

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM093223	
2. Name of Operator MARATHON OIL PERMIAN LLC		6. If Indian, Allottee or Tribe Name	
3a. Address 5555 SAN FELIPE STREET HOUSTON, TX 77056		7. If Unit or CA/Agreement, Name and/or No.	
3b. Phone No. (include area code) Ph: 713-296-2500		8. Well Name and No. MADERA 19 FEDERAL 26 35 19 TB 1H 30-025-44899-00-X1	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T26S R35E SESW 351FSL 1368FWL 32.022404 N Lat, 103.410240 W Lon		11. County or Parish, State LEA COUNTY, NM	

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Marathon Oil Permian LLC requests to make the following changes to APD:

Change name:

From Madera 19 Federal 26 35 19 TB 1H to Madera 19 TB Fed Com 1H.

Casing Changes:

Adjusted 7" casing point to above the 3rd Bone Spring
Adjusted surface casing set depth to 1165' as per COAs
TD depth adjusted for change of FTP and LTP

Cement Changes:

Revised cement volumes due to change in surface and 7" casing point.

All previous COAs still apply.

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #439050 verified by the BLM Well Information System For MARATHON OIL PERMIAN LLC, sent to the Hobbs Committed to AFMSS for processing by ZOTA STEVENS on 10/10/2018 (19ZS0011SE)	
Name (Printed/Typed) JENNIFER VAN CUREN	Title SR. REGULATORY COMPLIANCE REP
Signature (Electronic Submission)	Date 10/10/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>ZOTA STEVENS</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>10/12/2018</u>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office <u>Hobbs</u>

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED *****Ka*

Additional data for EC transaction #439050 that would not fit on the form

32. Additional remarks, continued

Please see highlighted areas for all changes on attached detail.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-44899	² Pool Code 96672	³ Pool Name WC-025 G-08 S263412K; BONE SPRING
⁴ Property Code	⁵ Property Name MADERA 19 TB FED COM	⁶ Well Number 1H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 3185'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	19	T26S	R35E		351'	SOUTH	1368'	WEST	LEA

¹¹ 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
L (LOT 3)	18	T26S	R35E		2542'	SOUTH	675'	WEST	LEA

¹² Dedicated Acres 245.60	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

¹⁶ SECTION 12 SECTION 13 LAST TAKE POINT/BOTTOM HOLE LOCATION 2542' FSL 675' FWL, SECTION 18 NAD 83, SPCS NM EAST X: 826518.85 / Y: 380622.53 LAT: 32.04307035N / LON: 103.41294500W NAD 27, SPCS NM EAST X: 785330.91 / Y: 380565.22 LAT: 32.04294419N / LON: 103.41248325W BHL/LAST TAKE POINT SECTION 13 SECTION 24 KICK OFF POINT/ FIRST TAKE POINT 100' FSL 678' FWL, SECTION 19 NAD 83, SPCS NM EAST X: 826589.29 / Y: 372899.99 LAT: 32.02184225N / LON: 103.41293005W NAD 27, SPCS NM EAST X: 785401.00 / Y: 372842.88 LAT: 32.02171598N / LON: 103.41246954W SECTION 25 CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 825842.88 / Y: 380718.58 B - X: 827193.03 / Y: 380726.48 C - X: 827268.68 / Y: 372804.52 D - X: 825911.74 / Y: 372795.47	SECTION 7 SECTION 18 SECTION 19 SECTION 30 CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 784654.96 / Y: 380661.30 B - X: 786005.09 / Y: 380669.16 C - X: 786080.38 / Y: 372747.40 D - X: 784723.45 / Y: 372738.37	SECTION 8 SECTION 17 SECTION 18 SECTION 19 SECTION 20 SECTION 29	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>[Signature]</i> 10/10/2018 Signature Date Adrian Covarrubias Printed Name E-mail Address ¹⁸ 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. OCTOBER 9, 2018 Date of Survey <i>[Signature]</i> Signature and Seal of Professional Surveyor Certificate Number LLOYD P. SHORT 21653
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5	10/09/18	JCS
REV.	DATE	BY

Marathon Oil Permian, LLC

Madera 19 Federal 26 35 19 TB 1H

API# 30-025-44899

SHL: 351' FSL & 1368' FWL / Sec 19 – T26S – R35E

Lea County, New Mexico

Drilling Program Changes

1. Casing Changes:

- Adjusted 7" casing point to above the 3rd Bone Spring sand
- Adjusted surface casing set depth to 1,165' as per COA's
- TD depth adjusted for change of FTP and LTP

