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NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor

April 23, 2004

Joanna Prukop
Cabinet Secretary
Acting Director
Oil Conservation Division

Marathon Oil Company P. O. Box 3487 Houston, Texas 77253-3487

Attention:

Mark Mick

Operations Engineer *msmick@marathonoil.com*

AMENDED Administrative Order NSL-4750 (BHL) (SD)

Dear Mr. Mick:

Reference is made to the following: (i) your application filed with the New Mexico Oil Conservation Division ("Division") on March 29, 2004 (administrative application reference No. pMESO-409128759); (ii) my email on Friday afternoon, April 23, 2004 requesting additional information to support your application; (iii) your email response on the same day with the requested information; and (iv) the Division's records in Santa Fe, including the file on Division Administrative Orders NSL-4750 (BHL) (SD): all concerning Marathon Oil Company's ("Marathon") request for an exception to Rule 2 (b) of the "Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool", as promulgated by New Mexico Oil Conservation Division ("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 and Regulations for the Associated Oil and Gas Pools of Northwest New Mexico and Southeast New Mexico," as promulgated by Division Order No. R-5353, as amended, for Marathon's existing Indian Hills Unit Well No. 45 (API No. 30-015-32338) to be recompleted with a horizontal drainhole within an existing standard 298.02-acre spacing and proration unit within the Indian Basin-Upper Pennsylvanian Associated Pool (33685) comprising Lots 1 through 8 (E/2 equivalent) of Section 21, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico.

This application has been duly filed under the provisions of: (i) Division Rule 104.F; (ii) Division Rule 1207.A; (iii) 111.C (2); and (iv) Rule 2 (c) of the aforementioned associated oil and gas pool rules.

This unit is currently simultaneously dedicated to Marathon's:

- (i) Indian Hills Unit Well No. 24 (API No. 30-015-31266), located on the surface 685 feet from the North line and 2073 feet from the East line (Unit B) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool at a standard sub-surface location within Lot 6 (NW/4 SE/4 equivalent Unit J) of Section 21;
- (ii) Indian Hills Unit Well No. 28 (API No. 30-015-31267), located on the surface 218 feet from the South line and 660 feet from the East line (Unit P) of Section 16, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool at a standard sub-surface location within Lot 2 (NW/4 NE/4 equivalent Unit B) of Section 21;
- (iii) Indian Hills Unit Well No. 41 (API No. 30-015-32539), located on the surface 199 feet from the South line and 524 feet from the East line (Unit P) of Section 16, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool at a standard sub-surface location within Lot 4 (SE/4 NE/4 equivalent Unit H) of Section 21; and

Oil Conservation Division * 1220 South St. Francis Drive * Santa Fe, New Mexico 87505 Phone: (505) 476-3440 * Fax (505) 476-3462 * http://www.emnrd.state.nm.us (iv) aforementioned Indian Hills Unit Well No. 45 (API No. 30-015-32338), which well was initially drilled in November, 2003 from a surface location 806 feet from the North line and 1010 feet from the East line (Unit B) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and directionally drilled to the north to a total depth of 8,237 feet (MD), or 8,072 (TVD), at a bottom-hole location 305 feet from the South line and 1136 feet from the East line (Lot 8/Unit P) of Section 21, see Division Administrative Order NSL-4750 (BHL) (SD), dated June 18, 2002.

It is the Division's understanding that Marathon now intends to abandon the current Upper Pennsylvanian completion within its Indian Hills Unit Well No. 45 and recomplete by plugging back to a depth of 7,550 feet (MD), kick-off in a north-northeasterly direction, build angle to approximately 90 degrees, and continue drilling horizontally a distance of approximately 1,960 feet. The targeted end or bottom-hole location of this drainhole at 9,646 feet (MD) is proposed to be within Lot 5 (the NE/4 SE/4 equivalent — Unit I) of Section 21 at a standard subsurface location that is approximately 2084 feet from the South line and 785 feet from the East line of Section 21. This new high angle/horizontal directional wellbore is expected to intersect the top of the Upper-Pennsylvanian interval at an approximate depth of 8,954 feet (MD), or 7,700 feet (TVD) at a point 119 feet from the South line and 1080 feet from the East line (Lot 8/Unit P) of Section 21. The proposed well will be unorthodox in that its entry into the Upper-Pennsylvanian interval and a portion of the lateral drainhole will be closer then the standard setback distance of 660 from the South line of Section 21.

By the authority granted me under the provisions of Division Rule 104.F (2) and the applicable provisions of the special rules governing the Indian Basin-Upper Pennsylvanian Associated Pool, the above-described recompletion resulting in an unorthodox sub-surface location for the Indian Hills Unit Well No. 45 within the E/2 equivalent of Section 21, is hereby approved. Further, the aforementioned well and 320-acre spacing and proration unit will be subject to all existing rules, regulations, policies, and procedures applicable to the Indian Basin-Upper Pennsylvanian Associated Pool.

Furthermore, Marathon is hereby authorized to simultaneously dedicate production attributed to the Indian Basin-Upper Pennsylvanian Associated Pool from the aforementioned Indian Hills Unit Wells No. 24, 28, 41, and 45. Furthermore, Marathon is permitted to produce the allowable assigned the subject 298.28-acre spacing and proration unit from all four wells in any proportion. Finally, Marathon shall comply with all provisions of Division Rule 111 applicable in this matter.

The Division's original Administrative Order NSL-4750 (BHL) (SD), dated June 18, 2002, shall be placed in abeyance until further notice.

Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

Sincerely,

Michael E. Stogner Engineer/Hearing Officer

MES/ms

cc:

New Mexico Oil Conservation Division - Artesia U. S. Bureau of Land Management - Carlsbad

File: NSL-4750 (BHL) (SD)



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

BETTY RIVERA

Cabinet Secretary

June 18, 2002

Lori Wrotenbery
Director
Oil Conservation Division

Marathon Oil Company P. O. Box 552 Midland, Texas 79702-0552 Attention: K. W. Tatarzyn

Administrative Order NSL-4750 (BHL) (SD)

Dear Mr. Tatarzyn:

Reference is made to the following: (i) your application filed with the New Mexico Oil Conservation Division ("Division") on June 7, 2002 (Division application reference No. pKRVO-216135512); (ii) the Division's records in Santa Fe; and (iii) Mr. Walter Dueease's meeting in Santa Fe with Mr. Michael E. Stogner, Chief Hearing Officer/Engineer with the Division in Santa Fe on May 20, 2002: all concerning Marathon Oil Company's ("Marathon") request for an exception to Rule 2 (b) of the "Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Associated Pool", as promulgated by New Mexico Oil Conservation Division ("Division") Order Nos. R-9922, R-9922-A, R-9922-B, R-9922-C, and R-9922-D and the "General Rules and Regulations for the Associated Oil and Gas Pools of Northwest New Mexico and Southeast New Mexico," as promulgated by Division Order No. R-5353, as amended, for its proposed Indian Hills Unit Well No. 45 to be drilled as a infill well to an unorthodox subsurface location within an existing standard 298.02-acre spacing and proration unit comprising Lots 1 through 8 (E/2 equivalent) of Section 21, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico.

This unit is currently simultaneously dedicated to Marathon's:

- (i) Indian Hills Unit Well No. 24 (API No. 30-015-31266), located on the surface 685 feet from the North line and 2073 feet from the East line (Unit B) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool (33685) at a standard sub-surface location within Lot 6 (NW/4 SE/4 equivalent Unit J) of Section 21; and
- (ii) Indian Hills Unit Well No. 28 (API No. 30-015-31267), located on the surface 218 feet from the South line and 660 feet from the East line (Unit P) of Section 16, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, and completed within the Indian Basin-Upper Pennsylvanian Associated Pool at a standard sub-surface location within Lot 2 (NW/4 NE/4 equivalent Unit B) of Section 21.

It is our understanding the proposed Indian Hills Unit Well No. 45, because of topographic reasons, will be spud at a surface location 806 feet from the North line and 1010 feet from the East line

(Unit B) of Section 28, Township 21 South, Range 24 East, NMPM, Eddy County, New Mexico, an directionally drilled to the north to a targeted-bottomhole location at an approximate depth 8,300 feet (TVD) 339 feet from the South line and 1148 feet from the East line (Lot 8/Unit P) of Section 21. The well bore will intersect the top of the Upper-Pennsylvanian interval at an approximate depth of 7,400 feet (TVD) 100 feet from the South line and 1119 feet from the East line (Lot 8/Unit P) of Section 21. The proposed well will be unorthodox in that the entire producing interval will be closer then the standard setback distance of 660 from the South line of Section 21. This bottomhole location has been chosen by Marathon to optimize reservoir drainage and minimize geological risk.

This application has been duly filed under the provisions of Division Rule 104.F and Rule 2 (c) of the Division's associated pool rules.

