

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.
NMNM138836

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
MAZER RACKHAM 20 WB FED COM 8H9. API Well No.
30-015-46148-00-X110. Field and Pool or Exploratory Area
PURPLE SAGE-WOLFCAMP (GAS)11. County or Parish, State
EDDY COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**

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 20 T26S R29E NENE 965FNL 630FEL
32.032902 N Lat, 104.000252 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
-
- ☐
- Subsequent Report
-
- ☐
- Final Abandonment Notice

- ☐
- Acidize
-
- ☐
- Alter Casing
-
- ☐
- Casing Repair
-
- ☐
- Change Plans
-
- ☐
- Convert to Injection

- ☐
- Deepen
-
- ☐
- Hydraulic Fracturing
-
- ☐
- New Construction
-
- ☐
- Plug and Abandon
-
- ☐
- Plug Back

- ☐
- Production (Start/Resume)
-
- ☐
- Reclamation
-
- ☐
- Recomplete
-
- ☐
- Temporarily Abandon
-
- ☐
- Water Disposal

- ☐
- Water Shut-Off
-
- ☐
- Well Integrity
-
- ☒
- Other
-
- Change to Original APD

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 recompletion 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 the approved APD:

Change hole location:
SHL:
From: 965 FNL 630 FEL
To: 965 FNL 660 FELGC 11/3/19
... filed for record - NMOCD

Please see attachments.

Engineering okay. 12 additional COA. DR 10/23

Fee/Fee/Fed

approved. No new surface disturbance. DOI-BLM-NM-PO20-2019-0585-EA.COR. 10-23-2019

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

Electronic Submission #479469 verified by the BLM Well Information System
For MARATHON OIL PERMIAN LLC, sent to the Carlsbad
Committed to AFMSS for processing by JUANA MEDRANO on 08/20/2019 (19JM0090SE)

Name (Printed/Typed) MELISSA SZUDERA

Title REGULATORY COMPLIANCE REP

Signature (Electronic Submission)

Date 08/20/2019

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 **

Not Entered
RIP 11-22-19 Need C/OZ Pmt.

Form 3160-5
(June 2015)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.5. Lease Serial No.
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8. Well Name and No.
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PURPLE SAGE-WOLFCAMP (GAS)11. County or Parish, State
EDDY COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

MARATHON OIL PERMIAN LLC

Contact: MELISSA SZUDERA

E-Mail: mszudera@marathonoil.com

3a. Address

5555 SAN FELIPE ST
HOUSTON, TX 77056

3b. Phone No. (include area code)

Ph: 713-296-3179

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

Sec 20 T26S R29E NENE 965FNL 660FEL
32.032902 N Lat, 104.000252 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 PD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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.

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Please see attachments.

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Electronic Submission #479469 verified by the BLM Well Information System
For MARATHON OIL PERMIAN LLC, sent to the Carlsbad
Committed to AFMSS for processing by JUANA MEDRANO on 08/20/2019 (19JM0090SE)

Name (Printed/Typed) MELISSA SZUDERA

Title REGULATORY COMPLIANCE REP

Signature (Electronic Submission)

Date 08/20/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CODY LAYTON

Title ASSIST FIELD MANAGER LANDS MINERALS

Date 10/24/2019

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 Carlsbad

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 ****

Revisions to Operator-Submitted EC Data for Sundry Notice #479469

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM138836	NMNM138836
Agreement:		
Operator:	MARATHON OIL PERMIAN LLC 5555 SAN FELIPE ST HOUSTON, TX 77056 Ph: 713-296-3179	MARATHON OIL PERMIAN LLC 5555 SAN FELIPE ST HOUSTON, TX 77056 Ph: 713.629 6600
Admin Contact:	MELISSA SZUDERA REGULATORY COMPLIANCE REP E-Mail: mszudera@marathonoil.com Ph: 713-296-3179	MELISSA SZUDERA REGULATORY COMPLIANCE REP E-Mail: mszudera@marathonoil.com Ph: 713-296-3179
Tech Contact:	MELISSA SZUDERA REGULATORY COMPLIANCE REP E-Mail: mszudera@marathonoil.com Ph: 713-296-3179	MELISSA SZUDERA REGULATORY COMPLIANCE REP E-Mail: mszudera@marathonoil.com Ph: 713-296-3179
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	PURPLE SAGE; WOLFCAMP	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	MAZER RACKHAM 20 WA FEDERAL CO 6H Sec 20 T26S R29E Mer NMP NENE 965FNL 600FEL	MAZER RACKHAM 20 WB FED COM 8H Sec 20 T26S R29E NENE 965FNL 660FEL 32.032902 N Lat, 104.000252 W Lon

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	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name MAZER RACKHAM 20 WB FED COM	⁶ Well Number 8H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 2872'

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
A	20	26S	29E		965	NORTH	660	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
P	20	26S	29E		330	SOUTH	1339	EAST	EDDY

