

Well Name: MAZER RACKHAM 20 SB FED COM	Well Location: T26S / R29E / SEC 20 / NENE / 32.0329022 / -104.000061	County or Parish/State: EDDY / NM
Well Number: 5H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM138836	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001545653	Well Status: Approved Application for Permit to Drill	Operator: MARATHON OIL PERMIAN LLC

Notice of Intent

Sundry ID: 2634170

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 10/11/2021

Time Sundry Submitted: 10:45

Date proposed operation will begin: 11/01/2021

Procedure Description: Marathon Oil Permian, LLC. respectfully request to make the following changes to the Mazer Rackham 20 SB Fed Com 5H well (API# 30-015-45653): - Change the FTP from 100' FNL 659' FEL to 100' FNL 1020' FEL of Section 20, Township 26S, Range 29E, Eddy County, NM - Change the LTP from 100' FSL 675' FEL to 100' FSL 1040' FEL of Section 20, Township 26S, Range 29E, Eddy County, NM - Change the Dedicated Acres from 160 to 320 See attachments for Revised C-102 Well Plat and Updated Drill Plan.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

SUNDRY_Drill_Plan_Mazer_Rackham_20_SB_Fed_Com_5H_rev_10.11.21_20211011104458.pdf

REV_C102_MAZER_RACKHAM_20_SB_FED_COM_5H_cert_09.09.2021_mro_sgn_20211011104446.pdf

Well Name: MAZER RACKHAM 20 SB
FED COM

Well Location: T26S / R29E / SEC 20 /
NENE / 32.0329022 / -104.000061

County or Parish/State: EDDY /
NM

Well Number: 5H

Type of Well: CONVENTIONAL GAS
WELL

Allottee or Tribe Name:

Lease Number: NMNM138836

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001545653

Well Status: Approved Application for
Permit to Drill

Operator: MARATHON OIL
PERMIAN LLC

Conditions of Approval

Additional Reviews

Mazer_Rackham_20_SB_Fed_Com_5H_COA_20211214121436.pdf

Operator Certification

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: MELISSA SZUDERA

Signed on: OCT 11, 2021 10:45 AM

Name: MARATHON OIL PERMIAN LLC

Title: REGULATORY COMPLIANCE REPRESENTATIVE

Street Address: 5555 San Felipe St.

City: Houston

State: TX

Phone: (713) 296-3179

Email address: mszudera@marathonoil.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: Cody Layton

BLM POC Title: Assistant Field Manager Lands & Minerals

BLM POC Phone: 5752345959

BLM POC Email Address: clayton@blm.gov

Disposition: Approved

Disposition Date: 12/16/2021

Signature: Cody R. Layton

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

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

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**

3a. Address **990 TOWN & COUNTRY BLVD, HOUSTON, TX** 3b. Phone No. (include area code) **(000) 000-0000**

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)
SEC 20/T26S/R29E/NMP

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

8. Well Name and No. **MAZER RACKHAM 20 SB FED COM**

9. API Well No. **3001545653**

10. Field and Pool or Exploratory Area
Purple Sage/WOLFCAMP, (GAS)

11. Country or Parish, State
EDDY/NM

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

TYPE OF SUBMISSION	TYPE OF ACTION				
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 detennined that the site is ready for final inspection.)

Marathon Oil Permian, LLC. respectfully request to make the following changes to the Mazer Rackham 20 SB Fed Com 5H well (API# 30-015-45653)

- Change the FTP from 100' FNL 659' FEL to 100' FNL 1020' FEL of Section 20, Township 26S, Range 29E, Eddy County, NM
- Change the LTP from 100' FSL 675' FEL to 100' FSL 1040' FEL of Section 20, Township 26S, Range 29E, Eddy County, NM
- Change the Dedicated Acres from 160 to 320

See attachments for Revised C-102 Well Plat and Updated Drill Plan.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
MELISSA SZUDERA / Ph: (713) 296-3179

Title **REGULATORY COMPLIANCE REPRESENTATIVE**

Signature _____ Date **10/11/2021**

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by
Cody Layton / Ph: (575) 234-5959 / Approved

Title **Assistant Field Manager Lands & I** Date **12/16/2021**

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)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: NENE / 966 FNL / 570 FEL / TWSP: 26S / RANGE: 29E / SECTION: 20 / LAT: 32.0329022 / LONG: -104.000061 (TVD: 0 feet, MD: 0 feet)

PPP: NESE / 2637 FSL / 627 FEL / TWSP: 26S / RANGE: 29E / SECTION: 20 / LAT: 32.0283062 / LONG: -104.000222 (TVD: 10078 feet, MD: 12381 feet)

PPP: NENE / 330 FNL / 656 FEL / TWSP: 26S / RANGE: 29E / SECTION: 20 / LAT: 32.0346483 / LONG: -104.0003442 (TVD: 9915 feet, MD: 10035 feet)

BHL: SESE / 330 FSL / 670 FEL / TWSP: 26S / RANGE: 29E / SECTION: 20 / LAT: 32.0219997 / LONG: -104.0001006 (TVD: 10085 feet, MD: 14677 feet)

CONFIDENTIAL

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		³ Pool Name	
		97801		WC G-04 S262908A; BONE SPRING	
⁴ Property Code		⁵ Property Name			⁶ Well Number
		MAZER RACKHAM 20 SB FED COM			5H
⁷ OGRID No.		⁸ Operator Name			⁹ Elevation
372098		MARATHON OIL PERMIAN LLC			2872'