By the authority granted me under the provisions of Division Rule 104.F (2) and the applicable provisions of the special rules governing the Indian Basin-Upper Pennsylvanian Associated Pool, the above-described unorthodox sub-surface location for the Indian Hills Unit Well No. 45 within the E/2 equivalent of Section 21 is hereby approved.

Further, the aforementioned well and spacing unit will be subject to all existing rules, regulations, policies, and procedures applicable to the Indian Basin-Upper Pennsylvanian Associated Pool.

Marathon is hereby authorized to simultaneously dedicate production attributed to the Indian Basin-Upper Pennsylvanian Associated Pool from the aforementioned Indian Hills Unit Wells No. 24, 28, and 45. Furthermore, Marathon is permitted to produce the allowable assigned the subject 298.02-acre spacing and proration unit from all three wells in any proportion.

Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

Sincerely,

Lori Wrotenberg Director

LW/MES/kv

cc:

New Mexico Oil Conservation Division - Artesia U. S. Bureau of Land Management - Carlsbad

Form 3160-3 (July 1992)

UNITED STATES

(Other instructions on

FORM APPROVED OMB NO. 1004-0136

Expires: February 28, 1995

	DEPARTMEN	OF THE	NTEF		(e) [5. LEASE DESIGNATION	
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		ds_legal or equitable title	to those righ	ts in the subject lease which would	entitle the applicant	to conduct operations thereon	n.
•		RA A	TINE	IELD MANAC	BER	NOV	2 i 2002
APPROVED BY		TIT	LE		Altr		

DISTRICT I P.O. Box 1960, Hobbs, NK 86841-1980

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office

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

OIL CONSERVATION DIVISION

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410 P.O. Box 2088 Santa Fe, New Mexico 87504-2088

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name		
	33685	Indian Basin Upper Penn. Asso	c.	
Property Code	Property Name Well Numb INDIAN HILLS UNIT 41			
OGRID No.	Орез	rator Name	Elevation	
14021	MARATHON	OIL COMPANY	4017'	

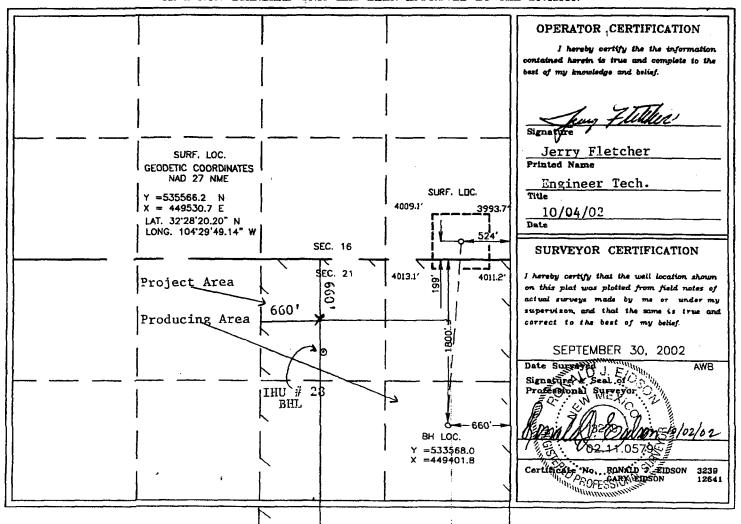
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Р	16	21-S	24-E		199'	SOUTH	524	EAST	EDDY

Bottom Hole Location If Different From Surface

	UL or lot No.	Section	Townshi	ip Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	Н	21	21-9	S 24-E	_	1800'	NORTH	660'	EAST	EDDY
ı	Dedicated Acres	Joint o	r Infill	Consolidation	Code Or	der 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



DISTRICT I P.O. Box 1980, Hobbs, NM 88841-1880

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

DISTRICT II P.O. Drewer DD, Artesia, NM 86211-0718

OIL CONSERVATION DIVISION

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT III 1000 Rio Branco Rd., Axtec, NM 57410 P.O. Box 2088 Santa Fe, New Mexico 87504-2088

DISTRICT IV P.O. BOX 2008, BANTA FR. N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

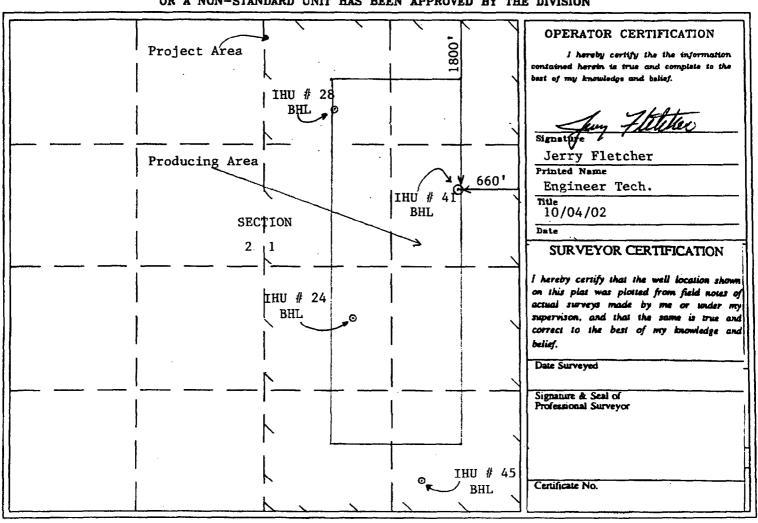
CI AMENDED REPORT

API Number	Pool Code	Pool	Neme
1	33685	Indian Basin Upper Penn.	Assoc.
Property Code		Property Name	Well Number
	INDI	41	
OGRID No.		Operator Name	Elevation
14021	MARATHO	N. OIL COMPANY	4017'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	<u></u>	l	Bottom	Hole Loc	eation If Diffe	erent From Sur	face	<u> </u>	L
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
"H"	21	21-S	24-E		1800'	NORTH	660'	EAST	EDDY
Dedicated Acre	Joint o	r Infill Co	neolidation (Code Or	der 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



Form 3160-5 (August 1999)

UN) STATES DEPARTMEN: OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

5. Lease Serial No.

٠.	LLPA	201	ш	1	"

abandoned well. Use Form 3160-3 (APD) for such proposals. SUBMIT IN TRIPLICATE - Other instructions on reverse side Tindi	7260
SUBMIT IN TRIPLICATE - Other instructions on reverse side 1. Type of Well Oil Well X Gas Well Other 2. Name of Operator Marathon Oil Company 3a. Address P.O. Box 552 Midland, TX 79702 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E EHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	Indian, Allottee or Tribe Name
SUBMIT IN TRIPLICATE - Other instructions on reverse side 7. If Indi 1. Type of Well Oil Well X Gas Well Other 2. Name of Operator Marathon Oil Company 3a. Address P.O. Box 552 Midland, TX 79702 4. Location of Well (Footage, Sec., T. R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	
Indi 1. Type of Well Oil Well X Gas Well Other 2. Name of Operator Marathon Oil Company 3a. Address P.O. Box 552 Midland, TX 79702 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	
1. Type of Well Oil Well X Gas Well Other 2. Name of Operator Marathon Oil Company 3a. Address P.O. Box 552 Midland, TX 79702 915-687-8360 10. F SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	Unit or CA/Agreement, Name and/or No
Oil Well X Gas Well Other 2. Name of Operator Marathon Oil Company 3a. Address P.O. Box 552 Midland, TX 79702 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	an Hills Unit
2. Name of Operator Marathon Oil Company 3a. Address P.O. Box 552 Midland, TX 79702 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	/ell Name and No.
3a. Address P.O. Box 552 Midland, TX 79702 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	an Hills Unit 41
3a. Address P.O. Box 552 Midland, TX 79702 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	
P.O. Box 552 Midland, TX 79702 915-687-8360 10. If the second of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. Eddy 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	PI Well No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	
SHL @ 199' FSL & 524' FEL Section 16, T-21-S, R-24-E BHL @ 1800' FNL & 753' FEL Section 21, T-21-S, R-24-E Eddy Co. N.M. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	Field and Pool, or Exploratory Area .an Basin U.P. Assoc.
Eddy Co. N.M. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	an basin U.P. Assoc.
Eddy Co. N.M. 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	County or Parish, State
12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT,	•
TYPE OF SUPMISSION	OR OTHER DATA
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X Notice of Intent	Resume) Water Shut-Off
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Subsequent Report Alter Casing Fracture Treat Reclamation	Well Integrity
Casing Repair New Construction Recomplete	Other
Final Abandonment Notice Change Plans Plug and Abandon Temporarily Abandon	ton
Convert to Injection Plug Back Water Disposal	
Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical de Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subseque following completion of the involved operations. If the operation results in a multiple completion or recompleted in a new intesting has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have determined that the final site is ready for final inspection.) Marathon Oil Company has changed the EHL on the directional plan to make sure the point and Terminus fall within the set back distance for the Indian Basin Upper Penn. Assoc. Gas Pool which is 660' from the outer boundary of the proration unit. Please see attached new Directional Survey furnished by Baker Inteq for details as as a new C-102 acreage dedication plat.	epths of all pertinent markers and zones. Lent reports shall be filed within 30 days Lerval, a Form 3160-4 shall be filed once Le been completed, and the operator has Penetration

