

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTCarlsbad Field Office
OCD ArtesiaFORM 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.*5. Lease Serial No.
NMNM86024

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on page 28. Well Name and No.
BLUE STEEL 21 SB FED COM 13H9. API Well No.
30-015-45897-00-X110. Field and Pool or Exploratory Area
LAGUNA SALADO-BONE SPRING11. County or Parish, State
EDDY COUNTY, NM

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
MARATHON OIL PERMIAN LLCContact: MELISSA SZUDERA
E-Mail: mszudera@marathonoil.com3a. Address
5555 SAN FELIPE ST
HOUSTON, TX 770563b. Phone No. (include area code)
Ph: 713-296-3179

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 28 T23S R29E NENE 1219' FNL 997' FEL
32.279873 N Lat, 103.984436 W Lon**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 respectfully requests to move this SHL of this well from 1219' FNL 997' FEL to 1420' FNL 848' FEL. SHL will be located within the approved existing well pad. See attached Revised C-102 Plat & Directional Drill Plan.

RECEIVED

JAN 09 2020

EMNRD-OCD ARTESIA

Engineering OK - DR 11/26/19
2 new surface disturbance
Approved CCR 11/26/2019 DOI - BLM-NM-P2020-2019-0340-EA. Same as apply

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #492865 verified by the BLM Well Information System
For MARATHON OIL PERMIAN LLC, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 11/20/2019 (20PP0494SE)

Name (Printed/Typed) MELISSA SZUDERA

Title REGULATORY COMPLIANCE REP

Signature (Electronic Submission)

Date 11/19/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

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

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 ****

1/29/20 KS

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, 1911
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45897	² Pool Code 96721	³ Pool Name LAGUNA SALADO; BONE SPRING
⁴ Property Code	⁵ Property Name BLUE STEEL 21 SB FED COM	⁶ Well Number 13H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 3006'

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
H	28	23S	29E		1420	NORTH	848	EAST	EDDY

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
B	16	23S	29E		100	NORTH	1980	EAST	EDDY

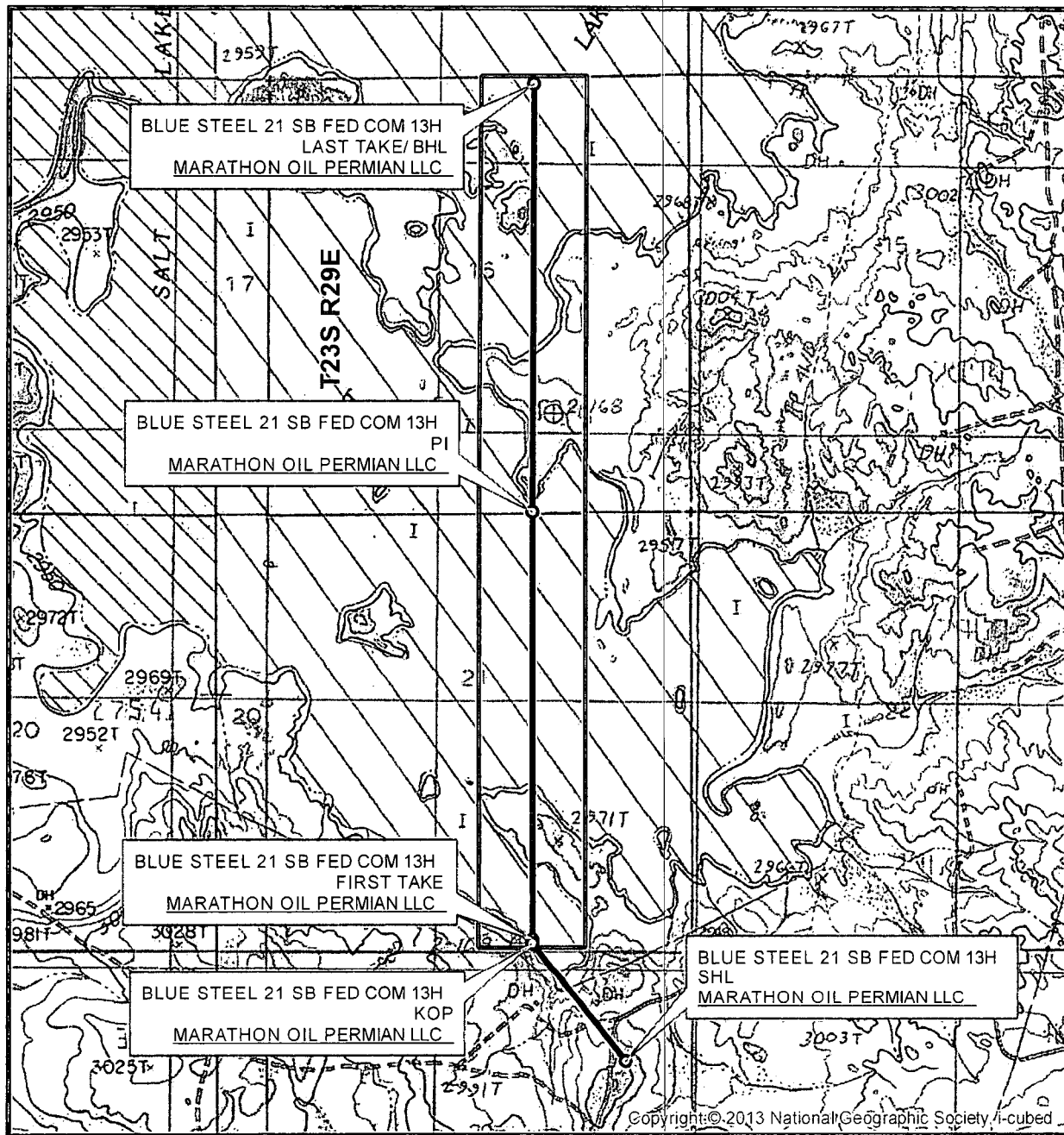
¹² Dedicated Acres 320.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