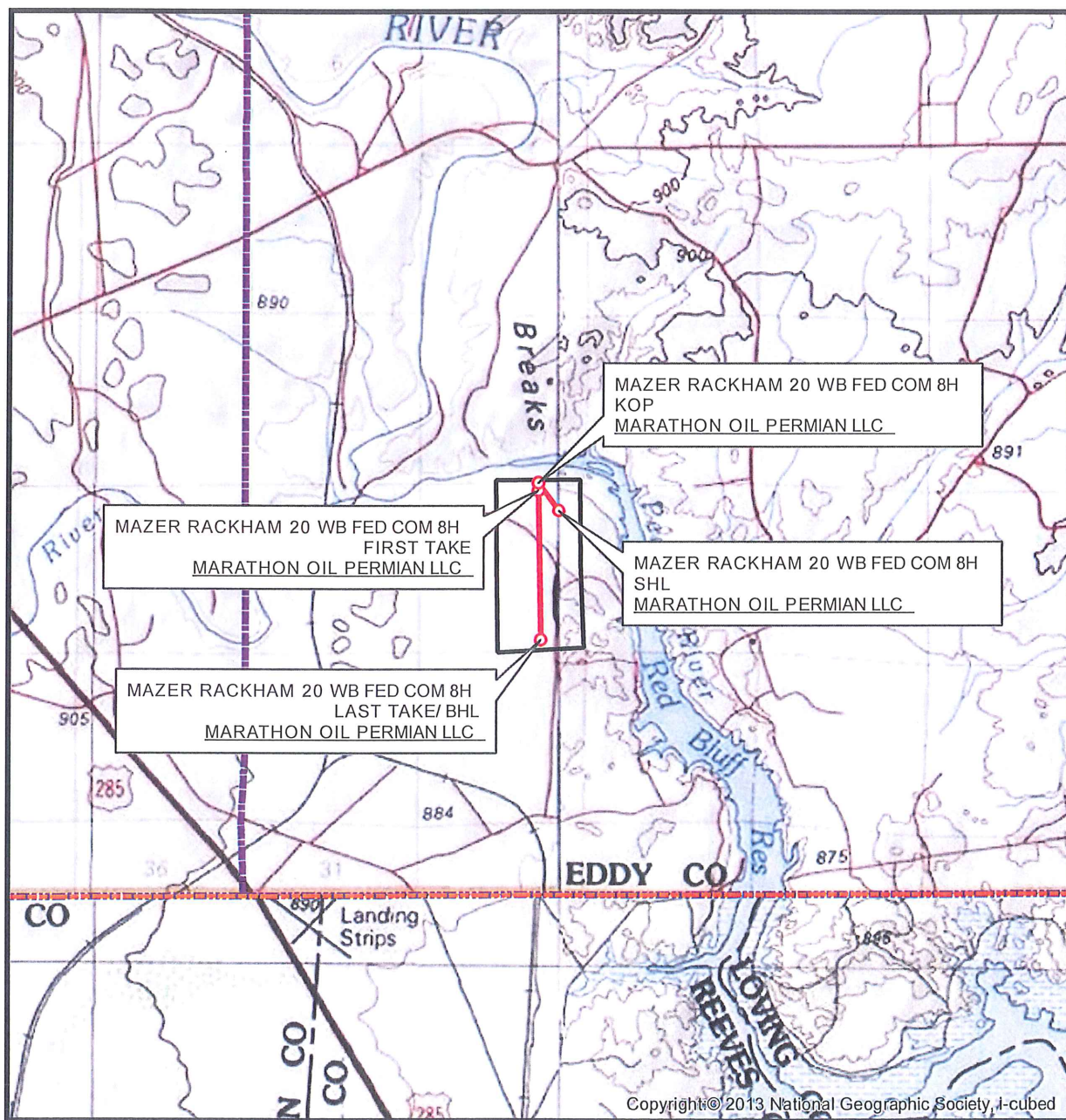
¹² Dedicated Acres 320.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 642535.61' / Y: 376817.53' B - X: 645175.01' / Y: 376837.52' C - X: 645293.57' / Y: 371608.28' D - X: 642590.08' / Y: 371460.95'	CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 601350.13' / Y: 376759.99' B - X: 603989.47' / Y: 376779.95' C - X: 604107.90' / Y: 371550.82' D - X: 601404.47' / Y: 371403.51'	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: Date: 08/19/2019 Printed Name: MELISSA SZUDERA E-mail Address:	
	SURFACE HOLE LOCATION 965' FNL 660' FEL, SECTION 20 NAD 83, SPCS NM EAST X: 644521.29' / Y: 375867.70' LAT: 32.03290313N / LON: 104.00035146W NAD 27, SPCS NM EAST X: 603335.73' / Y: 375810.15' LAT: 32.03277813N / LON: 103.99986869W			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. Date of Survey: MAY 15, 2019 Signature and Seal of Professional Surveyor:
	KICK OFF POINT 100' FNL 1310' FEL, SECTION 20 NAD 83, SPCS NM EAST X: 643866.16' / Y: 376727.61' LAT: 32.03527249N / LON: 104.00245706W NAD 27, SPCS NM EAST X: 602680.65' / Y: 376670.05' LAT: 32.03514755N / LON: 104.00197410W			Certificate Number: DAVID W. MYERS, 11403
	FIRST TAKE POINT 330' FNL 1309' FEL, SECTION 20 NAD 83, SPCS NM EAST X: 643866.13' / Y: 376497.62' LAT: 32.03464024N / LON: 104.00245300W NAD 27, SPCS NM EAST X: 602682.60' / Y: 376440.06' LAT: 32.03451529N / LON: 104.00197007W			
LAST TAKE POINT/BOTTOM HOLE LOCATION 330' FSL 1339' FEL, SECTION 20 NAD 83, SPCS NM EAST X: 643943.86' / Y: 371865.21' LAT: 32.02190538N / LON: 104.00225442W NAD 27, SPCS NM EAST X: 602758.22' / Y: 371807.75' LAT: 32.02178027N / LON: 104.00177193W				

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99978647 Convergence: 00°10'35.39608"

LOCATION VERIFICATION MAP



SEC. 20 TWP. 26-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 965' FNL & 660' FEL
 ELEVATION: 2872'
 LEASE: MAZER RACKHAM 20 FED COM
 U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, NM, TX.