14. I hereby certify that the for Name (Printed/Typed) Jerry Fletche		itle	The sine on March	
Jerry Freccise	<u> </u>		Engineer Tech.	
Juny 71	there D	ate	11/15/02	
7 7	THIS SPACE FOR FEDERAL	OR S	STATE OFFICE USE	
Approved by	/S/ JOE G. LARA		ELD MANAGER	NOV 2 1 2000
certify that the applicant holds	are attached. Approval of this notice does not warrant or legal or equitable title to those rights in the subject leasent to conduct operations thereon.	Off	CARLSBAD FIE	LD OFFICE

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

DISTRICT II P.O. Drawer DD, Artesia, NM 86211-0719

OIL CONSERVATION DIVISION P.O. Box 2088

State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT III 1000 Rio Brazos Rd., Axtec. NM 87410 Santa Fe, New Mexico 87504-2088

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088 WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Code Pool Name			
	33685	Indian Basin Upper Pen	n. Assoc.		
Property Code	INDIA	Well Num	Well Number		
OGRID No.		perator Name	Elevation	<u> </u>	
14021	MARATHO	N OIL COMPANY	4017	,•	

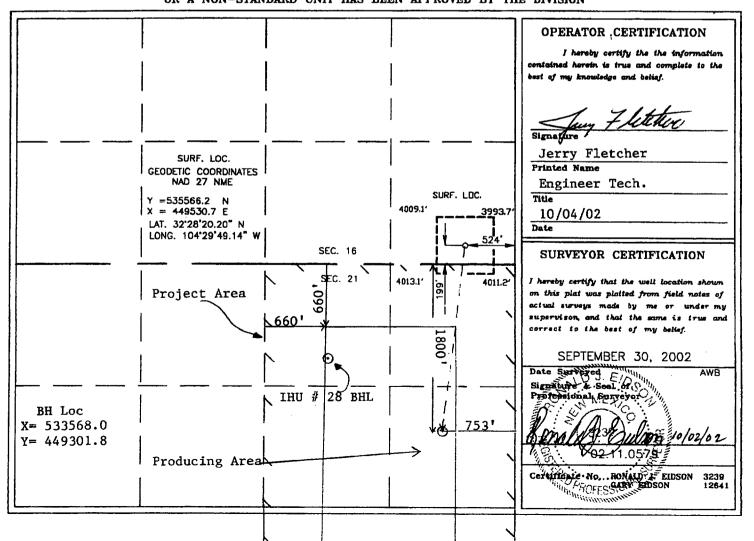
Surface Location

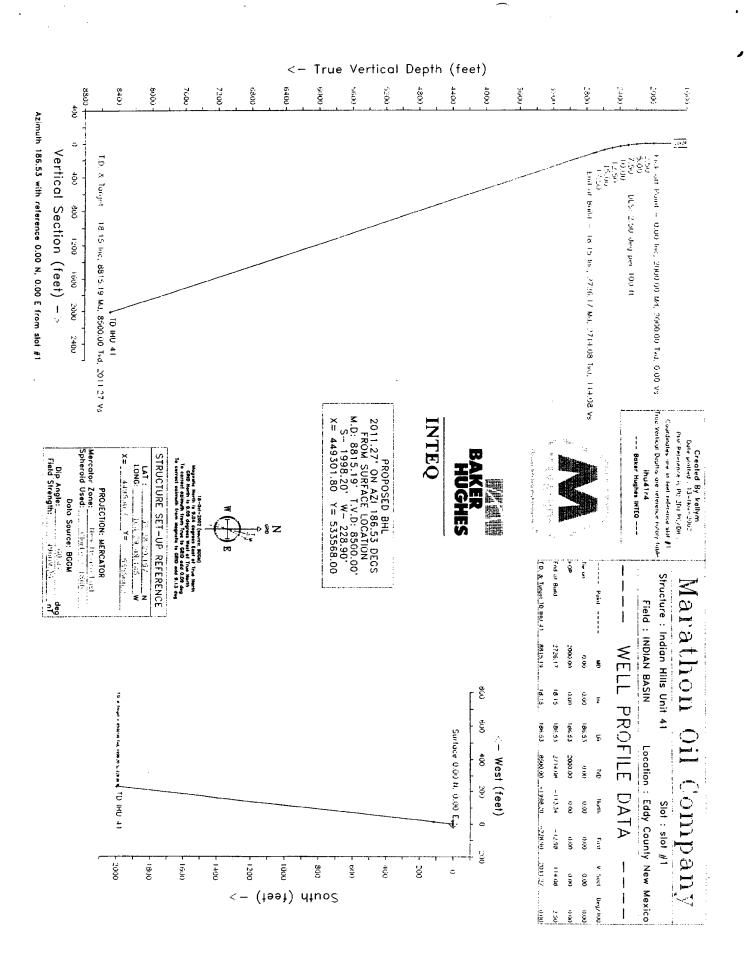
ĺ	UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
l	P	16	21-S	24-E		199'	SOUTH	524'	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	r lot No. Section Township		ip Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County				
Н	21	21-9	S 24-E	-	1800'	NORTH	753'	EAST	EDDY				
Dedicated Acre	s Joint o	or Infill	Consolidation	Code 0	der No.								
320 E/2		1											

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





Marathon Oil Company Indian Hills Unit 41

Eddy County New Mexico INDIAN BASIN slot #1

Þ я 0 POS ΑL ٢ N S TING

Baker Hughes INTEQ

Your ref : P0 2DJ RC/DH Our ref : prop3497

License :

Date printed: 13-Nov-2002 Date created: 1-Oct-2002

Last revised: 13-Nov-2002

Slot location is n32 28 20.197,w104 29 49.145
Slot Grid coordinates are N 535566.200, E 449530.700
Slot local coordinates are 0.00 N 0.00 E

Structure is centred on 449530.700,535566.200,999.00000,N

Field is centred on n32 30 0.000, w104 30 0

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is Grid North

Marathon Oil Company Indian Hills Unit 41, slot #1 INDIAN BASIN, Eddy County New Mexico

PROPOSAL LISTING Page 1 Your ref : P0 2DJ RC/DH Last revised : 13-Nov-2002

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All data in feet unless otherwise stated. Calculation uses minimum curvature method. Bottom hole distance is 2011.27 on azimuth 186.53 degrees from wellhead. Grid coordinates in FBET and computed using the Clarke - 1866 spheroid Vertical section is from N 0.00 E 0.00 on azimuth 186.53 degrees. Coordinates from slot #1 and TVD from rotary table. Grid is mercator - New Mexico East (3001).

Presented by Baker Hughes INTEQ

Marathon Oil Company

INDIAN BASIN, Eddy County New Mexico Indian Hills Unit 41, slot #1

> PROPOSAL LISTING Your ref : P0 2DJ RC/DH Page 2

Last revised: 13-Nov-2002

Comments in wellpath

Rectangular Coords. Comment

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1998.208

8815.19 8500.00 228.90W TD IHU 41

Targets associated with this wellpath

Target name Geographic Location T.V.D. Rectangular Coordinates Revised

449301.800,533568.000,0.00000 8500.00 1998.20S

TD IHU 41

228.90W

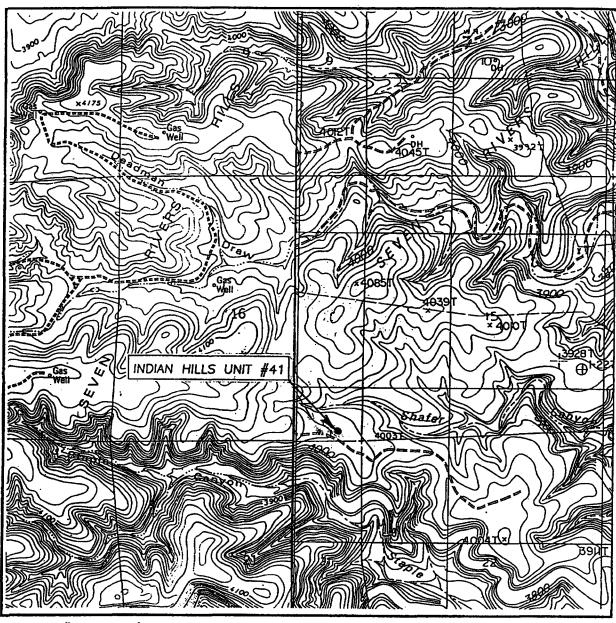
1-Oct-2002

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LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SEC. 16 TWP. 21—S RGE. 24—E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 199' FSL 524' FEL