Defining Well SECTION 8 SECTION 9 SECTION 17 SECTION 16 SECTION 20 SECTION 21 SECTION 29 SECTION 28 SHEET 1 OF 3 JOB No. R3942-008 REV 4 JCS: 11/5/2019	CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 647506.95' / Y: 477578.03' B - X: 648826.84' / Y: 477582.82' C - X: 648814.42' / Y: 466942.98' D - X: 647475.03' / Y: 466934.71'	CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 606323.97' / Y: 477518.36' B - X: 607643.86' / Y: 477523.15' C - X: 607631.13' / Y: 466883.56' D - X: 606291.75' / Y: 466875.28'	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. Signature: <i>Melissa Szudera</i> Date: 11/19/2019 Printed Name: MELISSA SZUDERA E-mail Address: mszudera@marathonoil.com
	LAST TAKE POINT/BOTTOM HOLE LOCATION 100' FNL 1980' FEL, SECTION 16 NAD 83, SPCS NM EAST X: 648166.50' / Y: 477480.42' LAT: 32.31219279N / LON: 103.98753447W NAD 27, SPCS NM EAST X: 606983.51' / Y: 477420.75' LAT: 32.31207090N / LON: 103.98704224W		
	FIRST TAKE POINT 100' FSL 2009' FEL, SECTION 21 NAD 83, SPCS NM EAST X: 648144.74' / Y: 467038.85' LAT: 32.28349092N / LON: 103.98771383W NAD 27, SPCS NM EAST X: 606961.46' / Y: 466979.42' LAT: 32.28336879N / LON: 103.9872227W		
	KICK OFF POINT 50' FSL 2009' FEL, SECTION 21 NAD 83, SPCS NM EAST X: 648144.74' / Y: 466988.85' LAT: 32.2835348N / LON: 103.98771438W NAD 27, SPCS NM EAST X: 606961.45' / Y: 466929.42' LAT: 32.28323134N / LON: 103.98722325W		
	SURFACE HOLE LOCATION 1420' FNL 848' FEL, SECTION 28 NAD 83, SPCS NM EAST X: 649312.22' / Y: 465526.03' LAT: 32.27932205N / LON: 103.98395198W NAD 27, SPCS NM EAST X: 608128.89' / Y: 465466.64' LAT: 32.27919986N / LON: 103.9834611W		

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99978230 Convergence: 00°11'10.61002"

LOCATION VERIFICATION MAP



SEC. 28 TWP. 23-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 1420' FNL & 848' FEL
 ELEVATION: 3006'
 LEASE: BLUE STEEL 21 FED COM
 U.S.G.S. TOPOGRAPHIC MAP: REMUDA BASIN, NM.

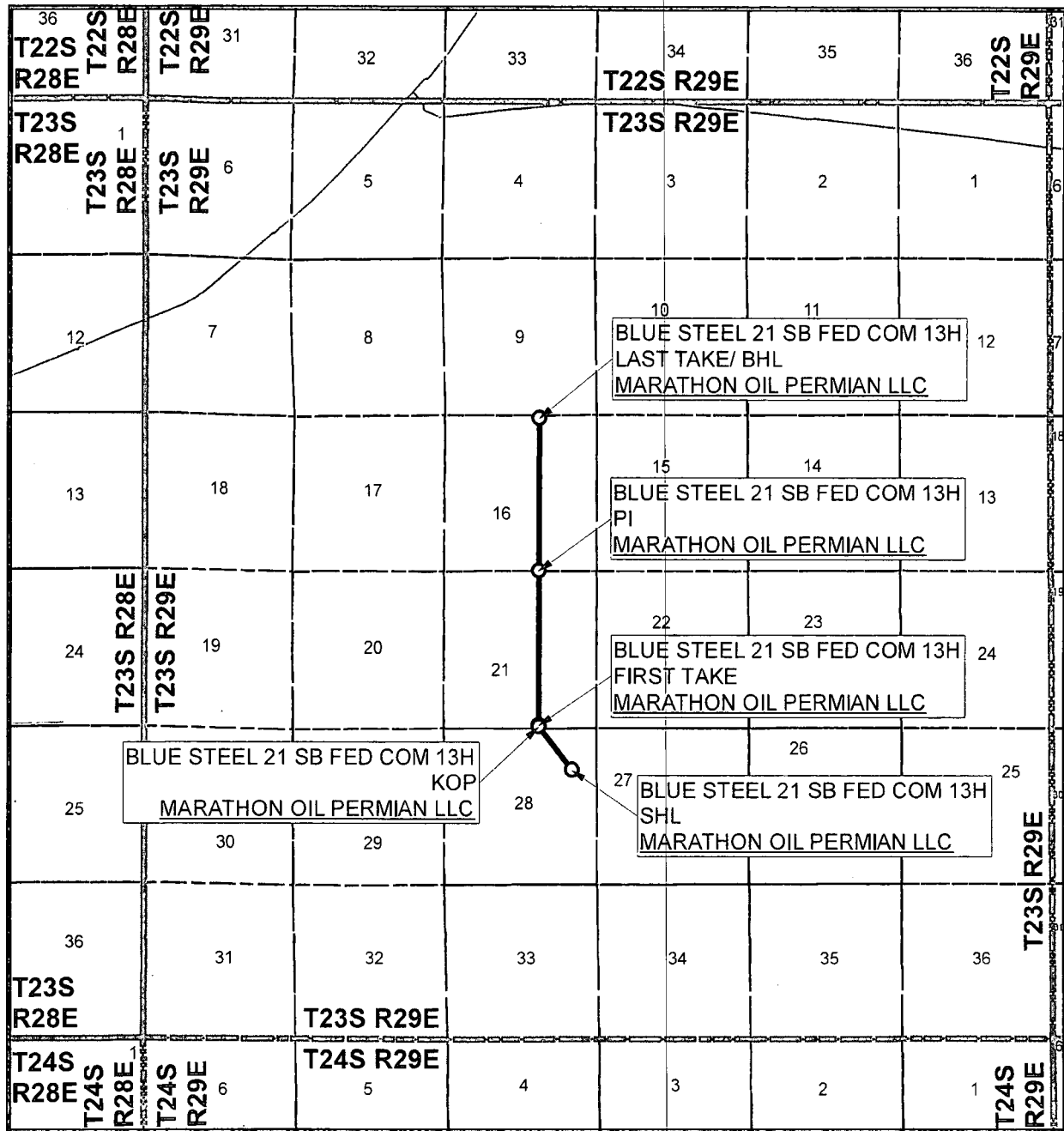
1" = 2,000'
 CONTOUR INTERVAL = 10'