String Type	Hole Size	Csg Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Weight (lbs/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
Surface	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	<u>1173</u>	<u>0</u>	<u>1173</u>	<u>54.5</u>	<u>J55</u>	<u>STC</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>
Intermediate I	<u>12 1/4</u>	<u>9 5/8</u>	<u>0</u>	<u>5400</u>	<u>0</u>	<u>5400</u>	<u>40</u>	<u>J55</u>	<u>LTC</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>
Intermediate II	<u>8 3/4</u>	<u>7</u>	<u>0</u>	<u>11340</u>	<u>0</u>	<u>11340</u>	<u>29</u>	<u>P110</u>	<u>BTC</u>	<u>1.25</u>	<u>1.18</u>	<u>1.25</u>
Production Liner	<u>6 1/8</u>	<u>4 1/2</u>	<u>11600</u>	<u>20092</u>	<u>11540</u>	<u>10054</u>	<u>13.5</u>	<u>P110</u>	<u>BTC</u>	<u>1.25</u>	<u>1.25</u>	<u>1.25</u>

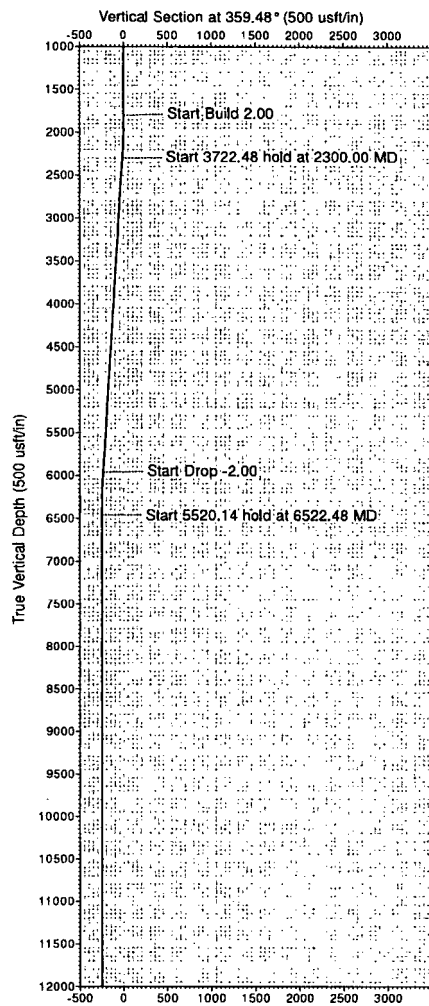
Minimum safety factors: Burst 1.125 Collapse 1.125 Tension 1.8 Wet/1.6 Dry

2. Cementing Program:

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sks)	Yield (ft3/sks)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	--	0	552	741	1.75	13.5	1295	100	Class C	3 lbm/sk granular LCM + 0.1250 lbm/sk Poly-E-Flake
Surface	Tail	--	725	1016	257	1.57	14.8	371	100	Class C	107
Intermediate I	Lead	--	0	4100	1534	1.75	12.8	2412	75	Class C	0.02 Gal/Sk Defoamer + 0.5% Extender + 1% Accelerator
Intermediate I	Tail	--	2100	5700	353	1.33	14.8	470	50	Class C	1920000000
Intermediate II	Lead	--	5700	10300	542	2.7	11	1222	70	Class C	0.85% retarder + 10% extender + 0.02 gal/sk defoamer + 2.0% Extender + 0.15% Viscosifier
Intermediate II	Tail	--	10200	11200	179	1.09	15.6	195	30	Class H	3% extender + 0.15% Dispersant + 0.03 gal/sk retarder
Production Liner	Tail	--	11600	20092	252	1.22	14.5	1040	30	Class H	0.120 retarder + 3.52% extender + 0.33% DMF + 0.03 gal/sk Dispersant

Changes:

- Revised cement volumes due to change in surface and 7" casing point



Marathon Oil
Lea County, NM
Madera 19 Fed Com 26-35-19 (1-2-5-6)
TB #1H
Prelim Plan B
GL: 3185' + KB: 26.5' (H&P480)

US State Plane 1927 (Exact solution)
NAD 1927 (NADCON CONUS)
Clarke 1866
New Mexico East 3001
Mean Sea Level

RKB Elevation: Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	373098.87	786088.77	32.022403	-103.410244	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00
3	2300.00	10.00	249.57	2297.47	-15.19	-40.79	2.00	-14.82
4	6022.48	10.00	249.57	5963.39	-240.81	-646.53	0.00	-234.93
5	6522.48	0.00	0.00	6460.86	-256.00	-687.32	2.00	-249.75
6	12042.62	0.00	0.00	11981.00	-256.00	-687.32	0.00	-249.75
7	12942.62	90.00	359.48	12553.96	316.93	-692.55	10.00	323.20
8	20092.34	90.00	359.48	12554.00	7466.35	-757.86	0.00	7472.92

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
(MaderaTB#1H)FTP	0.00	-255.99	-687.77	372842.88	785401.00
(MaderaTB#1H)KOP	11981.00	-256.00	-687.32	372842.87	785401.45
(MaderaTB#1H)LTP/BHL	12554.00	7466.35	-757.86	380565.22	785330.91