ELEVATION 4017'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

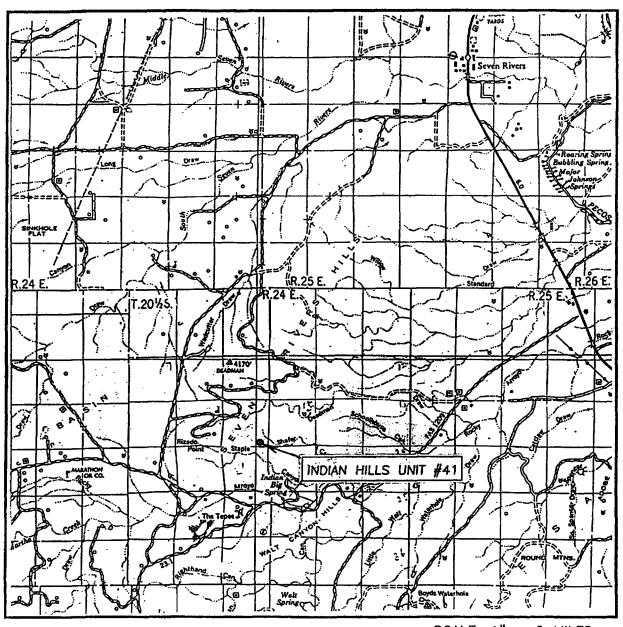
U.S.G.S. TOPOGRAPHIC, MAP

AZOTEA PEAK, & MARTHA CREEK, N.M.

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

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

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 16 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 199' FSL 524' FEL

ELEVATION 4017'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

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



Form 3160-5 (August 1999)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

NMOCD

FORM APPROVED OMB NO. 1004-0135 Expires: November 30, 2000

5. Lease Serial No. NMNM07260

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this abandoned wel	s form for proposals to dri l. Use form 3160-3 (APD)	ill or to re- for such p	enter an roposals.		6. If Indian, Allottee or	Tribe Name			
SUBMIT IN TRII	PLICATE - Other instruction	ons on rev	erse side. RECI	EIVED	7. If Unit or CA/Agreen NMNM70964X	nent, Name and/or No.			
i. Type of Well ☐ Oil Well 🔯 Gas Well ☐ Oth			FFQ 9	0 7004	8. Well Name and No. INDIAN HILLS UNI	Γ41			
2. Name of Operator MARATHON OIL COMPANY	Contact: Cl-	HARLES KE Mail: cekend	NDRIX ix@magaGabilA	ARTESIA	9. API Well No. 30-015-32539-00	-X1			
3a. Address P O BOX 3487 HOUSTON, TX 77253-3487	F	b. Phone No. Ph: 713.296 x: 713.499			10. Field and Pool, or E INDIAN BASIN U	xploratory PPER PENN ASSOC			
4. Location of Well (Footage, Sec., T.					11. County or Parish, an				
Sec 16 T21S R24E SESE 199	FSL 524FEL				EDDY COUNTY, NM				
12. CHECK APPR	NOTICE, RI	EPORT, OR OTHER	DATA						
TYPE OF SUBMISSION			TYPE OF	ACTION					
☐ Notice of Intent	☐ Acidize		ion (Start/Resume)	☐ Water Shut-Off					
Subsequent Report Subsequent Re	☐ Alter Casing	_	ure Treat	☐ Reclama		☐ Well Integrity			
	Casing Repair		Construction	Recomp		Other Drilling Operations			
☐ Final Abandonment Notice	☐ Change Plans ☐ Convert to Injection	☐ Plug ☐ Plug	and Abandon	☐ Tempor	arily Abandon	6 - 1			
testing has been completed. Final Ab determined that the site is ready for fit 11/04/2003 Setting of surface 11/05/2003 RIH w/ 8.75" bit tay Drilled formation from 1800' to 11/06/2003 through 11/16/2003 11/17/2003 Drilled 7911' to 82 11/18/2003 Made conditioning 11/19/2003 Washed and ream Ran 7.0" K55 23 & 26# in the 2 jts 7" 26# K55 100 jts 7" 25# K55 49 jts 7" 26# K55 DV Tool N80	nal inspection.) casing submitted in detail or gged cement at 1730' drilled 1895' started directional kid 3 Directional drilled 2150' to 19. Lost complete returns, d trip to run casing. ed to TD @ 8800'. Condition following design top to bott	n well spud d out cemer kout at 189 o 7911'. Iry drilled fr	sundry. nt to 1800' 5' drilled to 215 om 8219 to 873	o.	, have been completed, an	d the operator has			
14. 1 hereby certify that the foregoing is Com Name (Printed/Typed) CHARLES	Electronic Submission #27 For MARATHON mitted to AFMSS for process	827 verified OIL COMP Sing by ARM	ANDO LOPEZ o	n 02/17/2004	System (04AL0102SE) RESENTATIVE				
Signature (Electronic S	ubmission)		Date 02/13/2	004		····			
	THIS SPACE FOR	FEDERA	L OR STATE	OFFICE U	SE)				
Approved By ACCEPT	ED		ALEXIS C TitlePETROLE	SWOBODA UM ENGINE	ER .	Date 02/18/2004			
Conditions of approval, if any, are attached certify that the applicant holds legal or equi which would entitle the applicant to condu	itable title to those rights in the sul	t warrant or bject lease	Office Carlsbac	i					
Title 18 U.S.C. Section 1001 and Title 43 to States any false, fictitious or fraudulent s	U.S.C. Section 1212, make it a crimitatements or representations as to	me for any per any matter wi	son knowingly and hin its jurisdiction.	willfully to ma	ke to any department or ag	gency of the United			

Additional data for EC transaction #27827 that would not fit on the form

32. Additional remarks, continued

ECP N80 37 jts 7" 26# K55 Float collar 1 jt 7" 26# K55 Float shoe

cont 11/19/2003 Cement Production casing
1st stage: Pumped 50,000 SCF N2, 10 bbls 10% CaCl water, 10 bbl fresh water, 100 sacks Foamed Acid
Soluble Cement mixed at 15.0 ppg., 2.55 cuft/sk yeild, 170 sks Foamed Premium Cement @ 15.2
ppg,1.25 cuft/sk yield, 120 sacks Super H Cement @ 13.0 ppg, 1.68 cuft/sk yield. Dropped plug and
displaced with 348 bbls fresh water. Bumped plug with 1500 psi. Set ECP, opened DV Tool circulated
through DV tool.
2nd stage: Circulated through DV Tool returned dirty water and some N2. Pumped 10 bbls fresh water
750 sks Interfill C @ 11.9 ppg, 2.46 cuft/sk yield, 100 sks Premium Plus @ 14.8 ppg, 1.32 cuft/sk
yeild, Dropped plug and displaced with 273 bbls fresh water. Bumped plug with 2830 psi, closed DV
Tool.(Got cement returns at surface at full circulation started loosing returns with 20 bbls left
to pump)

Set slips, cut off 7" casing installed 11" 3M x 7 1/16" 3M tubing head.

Form 3160-5 (August 1999)

UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APP	ROVED
OMB NO. 10	004-0135
Evaluate Massam	hee 20, 20,