¹⁰ Surface Location

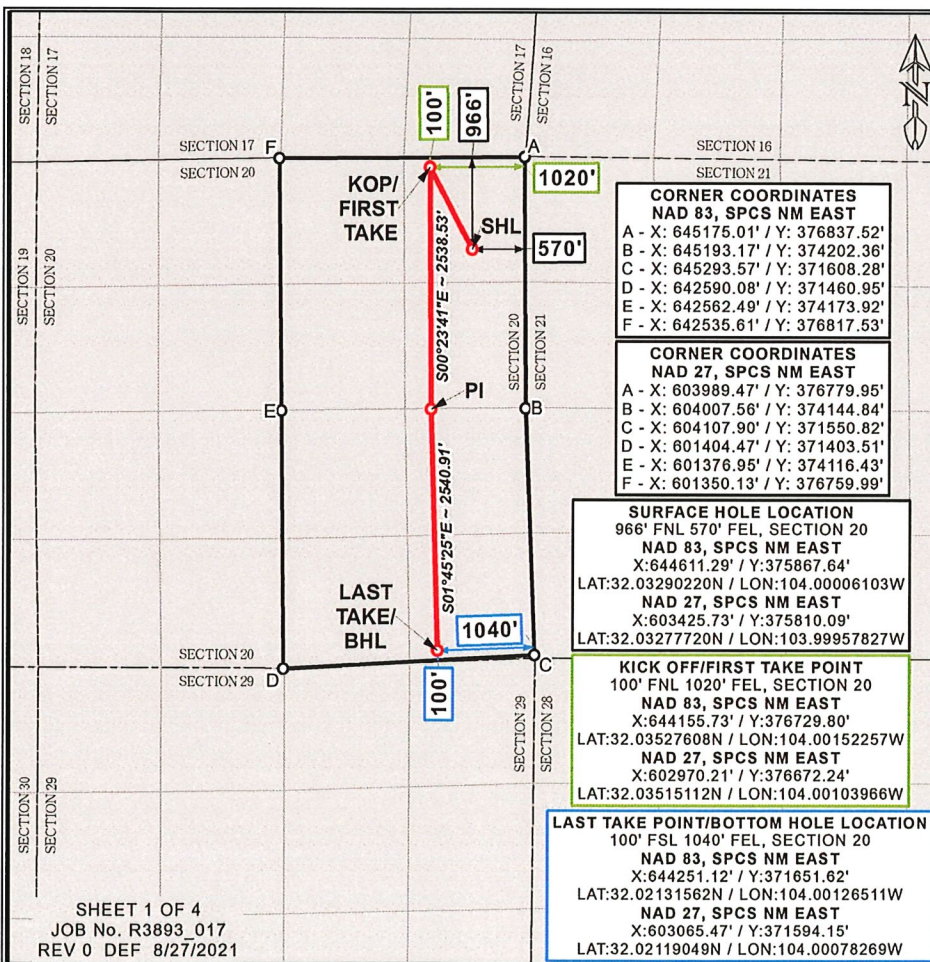
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	20	26S	29E		966	NORTH	570	EAST	EDDY

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		100	SOUTH	1040	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320.0			

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.

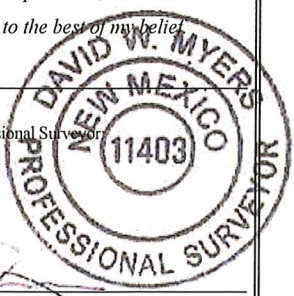


17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to 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: *[Signature]* Date: 9/9/2021
Printed Name: Melissa Szudera
E-mail Address: mszudera@marathonoil.com