PRO DIRECTIONAL



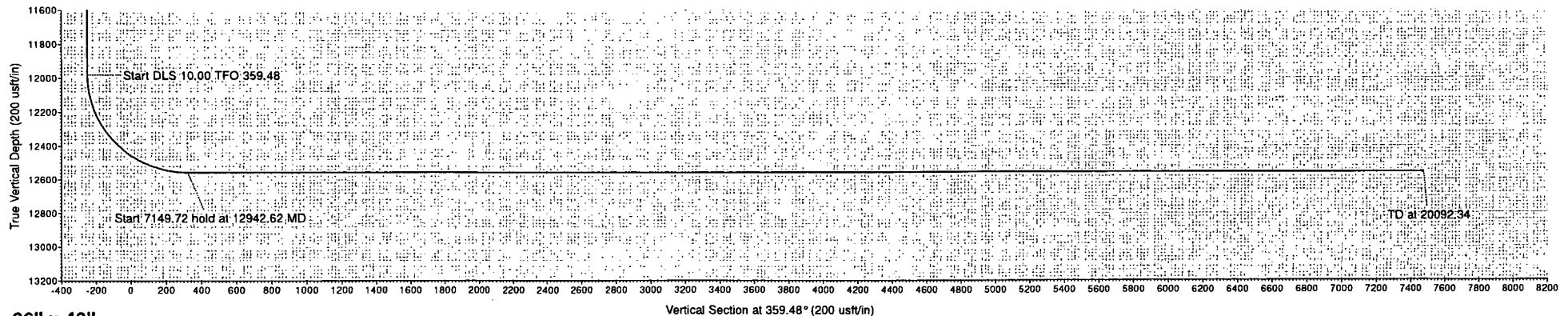
Azimuth to Grid North
True North: -0.49°
Magnetic North: 6.24°
Magnetic Field
Strength: 47823.0nT
Dip Angle: 69.72°
Date: 1/8/2018
Model: HDGM

Azimuth Corrections

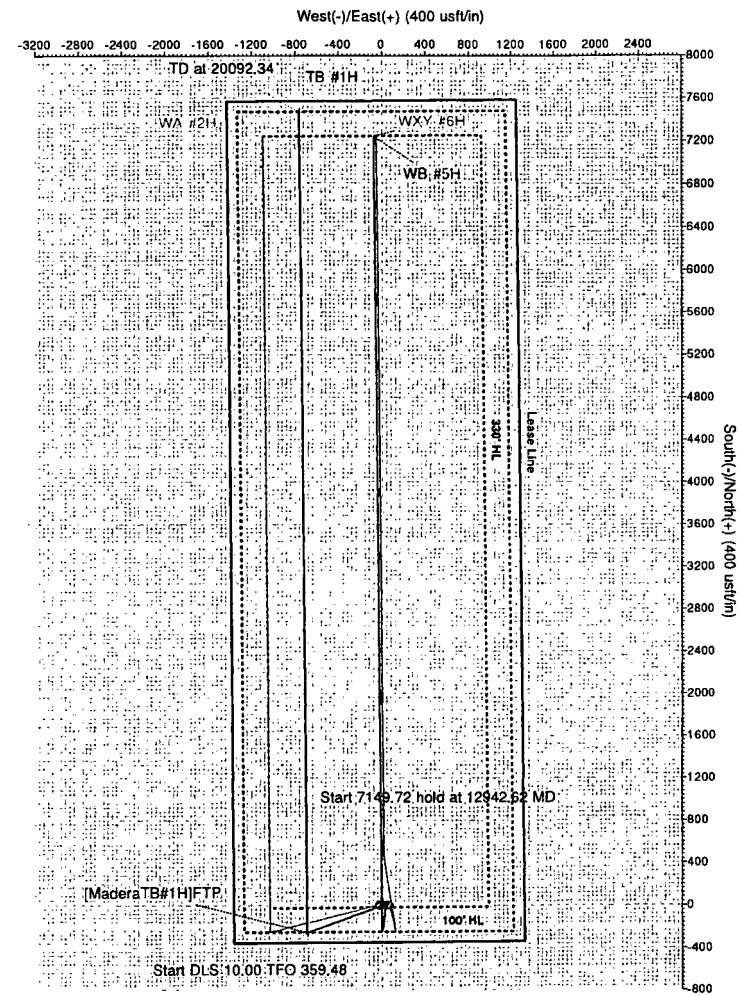
Total Magnetic Corr. (M to G): 6.24°

Declination (M to T): 6.73° East

Target Line: 12554' TVD @ 0° VS, 90° INC



36" x 48"



Database:	WellPlanner1	Local Co-ordinate Reference:	Well TB #1H
Company:	Marathon Oil	TVD Reference:	Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
Project:	Lea County, NM	MD Reference:	Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
Site:	Madera 19 Fed Com 26-35-19 (1-2-5-6)	North Reference:	Grid
Well:	TB #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