	UREAU OF LAND MANA				Expires: No	ovember 30, 2000			
- ·	NOTICES AND REPO		21.1.0		5. Lease Serial No. NMNM07260				
Do not use thi	s form for proposals to	drill or to re-	enter an			- T-11 - N			
abandoned we	II. Use form 3160-3 (API	D) for such p	roposais.		6. If Indian, Allottee of	r inte name			
SUBMIT IN TRI	PLICATE - Other Instruc	tions on rev	erse side.		7. If Unit or CA/Agree NMNM70964X	ement, Name and/or No.			
1. Type of Well Oil Well	ıcı				8. Well Name and No. INDIAN HILLS UN				
2. Name of Operator MARATHON OIL COMPANY		CHARLES KI E-Mail: cekend	ENDRIX rix@marathonoil.	com	9. API Well No. 30-015-32539-0)0-X1			
3a. Address P O BOX 3487 HOUSTON, TX 77253-3487		3b. Phone No. Ph: 713.29 Fx: 713.499		;)	10. Field and Pool, or INDIAN BASIN	Exploratory UPPER PENN ASSOC			
4. Location of Well (Footage, Sec., T.	, R., M., or Survey Description	,	RECE	VED	11. County or Parish,	and State			
Sec 16 T21S R24E SESE 199	PFSL 524FEL		MAR - 4	2004	EDDY COUNTY, NM				
12. CHECK APPE	ROPRIATE BOX(ES) TO	INDICATE	OCD-AF	TESIA NOTICE, RI	PORT, OR OTHE	R DATA			
TYPE OF SUBMISSION			TYPE O	F ACTION					
	☐ Acidize	Dee;	oen	☐ Producti	on (Start/Resume)	☐ Water Shut-Off			
☐ Notice of Intent	☐ Alter Casing	☐ Frac	ture Treat	☐ Reclama	tion	☐ Well Integrity			
Subsequent Report	Casing Repair	☐ New	Construction	☐ Recomp	lete	Other			
☐ Final Abandonment Notice	☐ Change Plans	🗀 Plug	and Abandon	☐ Tempor	rarily Abandon Production Start-up				
	Convert to Injection	☐ Plug	Back	☐ Water D	isposal				
13. Describe Proposed or Completed Ope If the proposal is to deepen directions Attach the Bond under which the wor following completion of the involved testing has been completed. Final Ah determined that the site is ready for fit 12/01/2003 RIH w/ 6 1/8° bit a tool. Cont RIH tagged PBTD (12/02/2003 Rigged up Baker Ashots total at depths as follows 8140' - 8162' 8177' - 8236' 8289' - 8296' 8309' - 8314' 8348' - 8358' 8388' - 8432' RIH w/ 7" PPI Packers. 12/03/2003 Rigged up HES Action 14. Thereby certify that the foregoing is	ally or recomplete horizontally, it will be performed or provide operations. If the operation remainded in the film of the performed of the film of th	give subsurface the Bond No. on suits in a multiple of only after all ranged at 7 grals w/4 sho	locations and meass file with BLM/BL completion or recequirements, included 2002' drilled out ots per foot 147	med and true ver A. Required sub completion in a r ding reclamation coment and ft w/ 588	rtical depths of all pertinsequent reports shall be; sequent reports shall be; ew interval, a Form 316, have been completed, a	ent markers and zones. filed within 30 days			
14. I hereby certify that the foregoing is	Electronic Submission #	27879 vertfled ON OIL COMP	by the BLM Wel	Information	System				
	mmitted to AFMSS for pro	cessing by LI	IDA ASKWIG on	02/26/2004 (0					
Name (Printed/Typed) CHARLES	KENDRIX		Title AUTHO	RIZED REP	RESENTATIVE				
Signature (Electronic S	ubmission)		Date 02/26/2	004					
	THIS SPACE FO	R FEDERA	L OR STATE	OFFICE US	E				
Approved By ACCEPT	ED		(BLM App Title (ORIG	rover Not Spo SGD.) AL	ecified) EXIS C. SWOBO	Date 03/02/2004			
Conditions of approval, if any, are attached certify that the applicant holds legal or equ which would entitle the applicant to conduct the applicant the applica	itable title to those rights in the	not warrant or subject lease	Office Carloba	4					

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional data for EC transaction #27879 that would not fit on the form

32. Additional remarks, continued

CCA sour acid total of 15,000 gals. RIH w/ RBP set and tested.
12/04/2003 Pull kill string. RIH w/ ESP and tubing unset RPB cont in hole with pump 271 jts 2 7/8 bottom of tubing set at 8490'. Bottom of pump assembly at 8647'.

an ka Angaran sa masa masa dit

Form 3160-4 (August 1999)

UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0137 Expires: November 30, 2000

			DOWEN	OOL	WILD !	ATUSTAL	ODMEN					I			
	WELL	COMPL	ETION (OR RE	COM	PLET	ION RE	PORT	AND L	.OG	******		ase Serial		
la. Type o	f Well	Oil Well	Gas lew Well		Dry	_	Other Deepen	∩ Plu	g Back	☐ Diff.	Resvr.	6. If	Indian, Al	lottee o	r Tribe Name
o. 1990 o	. completion	Oth							.			7. Ui	nit or CA A	Agreem 84X	ent Name and No.
2. Name of MARA	f Operator THON OIL (COMPAN	ΙΥ		C	ontact:	CHARLE E-Mail: ca			onoil.con)				
3. Address	P.O. BOX		7253-3487				3a. Ph:	Phone N 713.29	lo. (includ 6.2096	e area code	:)	9. A	PI Well No).	30-015-32539
4. Location	n of Well (Re	port locat	ion clearly a 124E Mer N	nd in ac	cordance	with F	ederal requ	irement	s)*		.,	10. E	ield and P	ool, or	Exploratory PENN ASSOC
At surfa			9FSL 524F	EL	IS R24i	= Mer	UMP			•		11 5	er TR	M or	Block and Survey
At top 1	prod interval Sec	reported b	elow SEI S R24E Me	NE Lot	H 1592	NL 11	93FEL							_	21S R24E Mer NMP
At total	depth SE	NE Lot H	1770FNL	251FE		, —		16 Dec	. (51			E	DDY		NM P. D.T. CLAR
14. Date S 11/01/2	2003			/19/20	. Reache 03	d		□ D 8	e Complet 2 A 3 05/2003	Ready to	Prod.	17. E			
18. Total I	Depth:	MD TVD	8800 8457		19. PI	ug Bac	k T.D.:	MD TVD		98 59	20. De	pth Bri	dge Plug S	et:	
21. Type E GAMN	lectric & Otl IA RAY, DU	ner Mecha AL SPAC	nical Logs F ED NEUTI	lun (Sub RON, S	mit cop	y of eac	h) ENSITY			Was	well core DST run ctional Su		No No No	Yes	s (Submit analysis) s (Submit analysis) s (Submit analysis)
23. Casing a	nd Liner Rec	ord (Repo	ort all string.	s set in v	vell)		_								
Hole Size	Size/G	Frade	Wt. (#/ft.)	To (M		Botton (MD)		Cemente epth		f Sks. & f Cement	Slurry (BE		Cement	Тор*	Amount Pulled
	12.250 9.825 K 55 36.0 8.750 7.000 K 55 26.0					00	701/	 	130 124	_		Field and Pool, or Exploratory INDIAN BASIN U. PENN. ASSOC. Sec., T., R., M., or Block and Survey or Area Sec 18 T21S R24E Mer NMP County or Parish 13. State EDDY 13. State EDDY 14017 GL ridge Plug Set: MD TVD TVD No Yes (Submit analysis) No Yes (Submit analysis) No Yes (Submit analysis) No Yes (Submit analysis) Cement Top* Amount Pulled 0 0 0 0 0 0 Pepth Set (MD) Packer Depth (MD) No. Holes Perf. Status 588 SIX INTERVALS 4 SHOTS AL RECEIVE APR 0 8 21 CED Method ELECTRIC PUMP SUB-SURFACE			
8.750	7.1	JUU K 55	26.0	1		- 86	00	7010	" 	124	4				<u> </u>
	J				\Box										
	 			╁┈	\dashv		-	—	 -		 				
24. Tubing	Record														
Size 2.875	Depth Set (N	(ID) P 8490	acker Depth	(MD)	Size	P	epth Set (M	D) [Packer De	oth (MD)	Size	De	pth Set (M	D)	Packer Depth (MD)
	ing Intervals	049U]			<u> </u>		26. Perfora	tion Rec	ord		<u> </u>				
-	ormation		Тор		Botto	_	P	erforated	Interval		Size	1			
IA <u>NABASIN U</u>	, PENN. AS	SOC.		8108		8432			8140 T	O 8432		-	588	SIX	NTERVALS 4 SHOTS
B) C)					·	-+				\dashv		\dashv		┼	
D)															
	racture, Trea		nent Squeez	e, Etc.						T	(anada)				
			432 TREAT	ED IN 2	INTERV	ALS W	100 GAL.		MOUNT AND			TOTAL	<u> </u>	-R	ECEIVE
				_											PR 0 8 7
								· · · · · · · · · · · · · · · · · · ·						98	P:MÖTE
	ion - Interval														
Date First Produced	Test Date	Hours Tested	Test Production	BBL BBL	Gar MC		Water BBL	Oil G Corr.	travity API	Gas Gravis	y	Producti	on Method		
12/05/2003 Choke	12/23/2003 Tbg. Press.	Csg.	24 Hr.	324. Oil	O Gas	330.0	1014.0 Water	Gas:C	NI	W-11 G		E	LECTRIC	PUMP :	SUB-SURFACE
Size	Flwg. 240		Rate	BB1. 324	MC	F 830	BBL 1014	Ratio	лі 2582	Wells	GW				
28a. Produc	tion - Interva			1 024			1 1014		2002						RECEIVED
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MC	F	Water BBL	Oil G Corr.		Gas Gravit	y	Productio	m Method		APR 0 8 2004
Choke Size	Tbg. Press. Flwg. St	Cag. Press.	24 Hr. Rate	Oil BBI.	Gas MC	7	Water BBL	Gas:C Ratio	N)	Well S	tatus			00	B-ARTESIA