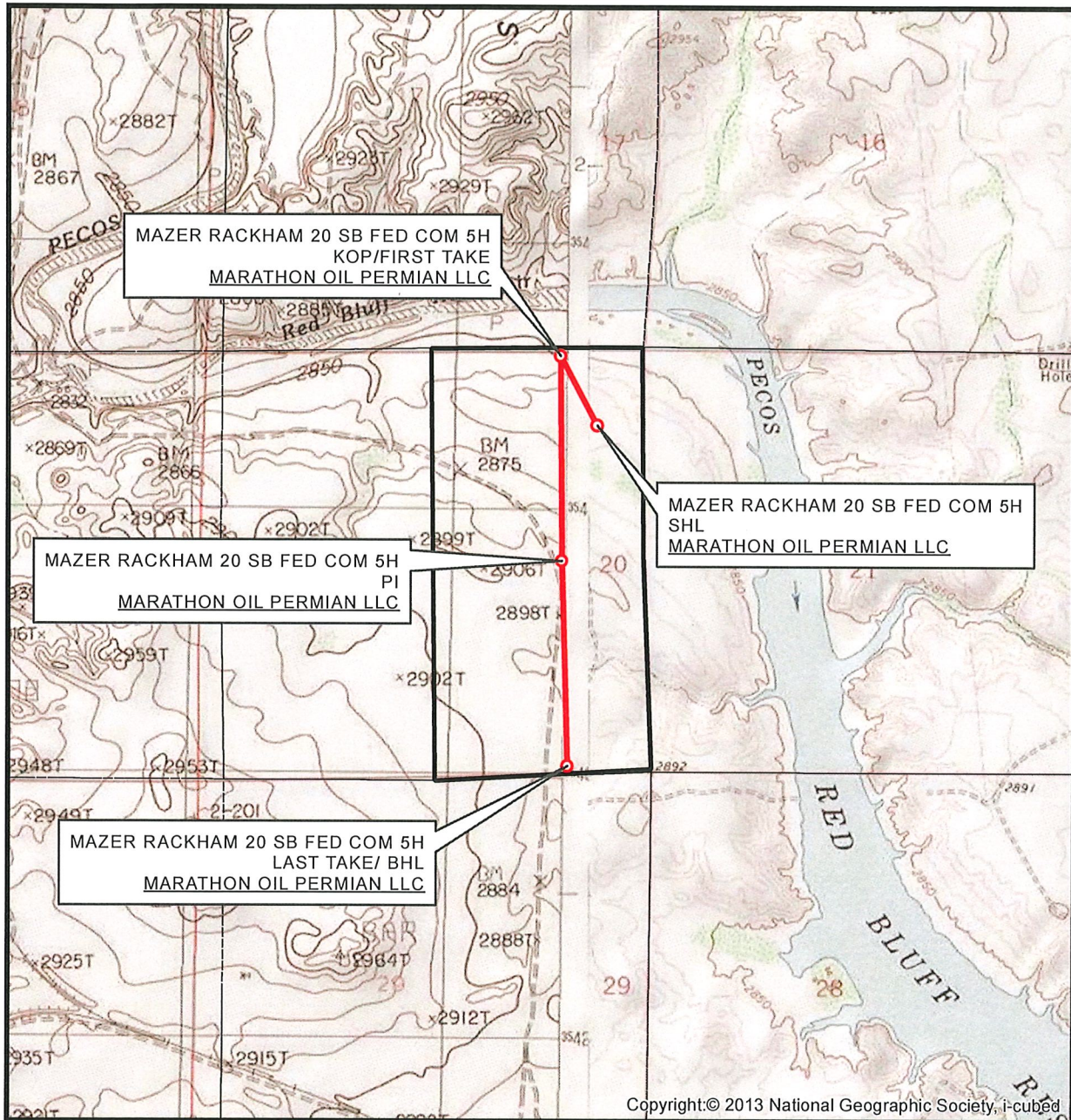
18 SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

SEPTEMBER 9, 2021
Date of Survey
Signature and Seal of Professional Surveyor: *[Signature]*
Certificate Number: DAVID W. MYERS 11403



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

LOCATION VERIFICATION MAP



Copyright:© 2013 National Geographic Society, i-cubed

SEC. 20 TWP. 26-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 966' FNL & 570' FEL
 ELEVATION: 2872'
 LEASE: MAZER RACKHAM 20 FED COM
 U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, NM, TX.

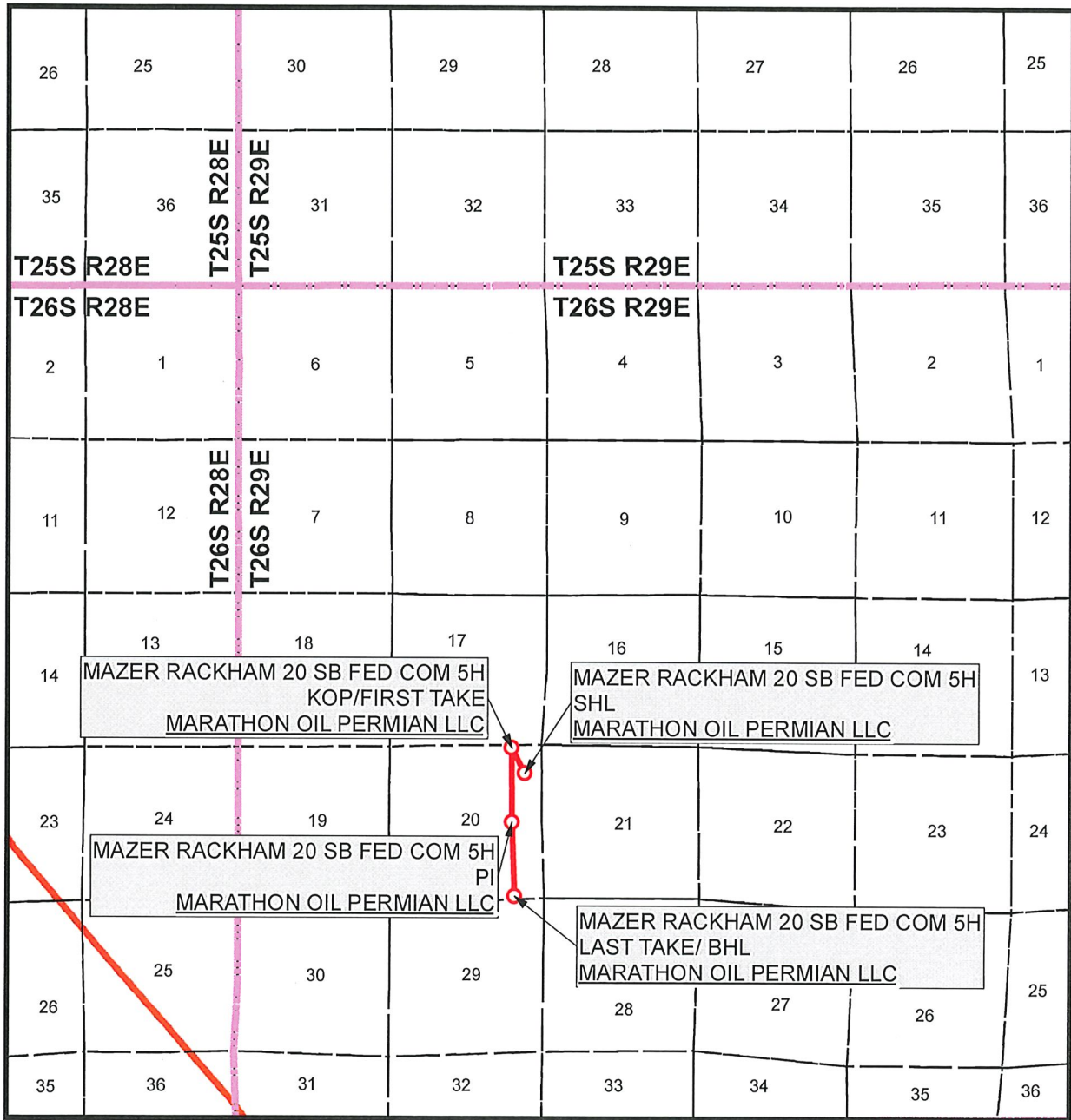
1" = 2,000'
 CONTOUR INTERVAL = 10'