Project	Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Madera 19 Fed Com 26-35-19 (1-2-5-6)				
Site Position:		Northing:	373,098.90 usft	Latitude:	32.022404
From:	Map	Easting:	786,088.75 usft	Longitude:	-103.410244
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.49 °

Well	TB #1H					
Well Position	+N/-S	-0.03 usft	Northing:	373,098.87 usft	Latitude:	32.022404
	+E/-W	0.02 usft	Easting:	786,088.77 usft	Longitude:	-103.410244
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,185.00 usft

Wellbore	OH					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength	
			(°)	(°)	(nT)	
	HDGM	1/8/2018	6.73	59.72	47,823.00	

Design	Prelim Plan B				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	359.48	

Plan Survey Tool Program	Date	10/9/2018			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks	
(usft)	(usft)				
1	0.00	1,850.00 Prelim Plan B (OH)	MWD+IFR1		
			OWSG MWD + IFR1		
2	1,850.00	5,400.00 Prelim Plan B (OH)	MWD+IFR1		
			OWSG MWD + IFR1		
3	5,400.00	10,000.00 Prelim Plan B (OH)	MWD+IFR1		
			OWSG MWD + IFR1		
4	10,000.00	20,092.34 Prelim Plan B (OH)	MWD+IFR1		
			OWSG MWD + IFR1		

Database: WellPlanner1
Company: Marathon Oil

Local Co-ordinate Reference:
TVD Reference:

Well TB #1H
Well @ 3211.50usft (GL: 3185' + KB: 26.5'
(H&P480))

Project: Lea County, NM

MD Reference:

Well @ 3211.50usft (GL: 3185' + KB: 26.5'
(H&P480))

Site: Madera 19 Fed Com 26-35-19 (1-2-5-6)

North Reference:

Grid

Well: TB #1H

Survey Calculation Method:

Minimum Curvature

Wellbore: OH

Design: Prelim Plan B

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,300.00	10.00	249.57	2,297.47	-15.19	-40.79	2.00	2.00	0.00	249.57	
6,022.48	10.00	249.57	5,963.39	-240.81	-646.53	0.00	0.00	0.00	0.00	
6,522.48	0.00	0.00	6,460.86	-256.00	-687.32	2.00	-2.00	0.00	180.00	
12,042.62	0.00	0.00	11,981.00	-256.00	-687.32	0.00	0.00	0.00	0.00	[MaderaTB#1H]KOP
12,942.62	90.00	359.48	12,553.96	316.93	-692.55	10.00	10.00	-0.06	359.48	
20,092.34	90.00	359.48	12,554.00	7,466.35	-757.86	0.00	0.00	0.00	0.00	[MaderaTB#1H]LTP/E

Database: WellPlanner1
Company: Marathon Oil
Project: Lea County, NM
Site: Madera 19 Fed Com 26-35-19 (1-2-5-6)
Well: TB #1H
Wellbore: OH
Design: Prelim Plan B

Local Co-ordinate Reference: Well TB #1H
TVD Reference: Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
MD Reference: Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[MaderaTB#1H]FTP									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	2.00	249.57	1,899.98	-0.61	-1.64	-0.59	2.00	2.00	0.00
2,000.00	4.00	249.57	1,999.84	-2.44	-6.54	-2.38	2.00	2.00	0.00
2,100.00	6.00	249.57	2,099.45	-5.48	-14.71	-5.34	2.00	2.00	0.00
2,200.00	8.00	249.57	2,198.70	-9.73	-26.13	-9.49	2.00	2.00	0.00
2,300.00	10.00	249.57	2,297.47	-15.19	-40.79	-14.82	2.00	2.00	0.00
2,400.00	10.00	249.57	2,395.95	-21.25	-57.06	-20.73	0.00	0.00	0.00
2,500.00	10.00	249.57	2,494.43	-27.31	-73.33	-26.65	0.00	0.00	0.00
2,600.00	10.00	249.57	2,592.91	-33.37	-89.60	-32.56	0.00	0.00	0.00
2,700.00	10.00	249.57	2,691.39	-39.43	-105.88	-38.47	0.00	0.00	0.00
2,800.00	10.00	249.57	2,789.87	-45.50	-122.15	-44.39	0.00	0.00	0.00
2,900.00	10.00	249.57	2,888.35	-51.56	-138.42	-50.30	0.00	0.00	0.00
3,000.00	10.00	249.57	2,986.83	-57.62	-154.69	-56.21	0.00	0.00	0.00
3,100.00	10.00	249.57	3,085.31	-63.68	-170.97	-62.12	0.00	0.00	0.00
3,200.00	10.00	249.57	3,183.79	-69.74	-187.24	-68.04	0.00	0.00	0.00
3,300.00	10.00	249.57	3,282.27	-75.80	-203.51	-73.95	0.00	0.00	0.00
3,400.00	10.00	249.57	3,380.75	-81.86	-219.79	-79.86	0.00	0.00	0.00
3,500.00	10.00	249.57	3,479.23	-87.92	-236.06	-85.78	0.00	0.00	0.00
3,600.00	10.00	249.57	3,577.72	-93.98	-252.33	-91.69	0.00	0.00	0.00
3,700.00	10.00	249.57	3,676.20	-100.04	-268.60	-97.60	0.00	0.00	0.00
3,800.00	10.00	249.57	3,774.68	-106.11	-284.88	-103.52	0.00	0.00	0.00
3,900.00	10.00	249.57	3,873.16	-112.17	-301.15	-109.43	0.00	0.00	0.00
4,000.00	10.00	249.57	3,971.64	-118.23	-317.42	-115.34	0.00	0.00	0.00
4,100.00	10.00	249.57	4,070.12	-124.29	-333.69	-121.25	0.00	0.00	0.00
4,200.00	10.00	249.57	4,168.60	-130.35	-349.97	-127.17	0.00	0.00	0.00
4,300.00	10.00	249.57	4,267.08	-136.41	-366.24	-133.08	0.00	0.00	0.00
4,400.00	10.00	249.57	4,365.56	-142.47	-382.51	-138.99	0.00	0.00	0.00
4,500.00	10.00	249.57	4,464.04	-148.53	-398.79	-144.91	0.00	0.00	0.00
4,600.00	10.00	249.57	4,562.52	-154.59	-415.06	-150.82	0.00	0.00	0.00
4,700.00	10.00	249.57	4,661.00	-160.65	-431.33	-156.73	0.00	0.00	0.00
4,800.00	10.00	249.57	4,759.48	-166.71	-447.60	-162.65	0.00	0.00	0.00
4,900.00	10.00	249.57	4,857.97	-172.78	-463.88	-168.56	0.00	0.00	0.00
5,000.00	10.00	249.57	4,956.45	-178.84	-480.15	-174.47	0.00	0.00	0.00

