marathon's intention of producing the unorthodox Upper Pennsylvanian location for the Indian Hills Unit Gas Com Well No. 56. Enclosed is a copy of the letter from Nearburg waiving objection to our proposal (Please see Attachment #8 – Waiver Letter).

Should you have any questions/comments/concerns, please contact me at (432) 687-8306.

Respectfully,



Steven F. Millican  
Indian Basin Asset Team  
Marathon Oil Company

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

ATTACHMENT #1

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	33685	Indian Basin Upper Penn. Assoc.
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT GAS COM	56
OGRID No.	Operator Name	Elevation
14021	MARATHON OIL COMPANY	3667'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	21-S	24-E		453'	SOUTH	350'	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	21-S	24-E		179'	NORTH	1207'	EAST	EDDY
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

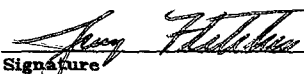
		LOT 2	LOT 1
		38.26 AC	38.29 AC
		LOT 3	LOT 4
	GEODETC COORDINATES NAD 27 NME Y = 530701.1 X = 445521.6 LAT. 32°27'31.99"N LONG. 104°30'35.85"W		
		36.69 AC	36.72 AC
		LOT 6	LOT 5
		36.35 AC	36.29 AC
		LOT 7	LOT 8
		37.74 AC	37.68 AC

350'

453'

**OPERATOR CERTIFICATION**

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

  
Signature

Jerry Fletcher  
Printed Name

Engineer Tech.  
Title

6/3/03  
Date

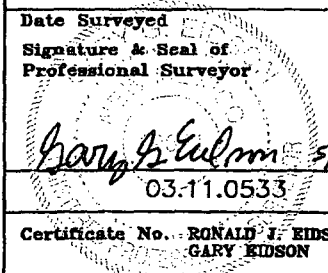
**SURVEYOR CERTIFICATION**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

May 19, 2003

Date Surveyed AWB

Signature & Seal of Professional Surveyor

  
5/22/03  
03:11.0533

Certificate No. RONALD J. EIDSON 3238  
GARY KIDSON 12641

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0718

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 33685	Pool Name Indian Basin Upper Penn. Assoc.
Property Code	Property Name INDIAN HILLS UNIT GAS COM.	Well Number 56
OGRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 3667

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
"M"	21	21-S	24-E		453'	SOUTH	350'	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
"A"	29	21-S	24-E		179'	North	1207'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320 E/2			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Jerry Fletcher</i> Signature Jerry Fletcher Printed Name Engineer Tech. Title 6/5/03 Date</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.</p> <p>Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p>Certificate No.</p>

## DISTRICT I

P.O. Box 1880, Hobbs, NM 88241-1880

## DISTRICT II

P.O. Drawer DD, Artesia, NM 88211-0718

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

P.O. BOX 2088, SANTA FE, N.M. 87504-2088

## State of New Mexico

Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

Form C-102

Revised February 10, 1994

Submit to Appropriate District Office

State Lease - 4 Copies

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## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	33685	Indian Basin Upper Penn. Ass0c.
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT GAS COM	56
OGRID No.	Operator Name	Elevation
14021	MARATHON OIL COMPANY	3667'

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UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
"M"	21	21-S	24-E		453'	SOUTH	350'	WEST	EDDY

## Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
"A"	29	21-S	24-E		179'	NORTH	1207'	EAST	EDDY
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						
320 E/2									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<b>OPERATOR CERTIFICATION</b>  I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.  <i>Jerry Fletcher</i> Signature Jerry Fletcher Printed Name Engineer Tech. Title 6/3/03 Date
	<b>SURVEYOR CERTIFICATION</b>  I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.  Date Surveyed  Signature & Seal of Professional Surveyor  Certificate No.



