

DATE IN 12/12/03	SUSPENSE 1-2-04	ENGINEER MS	LOGGED IN MS	TYPE NSL (B/L)	P. 21 ESO - APP NO. 400834538
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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 \_\_\_\_\_

**RECEIVED**

DEC 12 2003

Oil Conservation Division  
 1220 S. St. Francis Drive  
 Santa Fe, NM 87505

- [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.

STEVEN F. MILLICAN  
 Print or Type Name

*[Signature]*  
 Signature

OPERATIONS ENGINEER  
 Title

12/11/03  
 Date

SFMillican@MarathonOil.com  
 e-mail Address



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

December 11, 2003

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

***RE: Indian Basin '32' State No. 8 Unorthodox Location  
1255' FSL & 511' FWL, Sec. 32, Township 21 South, Range 24 East (SHL),  
950' FSL & 2400' FWL, Sec. 32, 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 Basin '32' State Well No. 8 with a surface location of 1255' FSL & 511' FWL, Section 32, Township 21 South, Range 24 East, and a bottom hole location of 950' FSL & 2400' FWL, Section 32, Township 21 South, Range 24 East, and to be dedicated to a standard 320 acre spacing unit consisting of the West half of Section 32. 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 Basin '32' State Well No. 8 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 Basin '32' State Well No. 8 location is unorthodox because the producing interval infringes upon the 660 foot setback from the eastern boundary of the 320 acre "stand-up" gas proration unit dedicated to the West half of Section 32 (please see Attachment #1 - Well Location and Acreage Dedication Plat, 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 966' FSL & 2286' FWL in Section 32, (please see Attachment #4 - Directional Plat supplied by Baker Inteq, Marathon's proposed directional drilling company for the well).

**Directional Wellbore:**

The Indian Basin '32' State Well No. 8 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 and the Azotea Mesa Plateaus (please see Attachment #2). Therefore, the only available surface location to drill a development well for the SW/4 of Section 32 falls on the Indian Basin '32' State Well No. 1-Y pad location.

**Existing Wells:**

Indian Basin '32' State Well No. 8 is proposed to be dedicated to a proration unit consisting of the West half of Section 32, Township 21 South, Range 24 East. Currently two (2) wells, the Indian Basin '32' State Well No. 4 (API No. 30-015-30618) and the Indian Basin '32' State Well No. 1-Y (API No. 30-015-25133), produce from the Indian Basin Upper Pennsylvanian Associated Pool in the West half of Section 32, with the Indian Basin '32' State Well No. 1-Y being the only well located in the SW/4 of Section 32. The proposed Indian Basin '32' State Well No. 8 will develop the eastern 80 acre "stand-up" in the Upper Pennsylvanian in the E/2 SW/4 of Section 32.

**Reservoir Management Plan:**

Over the last two years, Marathon has focused on developing the oil potential of the Upper Pennsylvanian formation. This has been accomplished primarily by infilling the well density to 80-acres in prospective oil areas. Originally, this infill work started in downdip areas of the Indian Hills Unit that adjoins the Indian Basin '32' State lease. More recently, Marathon has been drilling oil targets successively higher on structure and is continuing to find economic projects.

As an extension of this program, it is now proposed to infill the Indian Basin '32' State lease from the current 160 acre well spacing to 80 acre spacings (please see Attachment 5 – Structure Map of Section 32). Of the four new well locations, only the Indian Basin '32' State Well No. 8 has a non-standard bottom hole location.

Marathon has selected the proposed bottom hole locations for the new wells based on balancing several factors. Firstly, the Upper Pennsylvanian structural top drops off to the East and South. By trying to place the wells farther down structure, more of the oil column can be exposed in the new wellbore. Secondly, Marathon has attempted to balance the inter-well spacing in order to minimize well-to-well interference and hence maximize reserve recovery. Finally, Marathon has started testing the application of horizontal wells as a method of improving the ultimate reserves recovery from existing wells. The proposed new wells are placed to allow future horizontal drilling options should this new application of horizontal well technology prove successful.

It is Marathon's opinion that the proposed unorthodox bottom hole location for the Indian Basin '32' State Well No. 8 is a superior location for the wellbore. Based on geologic interpretations, rock quality is predicted to be equivalent between the proposed location and a standard location. The proposed location will much better balance inter-well spacing and will allow the wellbore to be farther down structure into the oil column. This should ultimately allow for more optimal reservoir drainage and reserves recovery.