Database: WellPlanner1
Company: Marathon Oil
Project: Lea County, NM
Site: Madera 19 Fed Com 26-35-19 (1-2-5-6)
Well: TB #1H
Wellbore: OH
Design: Prelim Plan B

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well TB #1H
Well @ 3211.50usft (GL: 3185' + KB: 26.5'
(H&P480))
Well @ 3211.50usft (GL: 3185' + KB: 26.5'
(H&P480))
Grid
Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Built Rate (°/100usft)	Turn Rate (°/100usft)
5,100.00	10.00	249.57	5,054.93	-184.90	-496.42	-180.38	0.00	0.00	0.00
5,200.00	10.00	249.57	5,153.41	-190.96	-512.69	-186.30	0.00	0.00	0.00
5,300.00	10.00	249.57	5,251.89	-197.02	-528.97	-192.21	0.00	0.00	0.00
5,400.00	10.00	249.57	5,350.37	-203.08	-545.24	-198.12	0.00	0.00	0.00
5,500.00	10.00	249.57	5,448.85	-209.14	-561.51	-204.04	0.00	0.00	0.00
5,600.00	10.00	249.57	5,547.33	-215.20	-577.79	-209.95	0.00	0.00	0.00
5,700.00	10.00	249.57	5,645.81	-221.26	-594.06	-215.86	0.00	0.00	0.00
5,800.00	10.00	249.57	5,744.29	-227.32	-610.33	-221.78	0.00	0.00	0.00
5,900.00	10.00	249.57	5,842.77	-233.39	-626.60	-227.69	0.00	0.00	0.00
6,000.00	10.00	249.57	5,941.25	-239.45	-642.88	-233.60	0.00	0.00	0.00
6,022.48	10.00	249.57	5,963.39	-240.81	-646.53	-234.93	0.00	0.00	0.00
6,100.00	8.45	249.57	6,039.91	-245.15	-658.18	-239.16	2.00	-2.00	0.00
6,200.00	6.45	249.57	6,139.06	-249.67	-670.33	-243.58	2.00	-2.00	0.00
6,300.00	4.45	249.57	6,238.60	-252.99	-679.23	-246.81	2.00	-2.00	0.00
6,400.00	2.45	249.57	6,338.42	-255.09	-684.87	-248.86	2.00	-2.00	0.00
6,500.00	0.45	249.57	6,438.38	-255.97	-687.24	-249.72	2.00	-2.00	0.00
6,522.48	0.00	0.00	6,460.86	-256.00	-687.32	-249.75	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,538.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
6,700.00	0.00	0.00	6,638.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
6,800.00	0.00	0.00	6,738.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
6,900.00	0.00	0.00	6,838.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,000.00	0.00	0.00	6,938.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,100.00	0.00	0.00	7,038.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,200.00	0.00	0.00	7,138.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,300.00	0.00	0.00	7,238.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,400.00	0.00	0.00	7,338.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,500.00	0.00	0.00	7,438.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,600.00	0.00	0.00	7,538.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,700.00	0.00	0.00	7,638.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,800.00	0.00	0.00	7,738.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
7,900.00	0.00	0.00	7,838.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,000.00	0.00	0.00	7,938.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,100.00	0.00	0.00	8,038.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,200.00	0.00	0.00	8,138.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,300.00	0.00	0.00	8,238.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,400.00	0.00	0.00	8,338.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,500.00	0.00	0.00	8,438.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,600.00	0.00	0.00	8,538.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,700.00	0.00	0.00	8,638.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,800.00	0.00	0.00	8,738.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
8,900.00	0.00	0.00	8,838.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,000.00	0.00	0.00	8,938.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,100.00	0.00	0.00	9,038.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,200.00	0.00	0.00	9,138.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,300.00	0.00	0.00	9,238.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,400.00	0.00	0.00	9,338.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,500.00	0.00	0.00	9,438.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,600.00	0.00	0.00	9,538.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,700.00	0.00	0.00	9,638.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,800.00	0.00	0.00	9,738.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
9,900.00	0.00	0.00	9,838.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,000.00	0.00	0.00	9,938.38	-256.00	-687.32	-249.75	0.00	0.00	0.00