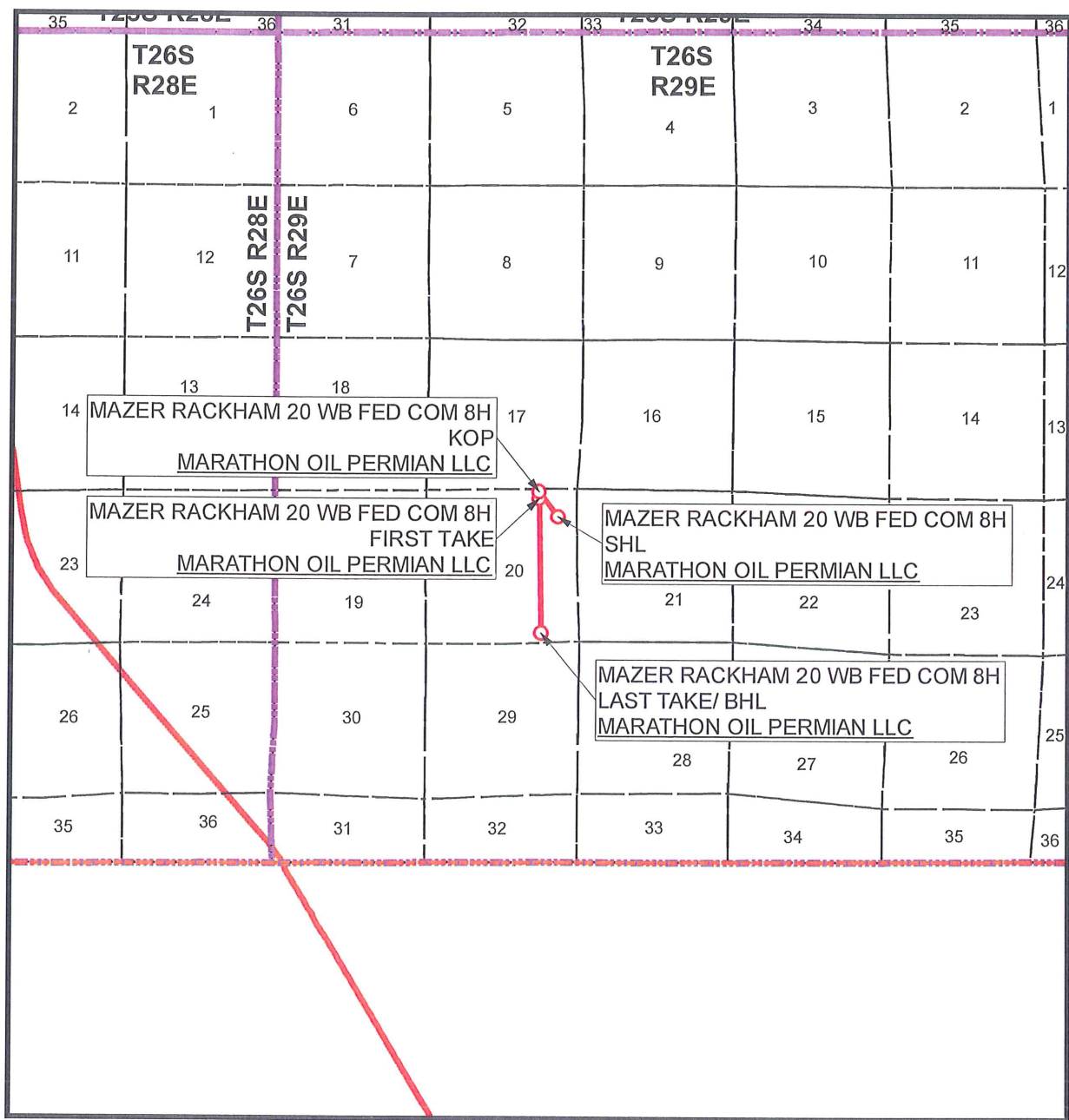
1" = 5,000'
 CONTOUR INTERVAL = 20'



SHEET 2 OF 3

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-6900 OFFICE
 JOB No. R3893_019

VICINITY MAP



SEC. 20 TWP. 26-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 965' FNL & 660' FEL
 ELEVATION: 2872'
 LEASE: MAZER RACKHAM 20 FED COM
 U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, NM,TX.

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. R3893_019



Marathon Oil
Eddy County, NM
Mazer Rackham 20 (1-4-5-6-8)
WB FED No. 8H
Prelim Plan C
GL: 2872' + 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 @ 2897.00usft (GL: 2872' + KB: 25' (PD594))

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	375810.15	603335.73	32.032778	-103.999869	

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	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00
3	2300.00	10.00	322.70	2297.47	34.62	-26.37	2.00	-35.04
4	8023.95	10.00	322.70	7934.46	825.28	-628.71	0.00	-835.16
5	8523.95	0.00	0.00	8431.92	859.90	-655.08	2.00	-870.20
6	9590.03	0.00	0.00	9498.00	859.90	-655.08	0.00	-870.20
7	10488.12	89.81	179.09	10070.95	288.92	-645.97	10.00	-299.14
8	14780.01	89.81	179.09	10085.24	-4002.40	-577.51	0.00	3992.72

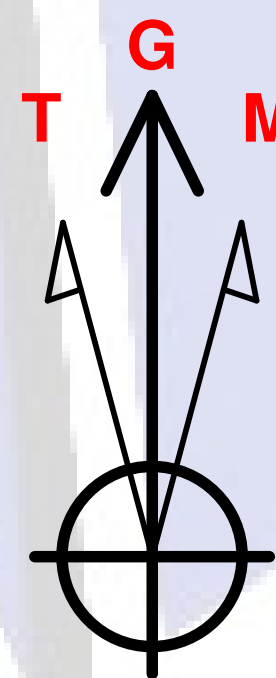
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
[MazerRack#8H]FTP	0.00	629.91	-653.13	376440.06	602682.60
[MazerRack#8H]KOP	9498.00	859.90	-655.08	376670.05	602680.65
[MazerRack#8H]LTP/BHL	10085.24	-4002.40	-577.51	371807.75	602758.22