**Notifications and Waivers:**

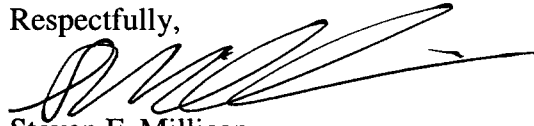
The proposed unorthodox location in the West half of Section 32 only infringes on the East half of Section 32. The mineral ownership of the West half 320 acre proration unit of Section 32 is the same as the East half of the Section, therefore no parties will need to be notified. The following is a breakdown of the working interest owners in Section 32:

Marathon Oil Company --- 56.25%

Devon Energy --- 43.75%

Should you have any questions/comments/concerns, please contact me at (713) 629-6600 or at the e-mail address provided below.

Respectfully,



Steven F. Millican

Indian Basin Asset Team

Marathon Oil Company

[sfmillican@marathonoil.com](mailto:sfmillican@marathonoil.com)

  
Mike Mick

[mick@marathonoil.com](mailto:mick@marathonoil.com)

Monday afternoon Jan. 5, 2004  
I talked w/ Mike  
about this  
issue.

WPC

Will cc him an e-mail when  
this about this

DISTRICT I  
P.O. Box 1890, Hobbs, NM 88241-1890

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 33685	Pool Name Indian Basin Upper Penn. Assoc.
Property Code	Property Name INDIAN BASIN 32 STATE	Well Number 8
OGRID No. 14021	Operator Name MARATHON OIL COMPANY	Elevation 4322'

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	32	21-S	24-E		1255'	SOUTH	511'	WEST	EDDY