Database: WellPlanner1
Company: Marathon Oil

Local Co-ordinate Reference:
TVD Reference:

Well TB #1H
Well @ 3211.50usft (GL: 3185' + KB: 26.5'
(H&P480))

Project: Lea County, NM

MD Reference:

Well @ 3211.50usft (GL: 3185' + KB: 26.5'
(H&P480))

Site: Madera 19 Fed Com 26-35-19 (1-2-5-6)

North Reference:

Grid

Well: TB #1H

Survey Calculation Method:

Minimum Curvature

Wellbore: OH

Design: Prelim Plan B

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.00	0.00	0.00	10,038.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,200.00	0.00	0.00	10,138.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,300.00	0.00	0.00	10,238.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,400.00	0.00	0.00	10,338.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,500.00	0.00	0.00	10,438.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,600.00	0.00	0.00	10,538.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,700.00	0.00	0.00	10,638.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,800.00	0.00	0.00	10,738.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
10,900.00	0.00	0.00	10,838.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,000.00	0.00	0.00	10,938.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,100.00	0.00	0.00	11,038.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,200.00	0.00	0.00	11,138.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,300.00	0.00	0.00	11,238.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,400.00	0.00	0.00	11,338.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,500.00	0.00	0.00	11,438.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,600.00	0.00	0.00	11,538.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,700.00	0.00	0.00	11,638.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,800.00	0.00	0.00	11,738.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
11,900.00	0.00	0.00	11,838.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
12,000.00	0.00	0.00	11,938.38	-256.00	-687.32	-249.75	0.00	0.00	0.00
12,042.62	0.00	0.00	11,981.00	-256.00	-687.32	-249.75	0.00	0.00	0.00
[MaderaTB#1H]KOP									
12,050.00	0.74	359.48	11,988.38	-255.95	-687.32	-249.70	10.00	10.00	0.00
12,100.00	5.74	359.48	12,038.28	-253.13	-687.35	-246.88	10.00	10.00	0.00
12,150.00	10.74	359.48	12,087.75	-245.97	-687.41	-239.72	10.00	10.00	0.00
12,200.00	15.74	359.48	12,136.41	-234.52	-687.52	-228.27	10.00	10.00	0.00
12,250.00	20.74	359.48	12,183.88	-218.88	-687.66	-212.63	10.00	10.00	0.00
12,300.00	25.74	359.48	12,229.81	-199.16	-687.84	-192.91	10.00	10.00	0.00
12,350.00	30.74	359.48	12,273.84	-175.51	-688.06	-169.26	10.00	10.00	0.00
12,400.00	35.74	359.48	12,315.65	-148.12	-688.31	-141.86	10.00	10.00	0.00
12,450.00	40.74	359.48	12,354.91	-117.18	-688.59	-110.93	10.00	10.00	0.00
12,500.00	45.74	359.48	12,391.33	-82.94	-688.90	-76.69	10.00	10.00	0.00
12,550.00	50.74	359.48	12,424.62	-45.66	-689.24	-39.40	10.00	10.00	0.00
12,600.00	55.74	359.48	12,454.53	-5.62	-689.61	0.64	10.00	10.00	0.00
12,650.00	60.74	359.48	12,480.84	36.88	-690.00	43.14	10.00	10.00	0.00
12,700.00	65.74	359.48	12,503.35	81.51	-690.40	87.77	10.00	10.00	0.00
12,750.00	70.74	359.48	12,521.88	127.93	-690.83	134.19	10.00	10.00	0.00
12,800.00	75.74	359.48	12,536.30	175.79	-691.26	182.05	10.00	10.00	0.00
12,850.00	80.74	359.48	12,546.49	224.72	-691.71	230.99	10.00	10.00	0.00
12,900.00	85.74	359.48	12,552.37	274.35	-692.16	280.62	10.00	10.00	0.00
12,942.62	90.00	359.48	12,553.96	316.93	-692.55	323.20	10.00	10.00	0.00
13,000.00	90.00	359.48	12,553.96	374.31	-693.08	380.58	0.00	0.00	0.00
13,100.00	90.00	359.48	12,553.96	474.31	-693.99	480.58	0.00	0.00	0.00
13,200.00	90.00	359.48	12,553.96	574.30	-694.90	580.58	0.00	0.00	0.00
13,300.00	90.00	359.48	12,553.96	674.30	-695.82	680.58	0.00	0.00	0.00
13,400.00	90.00	359.48	12,553.96	774.29	-696.73	780.58	0.00	0.00	0.00
13,500.00	90.00	359.48	12,553.96	874.29	-697.64	880.58	0.00	0.00	0.00
13,600.00	90.00	359.48	12,553.96	974.28	-698.56	980.58	0.00	0.00	0.00
13,700.00	90.00	359.48	12,553.96	1,074.28	-699.47	1,080.58	0.00	0.00	0.00
13,800.00	90.00	359.48	12,553.96	1,174.28	-700.38	1,180.58	0.00	0.00	0.00
13,900.00	90.00	359.48	12,553.96	1,274.27	-701.30	1,280.58	0.00	0.00	0.00
14,000.00	90.00	359.48	12,553.96	1,374.27	-702.21	1,380.58	0.00	0.00	0.00