SHEET 2 OF 3

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-6900 OFFICE
 JOB No. R3942_008

VICINITY MAP



SEC. 28 TWP. 23-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 1420' FNL & 848' FEL
 ELEVATION: 3006'
 LEASE: BLUE STEEL 21 FED COM
 U.S.G.S. TOPOGRAPHIC MAP: REMUDA BASIN, NM.

1" = 1 MILE



SHEET 3 OF 3

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-6900 OFFICE
 JOB No. R3942_008



Marathon Oil
Eddy County, NM
Blue Steel Fed Com 23-29-21
SB #13H
Prelim Plan B
GL: 3006' + KB: 25' (PD594)

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

RKB Elevation: Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))

N-S	E-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	465466.64	608128.89	32.279200	-103.983461	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	N-S	E-W	Dleg	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00
3	2500.00	20.00	321.41	2479.82	135.03	-107.77	12.00	134.81
4	6961.72	20.00	321.41	6672.46	1327.75	-1059.67	0.00	1325.53
5	7961.72	0.00	0.00	7652.28	1462.78	-1167.44	2.00	1460.34
6	8502.94	0.00	0.00	8193.50	1462.78	-1167.44	0.00	1460.34
7	9402.97	90.00	0.12	8766.46	2035.76	-1166.24	10.00	2033.32
8	19321.34	90.00	0.12	8766.00	11954.11	-1145.38	0.00	11951.69

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	N-S	E-W	Northing	Easting
(BlueSteelSB#13H)FTP	0.00	1512.78	-1167.43	466979.42	606961.46
(BlueSteelSB#13H)KOP	8193.50	1462.78	-1167.44	466929.42	606961.45
(BlueSteelSB#13H)JLTP/BHL	8766.00	11954.11	-1145.38	477420.75	606983.51



PRODirectional

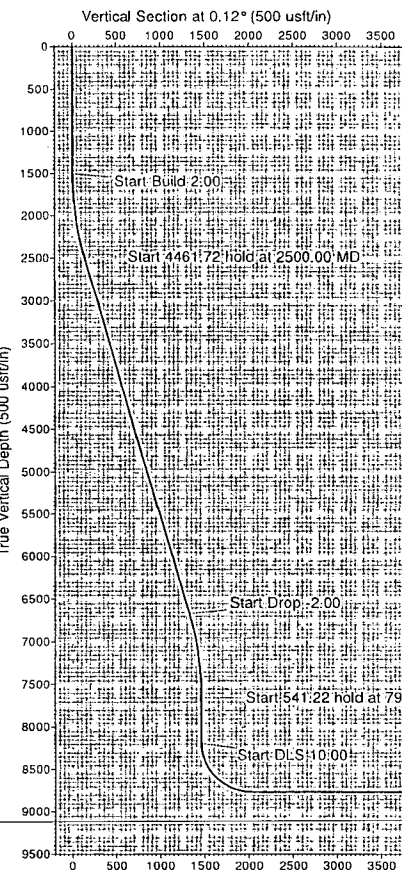


Azimuths to Grid North
True North: 0.19°
Magnetic North: 6.90°
Magnetic Field
Strength: 47994.1nT
Dip Angle: 60.05°
Date: 9/25/2018
Model: HDGM