Bottom Hole Location If Different From Surface

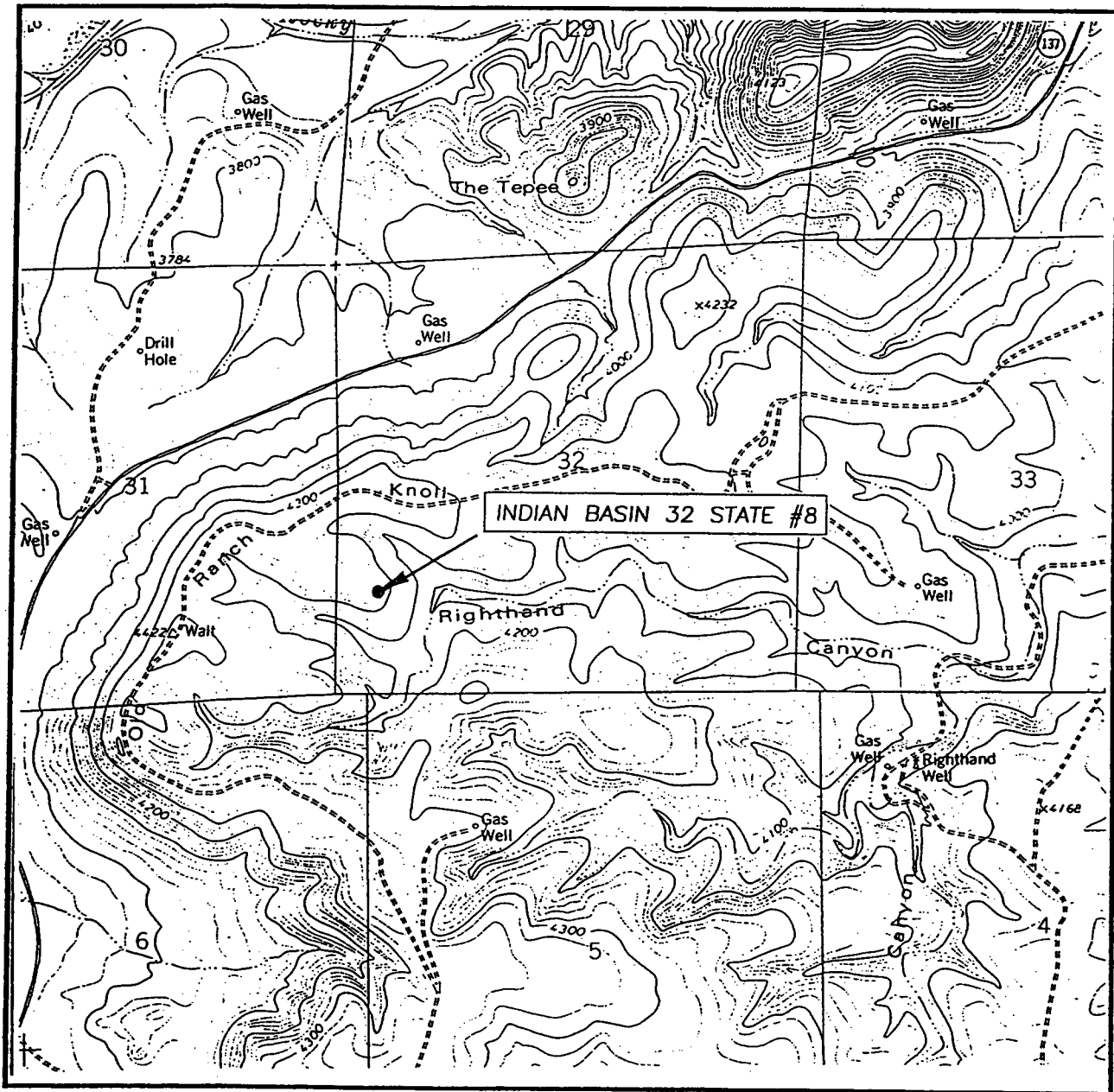
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	32	21-S	24-E		950'	SOUTH	2400'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320 W/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>Indian Basin St. "32" # 4</p> <p>660'</p> <p>Project Area</p> <p>Standard Producing Area</p> <p>Non-Standard Producing Area</p> <p>IB St. 32-1-Y</p> <p>4346.3'</p> <p>4214.3'</p> <p>600'</p> <p>511'</p> <p>4248.9'</p> <p>4224.8'</p> <p>1255'</p> <p>BHL</p> <p>966' FSC</p> <p>2286' FSC</p> <p>GEODETIC COORDINATES NAD 27 NME Y = 520827.8 N X = 439963.8 E LAT. 32°25'54.19"N LONG. 104°31'40.48"W</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Jerry Fletcher</i> Signature</p> <p>Jerry Fletcher Printed Name</p> <p>Engineer Tech. Title</p> <p>9/19/03 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 belief.</p> <p>August 19, 2003</p> <p>Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p><i>Gary E. Edson</i> 8/19/03</p> <p>03.11.0913</p> <p>Certification No. GARY EDSON 12641</p>
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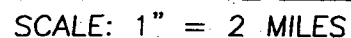
# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 20'  
MARTHA CREEK, N.M.SEC. 32 TWP. 21-S RGE. 24-ESURVEY N.M.P.M.COUNTY EDDYDESCRIPTION 1255' FSL 511' FWLELEVATION 4322'OPERATOR MARATHON OIL COMPANYLEASE INDIAN BASIN 32 STATEU.S.G.S. TOPOGRAPHIC MAP  
MARTHA CREEK, N.M.

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



LEASE INDIAN BASIN 32 STATE

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

## Marathon Oil Company

Structure : Indian Basin 32 State #8

Slot : slot #1

Field : INDIAN BASIN

Location : Eddy County New Mexico

Created by: danf

Date plotted : 10-Dec-2003

Plot Reference is Plan 1.

Coordinates are in feet reference slot #1.

True Vertical Depths are reference rotary table.

st8pp

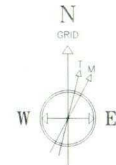
--- Baker Hughes INTEQ ---

## WELL PROFILE DATA

Point	MD	Inc	Dir	TVD	North	East	V. Sect	Deg/100
Tie on	0.00	0.00	99.17	0.00	0.00	0.00	0.00	0.00
KOP	1900.00	0.00	99.17	1900.00	0.00	0.00	0.00	0.00
Target End of Build	2594.41	17.36	99.17	2583.83	-16.64	103.06	104.39	2.50
T.D. & Target TD Propos	8583.39	17.36	99.17	8300.00	-301.50	1867.20	1891.39	0.00



INTEQ



10-Dec-2003 (source: BCGM)  
 Magnetic North is 8.93 degrees East of True North  
 GRID North is 0.10 degrees West of True North  
 To correct azimuth from True to GRID add 0.10 deg  
 To correct azimuth from Magnetic to GRID add 9.03 deg