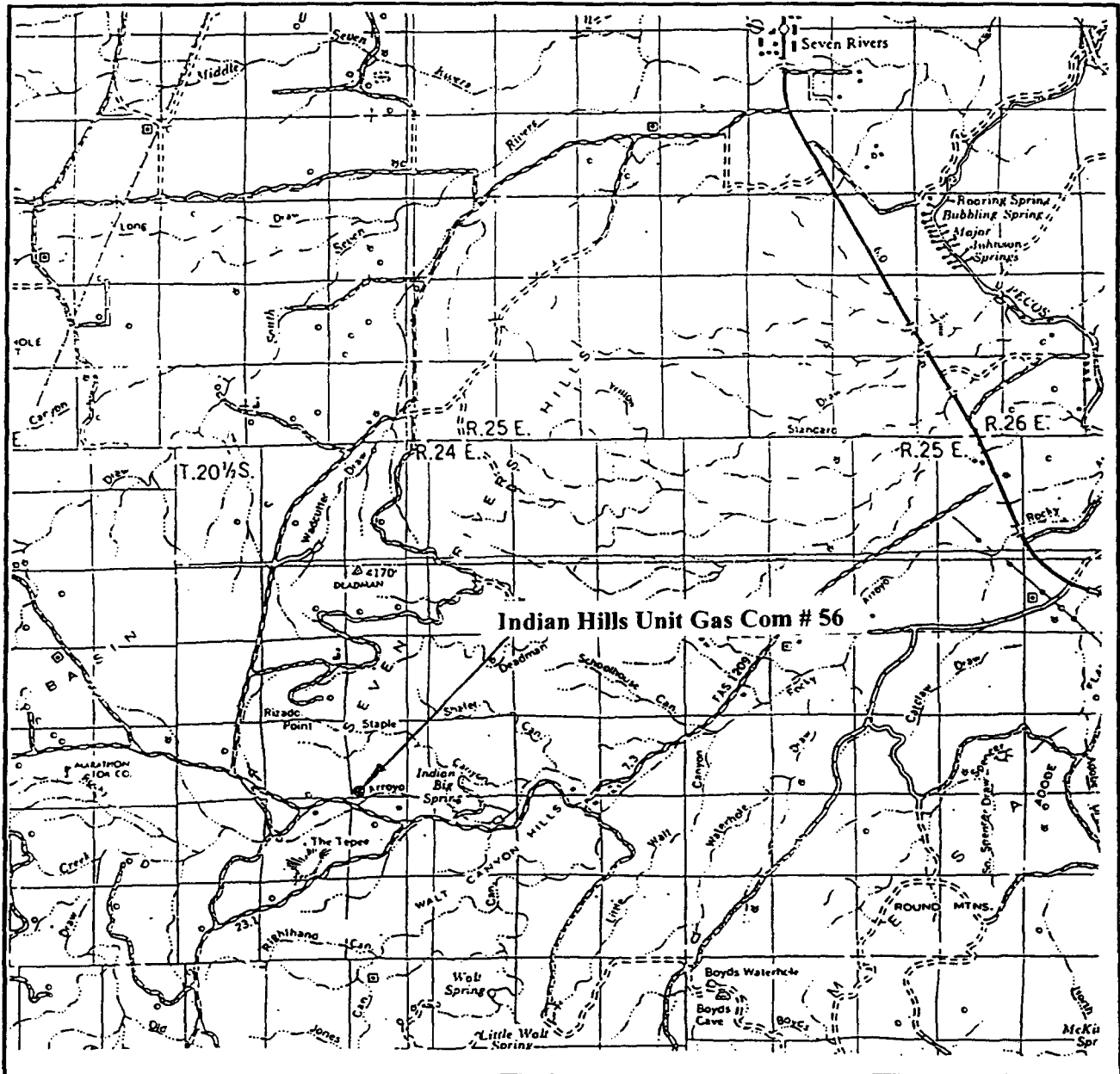
CONTOUR INTERVAL: 20'  
 MARTHA CREEK, N.M.  
 AZOTEA PEAK, N.M.

U.S.G.S. TOPOGRAPHIC MAP  
MARTHA CREEK AZOTEA PEAK, N.M.N.M.