SHEET 2 OF 4

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 510 TRENTON ST., UNIT B, WEST MONROE, LA 71291
 318-323-6900 OFFICE
 JOB No. R3893_017

VICINITY MAP



SEC. 20 TWP. 26-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 966' FNL & 570' FEL
 ELEVATION: 2872'
 LEASE: MAZER RACKHAM 20 FED COM
 U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, NM, TX.

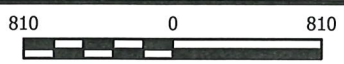
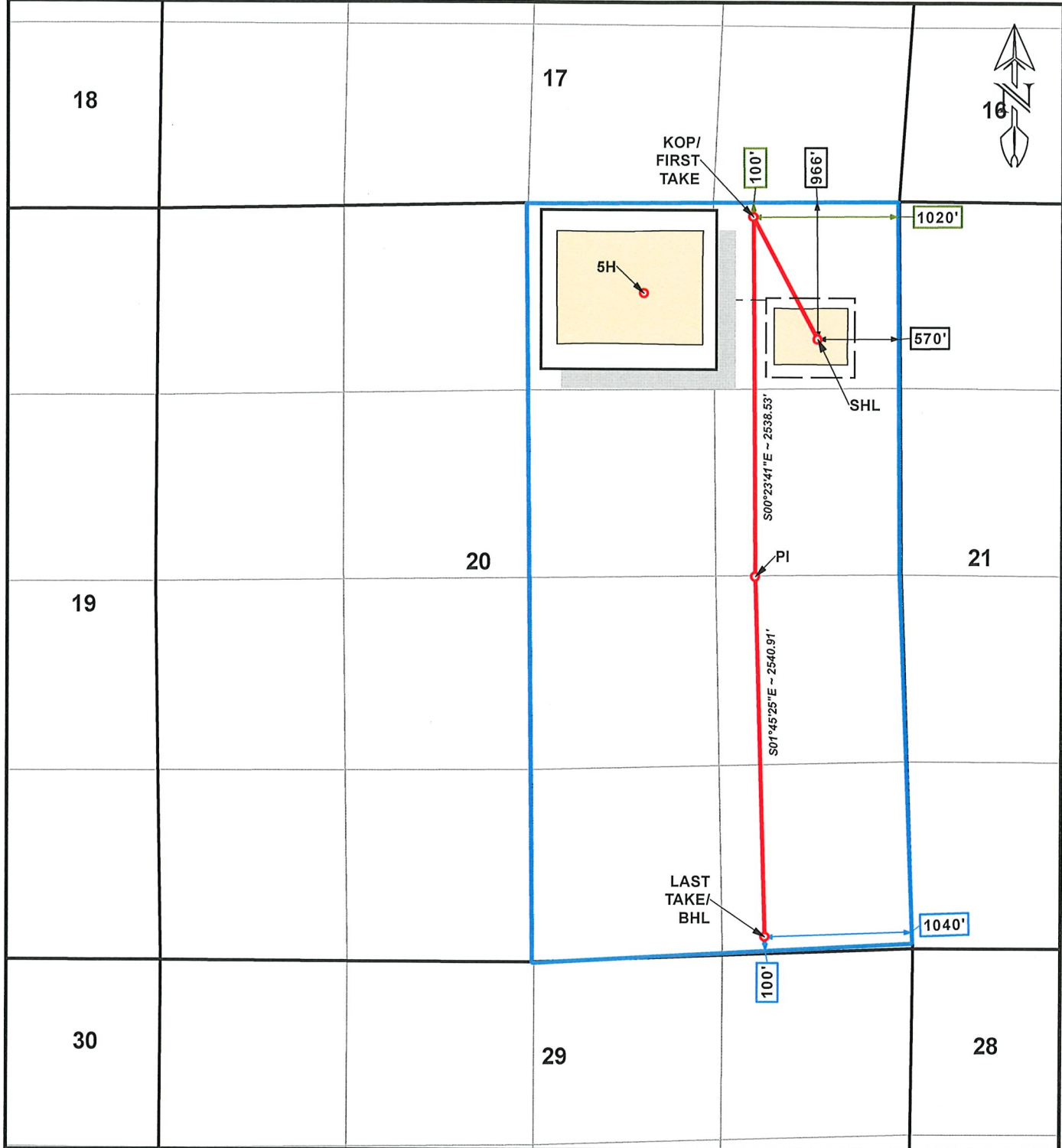
1" = 1 MILE