Azimuth Corrections

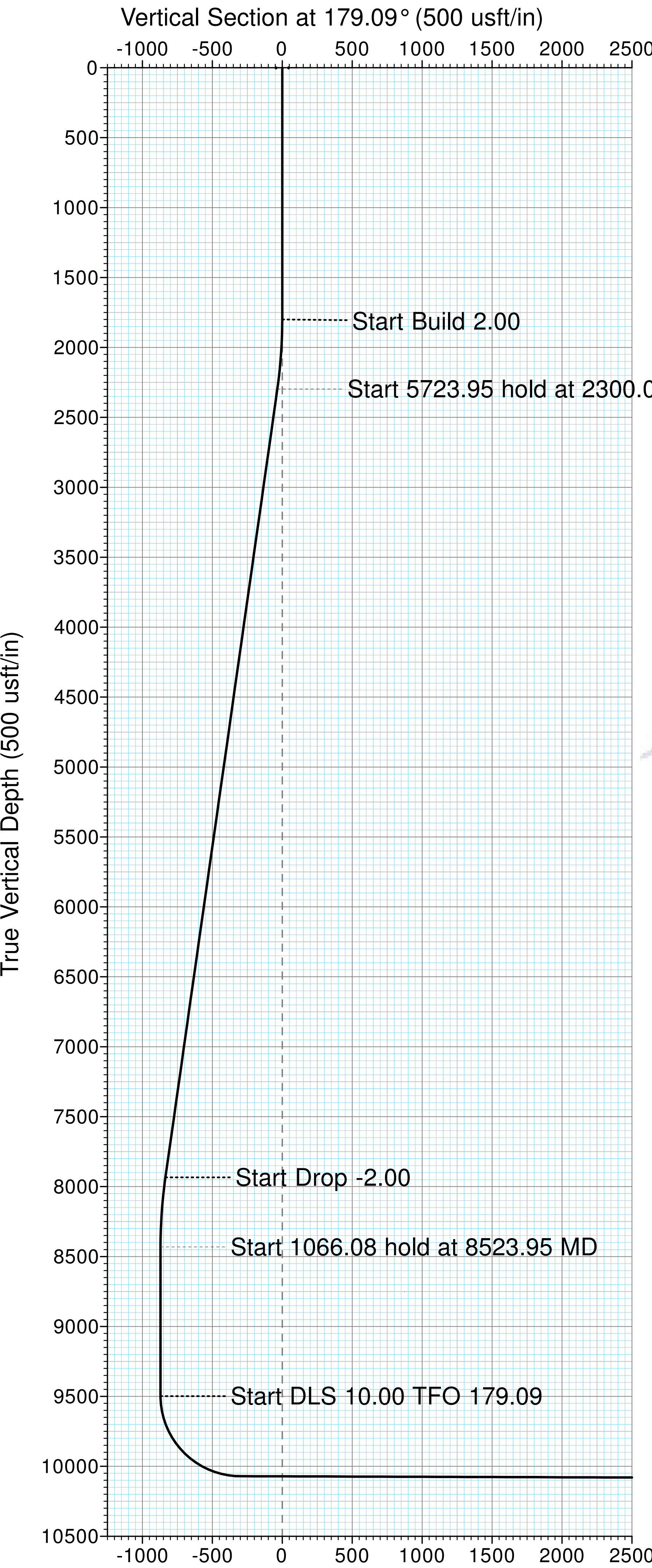
Total Magnetic Corr. (M to G): 6.72°

Declination (M to T): 6.90° East

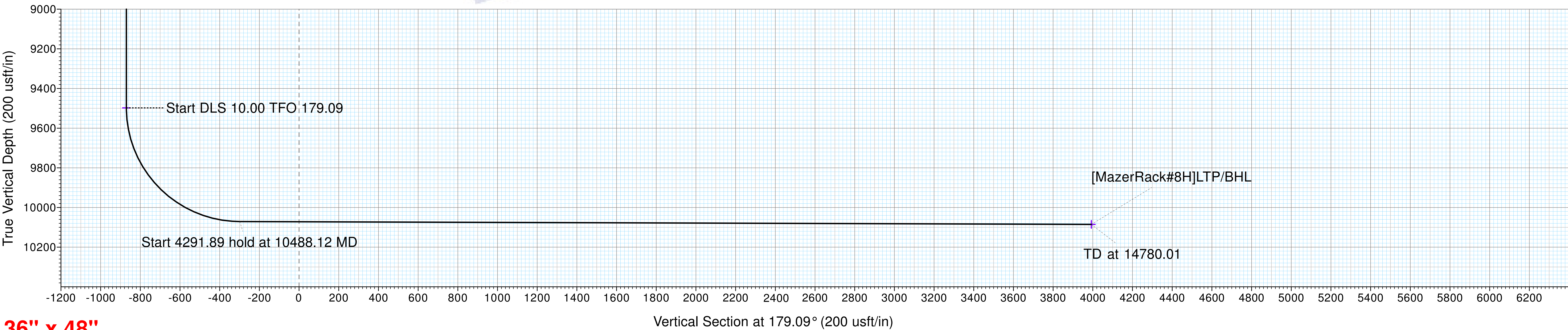


Azimuths to Grid North
True North: -0.18°
Magnetic North: 6.72°

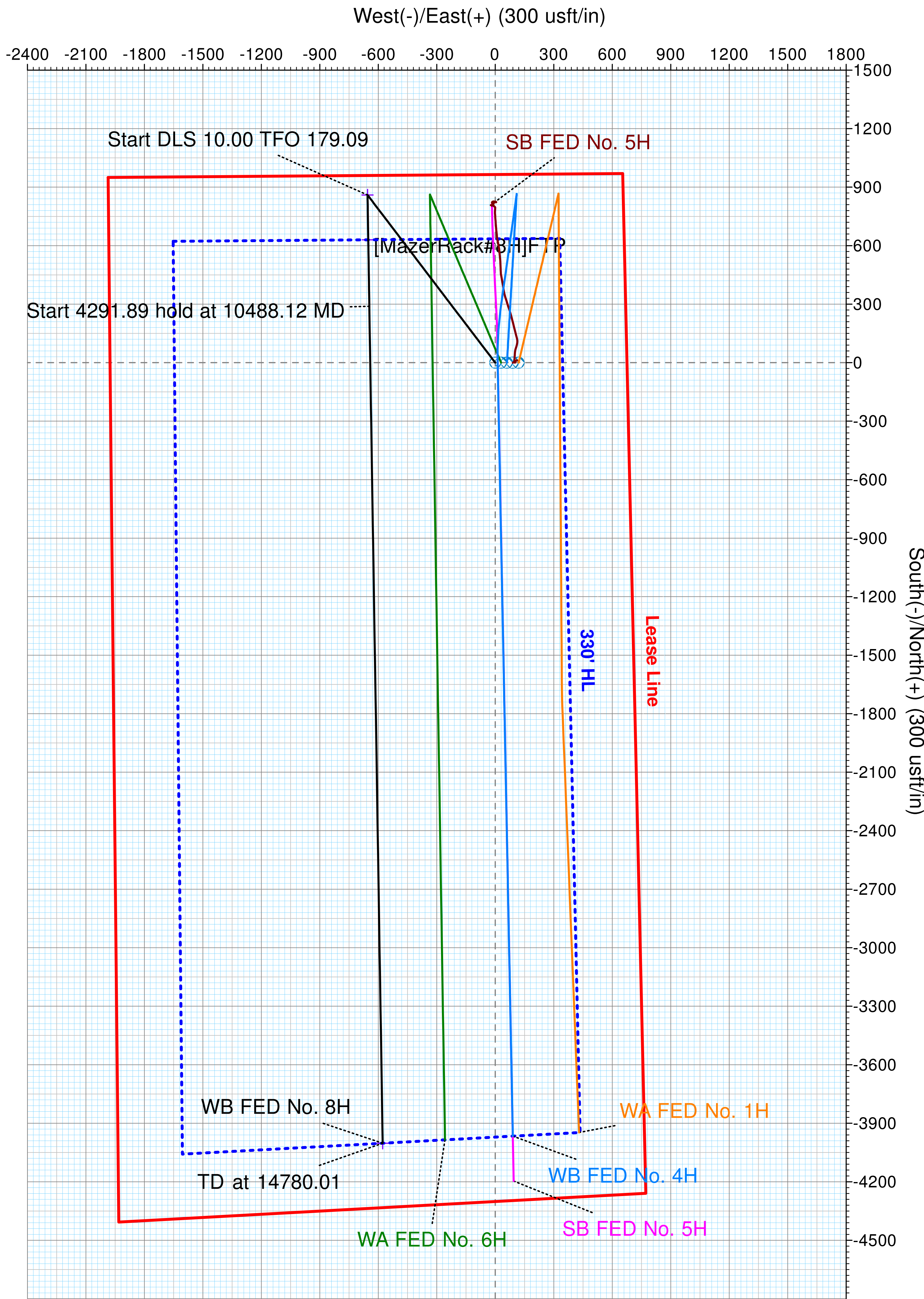
Magnetic Field
Strength: 47852.1snT
Dip Angle: 59.68°
Date: 1/4/2019
Model: HDGM



Target: 10072' TVD @ 0' VS :: 89.81° INC



36" x 48"





Pro Directional Survey Report



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB FED No. 8H
Project:	Eddy County, NM	TVD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Site:	Mazer Rackham 20 (1-4-5-6-8)	MD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Well:	WB FED No. 8H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan C	Database:	WellPlanner1

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		Mazer Rackham 20 (1-4-5-6-8)			
Site Position:		Northing:	375,810.18 usft	Latitude:	32.032778
From:	Map	Easting:	603,395.73 usft	Longitude:	-103.999675
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.18 °

Well	WB FED No. 8H					
Well Position	+N/-S	0.00 usft	Northing:	375,810.15 usft	Latitude:	32.032778
	+E/-W	0.00 usft	Easting:	603,335.73 usft	Longitude:	-103.999869
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,872.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/4/2019	6.90	59.68	47,852.10

Design	Prelim Plan C				
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	179.09	

Survey Tool Program	Date	7/21/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,850.00	Prelim Plan C (OH)	MWD+HDGM	OWSG MWD + HRGM	
1,850.00	5,400.00	Prelim Plan C (OH)	MWD+HDGM	OWSG MWD + HRGM	
5,400.00	10,000.00	Prelim Plan C (OH)	MWD+HDGM	OWSG MWD + HRGM	
10,000.00	14,780.01	Prelim Plan C (OH)	MWD+HDGM	OWSG MWD + HRGM	

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	
[MazerRack#8H]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	



Pro Directional Survey Report



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB FED No. 8H
Project:	Eddy County, NM	TVD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Site:	Mazer Rackham 20 (1-4-5-6-8)	MD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Well:	WB FED No. 8H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan C	Database:	WellPlanner1