JOHN WEST SURVEYING  
HOBBS, NEW MEXICO  
(505) 393-3117



## VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 21 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 453' FSL 350' FWL

ELEVATION 3667'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

JOHN WEST SURVEYING  
 HOBBS, NEW MEXICO  
 (505) 393-3117



# Marathon Oil Company

Structure : INDIAN HILLS UNIT GAS COM #56

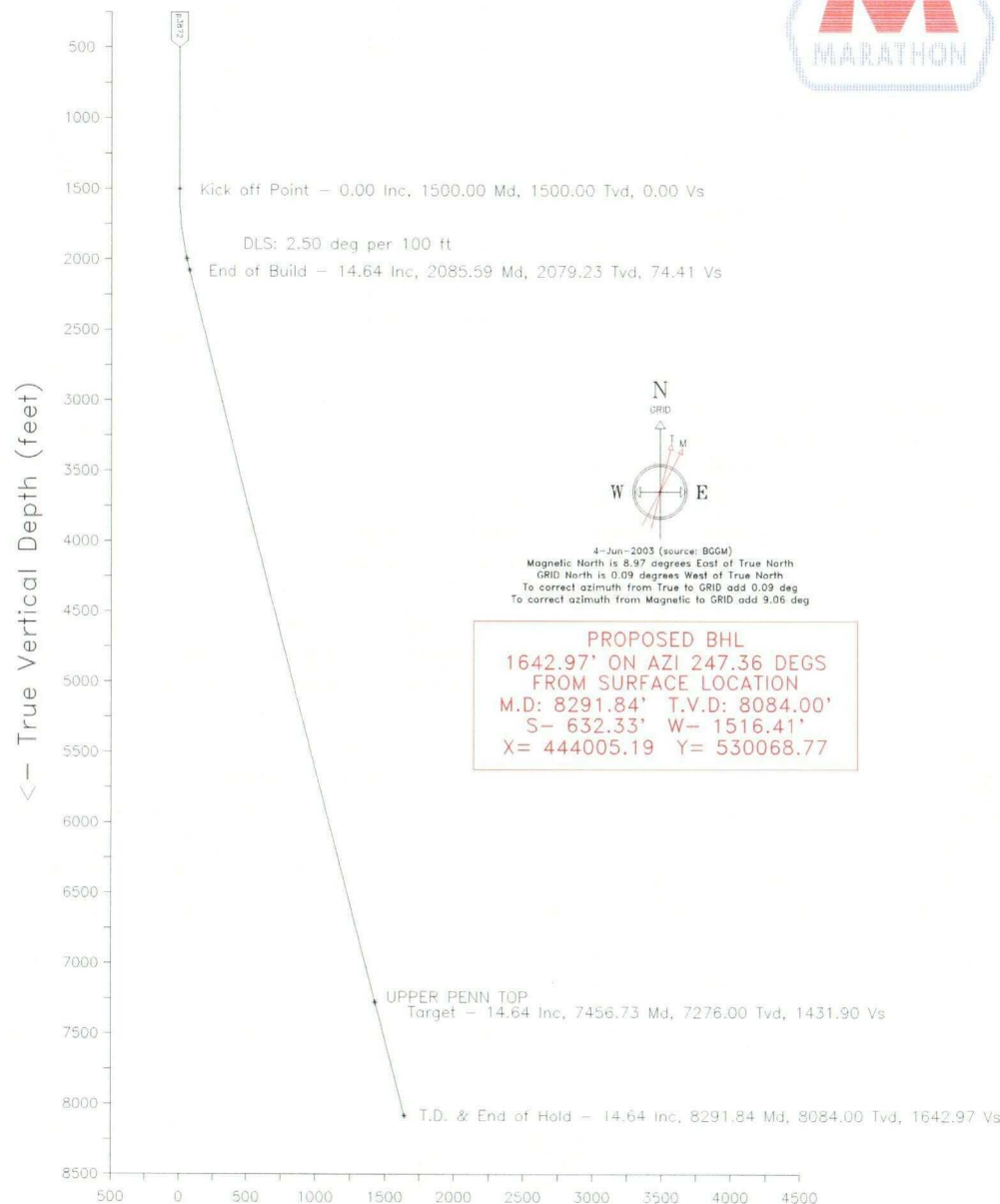
Slot : slot #1

Field : INDIAN BASIN

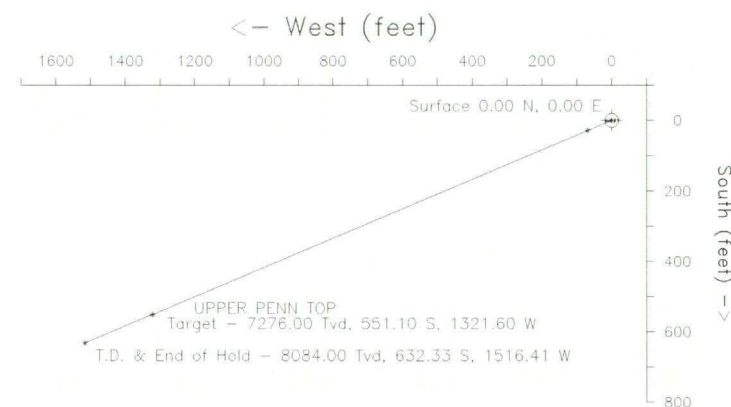
Location : Eddy County New Mexico

## WELL PROFILE DATA

Point	MD	Inc	Dir	Tvd	North	East	V. Sect	Deg/100
Tie on	0.00	0.00	247.36	0.00	0.00	0.00	0.00	0.00