SHEET 3 OF 4

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 510 TRENTON ST., UNIT B, WEST MONROE, LA 71291
 318-323-6900 OFFICE
 JOB No. R3893_017

JOB No. R3893_017 SECTION 20, T-26-S, R-29-E, N.M.P.M., EDDY COUNTY, NEW MEXICO



LEGEND

- SUBJECT WELL / DRILL LINE
- SURVEY/SECTION LINE
- LEASE LINE
- OTHER WELLS / DRILL LINES
- TOWNSHIP / RANGE LINE
- DRILL LINE HOLES



WELL NAME

MAZER RACKHAM 20
SB FED COM 5H

DATE SURVEYED: 11/29/2018

REV.	DATE	DESCRIPTION	CHKD
0			

SHEET 4 OF 4
DRAWN BY: DEF
DATE DRAWN: 8/27/2021
CHECKED BY: MWS

510 TRENTON ST., UNIT B,
WEST MONROE, LA 71291
(318) 323-6900

ONE-MILE RADIUS MAP

MAZER RACKHAM 20 FED COM

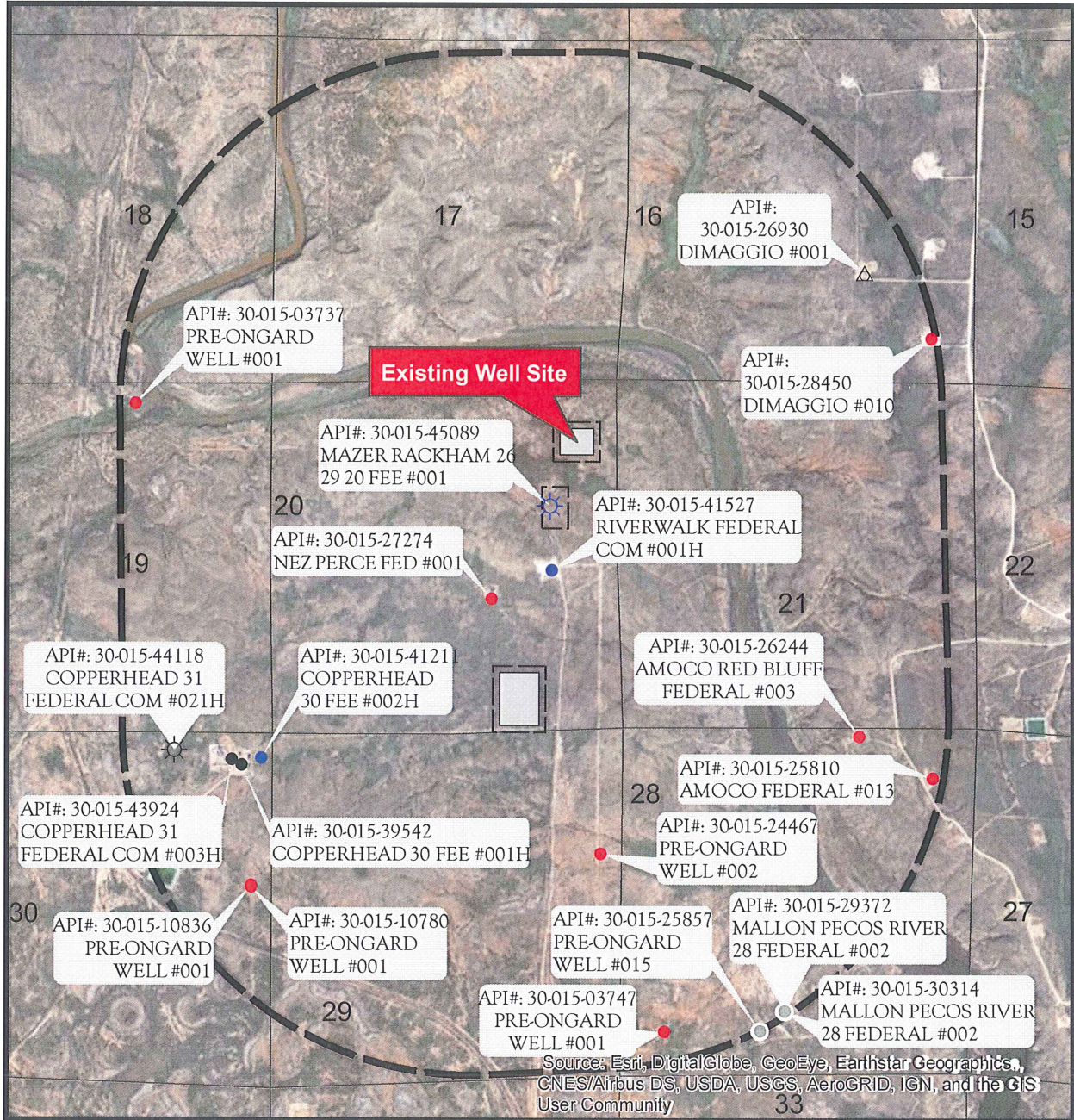
SEC. 20 TWP. 26-S RGE. 29-E

SURVEY: N.M.P.M.