28b. Prod	luction - Interv	al C									
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API		Gas Gravity	Production Method	
Choke Size	Tbg. Press. Flwg. SI	Csg. Pross.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio		Well Status		
28c. Prod	luction - Interv	al D	1 -	<u>. </u>	<u> </u>	<u> </u>					
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API		Gas Gravity	Production Method	
Choke Size	Tog. Press. Flwg. SI	Cag. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio		Well Status		
29. Dispo	osition of Gas(Sold, used j	for fuel, vent	ed, etc.)			-			·	
Show tests,	nary of Porous all important including dept ecoveries.	zones of po	rosity and c	ontents there	eof: Cored in e tool open,	ntervals and a flowing and	all drill-stem shut-in pressum	es	31. For	mation (Log) Markers	
	Formation		Тор	Bottom		Description	ns, Contents, et	tc.		Name	Top Meas. De
UPPER F	PENN		8118	8442		SAN ANDRES GLORIETA YESO BONE SPRING WOLFCAMP CISCO					
32. Addit	tional remarks	linclude pl	agging proc	edure):							
A CC ROS	tional remarks DPY OF THE WELL OFFIC	INCLINAT E.	ION REPO	PRT, ÖEVIA	ATION SUF	RVEY, AND	LOGS WILL E	BE SEI	NT TO THE (BLM'S	·
33. Circle	e enclosed attac	hments:									
_	ectrical/Mecha indry Notice fo	_	•			2. Geologic l 5. Core Anal			3. DST Rep 7 Other:	port 4. Di	rectional Survey
34. I here	by certify that	the foregoing		ronic Subm	ission #283:	36 Verified 1	ect as determin by the BLM W PANY, sent to	eli Info	ormation Sys	records (see attached instem.	tructions):
Name	(please print)	CHARLES	KENDRIX	<u>. </u>			Title A	UTHO	RIZED REP	RESENTATIVE	
Signat	ture	(Electronic	Submission	on)			Date <u>0</u>	4/05/2	004		
Title 18 U	S.C. Section 1	001 and Ti	itle 43 U.S.C	C. Section 12	12, make it	a crime for a sentations as	ny person knov to any matter v	wingly :	and willfully t	o make to any departmen	nt or agency

RECEIVED

NAUTICAL (Version 4.0) Well: Indian Hills Unit #41

APR 0 8 2004

Target Azimuth: 199.76 Target TVD: 8450

Closure Direction:

2008-ARTESIA

Calculation Method - Minimum Curvature

Measured Depth	Inclination (deg.)	Azimuth (deg.)	True Vertical	Vertical Section	North/ South	East/ West	Closure (ft)	Build Rate	Walk Rate	Dogleg Severity	Tool Face
(ft)	(308.)	(Depth (ft)	(ft)	(ft)	(ft)		(deg/ft)	(deg/ft)	(d/100')	(deg)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	<==== T	ie-In	Data		
100.00	0.49	218.11	100.00	0.41	-0.34	-0.26	0.43	0.005	2.181	0.49	
200.00	0.26	302.53	200.00	0.76	-0.55	-0.72	0.91	-0.002	0.844	0.53	
300.00	0.52	241.56	300.00	1.05	-0.64	-1.31	1.46	0.003	-0.610	0.45	
400.00	0.43	150.84	399.99	1.63	-1.19	-1.53	1.93	-0.001	-0.907	0.68	gyro
500.00	0.23	128.20	499.99	1.94	-1.64	-1.19	2.02	-0.002	-0.226	0.24	gyro
600.00	0.20	88.58	599.99	1.95	-1.76	-0.85	1.96	0.000	-0.396	0.15	
700.00	0.16	71.63	699.99	1.80	-1.71	-0.55	1.80	0.000	-0.170		gyro
800.00	0.13	40.39	799.99	1.60	-1.58	-0.34	1.62	0.000	-0.312		gyro
900.00	0.16	355.44	899.99	1.37	-1.36	-0.28	1.38	0.000	-0.450	0.11	
1000.00	0.22	357.62	999.99	1.06	-1.03	-0.30	1.07	0.001	0.022	0.06	
1100.00	0.36	359.33	1,099.99	0.59	-0.52	-0.31	0.60	0.001	0.017		gyro
1200.00	0.55	6.47	1,199.98	-0.17	0.27	-0.26	0.37	0.002	0.071		gyro
1300.00	0.58	24.69	1,299.98	-1.14	1.21	0.01	1.21	0.000	0.182		gyro
1400.00	0.73	26.61	1,399.97	-2.28	2.24	0.50	2.29	-			gyro
1500.00	0.95	23.55	1,499.96	-3.74	3.57	1.12	3.74	0.002	-0.031		gyro
1600.00	0.86	29.67	1,599.95	-5.30	4.98	1.82	5.30	-0.001	0.061		gyro
1700.00	0.76	50.29	1,699.94	-6.61	6.06	2.71	6.63	-0.001	0.206		gyro
1800.00	0.30	105.47	1,799.94	-7.20	6.41	3.47	7.29	_	0.552		gyro
1875.00	0.34	358.67	1,874.94	-7.43	6.58	3.65	7.53	0.001	3.376	0.69	gyro
1950.00	1.58	210.81	1,949.93	-6.62	5.91	3.12	6.69			2.50	mwd
2028.00	3.43	209.06	2,027.85	-3.26	2.95	1.43	3.28	0.024	-0.022	2.37	mwd
2091.00	4.57	208.30	2,090.69	1.08	-0.91	-0.67	1.13				mwd
2155.00	5.50	205.90	2,154.45	6.65	-5.91	-3.22	6.73	0.015	-0.038		mwd
2218.00	7.20	203.10	2,217.06	13.60	-12.26	-6.09	13.69			2.74	mwd
2281.00	9.20	202.40	2,279.41	22.57	-20.55	-9.56	22.66	0.032		3.18	mwd
2345.00	10.90	200.90	2,342.43	33.73	-30.93	-13.67	33.82	-		2.69	mwd
2407.00	12.40	202.00	2,403.15	46.24	-42.58	-18.25	46.33				mwd
2471.00	14.10	200.90	2,465.44	60.90	-56.24	-23.61	60.99				mwd
2535.00	16.00	200.20	2,527.24	<i>7</i> 7.52	-71.80	-29.43	77.60				mwd
2598.00	17.70	198.80	2,587.54	95.78	-89.01	-35.52	95.84				mwd
2661.00	18.90	199.50	2,647.35	115.56	-107.70	-42.01	115.60		0.011		mwd
2723.00	19.90	198.90	2,705.83	136.15	-127.15	-48.78	136.18				mwd
2787.00	19.90	198.90	2,766.01	157.93	-147.76	-55.84	157.96				mwd
2850.00	19.90	199.20	2,825.25	179.38	-168.03	-62.84	179.39		0.005		mwd
2914.00	19.20	198.90	2,885.56	200.79	-188.27	-69.83	200.80		-0.005		mwd
2977.00	18.80	199.50	2,945.12	221.30	-207.64	-76.57	221.31	-0.006	0.010		mwd
3040.00	18.90	198.80	3,004.74	241.65	-226.87	-83.25	241.66				mwd
3104.00	19.70	199.50	3,065.15	262.80	-246.85	-90.19	262.81	0.013			mwd
3166.00	20.30	200.20	3,123.41	284.01	-266.79	-97.39	284.01	0.010			mwd
3230.00	19.60	201.30	3,183.57	305.84	-287.21	-105.12	305.85		0.017		mwd
3294.00	19.10	201.30	3,243.95	327.04	-306.97	-112.83	327.05		0.000		mwd
3356.00	18.50	201.70	3,302.64	347.01	-325.56	-120.15	347.02		0.006		mwd
3420.00	18.60	202.00	3,363.32	367.36	-344.46	-127.73	367.38	-	0.005		mwd
3483.00	19.20	203.10	3,422.92	387.74	-363.30	-135.56	387.77		0.017		mwd
3546.00	18.90 19.10	202.70	3,482.47	408.27	-382.24	-143.56	408.31	-0.005			mwd
3608.00		200.60	3,541.09	428.44	-401.00	-151.00	428.49				mwd
3672.00 3736.00	19.70 20.30	200.30 199.50	3,601.46	449.70 471.50	-420.92	-158.43	449.75		-0.005		mwd
3799.00	20.30	198.50	3,661.60 3,720.69	471.59 493.44	-441.50 -462.17	-165.88 -172.99	471.64	0.009	-0.013		mwd
3862.00	19.30	196.50	3,779.96	493.44 514.77	-462.17 -482.49	-172.99 -179.52	493.49	0.000 -0.016	-0.016		mwd
3926.00	19.10	197.10	3,840.40	535.80	-462.49 -502.56	-179.52 -185.83	514.80 535.82		-0.022 0.011		mwd mwd
3989.00	19.60	197.10	3,899.84	556.66	-502.56 -522.48	-192.09	556.67	0.003	-0.011	0.48	
4053.00	20.20	197.10	3,960.02	578.42	-522.46 -543.30	-192.09	578.42		0.000		mwd
			-,	J. J.72	0-10.00	.00.00	J. J. 72	0.008	3.000	0.04	