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)
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	322.70	1,899.98	1.39	-1.06	-1.40	2.00	2.00	0.00
2,000.00	4.00	322.70	1,999.84	5.55	-4.23	-5.62	2.00	2.00	0.00
2,100.00	6.00	322.70	2,099.45	12.48	-9.51	-12.63	2.00	2.00	0.00
2,200.00	8.00	322.70	2,198.70	22.18	-16.90	-22.44	2.00	2.00	0.00
2,300.00	10.00	322.70	2,297.47	34.62	-26.37	-35.04	2.00	2.00	0.00
2,400.00	10.00	322.70	2,395.95	48.43	-36.90	-49.01	0.00	0.00	0.00
2,500.00	10.00	322.70	2,494.43	62.25	-47.42	-62.99	0.00	0.00	0.00
2,600.00	10.00	322.70	2,592.91	76.06	-57.94	-76.97	0.00	0.00	0.00
2,700.00	10.00	322.70	2,691.39	89.87	-68.47	-90.95	0.00	0.00	0.00
2,800.00	10.00	322.70	2,789.87	103.69	-78.99	-104.93	0.00	0.00	0.00
2,900.00	10.00	322.70	2,888.35	117.50	-89.51	-118.91	0.00	0.00	0.00
3,000.00	10.00	322.70	2,986.83	131.31	-100.04	-132.89	0.00	0.00	0.00
3,100.00	10.00	322.70	3,085.31	145.13	-110.56	-146.86	0.00	0.00	0.00
3,200.00	10.00	322.70	3,183.79	158.94	-121.08	-160.84	0.00	0.00	0.00
3,300.00	10.00	322.70	3,282.27	172.75	-131.60	-174.82	0.00	0.00	0.00
3,400.00	10.00	322.70	3,380.75	186.57	-142.13	-188.80	0.00	0.00	0.00
3,500.00	10.00	322.70	3,479.23	200.38	-152.65	-202.78	0.00	0.00	0.00
3,600.00	10.00	322.70	3,577.72	214.19	-163.17	-216.76	0.00	0.00	0.00
3,700.00	10.00	322.70	3,676.20	228.01	-173.70	-230.73	0.00	0.00	0.00
3,800.00	10.00	322.70	3,774.68	241.82	-184.22	-244.71	0.00	0.00	0.00
3,900.00	10.00	322.70	3,873.16	255.63	-194.74	-258.69	0.00	0.00	0.00
4,000.00	10.00	322.70	3,971.64	269.44	-205.27	-272.67	0.00	0.00	0.00
4,100.00	10.00	322.70	4,070.12	283.26	-215.79	-286.65	0.00	0.00	0.00
4,200.00	10.00	322.70	4,168.60	297.07	-226.31	-300.63	0.00	0.00	0.00
4,300.00	10.00	322.70	4,267.08	310.88	-236.83	-314.61	0.00	0.00	0.00
4,400.00	10.00	322.70	4,365.56	324.70	-247.36	-328.58	0.00	0.00	0.00
4,500.00	10.00	322.70	4,464.04	338.51	-257.88	-342.56	0.00	0.00	0.00
4,600.00	10.00	322.70	4,562.52	352.32	-268.40	-356.54	0.00	0.00	0.00



Pro Directional Survey Report



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB FED No. 8H
Project:	Eddy County, NM	TVD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Site:	Mazer Rackham 20 (1-4-5-6-8)	MD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Well:	WB FED No. 8H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan C	Database:	WellPlanner1

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)	
4,700.00	10.00	322.70	4,661.00	366.14	-278.93	-370.52	0.00	0.00	0.00	
4,800.00	10.00	322.70	4,759.48	379.95	-289.45	-384.50	0.00	0.00	0.00	
4,900.00	10.00	322.70	4,857.97	393.76	-299.97	-398.48	0.00	0.00	0.00	
5,000.00	10.00	322.70	4,956.45	407.58	-310.50	-412.46	0.00	0.00	0.00	
5,100.00	10.00	322.70	5,054.93	421.39	-321.02	-426.43	0.00	0.00	0.00	
5,200.00	10.00	322.70	5,153.41	435.20	-331.54	-440.41	0.00	0.00	0.00	
5,300.00	10.00	322.70	5,251.89	449.02	-342.06	-454.39	0.00	0.00	0.00	
5,400.00	10.00	322.70	5,350.37	462.83	-352.59	-468.37	0.00	0.00	0.00	
5,500.00	10.00	322.70	5,448.85	476.64	-363.11	-482.35	0.00	0.00	0.00	
5,600.00	10.00	322.70	5,547.33	490.46	-373.63	-496.33	0.00	0.00	0.00	
5,700.00	10.00	322.70	5,645.81	504.27	-384.16	-510.31	0.00	0.00	0.00	
5,800.00	10.00	322.70	5,744.29	518.08	-394.68	-524.28	0.00	0.00	0.00	
5,900.00	10.00	322.70	5,842.77	531.89	-405.20	-538.26	0.00	0.00	0.00	
6,000.00	10.00	322.70	5,941.25	545.71	-415.73	-552.24	0.00	0.00	0.00	
6,100.00	10.00	322.70	6,039.73	559.52	-426.25	-566.22	0.00	0.00	0.00	
6,200.00	10.00	322.70	6,138.22	573.33	-436.77	-580.20	0.00	0.00	0.00	
6,300.00	10.00	322.70	6,236.70	587.15	-447.29	-594.18	0.00	0.00	0.00	
6,400.00	10.00	322.70	6,335.18	600.96	-457.82	-608.16	0.00	0.00	0.00	
6,500.00	10.00	322.70	6,433.66	614.77	-468.34	-622.13	0.00	0.00	0.00	
6,600.00	10.00	322.70	6,532.14	628.59	-478.86	-636.11	0.00	0.00	0.00	
6,700.00	10.00	322.70	6,630.62	642.40	-489.39	-650.09	0.00	0.00	0.00	
6,800.00	10.00	322.70	6,729.10	656.21	-499.91	-664.07	0.00	0.00	0.00	
6,900.00	10.00	322.70	6,827.58	670.03	-510.43	-678.05	0.00	0.00	0.00	
7,000.00	10.00	322.70	6,926.06	683.84	-520.96	-692.03	0.00	0.00	0.00	
7,100.00	10.00	322.70	7,024.54	697.65	-531.48	-706.01	0.00	0.00	0.00	
7,200.00	10.00	322.70	7,123.02	711.47	-542.00	-719.98	0.00	0.00	0.00	
7,300.00	10.00	322.70	7,221.50	725.28	-552.52	-733.96	0.00	0.00	0.00	
7,400.00	10.00	322.70	7,319.99	739.09	-563.05	-747.94	0.00	0.00	0.00	
7,500.00	10.00	322.70	7,418.47	752.91	-573.57	-761.92	0.00	0.00	0.00	
7,600.00	10.00	322.70	7,516.95	766.72	-584.09	-775.90	0.00	0.00	0.00	
7,700.00	10.00	322.70	7,615.43	780.53	-594.62	-789.88	0.00	0.00	0.00	
7,800.00	10.00	322.70	7,713.91	794.34	-605.14	-803.86	0.00	0.00	0.00	
7,900.00	10.00	322.70	7,812.39	808.16	-615.66	-817.83	0.00	0.00	0.00	
8,000.00	10.00	322.70	7,910.87	821.97	-626.19	-831.81	0.00	0.00	0.00	
8,023.95	10.00	322.70	7,934.46	825.28	-628.71	-835.16	0.00	0.00	0.00	
8,100.00	8.48	322.70	8,009.52	834.99	-636.11	-844.99	2.00	-2.00	0.00	
8,200.00	6.48	322.70	8,108.66	845.35	-643.99	-855.47	2.00	-2.00	0.00	
8,300.00	4.48	322.70	8,208.20	852.94	-649.78	-863.15	2.00	-2.00	0.00	
8,400.00	2.48	322.70	8,308.01	857.77	-653.46	-868.04	2.00	-2.00	0.00	
8,500.00	0.48	322.70	8,407.97	859.82	-655.02	-870.11	2.00	-2.00	0.00	
8,523.95	0.00	0.00	8,431.92	859.90	-655.08	-870.20	2.00	-2.00	0.00	
8,600.00	0.00	0.00	8,507.97	859.90	-655.08	-870.20	0.00	0.00	0.00	