Database:	WellPlanner1	Local Co-ordinate Reference:	Well TB #1H
Company:	Marathon Oil	TVD Reference:	Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
Project:	Lea County, NM	MD Reference:	Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
Site:	Madera 19 Fed Com 26-35-19 (1-2-5-6)	North Reference:	Grid
Well:	TB #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,100.00	90.00	359.48	12,553.96	1,474.26	-703.13	1,480.58	0.00	0.00	0.00
14,200.00	90.00	359.48	12,553.97	1,574.26	-704.04	1,580.58	0.00	0.00	0.00
14,300.00	90.00	359.48	12,553.97	1,674.26	-704.95	1,680.58	0.00	0.00	0.00
14,400.00	90.00	359.48	12,553.97	1,774.25	-705.87	1,780.58	0.00	0.00	0.00
14,500.00	90.00	359.48	12,553.97	1,874.25	-706.78	1,880.58	0.00	0.00	0.00
14,600.00	90.00	359.48	12,553.97	1,974.24	-707.69	1,980.58	0.00	0.00	0.00
14,700.00	90.00	359.48	12,553.97	2,074.24	-708.61	2,080.58	0.00	0.00	0.00
14,800.00	90.00	359.48	12,553.97	2,174.23	-709.52	2,180.58	0.00	0.00	0.00
14,900.00	90.00	359.48	12,553.97	2,274.23	-710.43	2,280.58	0.00	0.00	0.00
15,000.00	90.00	359.48	12,553.97	2,374.23	-711.35	2,380.58	0.00	0.00	0.00
15,100.00	90.00	359.48	12,553.97	2,474.22	-712.26	2,480.58	0.00	0.00	0.00
15,200.00	90.00	359.48	12,553.97	2,574.22	-713.17	2,580.58	0.00	0.00	0.00
15,300.00	90.00	359.48	12,553.97	2,674.21	-714.09	2,680.58	0.00	0.00	0.00
15,400.00	90.00	359.48	12,553.97	2,774.21	-715.00	2,780.58	0.00	0.00	0.00
15,500.00	90.00	359.48	12,553.97	2,874.21	-715.91	2,880.58	0.00	0.00	0.00
15,600.00	90.00	359.48	12,553.97	2,974.20	-716.83	2,980.58	0.00	0.00	0.00
15,700.00	90.00	359.48	12,553.97	3,074.20	-717.74	3,080.58	0.00	0.00	0.00
15,800.00	90.00	359.48	12,553.97	3,174.19	-718.65	3,180.58	0.00	0.00	0.00
15,900.00	90.00	359.48	12,553.98	3,274.19	-719.57	3,280.58	0.00	0.00	0.00
16,000.00	90.00	359.48	12,553.98	3,374.18	-720.48	3,380.58	0.00	0.00	0.00
16,100.00	90.00	359.48	12,553.98	3,474.18	-721.39	3,480.58	0.00	0.00	0.00
16,200.00	90.00	359.48	12,553.98	3,574.18	-722.31	3,580.58	0.00	0.00	0.00
16,300.00	90.00	359.48	12,553.98	3,674.17	-723.22	3,680.58	0.00	0.00	0.00
16,400.00	90.00	359.48	12,553.98	3,774.17	-724.13	3,780.58	0.00	0.00	0.00
16,500.00	90.00	359.48	12,553.98	3,874.16	-725.05	3,880.58	0.00	0.00	0.00
16,600.00	90.00	359.48	12,553.98	3,974.16	-725.96	3,980.58	0.00	0.00	0.00
16,700.00	90.00	359.48	12,553.98	4,074.16	-726.87	4,080.58	0.00	0.00	0.00
16,800.00	90.00	359.48	12,553.98	4,174.15	-727.79	4,180.58	0.00	0.00	0.00
16,900.00	90.00	359.48	12,553.98	4,274.15	-728.70	4,280.58	0.00	0.00	0.00
17,000.00	90.00	359.48	12,553.98	4,374.14	-729.61	4,380.58	0.00	0.00	0.00
17,100.00	90.00	359.48	12,553.98	4,474.14	-730.53	4,480.58	0.00	0.00	0.00
17,200.00	90.00	359.48	12,553.98	4,574.13	-731.44	4,580.58	0.00	0.00	0.00
17,300.00	90.00	359.48	12,553.98	4,674.13	-732.35	4,680.58	0.00	0.00	0.00
17,400.00	90.00	359.48	12,553.98	4,774.13	-733.27	4,780.58	0.00	0.00	0.00
17,500.00	90.00	359.48	12,553.98	4,874.12	-734.18	4,880.58	0.00	0.00	0.00
17,600.00	90.00	359.48	12,553.99	4,974.12	-735.09	4,980.58	0.00	0.00	0.00
17,700.00	90.00	359.48	12,553.99	5,074.11	-736.01	5,080.58	0.00	0.00	0.00
17,800.00	90.00	359.48	12,553.99	5,174.11	-736.92	5,180.58	0.00	0.00	0.00
17,900.00	90.00	359.48	12,553.99	5,274.11	-737.83	5,280.58	0.00	0.00	0.00
18,000.00	90.00	359.48	12,553.99	5,374.10	-738.75	5,380.58	0.00	0.00	0.00
18,100.00	90.00	359.48	12,553.99	5,474.10	-739.66	5,480.58	0.00	0.00	0.00
18,200.00	90.00	359.48	12,553.99	5,574.09	-740.58	5,580.58	0.00	0.00	0.00
18,300.00	90.00	359.48	12,553.99	5,674.09	-741.49	5,680.58	0.00	0.00	0.00
18,400.00	90.00	359.48	12,553.99	5,774.08	-742.40	5,780.58	0.00	0.00	0.00
18,500.00	90.00	359.48	12,553.99	5,874.08	-743.32	5,880.58	0.00	0.00	0.00
18,600.00	90.00	359.48	12,553.99	5,974.08	-744.23	5,980.58	0.00	0.00	0.00
18,700.00	90.00	359.48	12,553.99	6,074.07	-745.14	6,080.58	0.00	0.00	0.00
18,800.00	90.00	359.48	12,553.99	6,174.07	-746.06	6,180.58	0.00	0.00	0.00
18,900.00	90.00	359.48	12,553.99	6,274.06	-746.97	6,280.58	0.00	0.00	0.00
19,000.00	90.00	359.48	12,553.99	6,374.06	-747.88	6,380.58	0.00	0.00	0.00
19,100.00	90.00	359.48	12,553.99	6,474.06	-748.80	6,480.58	0.00	0.00	0.00
19,200.00	90.00	359.48	12,554.00	6,574.05	-749.71	6,580.58	0.00	0.00	0.00