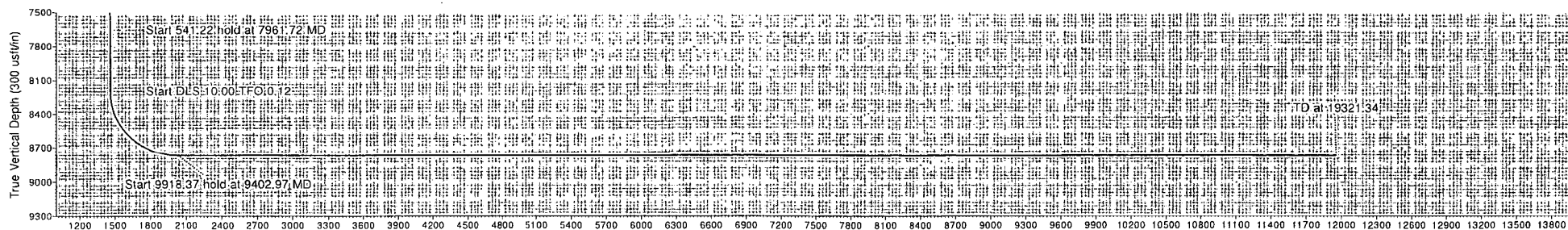
Azimuth Corrections

Total Magnetic Corr. (M to G): 6.90°

Declination (M to T): 7.08° East

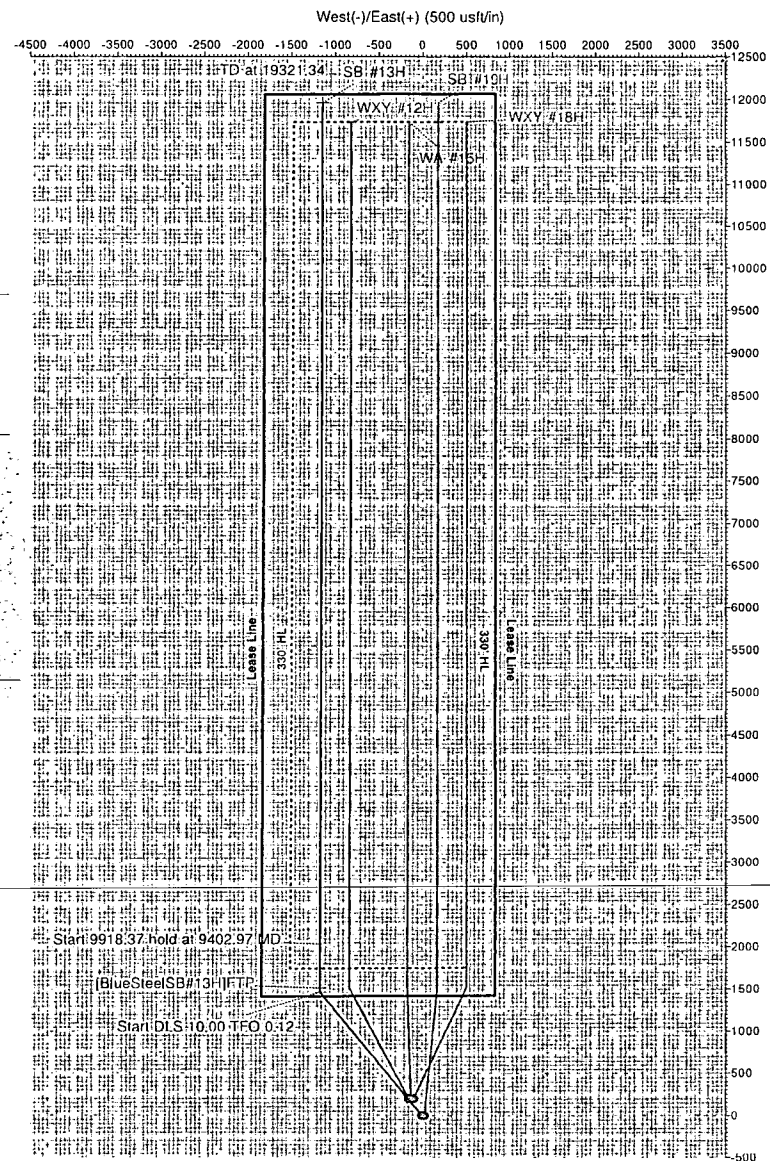


Target Line: 8766' TVD @ 0° VS: 90° INC



36" x 48"

Vertical Section at 0.12° (300 usf/in)



Database:	WellPlanner1	Local Co-ordinate Reference:	Well SB #13H
Company:	Marathon Oil	TVD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Project:	Eddy County, NM	MD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Site:	Blue Steel Fed Com 23-29-21	North Reference:	Grid
Well:	SB #13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan B		

Project:	Eddy 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:	Blue Steel Fed Com 23-29-21		
Site Position:		Northing:	465,666.39 usft
From:	Map	Easting:	608,039.11 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.279750
		Longitude:	-103.983750
		Grid Convergence:	0.19 "

Well:	SB #13H					
Well Position	+N-S	-199.75 usft	Northing:	465,466.64 usft	Latitude:	32.279200
	+E-W	89.78 usft	Easting:	608,128.89 usft	Longitude:	-103.983461
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	3,006.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/25/2018	7.08	60.05	47,994.10

Design:	Prelim Plan B			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.12

Plan Survey Tool Program	Date:	11/15/2019		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.00	19,321.34 Prelim Plan B (OH)	MWD+IFR1	
			OWSG MWD + IFR1	

Database:	WellPlanner1	Local Co-ordinate Reference:	Well SB #13H
Company:	Marathon Oil	TVD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Project:	Eddy County, NM	MD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Site:	Blue Steel Fed Com 23-29-21	North Reference:	Grid
Well:	SB #13H	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	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	20.00	321.41	2,479.82	135.03	-107.77	2.00	2.00	0.00	321.41	
6,961.72	20.00	321.41	6,672.46	1,327.75	-1,059.67	0.00	0.00	0.00	0.00	
7,961.72	0.00	0.00	7,652.28	1,462.78	-1,167.44	2.00	-2.00	0.00	180.00	
8,502.94	0.00	0.00	8,193.50	1,462.78	-1,167.44	0.00	0.00	0.00	0.00	[BlueSteelSB#13H]KC
9,402.97	90.00	0.12	8,766.46	2,035.76	-1,166.24	10.00	10.00	0.01	0.12	
19,321.34	90.00	0.12	8,766.00	11,954.11	-1,145.38	0.00	0.00	0.00	0.00	[BlueSteelSB#13H]LT