NAUTICAL (Version 4.0) Well: Indian Hills Unit #41

Target Azimuth: 199.76 Target TVD: 8450

Calculation Method - Minimum Curvature

Closure Direction:

200

Measured Depth	Inclination		True Vertical	Vertical Section	North/ South	East/ West	Closure	Build Rate	Walk Rate	Dogleg Severity	Tool Face
(ft)	(deg.)	(deg.)	Depth (ft)	(ft)	(ft)	(ft)	(ft)	(deg/ft)	(deg/ft)	(d/100')	(deg)
4116.00	19.90	196.70	4,019.20	599.99	-563.97	-204.78	599.99	-0.005	-0.006	0.52	mwd
4180.00	19.90	197.40	4,079.38	621.75	-584.79	-211.16	621.75	0.000	0.011	0.37	mwd
4244.00	18.90	198.80	4,139.75	642.99	-605.00	-217.76	642.99	-0.016	0.022	1.72	mwd
4307.00	18.90	198.80	4,199.35	663.40	-624.32	-224.34	663.40	0.000	0.000	0.00	mwd
4369.00	19.40	198.50	4,257.92	683.73	-643.59	-230.84	683.73	0.008	-0.005	0.82	mwd
4432.00	19.50	199.20	4,317.33	704.71	-663.44	-237.62	704.71	0.002	0.011	0.40	mwd
4496.00	19.70	197.40	4,377.62	726.17	-683.82	-244.36	726.17	0.003	-0.028	0.99	mwd
4559.00	19.90	198.10	4,436.89	747.49	-704.14	-250.86	747.50	0.003	0.011	0.49	mwd
4622.00	20.10	198.20	4,496.09	769.03	-724.62	-257.58	769.04	0.003	0.002	0.32	mwd
4686.00	20.50	197.80	4,556.12	791.23	-745.74	-264.44	791.23	0.006	-0.006	0.66	mwd
4749.00	20.00	197.80	4,615.23	813.02	-766.50	-271.10	813.03	-0.008	0.000	0.79	mwd
4813.00	19.90	198.50	4,675.38	834.85	-787.25	-277.90	834.86	-0.002	0.011		mwd
4876.00	19.90	197.80	4,734.62	856.28	-807.63	-284.58	856.30	0.000	-0.011		mwd
4939.00		197.40	4,793.90	877.61	-827.97	-291.04	877.63	-0.003	-0.006		mwd
5002.00	20.00	197.80	4,853.16	898.98	-848.36	-297.51	899.01	0.005	0.006		mwd
5072.00	19.80	198.50	4,918.98	922.80	-871.00	-304.93	922.83	-0.003	0.010		mwd
5134.00	19.50	198.80	4,977.36	943.65	-890.75	-311.59	943.68	-0.005	0.005		mwd
5197.00		199.90	5,036.90	964.26	-910.20	-318.42	964.29	-0.013	0.017		mwd
5260.00	18.50	199.90	5,096.61	984.35	-929.10	-325.26	984.39	-0.003	0.000		mwd
5324.00		198.80	5,157.25	1,004.82	-948.41	-332.04	1,004.85	0.005	-0.017		mwd
5386.00	19.10		5,215.88	1,024.95	-967.47	-338.53	1,024.98	0.005	0.000	-	mwd
5449.00	19.70	199.20	5,275.31	1,045.87	-987.25	-345.34	1,045.91	0.010	0.006		mwd
5513.00	19.30	198.10 198.50	5,335.64	1,067.23	-1,007.49	-352.17	1,067.27	-0.006	-0.017		mwd
5576.00 5640.00	19.80 20.20	198.50	5,395.00 5,455.14	1,088.31 1,110.19	-1,027.51	-358.79 -365.92	1,088.35	0.008	0.006		mwd
5703.00	19.50	198.80	5,514.40	•	-1,048.20		1,110.24	0.006	0.016		mwd
5765.00 5765.00	18.20	198.80	5,573.07	-	-1,068.41 -1,087.37	-372.94 -379.40	1,131.63 1,151.66	-0.011 -0.021	-0.011 0.000		mwd
5828.00	17.90	197.80	5,632.97	•	-1,067.37	-385.53	1,171.18	-0.021	-0.016		mwd mwd
5890.00	18.60		5,691.86	•	-1,124.26	-391.86	1,190.59	0.003	0.039		mwd
5954.00	18.50	201.30	5,752.53	· ·	-1,143.30	-399.07	1,210.94	-0.002	0.003		mwd
6018.00	18.20		5,813.28	-	-1,162.02	-406.50	1,231.07	-0.005	0.011		mwd
6080.00	18.30	199.20	5,872.16		-1,180.19	-413.33	1,250.48	0.002	-0.045		mwd
6144.00	18.90	198.10	5,932.82	•	-1,199.53	-419.85	1,270.89	0.009	-0.017		mwd
6207.00	19.60	197.10	5,992.29	-	-1,219.33	-426.13	1,291.65	0.011	-0.016		mwd
6271.00	19.50	196.00	6,052.60		-1,239.86	-432.23	1,313.04	-0.002	-0.017		mwd
6334.00	19.10	195.70	6,112.06	1,333.76	-1,259.89	-437.92	1,333.83	-0.006	-0.005		mwd
6398.00	18.90	197.10	6,172.58	1,354.56	-1,279.88	-443.80	1,354.64	-0.003	0.022		mwd
6462.00	18.60	198.50	6,233.18	1,375.12	-1,299.47	-450.09	1,375.21	-0.005	0.022	0.85	mwd
6526.00	18.80	198.10	6,293.80	1,395.63	-1,318.95	-456.53	1,395.72	0.003	-0.006	0.37	mwd
6589.00	18.50	198.10	6,353.49	1,415.77	-1,338.10	-462.79	1,415.87	-0.005	0.000	0.48	mwd
6651.00	18.40	196.70	6,412.31	1,435.37	-1,356.82	-468.66	1,435.48	-0.002	-0.023	0.73	mwd
6714.00	19.50	197.10	6,471.89	-	-1,376.39	-474.61	1,455.92	0.017	0.006	1.76	mwd
6777.00	19.30		6,531.32	1,476.72	•	-481.31	1,478.84	-0.003	0.051	1.72	mwd
6839.00	18.80	199.60	6,589.92	•	-1,415.23	-488.22	1,497.07	-0.008	-0.011	0.89	
6903.00	18.80	198.80	6,650.51	1,517.58	-	-495.00	1,517.70	0.000	-0.012	0.40	
6966.00	20.10	199.50	6,709.91		-1,454.52	-501.88	1,538.68	0.021	0.011	2.10	
7030.00	20.30	198.80	6,769.97		-1,475.40	-509.13	1,560.77	0.003	-0.011	0.49	
7093.00 7156.00	19.50 18.50	199.90 201.30	6,829.21		-1,495.63 -1,514.83	-516.23	1,582.22	-0.013	0.017	1.40	
7220.00	18.20	200.90	6,888.78 6,949.53	1,622.74		-523.44 -530.70	1,602.72	-0.016	0.022	1.74	
7284.00	19.60	202.00	7,010.07	1,643.46		-530.70 -538.28	1,622.85	-0.005	-0.006	0.51	
7348.00	21.20	203.10	7,070.07	1,665.74		-536.26 -546.85	1,643.57 1,665.83	0.022 0.025	0.017	2.26 2.57	
7411.00	20.20		7,128.99	1,687.95		-555.88	1,688.02	-0.016	0.017 0.027	1.85	
7475.00	18.90		7,189.30	1,709.25		-565.15	1,709.30	-0.020	0.027	2.24	
		, .			,		.,. 55.55		J.J.J	7	

NAUTICAL (Version 4.0) Well: Indian Hills Unit #41

Target Azimuth: 199.76 Target TVD: 8450

Closure Direction:

200

Calculation Method - Minimum Curvature

Measured Depth (ft)	inclination (deg.)	Azimuth (deg.)	True Vertical Depth (ft)	Vertical Section (ft)	North/ South (ft)	East/ West (ft)	Closure (ft)	Build Rate (deg/ft)	Walk Rate (deg/ft)	Dogleg Severity (d/100')	Tool Face (deg)
7539.00	17.80	208.70	7,250.05	1,729.21	-1,631.02	-574.49	1,729.24	-0.017	0.033	2.01	mwd
7603.00	17.60	209.40	7,311.02	1,748.41	-1,648.03	-583.94	1,748.42	-0.003	0.011	0.46	mwd
7666.00	17.00	209.00	7,371.17	1,766.89	-1,664.38	-593.08	1,766.89	-0.010	-0.006	0.97	mwd
7729.00	16.90	209.40	7,431.43	1,785.01	-1,680.42	-602.04	1,785.01	-0.002	0.006	0.24	mwd
7793.00	17.30	207.30	7,492.60	1,803.61	-1,696.98	-610.97	1,803.61	0.006	-0.033	1.15	mwd
7857.00	18.00	201.30	7,553.59	1,822.93	-1,714.65	-618.93	1,822.93	0.011	-0.094	3.04	mwd
7919.00	17.70	198.10	7,612.61	1,841.93	-1,732.53	-625.34	1,841.93	-0.005	-0.052	1.65	mwd
7983.00	17.20	197.10	7,673.66	1,861.11	-1,750.82	-631.14	1,861.11	-0.008	-0.016	0.91	mwd
8045.00	17.00	197.80	7,732.92	1,879.32	-1,768.21	-636.61	1,879.32	-0.003	0.011	0.46	mwd
8108.00	16.50	198.10	7,793.25	1,897.47	-1,785.49	-642.20	1,897.47	-0.008	0.005	0.81	mwd
8800.00	16.50	198.00	8,456.75	2,093.92	-1,972.35	-703.10	2,093.93	0.000	0.000	0.00	proj