Database: WellPlanner1
Company: Marathon Oil
Project: Lea County, NM
Site: Madera 19 Fed Com 26-35-19 (1-2-5-6)
Well: TB #1H
Wellbore: OH
Design: Prelim Plan B

Local Co-ordinate Reference: Well TB #1H
TVD Reference: Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
MD Reference: Well @ 3211.50usft (GL: 3185' + KB: 26.5' (H&P480))
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,300.00	90.00	359.48	12,554.00	6,874.05	-750.62	6,680.58	0.00	0.00	0.00
19,400.00	90.00	359.48	12,554.00	6,774.04	-751.54	6,780.58	0.00	0.00	0.00
19,500.00	90.00	359.48	12,554.00	6,874.04	-752.45	6,880.58	0.00	0.00	0.00
19,600.00	90.00	359.48	12,554.00	6,974.03	-753.36	6,980.58	0.00	0.00	0.00
19,700.00	90.00	359.48	12,554.00	7,074.03	-754.28	7,080.58	0.00	0.00	0.00
19,800.00	90.00	359.48	12,554.00	7,174.03	-755.19	7,180.58	0.00	0.00	0.00
19,900.00	90.00	359.48	12,554.00	7,274.02	-756.10	7,280.58	0.00	0.00	0.00
20,000.00	90.00	359.48	12,554.00	7,374.02	-757.02	7,380.58	0.00	0.00	0.00
20,092.34	90.00	359.48	12,554.00	7,466.35	-757.86	7,472.92	0.00	0.00	0.00

[MaderaTB#1H]LTP/BHL