Database:	WellPlanner1	Local Co-ordinate Reference:	Well SB #13H
Company:	Marathon Oil	TVD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Project:	Eddy County, NM	MD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Site:	Blue Steel Fed Com 23-29-21	North Reference:	Grid
Well:	SB #13H	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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[BlueSteelSB#13H]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	2.00	321.41	1,599.98	1.36	-1.09	1.36	2.00	2.00	0.00
1,700.00	4.00	321.41	1,699.84	5.45	-4.35	5.45	2.00	2.00	0.00
1,800.00	6.00	321.41	1,799.45	12.27	-9.79	12.25	2.00	2.00	0.00
1,900.00	8.00	321.41	1,898.70	21.79	-17.39	21.75	2.00	2.00	0.00
2,000.00	10.00	321.41	1,997.47	34.02	-27.15	33.96	2.00	2.00	0.00
2,100.00	12.00	321.41	2,095.62	48.93	-39.05	48.85	2.00	2.00	0.00
2,200.00	14.00	321.41	2,193.06	66.51	-53.08	66.40	2.00	2.00	0.00
2,300.00	16.00	321.41	2,289.64	86.74	-69.23	86.59	2.00	2.00	0.00
2,400.00	18.00	321.41	2,385.27	109.59	-87.46	109.41	2.00	2.00	0.00
2,500.00	20.00	321.41	2,479.82	135.03	-107.77	134.81	2.00	2.00	0.00
2,600.00	20.00	321.41	2,573.78	161.77	-129.11	161.50	0.00	0.00	0.00
2,700.00	20.00	321.41	2,667.75	188.50	-150.44	188.18	0.00	0.00	0.00
2,800.00	20.00	321.41	2,761.72	215.23	-171.77	214.87	0.00	0.00	0.00
2,900.00	20.00	321.41	2,855.69	241.96	-193.11	241.56	0.00	0.00	0.00
3,000.00	20.00	321.41	2,949.66	268.69	-214.44	268.25	0.00	0.00	0.00
3,100.00	20.00	321.41	3,043.63	295.43	-235.78	294.93	0.00	0.00	0.00
3,200.00	20.00	321.41	3,137.60	322.16	-257.11	321.62	0.00	0.00	0.00
3,300.00	20.00	321.41	3,231.57	348.89	-278.45	348.31	0.00	0.00	0.00
3,400.00	20.00	321.41	3,325.54	375.62	-299.78	375.00	0.00	0.00	0.00
3,500.00	20.00	321.41	3,419.51	402.36	-321.12	401.68	0.00	0.00	0.00
3,600.00	20.00	321.41	3,513.48	429.09	-342.45	428.37	0.00	0.00	0.00
3,700.00	20.00	321.41	3,607.45	455.82	-363.79	455.06	0.00	0.00	0.00
3,800.00	20.00	321.41	3,701.42	482.55	-385.12	481.75	0.00	0.00	0.00
3,900.00	20.00	321.41	3,795.39	509.28	-406.46	508.43	0.00	0.00	0.00
4,000.00	20.00	321.41	3,889.35	536.02	-427.79	535.12	0.00	0.00	0.00
4,100.00	20.00	321.41	3,983.32	562.75	-449.13	561.81	0.00	0.00	0.00
4,200.00	20.00	321.41	4,077.29	589.48	-470.46	588.50	0.00	0.00	0.00
4,300.00	20.00	321.41	4,171.26	616.21	-491.80	615.18	0.00	0.00	0.00
4,400.00	20.00	321.41	4,265.23	642.94	-513.13	641.87	0.00	0.00	0.00
4,500.00	20.00	321.41	4,359.20	669.68	-534.47	668.56	0.00	0.00	0.00
4,600.00	20.00	321.41	4,453.17	696.41	-555.80	695.25	0.00	0.00	0.00
4,700.00	20.00	321.41	4,547.14	723.14	-577.14	721.93	0.00	0.00	0.00
4,800.00	20.00	321.41	4,641.11	749.87	-598.47	748.62	0.00	0.00	0.00
4,900.00	20.00	321.41	4,735.08	776.60	-619.81	775.31	0.00	0.00	0.00
5,000.00	20.00	321.41	4,829.05	803.34	-641.14	801.99	0.00	0.00	0.00