Pro Directional Survey Report



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB FED No. 8H
Project:	Eddy County, NM	TVD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Site:	Mazer Rackham 20 (1-4-5-6-8)	MD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Well:	WB FED No. 8H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan C	Database:	WellPlanner1

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)	
8,700.00	0.00	0.00	8,607.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,707.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,807.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,907.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,007.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,107.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,207.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,307.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,407.97	859.90	-655.08	-870.20	0.00	0.00	0.00	
9,590.03	0.00	0.00	9,498.00	859.90	-655.08	-870.20	0.00	0.00	0.00	
[MazerRack#8H]KOP										
9,600.00	1.00	179.09	9,507.97	859.81	-655.08	-870.11	10.00	10.00	0.00	
9,650.00	6.00	179.09	9,557.86	856.76	-655.03	-867.06	10.00	10.00	0.00	
9,700.00	11.00	179.09	9,607.30	849.38	-654.91	-859.67	10.00	10.00	0.00	
9,750.00	16.00	179.09	9,655.90	837.72	-654.73	-848.01	10.00	10.00	0.00	
9,800.00	21.00	179.09	9,703.30	821.86	-654.47	-832.15	10.00	10.00	0.00	
9,850.00	26.00	179.09	9,749.14	801.93	-654.16	-812.22	10.00	10.00	0.00	
9,900.00	31.00	179.09	9,793.07	778.09	-653.77	-788.37	10.00	10.00	0.00	
9,950.00	36.00	179.09	9,834.75	750.51	-653.33	-760.79	10.00	10.00	0.00	
10,000.00	41.00	179.09	9,873.87	719.40	-652.84	-729.67	10.00	10.00	0.00	
10,050.00	46.00	179.09	9,910.13	685.00	-652.29	-695.27	10.00	10.00	0.00	
10,100.00	51.00	179.09	9,943.25	647.57	-651.69	-657.83	10.00	10.00	0.00	
10,150.00	56.00	179.09	9,972.99	607.39	-651.05	-617.66	10.00	10.00	0.00	
10,200.00	61.00	179.09	9,999.11	564.78	-650.37	-575.04	10.00	10.00	0.00	
10,250.00	66.00	179.09	10,021.41	520.05	-649.66	-530.31	10.00	10.00	0.00	
10,300.00	71.00	179.09	10,039.73	473.56	-648.92	-483.80	10.00	10.00	0.00	
10,350.00	76.00	179.09	10,053.93	425.64	-648.15	-435.88	10.00	10.00	0.00	
10,400.00	81.00	179.09	10,063.90	376.66	-647.37	-386.90	10.00	10.00	0.00	
10,450.00	86.00	179.09	10,069.56	327.01	-646.58	-337.23	10.00	10.00	0.00	
10,488.12	89.81	179.09	10,070.95	288.92	-645.97	-299.14	10.00	10.00	0.00	
10,500.00	89.81	179.09	10,070.99	277.05	-645.78	-287.27	0.00	0.00	0.00	
10,600.00	89.81	179.09	10,071.33	177.06	-644.19	-187.27	0.00	0.00	0.00	
10,700.00	89.81	179.09	10,071.66	77.07	-642.59	-87.27	0.00	0.00	0.00	
10,800.00	89.81	179.09	10,071.99	-22.91	-641.00	12.73	0.00	0.00	0.00	
10,900.00	89.81	179.09	10,072.33	-122.90	-639.40	112.73	0.00	0.00	0.00	
11,000.00	89.81	179.09	10,072.66	-222.89	-637.81	212.73	0.00	0.00	0.00	
11,100.00	89.81	179.09	10,072.99	-322.88	-636.21	312.73	0.00	0.00	0.00	
11,200.00	89.81	179.09	10,073.32	-422.86	-634.62	412.73	0.00	0.00	0.00	
11,300.00	89.81	179.09	10,073.66	-522.85	-633.02	512.73	0.00	0.00	0.00	
11,400.00	89.81	179.09	10,073.99	-622.84	-631.43	612.73	0.00	0.00	0.00	
11,500.00	89.81	179.09	10,074.32	-722.82	-629.83	712.73	0.00	0.00	0.00	
11,600.00	89.81	179.09	10,074.66	-822.81	-628.24	812.73	0.00	0.00	0.00	