McVAY DRILLING COMPANY

Post Office Box 924 Hobbs, New Mexico 88241 (505) 397-3311 FAX: 39-DRILL

Well Name and Number: Indian Hills Unit # 41

Location: Sec 16, T21S, R24E

Operator: Marathon

Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

Degrees @ Depth		Degrees (Depth	Degrees (
1/4	319	19 1/4	3294	18 1/2	5954	
1/4	624	19 ¾	3608	18 1/4	6080	
1/2	933	20 1/2	3799	19 1/2	6271	
1/2	1239 •	18 ¾	4307	18 1/2	6589	•
1/2	1552	19 ¾	4496	21 1/4	7347	
3/4	1777	20	4622	17 ¾	7539	
3 1/2	2028	19 ¾	4813	17	7665	
4 1/4	2091	19 ¾	4939	18 1/4	7855	
5 1/4	2155	20	5002	16 1/2	8108	
1/4	2281	18 1/2	5260			
16	2535	19	5386			DECEIVE
19 ¾	2850	20 1/4	5640			RECEIVEL
19 ¾	3104	17 ¾	5828			APR 0 8 7

GEB-ARTESIA

Drilling Contractor: McVay Drilling Company

dy.

Subscribed and sworn to before me this Lith day of Novem

2003

Notary Public

My Commission Expires: 8/6-05

Lea County, New Mexico

4/9/2004

Wellbore Diagram

r263

30-015-32539-00-00

INDIAN HILLS UNIT No. 041

Company Name: MARATHON OIL CO

Location: Sec: 16 T: 21S R: 24E Spot:

String Information

Lat/Long: Lat: 32.4723376630961 Long: -104.49747

Property Name: INDIAN HILLS UNIT

County Name: Eddy

Cement Information ...

Perforation Information

Formation Information

St Code	Formation	Depth
Psa	San Andres	1119
Pgl	Glorieta	2842
Ру	Yeso Formation	3026
Pbs	Bone Spring	5666
Pwc	Wolfcamp	7354
Ppupp	Upper Pennsylvanian Undesign	8118

Hole: Unknown

TD: 0

TVD: 0

PBTD: 0

District I 1625 N. French Dr., Hobbs, NM 88240

District II

1301 W Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fc, NM 87505

State of New Mexico Energy, Minerals & Natural Resources

Submit to Appropriate District Office 5 Copies

Form C-104

Revised June 10, 2003

District IV L220 S. St. Francis Dr., Santa Fe, NM 87505 AMENDED REPORT														
I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT														
Operator name and Address 2 OGRID Number														
Marathon O	il Com	beath			14021									
P.O. Bost 34	487							³ Reason for			tive Date			
Houston, To	802AS .	77253-3487								NO.	5K			
4 API Number			5 Pool Na	ime						6 1	Pool Co	de		
30-0	15-325	39		INDIAN	BASI	N UPPER	PENN A	SOCIA	120			33685		
⁷ Property Code			8 Property	Name		9 Well Number					mber			
00	6409		<u> </u>		INE	TAN HI	LLS UNIT							
11. S		Location				eet from the North/South Line Peet from the East/West line County								
UL or lot no.	or lot no. Section Township Rai		Range	Lot. Idn	Feet fi	rom the	1		Peet from the	East/We	st line	County		
P	16	218	24E		نــــا	199 FSL 524				1 72	XEL BODY			
UL or lot no.	BOTTO1	n Hole Lo		Lot. Idn	T Pool 6	for the North County Line Doct from the Doct (North line County					County			
	Section		Range	LOI. IOI				Peet from the East/West line						
12 Lse Code	13 Produ	cing Method C	2428 Code 14 Gas	Connection Date		770 C-129 Pe	rmit Number		6 C-129 Effective Date		PET EXDX			
₽ .		P		12/05/2003			C-125 Totala (Valido							
III. Oil and Gas Transporters														
18 Transporte	T	19	Transporter		\neg	20 POD 21 O/G 22 POD ULSTR Location and Description								
OGRID			and Add	ress	-				 	ar	nd Desc	scription		
138648		OCO PIPEL		8	L	2816	323	ᅋᅶ	Jul "P", S	CTION .	19, T	-21-S, R-24-E		
		2 N. WEST		26										
Harata Anada Anada		ARMINON OF			_	- 140 STREET	e nineapelou							
14035		.O. BOX 13					026	CAS CAS	עד אדי, א	CTION	17, T	-21-8, R-24-E		
		RIBERIA, NE		88211-1324										
										RECEIVED				
the state of the s						/we1420/37-494	26/3- 12 (2) (12/10)	a area e perqu	1	APR 0 8 2004				
										OCD-ARTESIA				
									<u> </u>		`	OD-ARTESIA		
IV. Produce		ег			34	POD III	STR Location	- 17	lusta-	·				
- 100						FOD OL	SIK LOCAD	OUT STEEL THE	scription					
28290			, Section	n 19, T-21-8	3 <u>,</u> R-2	14-E, B	ddy cour	ty, Ne	w Mercico					
V. Well Con			ady Date	27	TD		28 PBTD 29 Perforations				$-\tau$	30 DHC, MC		
11/01/2003	~	12/05/2	•	8800		8698		8140 843		' i ' I				
	le Size	I AA/VS/A		ing & Tubing Size				epth Set	1 63.40 -		34 Sacks Cement			
1	2 250			9 62E				1800			1300			
12,250			9,625			8800			1275					
	3.750			7.00		 								
														
VI. Well Te	ot Dec													
VI. WEIL I E		a 36 Gas Deliv	very Date	37 Test Dat	ie	38	Test Lengt	<u> </u>	39 Tbg. Pres	ure		Csg. Pressure		
							ł	108.1100.00						
12/05/2003 12/05/ 41 Choke Size 42 Oil			2003 12/23/2003 43 Water			24 44 Gas		240 45 AOF		200 46 Test Method				
			Water		İ	1		- 10-		i				
N/A 324.0 1014.0						830 Pumping								
complied with and that the information given above is true and complete to the best of my knowledge and belief.							OIL CONSERVATION DIVISION							
Signature: Charles F. Kending						Approved	by:	<u>_</u>	him de	2 4		ا د		
Printed name:						Title:	*							
Charles E. Rendrix Title:						A			Distric	349				
Engineering Technician					_ 	Approval Date: APR 0 9 2004								
Email														
cekendrix@MerathonOil.com											B			
Date: 04/05/2004 Phone: 713,-205,-2005					H							1		

State of New Mexico Form C-102 Energy, Minerals & Natural Resources Revised June 10, 2003 1625 N. Franch Dr., Hobbs, NM 88240 District II Submit to Appropriate District Office 1301 W. Grand Avenue, Artesia, NM 88210 OIL CONSERVATION DIVISION State Lease - 4 Copies Fee Lease - 3 Copies District III 1220 South St. Francis Dr. 1000 Rio Brazos Rd., Aztec, NM 87410 Santa Fe, NM 87505 District IV AMENDED REPORT 1220 S. St. Francis Dr., Santa Re, NM 87505 LOCATION AND ACREAGE DEDICATION PLAT 1 API Number Pool Code 33685 30-015-32539 DECLAM BASIN UPPER PENN ASSOCIATED ⁵ Property Name Well Number Property Code PERSONAL MILLS UNITS 6409 OGRID No. 8 Operator Name Blevation 4021 facathon Oil Company 4017 ¹⁰Surface Location Lot. Ida Feet from the North/South lin Feet from the Section Township Rest/West In UL or lot no. 16 21-S 24-E 1991 5241 ELLY Bottom Hole Location If Different From Surface UL or lot so. Section Township Lot. Idn Feet from the North/South line Peet from the Bast/West line County **21-8** 24-# 2450 2350· Billy 15 Order No. 12 Dedicated Acres 15 Joint or Infill 14 Consolidation Code 320 E/2 is the completion with the designation of the division

RECEIVED

JAN 1 0 2005

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MINUTES

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