Database Company:	WellPlanner1 Marathon Oil	Local Co-ordinate Reference:	Well SB #13H
Project:	Eddy County, NM	NVD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Site:	Blue Steel Fed Com 23-29-21	MD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Well:	SB #13H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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)	
5,100.00	20.00	321.41	4,923.02	830.07	-662.48	828.68	0.00	0.00	0.00	
5,200.00	20.00	321.41	5,016.99	856.80	-683.81	855.37	0.00	0.00	0.00	
5,300.00	20.00	321.41	5,110.95	883.53	-705.14	882.06	0.00	0.00	0.00	
5,400.00	20.00	321.41	5,204.92	910.26	-726.48	908.74	0.00	0.00	0.00	
5,500.00	20.00	321.41	5,298.89	937.00	-747.81	935.43	0.00	0.00	0.00	
5,600.00	20.00	321.41	5,392.86	963.73	-769.15	962.12	0.00	0.00	0.00	
5,700.00	20.00	321.41	5,486.83	990.46	-790.48	988.81	0.00	0.00	0.00	
5,800.00	20.00	321.41	5,580.80	1,017.19	-811.82	1,015.49	0.00	0.00	0.00	
5,900.00	20.00	321.41	5,674.77	1,043.93	-833.15	1,042.18	0.00	0.00	0.00	
6,000.00	20.00	321.41	5,768.74	1,070.66	-854.49	1,068.87	0.00	0.00	0.00	
6,100.00	20.00	321.41	5,862.71	1,097.39	-875.82	1,095.56	0.00	0.00	0.00	
6,200.00	20.00	321.41	5,956.68	1,124.12	-897.16	1,122.24	0.00	0.00	0.00	
6,300.00	20.00	321.41	6,050.65	1,150.85	-918.49	1,148.93	0.00	0.00	0.00	
6,400.00	20.00	321.41	6,144.62	1,177.59	-939.83	1,175.62	0.00	0.00	0.00	
6,500.00	20.00	321.41	6,238.59	1,204.32	-961.16	1,202.31	0.00	0.00	0.00	
6,600.00	20.00	321.41	6,332.56	1,231.05	-982.50	1,228.99	0.00	0.00	0.00	
6,700.00	20.00	321.41	6,426.52	1,257.78	-1,003.83	1,255.68	0.00	0.00	0.00	
6,800.00	20.00	321.41	6,520.49	1,284.51	-1,025.17	1,282.37	0.00	0.00	0.00	
6,900.00	20.00	321.41	6,614.46	1,311.25	-1,046.50	1,309.06	0.00	0.00	0.00	
6,961.72	20.00	321.41	6,672.46	1,327.75	-1,059.67	1,325.53	0.00	0.00	0.00	
7,000.00	19.23	321.41	6,708.52	1,337.79	-1,067.69	1,335.56	2.00	-2.00	0.00	
7,100.00	17.23	321.41	6,803.49	1,362.25	-1,087.20	1,359.97	2.00	-2.00	0.00	
7,200.00	15.23	321.41	6,899.50	1,384.10	-1,104.64	1,381.78	2.00	-2.00	0.00	
7,300.00	13.23	321.41	6,996.43	1,403.31	-1,119.98	1,400.97	2.00	-2.00	0.00	
7,400.00	11.23	321.41	7,094.15	1,419.87	-1,133.20	1,417.50	2.00	-2.00	0.00	
7,500.00	9.23	321.41	7,192.55	1,433.76	-1,144.28	1,431.37	2.00	-2.00	0.00	
7,600.00	7.23	321.41	7,291.52	1,444.95	-1,153.21	1,442.54	2.00	-2.00	0.00	
7,700.00	5.23	321.41	7,390.92	1,453.44	-1,159.99	1,451.02	2.00	-2.00	0.00	
7,800.00	3.23	321.41	7,490.64	1,459.21	-1,164.59	1,456.78	2.00	-2.00	0.00	
7,900.00	1.23	321.41	7,590.56	1,462.26	-1,167.03	1,459.82	2.00	-2.00	0.00	
7,961.72	0.00	0.00	7,652.28	1,462.78	-1,167.44	1,460.34	2.00	-2.00	0.00	
8,000.00	0.00	0.00	7,690.56	1,462.78	-1,167.44	1,460.34	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,790.56	1,462.78	-1,167.44	1,460.34	0.00	0.00	0.00	
8,200.00	0.00	0.00	7,890.56	1,462.78	-1,167.44	1,460.34	0.00	0.00	0.00	
8,300.00	0.00	0.00	7,990.56	1,462.78	-1,167.44	1,460.34	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,090.56	1,462.78	-1,167.44	1,460.34	0.00	0.00	0.00	
8,502.94	0.00	0.00	8,193.50	1,462.78	-1,167.44	1,460.34	0.00	0.00	0.00	
[BlueSteelSB#13H]KOP										
8,550.00	4.71	0.12	8,240.50	1,464.71	-1,167.44	1,462.27	10.00	10.00	0.00	
8,600.00	9.71	0.12	8,290.09	1,470.98	-1,167.42	1,468.54	10.00	10.00	0.00	
8,650.00	14.71	0.12	8,338.95	1,481.55	-1,167.40	1,479.11	10.00	10.00	0.00	
8,700.00	19.71	0.12	8,386.69	1,496.33	-1,167.37	1,493.89	10.00	10.00	0.00	
8,750.00	24.71	0.12	8,432.97	1,515.22	-1,167.33	1,512.78	10.00	10.00	0.00	
8,800.00	29.71	0.12	8,477.43	1,538.08	-1,167.28	1,535.63	10.00	10.00	0.00	
8,850.00	34.71	0.12	8,519.72	1,564.72	-1,167.23	1,562.27	10.00	10.00	0.00	
8,900.00	39.71	0.12	8,559.53	1,594.94	-1,167.16	1,592.50	10.00	10.00	0.00	
8,950.00	44.71	0.12	8,596.56	1,628.52	-1,167.09	1,626.08	10.00	10.00	0.00	
9,000.00	49.71	0.12	8,630.51	1,665.20	-1,167.01	1,662.75	10.00	10.00	0.00	
9,050.00	54.71	0.12	8,661.15	1,704.70	-1,166.93	1,702.25	10.00	10.00	0.00	
9,100.00	59.71	0.12	8,688.22	1,746.71	-1,166.84	1,744.27	10.00	10.00	0.00	
9,150.00	64.71	0.12	8,711.53	1,790.93	-1,166.75	1,788.49	10.00	10.00	0.00	
9,200.00	69.71	0.12	8,730.89	1,837.01	-1,166.65	1,834.57	10.00	10.00	0.00	