Pro Directional Survey Report



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB FED No. 8H
Project:	Eddy County, NM	TVD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Site:	Mazer Rackham 20 (1-4-5-6-8)	MD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Well:	WB FED No. 8H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan C	Database:	WellPlanner1

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)
11,700.00	89.81	179.09	10,074.99	-922.80	-626.64	912.73	0.00	0.00	0.00
11,800.00	89.81	179.09	10,075.32	-1,022.78	-625.04	1,012.73	0.00	0.00	0.00
11,900.00	89.81	179.09	10,075.65	-1,122.77	-623.45	1,112.73	0.00	0.00	0.00
12,000.00	89.81	179.09	10,075.99	-1,222.76	-621.85	1,212.73	0.00	0.00	0.00
12,100.00	89.81	179.09	10,076.32	-1,322.74	-620.26	1,312.72	0.00	0.00	0.00
12,200.00	89.81	179.09	10,076.65	-1,422.73	-618.66	1,412.72	0.00	0.00	0.00
12,300.00	89.81	179.09	10,076.99	-1,522.72	-617.07	1,512.72	0.00	0.00	0.00
12,400.00	89.81	179.09	10,077.32	-1,622.70	-615.47	1,612.72	0.00	0.00	0.00
12,500.00	89.81	179.09	10,077.65	-1,722.69	-613.88	1,712.72	0.00	0.00	0.00
12,600.00	89.81	179.09	10,077.98	-1,822.68	-612.28	1,812.72	0.00	0.00	0.00
12,700.00	89.81	179.09	10,078.32	-1,922.66	-610.69	1,912.72	0.00	0.00	0.00
12,800.00	89.81	179.09	10,078.65	-2,022.65	-609.09	2,012.72	0.00	0.00	0.00
12,900.00	89.81	179.09	10,078.98	-2,122.64	-607.50	2,112.72	0.00	0.00	0.00
13,000.00	89.81	179.09	10,079.32	-2,222.62	-605.90	2,212.72	0.00	0.00	0.00
13,100.00	89.81	179.09	10,079.65	-2,322.61	-604.31	2,312.72	0.00	0.00	0.00
13,200.00	89.81	179.09	10,079.98	-2,422.60	-602.71	2,412.72	0.00	0.00	0.00
13,300.00	89.81	179.09	10,080.31	-2,522.58	-601.12	2,512.72	0.00	0.00	0.00
13,400.00	89.81	179.09	10,080.65	-2,622.57	-599.52	2,612.72	0.00	0.00	0.00
13,500.00	89.81	179.09	10,080.98	-2,722.56	-597.93	2,712.72	0.00	0.00	0.00
13,600.00	89.81	179.09	10,081.31	-2,822.54	-596.33	2,812.72	0.00	0.00	0.00
13,700.00	89.81	179.09	10,081.65	-2,922.53	-594.74	2,912.72	0.00	0.00	0.00
13,800.00	89.81	179.09	10,081.98	-3,022.52	-593.14	3,012.72	0.00	0.00	0.00
13,900.00	89.81	179.09	10,082.31	-3,122.50	-591.55	3,112.71	0.00	0.00	0.00
14,000.00	89.81	179.09	10,082.64	-3,222.49	-589.95	3,212.71	0.00	0.00	0.00
14,100.00	89.81	179.09	10,082.98	-3,322.48	-588.36	3,312.71	0.00	0.00	0.00
14,200.00	89.81	179.09	10,083.31	-3,422.46	-586.76	3,412.71	0.00	0.00	0.00
14,300.00	89.81	179.09	10,083.64	-3,522.45	-585.17	3,512.71	0.00	0.00	0.00
14,400.00	89.81	179.09	10,083.98	-3,622.44	-583.57	3,612.71	0.00	0.00	0.00
14,500.00	89.81	179.09	10,084.31	-3,722.42	-581.98	3,712.71	0.00	0.00	0.00
14,600.00	89.81	179.09	10,084.64	-3,822.41	-580.38	3,812.71	0.00	0.00	0.00
14,700.00	89.81	179.09	10,084.97	-3,922.40	-578.79	3,912.71	0.00	0.00	0.00
14,780.01	89.81	179.09	10,085.24	-4,002.40	-577.51	3,992.72	0.00	0.00	0.00
[MazerRack#8H]LTP/BHL									



Pro Directional Survey Report



Marathon Oil

Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB FED No. 8H
Project:	Eddy County, NM	TVD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Site:	Mazer Rackham 20 (1-4-5-6-8)	MD Reference:	Well @ 2897.00usft (GL: 2872' + KB: 25' (PD594))
Well:	WB FED No. 8H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan C	Database:	WellPlanner1

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
[MazerRack#8H]FTP	0.00	0.00	0.00	629.91	-653.13	376,440.06	602,682.60	32.034515	-104.001970
- plan misses target center by 907.39usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
[MazerRack#8H]KOP	0.00	0.00	9,498.00	859.90	-655.08	376,670.05	602,680.65	32.035148	-104.001974
- plan hits target center									
- Point									
[MazerRack#8H]LTP/BH	0.00	0.00	10,085.2	-4,002.40	-577.51	371,807.75	602,758.22	32.021780	-104.001772
			4						
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____

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1625 N. French Dr., Hobbs, NM 88240
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1220 S. St Francis Dr., Santa Fe, NM 87505
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 145570

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 145570
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	9/22/2022