KOP	1500.00	0.00	247.36	1500.00	0.00	0.00	0.00	0.00
End of Build	2085.59	14.64	247.36	2079.23	-28.64	-68.67	74.41	2.50
Target UPPER PENN TOP	7456.73	14.64	247.36	7276.00	-551.10	-1321.60	1431.90	0.00
T.D. & End of Hold	8291.84	14.64	247.36	8084.00	-632.33	-1516.41	1642.97	0.00



Azimuth 247.36 with reference 0.00 N, 0.00 E from slot #1



### STRUCTURE SET-UP REFERENCE

LAT : 32 27 31.989 N  
LONG: 104 30 35.850 W  
X= 445521.6 Y= 530701.1

### PROJECTION: MERCATOR

Mercator Zone: New Mexico East  
Spheroid Used: Clarke - 1866

Data Source: BGGM

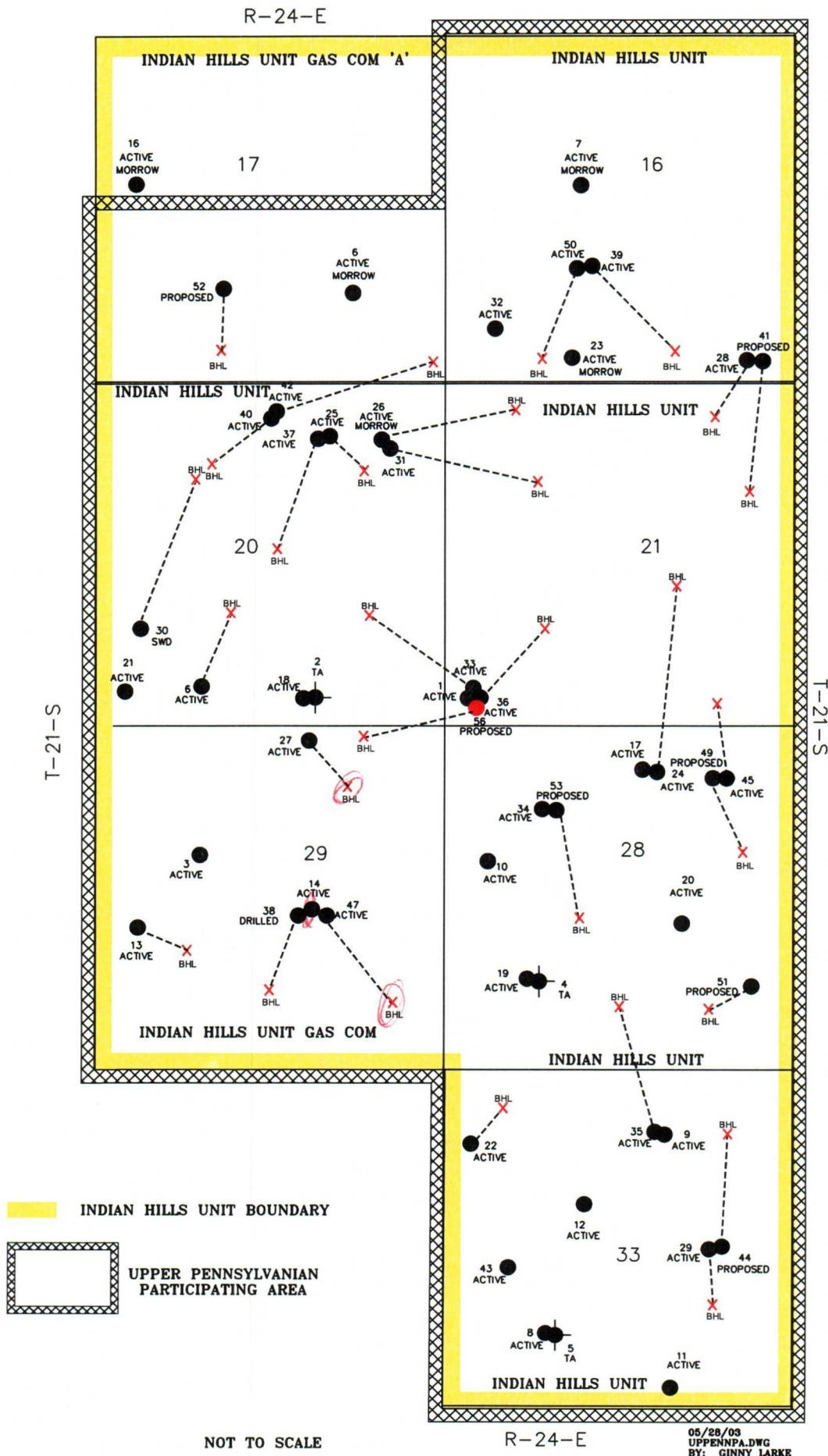
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Field Strength: 49511.14 nT