COUNTY: EDDY

OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, NM, TX.



REV 3 MWS 5/3/2019

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

1" = 2,500'

- | | | | | | | | |
|--------------------|---------------|--|--------------------|--|---------------------------------|--|-------------------------------|
| Proposed Well Pad | | | Gas, Active | | Salt Water Injection, Cancelled | | Salt Water Injection, New |
| Arch Survey Limits | | | Gas, Cancelled | | Injection, Abandoned | | Salt Water Injection, Plugged |
| Section Line | | | Gas, New | | Oil, Active | | Water, Active |
| | CO2 Active | | Gas, Plugged | | Oil, Cancelled | | Water, Plugged |
| | CO2 Cancelled | | Gas, Abandoned | | Oil, New | | |
| | CO2, Plugged | | Injection, Active | | Oil, Plugged | | |
| | | | Injection, New | | Oil, Abandoned | | Salt Water Injection, Active |
| | | | Injection, Plugged | | | | |



SHEET 1 OF 4

PREPARED BY:
RSQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3893_016

WELL PAD PLAT

MAZER RACKHAM 20 FED COM

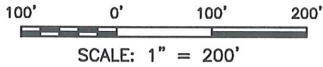
SEC. 20 TWP. 26-S RGE. 29-E

SURVEY: N.M.P.M.

COUNTY: EDDY

OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, N.M. & ROSS RANCH, N.M.



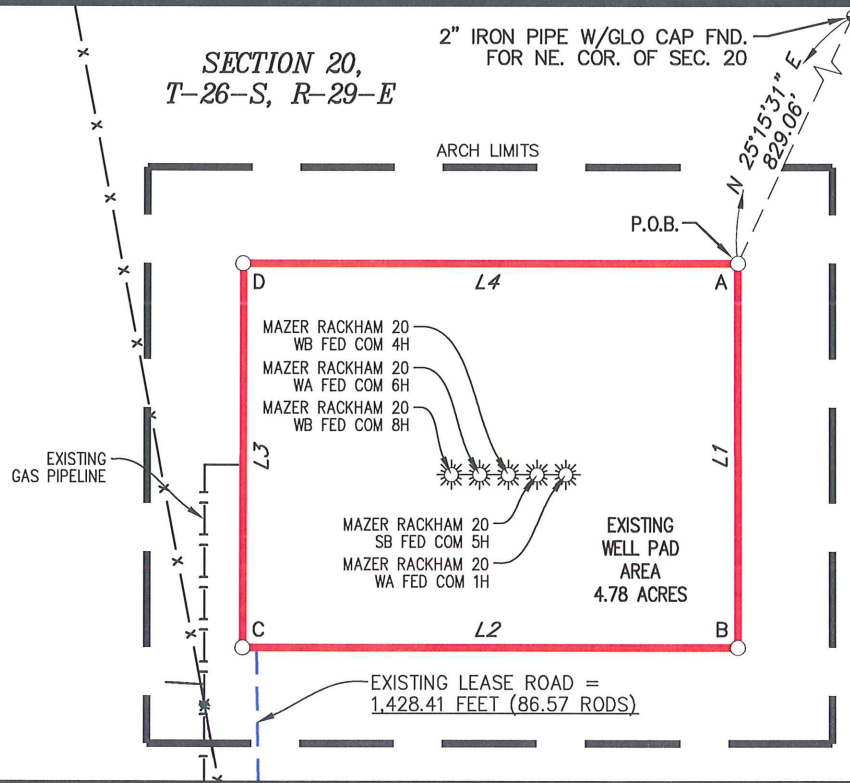
**SECTION 20,
T-26-S, R-29-E**

2" IRON PIPE W/GLO CAP FND.
FOR NE. COR. OF SEC. 20

NAD 83			
A	E:(X)644821.25 N:(Y)376087.73	LAT:32.03350543 LON:-103.99938127	
B	E:(X)644821.29 N:(Y)375687.67	LAT:32.03240568 LON:-103.99938512	
C	E:(X)644301.24 N:(Y)375687.74	LAT:32.03241028 LON:-104.00106332	
D	E:(X)644301.30 N:(Y)376087.74	LAT:32.03350986 LON:-104.00105919	

NAD 27			
A	E:(X)603635.70 N:(Y)376030.18	LAT:32.03338044 LON:-103.99889852	
B	E:(X)603635.73 N:(Y)375630.12	LAT:32.03228067 LON:-103.99890241	
C	E:(X)603115.69 N:(Y)375630.19	LAT:32.03228528 LON:-104.00058054	
D	E:(X)603115.75 N:(Y)376030.19	LAT:32.03338487 LON:-104.00057636	

LINE	BEARING	DISTANCE
L1	S 00°00'22" E	400.06'
L2	N 89°59'32" W	520.05'
L3	N 00°00'27" E	400.00'
L4	S 89°59'57" E	519.95'



FIELD NOTES DESCRIBING

A tract of land being 4.78 acres. Said tract being located in Section 20, Township 26 South, Range 29 East, New Mexico Principal Meridian, Eddy County, New Mexico.