Database:	WellPlanner1	Local Co-ordinate/Reference:	Well SB #13H
Company:	Marathon Oil	TVD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Project:	Eddy County, NM	MD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Site:	Blue Steel Fed Com 23-29-21	North Reference:	Grid
Well:	SB #13H	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)	
9,250.00	74.71	0.12	8,746.17	1,884.60	-1,166.55	1,882.16	10.00	10.00	0.00	
9,300.00	79.71	0.12	8,757.23	1,933.35	-1,166.45	1,930.90	10.00	10.00	0.00	
9,350.00	84.71	0.12	8,764.01	1,982.87	-1,166.35	1,980.43	10.00	10.00	0.00	
9,402.97	90.00	0.12	8,766.46	2,035.76	-1,166.24	2,033.32	10.00	10.00	0.00	
9,500.00	90.00	0.12	8,766.45	2,132.79	-1,166.03	2,130.35	0.00	0.00	0.00	
9,600.00	90.00	0.12	8,766.45	2,232.79	-1,165.82	2,230.35	0.00	0.00	0.00	
9,700.00	90.00	0.12	8,766.44	2,332.79	-1,165.61	2,330.35	0.00	0.00	0.00	
9,800.00	90.00	0.12	8,766.44	2,432.79	-1,165.40	2,430.35	0.00	0.00	0.00	
9,900.00	90.00	0.12	8,766.44	2,532.79	-1,165.19	2,530.35	0.00	0.00	0.00	
10,000.00	90.00	0.12	8,766.43	2,632.79	-1,164.98	2,630.35	0.00	0.00	0.00	
10,100.00	90.00	0.12	8,766.43	2,732.79	-1,164.77	2,730.35	0.00	0.00	0.00	
10,200.00	90.00	0.12	8,766.42	2,832.79	-1,164.56	2,830.35	0.00	0.00	0.00	
10,300.00	90.00	0.12	8,766.42	2,932.79	-1,164.35	2,930.35	0.00	0.00	0.00	
10,400.00	90.00	0.12	8,766.41	3,032.79	-1,164.14	3,030.35	0.00	0.00	0.00	
10,500.00	90.00	0.12	8,766.41	3,132.79	-1,163.93	3,130.35	0.00	0.00	0.00	
10,600.00	90.00	0.12	8,766.40	3,232.79	-1,163.72	3,230.35	0.00	0.00	0.00	
10,700.00	90.00	0.12	8,766.40	3,332.79	-1,163.51	3,330.35	0.00	0.00	0.00	
10,800.00	90.00	0.12	8,766.39	3,432.79	-1,163.30	3,430.35	0.00	0.00	0.00	
10,900.00	90.00	0.12	8,766.39	3,532.79	-1,163.09	3,530.35	0.00	0.00	0.00	
11,000.00	90.00	0.12	8,766.38	3,632.79	-1,162.88	3,630.35	0.00	0.00	0.00	
11,100.00	90.00	0.12	8,766.38	3,732.79	-1,162.67	3,730.35	0.00	0.00	0.00	
11,200.00	90.00	0.12	8,766.38	3,832.79	-1,162.46	3,830.35	0.00	0.00	0.00	
11,300.00	90.00	0.12	8,766.37	3,932.79	-1,162.25	3,930.35	0.00	0.00	0.00	
11,400.00	90.00	0.12	8,766.37	4,032.79	-1,162.04	4,030.35	0.00	0.00	0.00	
11,500.00	90.00	0.12	8,766.36	4,132.79	-1,161.83	4,130.35	0.00	0.00	0.00	
11,600.00	90.00	0.12	8,766.36	4,232.79	-1,161.62	4,230.35	0.00	0.00	0.00	
11,700.00	90.00	0.12	8,766.35	4,332.79	-1,161.41	4,330.35	0.00	0.00	0.00	
11,800.00	90.00	0.12	8,766.35	4,432.79	-1,161.20	4,430.35	0.00	0.00	0.00	
11,900.00	90.00	0.12	8,766.34	4,532.79	-1,160.98	4,530.35	0.00	0.00	0.00	
12,000.00	90.00	0.12	8,766.34	4,632.79	-1,160.77	4,630.35	0.00	0.00	0.00	
12,100.00	90.00	0.12	8,766.33	4,732.79	-1,160.56	4,730.35	0.00	0.00	0.00	
12,200.00	90.00	0.12	8,766.33	4,832.79	-1,160.35	4,830.35	0.00	0.00	0.00	
12,300.00	90.00	0.12	8,766.32	4,932.79	-1,160.14	4,930.35	0.00	0.00	0.00	
12,400.00	90.00	0.12	8,766.32	5,032.79	-1,159.93	5,030.35	0.00	0.00	0.00	
12,500.00	90.00	0.12	8,766.32	5,132.79	-1,159.72	5,130.35	0.00	0.00	0.00	
12,600.00	90.00	0.12	8,766.31	5,232.79	-1,159.51	5,230.35	0.00	0.00	0.00	
12,700.00	90.00	0.12	8,766.31	5,332.79	-1,159.30	5,330.35	0.00	0.00	0.00	
12,800.00	90.00	0.12	8,766.30	5,432.79	-1,159.09	5,430.35	0.00	0.00	0.00	
12,900.00	90.00	0.12	8,766.30	5,532.79	-1,158.88	5,530.35	0.00	0.00	0.00	
13,000.00	90.00	0.12	8,766.29	5,632.79	-1,158.67	5,630.35	0.00	0.00	0.00	
13,100.00	90.00	0.12	8,766.29	5,732.78	-1,158.46	5,730.35	0.00	0.00	0.00	
13,200.00	90.00	0.12	8,766.28	5,832.78	-1,158.25	5,830.35	0.00	0.00	0.00	
13,300.00	90.00	0.12	8,766.28	5,932.78	-1,158.04	5,930.35	0.00	0.00	0.00	
13,400.00	90.00	0.12	8,766.27	6,032.78	-1,157.83	6,030.35	0.00	0.00	0.00	
13,500.00	90.00	0.12	8,766.27	6,132.78	-1,157.62	6,130.35	0.00	0.00	0.00	
13,600.00	90.00	0.12	8,766.26	6,232.78	-1,157.41	6,230.35	0.00	0.00	0.00	
13,700.00	90.00	0.12	8,766.26	6,332.78	-1,157.20	6,330.35	0.00	0.00	0.00	
13,800.00	90.00	0.12	8,766.26	6,432.78	-1,156.99	6,430.35	0.00	0.00	0.00	
13,900.00	90.00	0.12	8,766.25	6,532.78	-1,156.78	6,530.35	0.00	0.00	0.00	
14,000.00	90.00	0.12	8,766.25	6,632.78	-1,156.57	6,630.35	0.00	0.00	0.00	
14,100.00	90.00	0.12	8,766.24	6,732.78	-1,156.36	6,730.35	0.00	0.00	0.00	
14,200.00	90.00	0.12	8,766.24	6,832.78	-1,156.15	6,830.35	0.00	0.00	0.00	