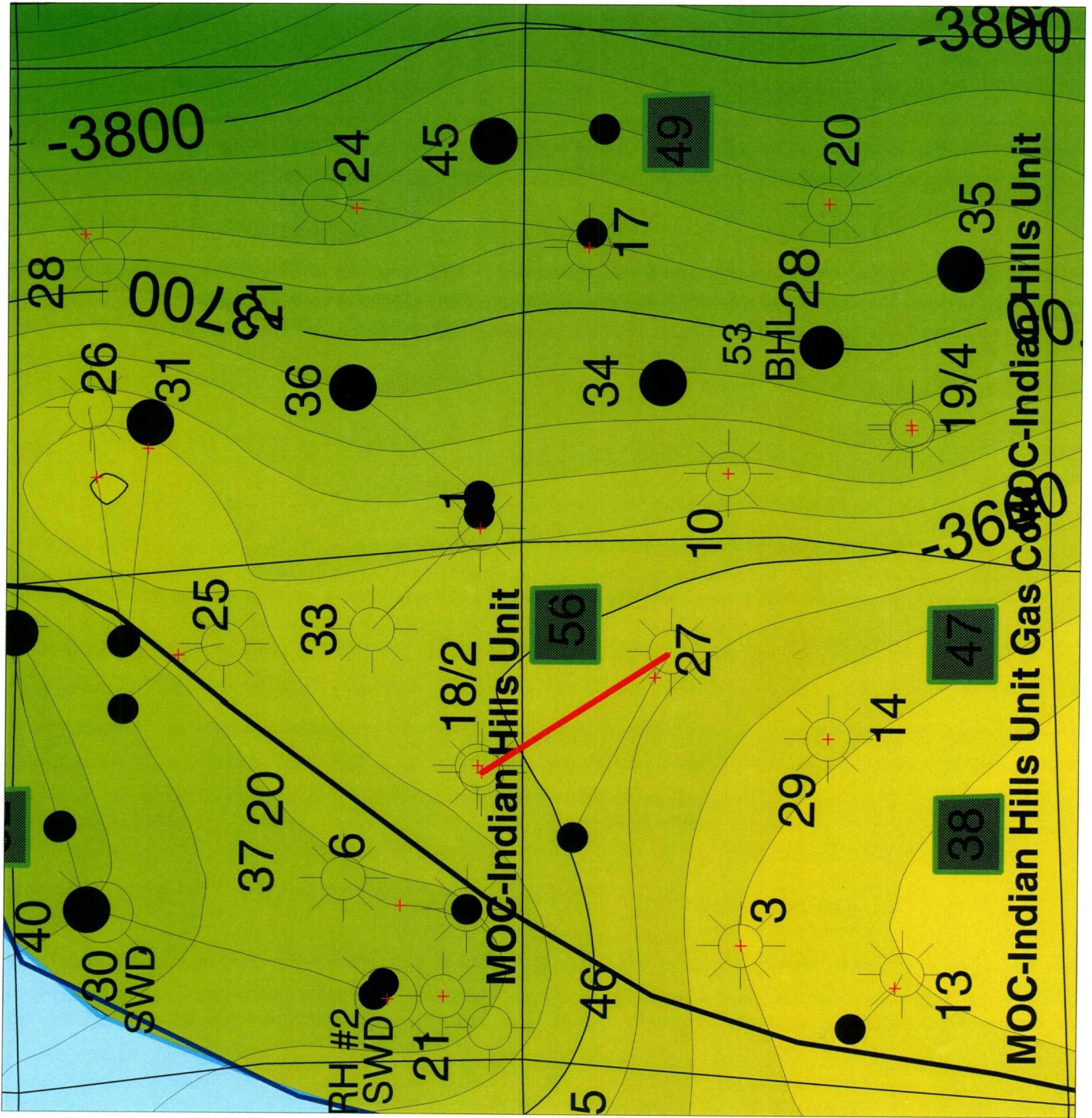
INTEQ

Created By kellym  
Date plotted : 4-Jun-2003  
Plot Reference is PO 2DU SMILL.  
Coordinates are in feet reference slot #1.  
True Vertical Depths are reference rotary table.  
ihugc56  
--- Baker Hughes INTEQ ---