Being more particularly described by metes and bounds as follows:

BEGINNING at a point from which a 2 inch iron pipe with GLO cap found for the Northeast corner of said Section 20 bears N 25°15'31" E a distance of 829.06 feet.

THENCE

S 00°00'22" E a distance of 400.06 feet to the Southeast corner of said tract,
N 89°59'32" W a distance of 520.05 feet to the Southwest corner of said tract,
N 00°00'27" E a distance of 400.00 feet to the Northwest corner of said tract and
S 89°59'57" E a distance of 519.95 feet to the *POINT OF BEGINNING*.

The total area of the herein described tract contains 4.78 acres of land.

All bearings and coordinates refer to NAD 83, New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet. (All bearings, distances, coordinates and areas are based on grid measurements utilizing a combined scale factor of 0.99978647.)

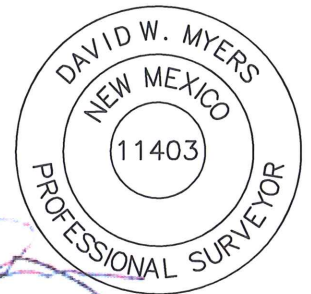
Title information furnished by Marathon Oil Permian LLC.

Reference accompanying Certificate of Survey prepared in conjunction with this legal description for easement.

STATE OF NEW MEXICO
COUNTY OF EDDY

I, David W. Myers, New Mexico Professional Surveyor No. 11403, do hereby certify that this easement survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the minimum standards for surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act and that this instrument is an easement survey plat crossing an existing tract or tracts.

MAY 15, 2019



PLAT FOR A SURFACE SITE ON THE PROPERTY OF
MRC PERMIAN COMPANY, ET AL
EDDY COUNTY, NEW MEXICO

BASIS OF BEARING
ALL BEARINGS AND COORDINATES REFER TO NAD 83, NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET. (ALL BEARINGS AND DISTANCES ARE GRID MEASUREMENTS.)

LEGEND	P.O.B. POINT OF BEGINNING	R3893_016
EXISTING ROAD	ARCH LIMITS	
PROPOSED ROAD	FENCE	
SURFACE SITE EDGE	SECTION LINE	
EXIST. PIPELINE	SALT WATER DISPOSAL	
MONUMENT	WATER LINE	
	QUARTER SPLIT	

REV.	DATE	DESCRIPTION	BY	CHKD
3	05/02/2019	WELL CONFIGURATION CHANGE	ANC	MWS
SHEET 2 OF 4				
DRAWN BY: ANC				
DATE: 12/20/2018				
CHECKED BY: MWS				



1309 LOUISVILLE AVE.
MONROE, LA 71201
(318) 323-6900
FAX (318) 362-0064

LEGEND

- PROPOSED WELL PAD —————
- ARCH SURVEY LIMITS ————
- PROPOSED LEASE ROAD —————
- EXISTING LEASE ROAD —————
- PIPELINE - - - - -
- SECTION LINE ————
- FENCE — x — x —

WELL PAD TOPO

MAZER RACKHAM 20 FED COM
 SEC. 20 TWP. 26-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY

OPERATOR: MARATHON OIL PERMIAN LLC
 U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, N.M. &
 ROSS RANCH, N.M.



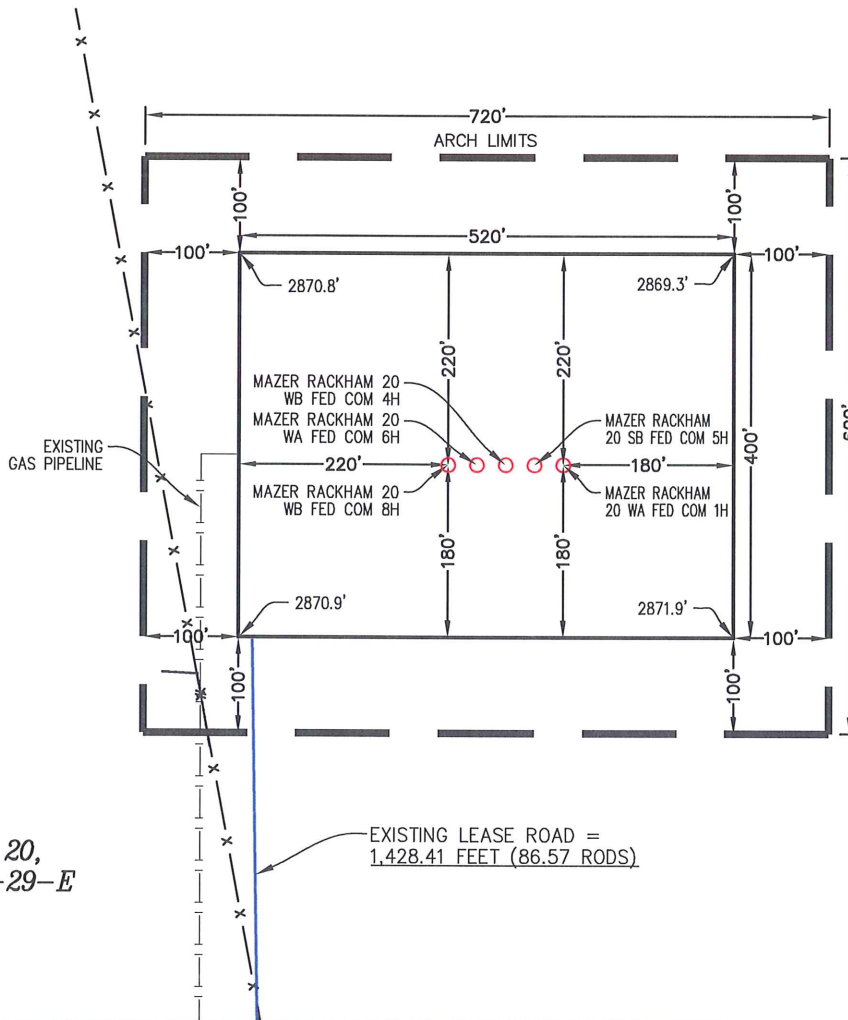
MAZER RACKHAM 20 WB FED COM 8H
 MARATHON OIL PERMIAN LLC
 965' FNL 660' FEL, SECTION 20
 NAD 83, SPCS NM EAST
 X: 644521.29' / Y: 375867.70'
 LAT: 32.03290313N / LON: 104.00035146W
 NAD 27, SPCS NM EAST
 X: 60335.73' / Y: 375810.15'
 LAT: 32.03277813N / LON: 103.99986869W
 ELEVATION = 2872'