Marathon Oil

Professional Directional Planning Report


PRODIRECTIONAL

Database Company:	WellPlanner1 Marathon Oil	Local Co-ordinate Reference:	Well SB #13H
Project:	Eddy County, NM	TVD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Site:	Blue Steel Fed Com 23-29-21	MD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Well:	SB #13H	North Reference:	Grid
Wellbore:	OH	Survey/Calculation Method:	Minimum Curvature
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)
14,300.00	90.00	0.12	8,766.23	6,932.78	-1,155.94	6,930.35	0.00	0.00	0.00
14,400.00	90.00	0.12	8,766.23	7,032.78	-1,155.73	7,030.35	0.00	0.00	0.00
14,500.00	90.00	0.12	8,766.22	7,132.78	-1,155.52	7,130.35	0.00	0.00	0.00
14,600.00	90.00	0.12	8,766.22	7,232.78	-1,155.31	7,230.35	0.00	0.00	0.00
14,700.00	90.00	0.12	8,766.21	7,332.78	-1,155.10	7,330.35	0.00	0.00	0.00
14,800.00	90.00	0.12	8,766.21	7,432.78	-1,154.89	7,430.35	0.00	0.00	0.00
14,900.00	90.00	0.12	8,766.20	7,532.78	-1,154.68	7,530.35	0.00	0.00	0.00
15,000.00	90.00	0.12	8,766.20	7,632.78	-1,154.47	7,630.35	0.00	0.00	0.00
15,100.00	90.00	0.12	8,766.20	7,732.78	-1,154.26	7,730.35	0.00	0.00	0.00
15,200.00	90.00	0.12	8,766.19	7,832.78	-1,154.05	7,830.35	0.00	0.00	0.00
15,300.00	90.00	0.12	8,766.19	7,932.78	-1,153.84	7,930.35	0.00	0.00	0.00
15,400.00	90.00	0.12	8,766.18	8,032.78	-1,153.63	8,030.35	0.00	0.00	0.00
15,500.00	90.00	0.12	8,766.18	8,132.78	-1,153.42	8,130.35	0.00	0.00	0.00
15,600.00	90.00	0.12	8,766.17	8,232.78	-1,153.20	8,230.35	0.00	0.00	0.00
15,700.00	90.00	0.12	8,766.17	8,332.78	-1,152.99	8,330.35	0.00	0.00	0.00
15,800.00	90.00	0.12	8,766.16	8,432.78	-1,152.78	8,430.35	0.00	0.00	0.00
15,900.00	90.00	0.12	8,766.16	8,532.78	-1,152.57	8,530.35	0.00	0.00	0.00
16,000.00	90.00	0.12	8,766.15	8,632.78	-1,152.36	8,630.35	0.00	0.00	0.00
16,100.00	90.00	0.12	8,766.15	8,732.78	-1,152.15	8,730.35	0.00	0.00	0.00
16,200.00	90.00	0.12	8,766.14	8,832.78	-1,151.94	8,830.35	0.00	0.00	0.00
16,300.00	90.00	0.12	8,766.14	8,932.78	-1,151.73	8,930.35	0.00	0.00	0.00
16,400.00	90.00	0.12	8,766.14	9,032.78	-1,151.52	9,030.35	0.00	0.00	0.00
16,500.00	90.00	0.12	8,766.13	9,132.78	-1,151.31	9,130.35	0.00	0.00	0.00
16,600.00	90.00	0.12	8,766.13	9,232.78	-1,151.10	9,230.35	0.00	0.00	0.00
16,700.00	90.00	0.12	8,766.12	9,332.78	-1,150.89	9,330.35	0.00	0.00	0.00
16,800.00	90.00	0.12	8,766.12	9,432.78	-1,150.68	9,430.35	0.00	0.00	0.00
16,900.00	90.00	0.12	8,766.11	9,532.78	-1,150.47	9,530.35	0.00	0.00	0.00
17,000.00	90.00	0.12	8,766.11	9,632.78	-1,150.26	9,630.35	0.00	0.00	0.00
17,100.00	90.00	0.12	8,766.10	9,732.78	-1,150.05	9,730.35	0.00	0.00	0.00
17,200.00	90.00	0.12	8,766.10	9,832.78	-1,149.84	9,830.35	0.00	0.00	0.00
17,300.00	90.00	0.12	8,766.09	9,932.78	-1,149.63	9,930.35	0.00	0.00	0.00
17,400.00	90.00	0.12	8,766.09	10,032.78	-1,149.42	10,030.35	0.00	0.00	0.00
17,500.00	90.00	0.12	8,766.08	10,132.78	-1,149.21	10,130.35	0.00	0.00	0.00
17,600.00	90.00	0.12	8,766.08	10,232.77	-1,149.00	10,230.35	0.00	0.00	0.00
17,700.00	90.00	0.12	8,766.08	10,332.77	-1,148.79	10,330.35	0.00	0.00	0.00
17,800.00	90.00	0.12	8,766.07	10,432.77	-1,148.58	10,430.35	0.00	0.00	0.00
17,900.00	90.00	0.12	8,766.07	10,532.77	-1,148.37	10,530.35	0.00	0.00	0.00
18,000.00	90.00	0.12	8,766.06	10,632.77	-1,148.16	10,630.35	0.00	0.00	0.00
18,100.00	90.00	0.12	8,766.06	10,732.77	-1,147.95	10,730.35	0.00	0.00	0.00
18,200.00	90.00	0.12	8,766.05	10,832.77	-1,147.74	10,830.35	0.00	0.00	0.00
18,300.00	90.00	0.12	8,766.05	10,932.77	-1,147.53	10,930.35	0.00	0.00	0.00
18,400.00	90.00	0.12	8,766.04	11,032.77	-1,147.32	11,030.35	0.00	0.00	0.00
18,500.00	90.00	0.12	8,766.04	11,132.77	-1,147.11	11,130.35	0.00	0.00	0.00
18,600.00	90.00	0.12	8,766.03	11,232.77	-1,146.90	11,230.35	0.00	0.00	0.00
18,700.00	90.00	0.12	8,766.03	11,332.77	-1,146.69	11,330.35	0.00	0.00	0.00
18,800.00	90.00	0.12	8,766.02	11,432.77	-1,146.48	11,430.35	0.00	0.00	0.00
18,900.00	90.00	0.12	8,766.02	11,532.77	-1,146.27	11,530.35	0.00	0.00	0.00
19,000.00	90.00	0.12	8,766.02	11,632.77	-1,146.06	11,630.35	0.00	0.00	0.00
19,100.00	90.00	0.12	8,766.01	11,732.77	-1,145.85	11,730.35	0.00	0.00	0.00
19,200.00	90.00	0.12	8,766.01	11,832.77	-1,145.64	11,830.35	0.00	0.00	0.00
19,300.00	90.00	0.12	8,766.00	11,932.77	-1,145.42	11,930.35	0.00	0.00	0.00
19,321.34	90.00	0.12	8,766.00	11,954.11	-1,145.38	11,951.69	0.00	0.00	0.00

Database Company:	WellPlanner1 Marathon Oil	Local Co-ordinate Reference:	Well SB #13H
Project:	Eddy County, NM	TVD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Site:	Blue Steel Fed Com 23-29-21	MD Reference:	Well @ 3031.00usft (GL: 3006' + KB: 25' (PD594))
Well:	SB #13H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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)
[BlueSteelSB#13H]LTP/BHL									