## ATTACHMENT #5

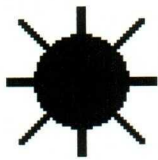




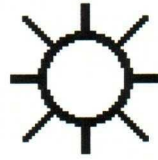


1 inch = 1500 feet

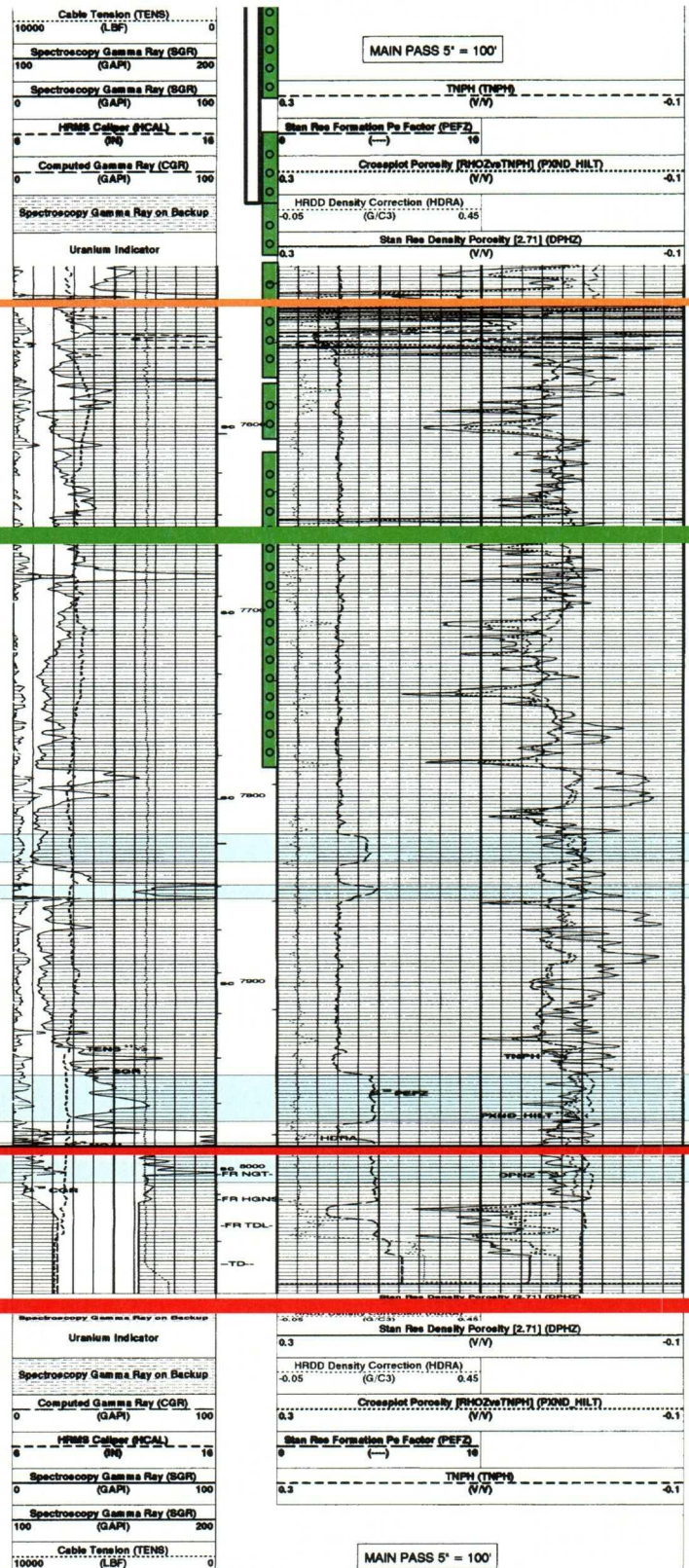
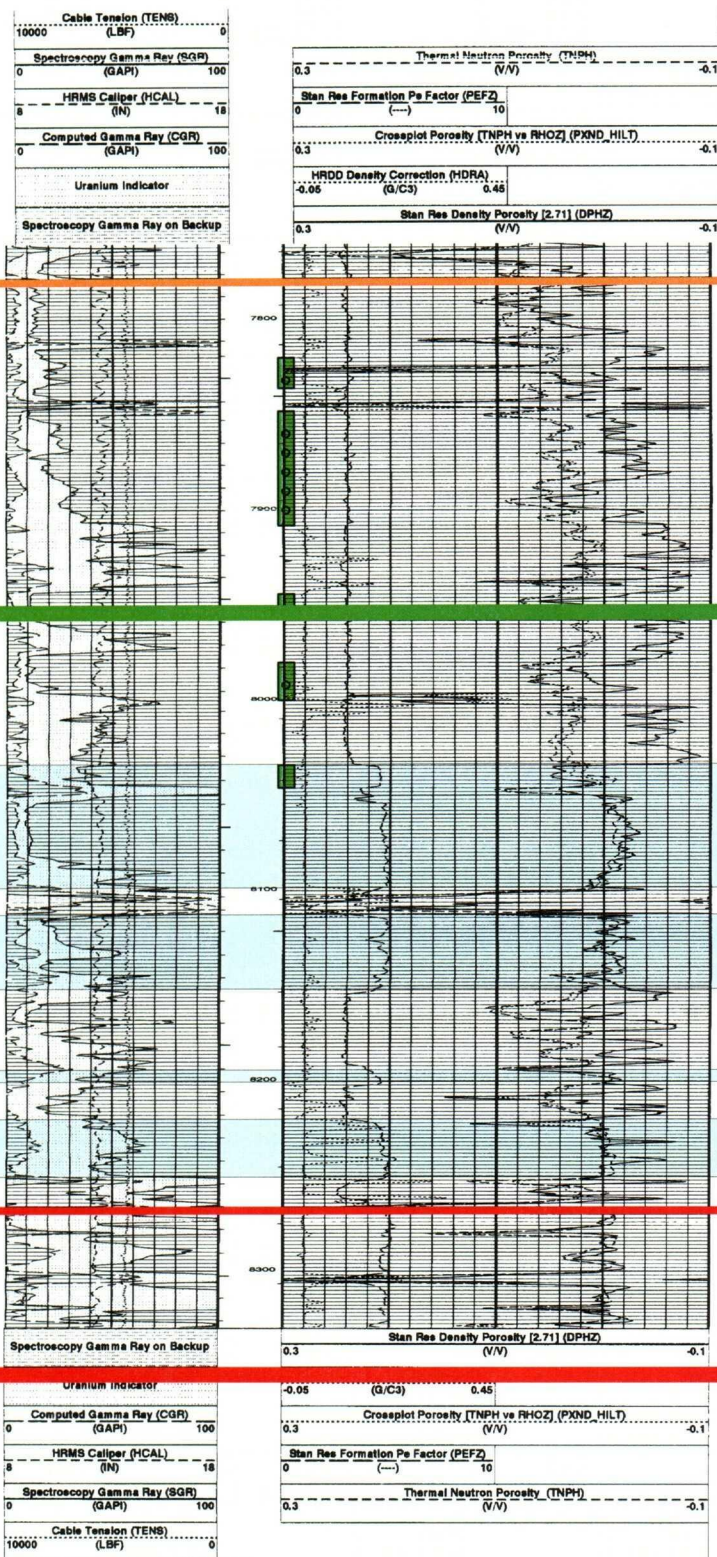




MARATHON OIL COMPANY  
INDIAN HILLS UNIT 27  
021.0S 024.0E 029  
30015314060000



MARATHON OIL  
INDIAN HILLS UNIT 18  
021.0S 024.0E 020  
30015305640000





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

June 6, 2003

Mr. Bob Shelton  
Nearburg Exploration Company, LLC  
3300 North A Street, Building 2, Suite 120  
Midland, Texas 79705Re: Application for an Unorthodox Well Location for the Indian Hills Unit Gas Com No. 56  
Location: UL "A", 99' FNL and 1013' FEL, Section 29, T-21-S, R-24-E, Eddy County, New Mexico

Dear Bob:

Marathon Oil Company proposes to drill and complete the Indian Hills Unit Gas Com Well No. 56 in the "Indian Basin Upper Pennsylvanian Associated Pool" as promulgated by the New Mexico Oil Conservation Division Order Nos. R-9922, R-9922-A, R-9922-B, R-9922-C, R-9922-D and R-9922-E and the general rules for the Associated Gas Pools of Southeast New Mexico as promulgated by Division Order No. R-5353. These rules require wells to be located no closer than 660 feet to the outer boundary of the proration/spacing unit and no closer than 330 feet to the governmental quarter/quarter section lines. Indian Hills Unit Gas Com No. 56 location is unorthodox because the producing interval infringes upon the 660 foot setback from the northern boundary of the 320 acre "stand-up" gas proration unit dedicated to the East half of Section 29. The 80-acre spacing unit for the Indian Hills Unit Gas Com No. 56 will be a "lay-down" in the N/2 of the NE/4 of Section 29.

This letter is to inform you, as an offset operator or interest owner, of Marathon's intention to request administrative approval for this non-standard location. If you have an objection to this application, it must be filed, in writing, with the New Mexico Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87504, within 20 days from the date of this letter. Should you have no objection to this location, please sign below and return an executed copy of this letter to me. The application for administrative approval for this location will be sent to the Oil Conservation Division in Santa Fe as soon as possible. If you have any questions or need more information, please call me at 687-8312.

Sincerely,

A handwritten signature in cursive script that reads "Wyn Emerson".

Wyn Emerson  
Landman  
Indian Basin Asset Team

Signature: A handwritten signature in cursive script that reads "Robert G. Shelton".

Printed Name: Robert G. Shelton

Title: Attorney-in-Fact

Company Name: Nearburg Exploration Company, L.L.C.

Date: 6/6/03

cc: Fred White

"Waiver granted subject to the 320  
acre spacing unit for the Indian Hills  
Gas Com. No. 56 well being the E/2 of  
Section 29."

Sec : 29 Twp : 21S Rng : 24E Section Type : NORMAL

3 42.20  Federal owned U A C	2 41.76  Federal owned U	1 41.87  Federal owned U	A 40.00  Federal owned U
4 42.47  Federal owned U	5 42.03  Federal owned U A	6 43.36  Federal owned U	165.23 H 40.00  Federal owned U

10 42.78  Federal owned U A	9 42.42  Federal owned U	8 43.83  Federal owned U A A A	7 43.45  Federal owned U
11 43.05  Federal owned U	12 42.69  Federal owned U	13 42.91  Federal owned U	172.72 14 42.53  Federal owned U