MAZER RACKHAM 20 WA FED COM 6H
 MARATHON OIL PERMIAN LLC
 965' FNL 630' FEL, SECTION 20
 NAD 83, SPCS NM EAST
 X: 644551.21' / Y: 375867.76'
 LAT: 32.03290302N / LON: 104.00025488W
 NAD 27, SPCS NM EAST
 X: 603365.66' / Y: 375810.20'
 LAT: 32.03277802N / LON: 103.99977211W
 ELEVATION = 2872'

MAZER RACKHAM 20 WB FED COM 4H
 MARATHON OIL PERMIAN LLC
 965' FNL 600' FEL, SECTION 20
 NAD 83, SPCS NM EAST
 X: 644581.28' / Y: 375867.74'
 LAT: 32.03290271N / LON: 104.00015785W
 NAD 27, SPCS NM EAST
 X: 603395.73' / Y: 375810.18'
 LAT: 32.03277771N / LON: 103.99967509W
 ELEVATION = 2872'

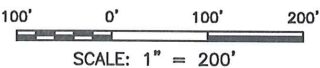
MAZER RACKHAM 20 SB FED COM 5H
 MARATHON OIL PERMIAN LLC
 966' FNL 570' FEL, SECTION 20
 NAD 83, SPCS NM EAST
 X: 644611.29' / Y: 375867.64'
 LAT: 32.03290220N / LON: 104.00006103W
 NAD 27, SPCS NM EAST
 X: 603425.73' / Y: 375810.09'
 LAT: 32.03277720N / LON: 103.99957827W
 ELEVATION = 2872'

MAZER RACKHAM 20 WA FED COM 1H
 MARATHON OIL PERMIAN LLC
 966' FNL 540' FEL, SECTION 20
 NAD 83, SPCS NM EAST
 X: 644641.25' / Y: 375867.76'
 LAT: 32.03290227N / LON: 103.99996432W
 NAD 27, SPCS NM EAST
 X: 603455.70' / Y: 375810.21'
 LAT: 32.03277727N / LON: 103.99948156W
 ELEVATION = 2872'



SECTION 20,
 T-26-S, R-29-E

NOTE:
 THIS IS NOT A BOUNDARY SURVEY,
 APPARENT PROPERTY CORNERS AND
 PROPERTY LINES ARE SHOWN FOR
 INFORMATION ONLY. BOUNDARY DATA SHOWN
 IS FROM STATE OF NEW MEXICO OIL
 CONSERVATION DIVISION FORM C-102
 INCLUDED IN THIS SUBMITTAL.



MAY 15, 2019



3	05/02/2019	ANC
REV.	DATE	BY

SHEET 3 OF 4

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-6900 OFFICE
 JOB No. R3893_018

VICINITY AND EXISTING ROADS MAP

MAZER RACKHAM 20 FED COM

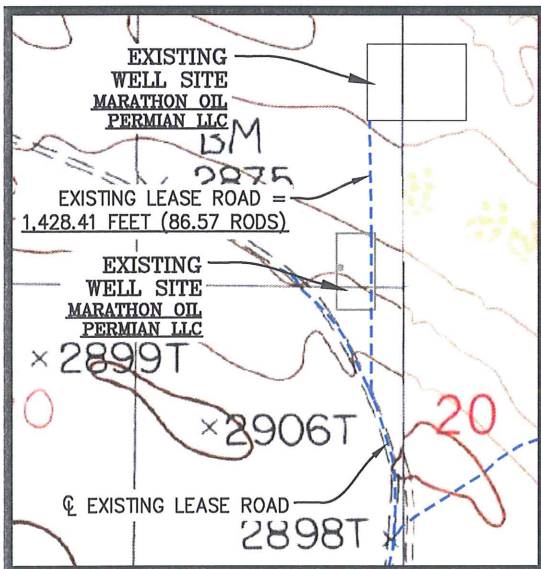
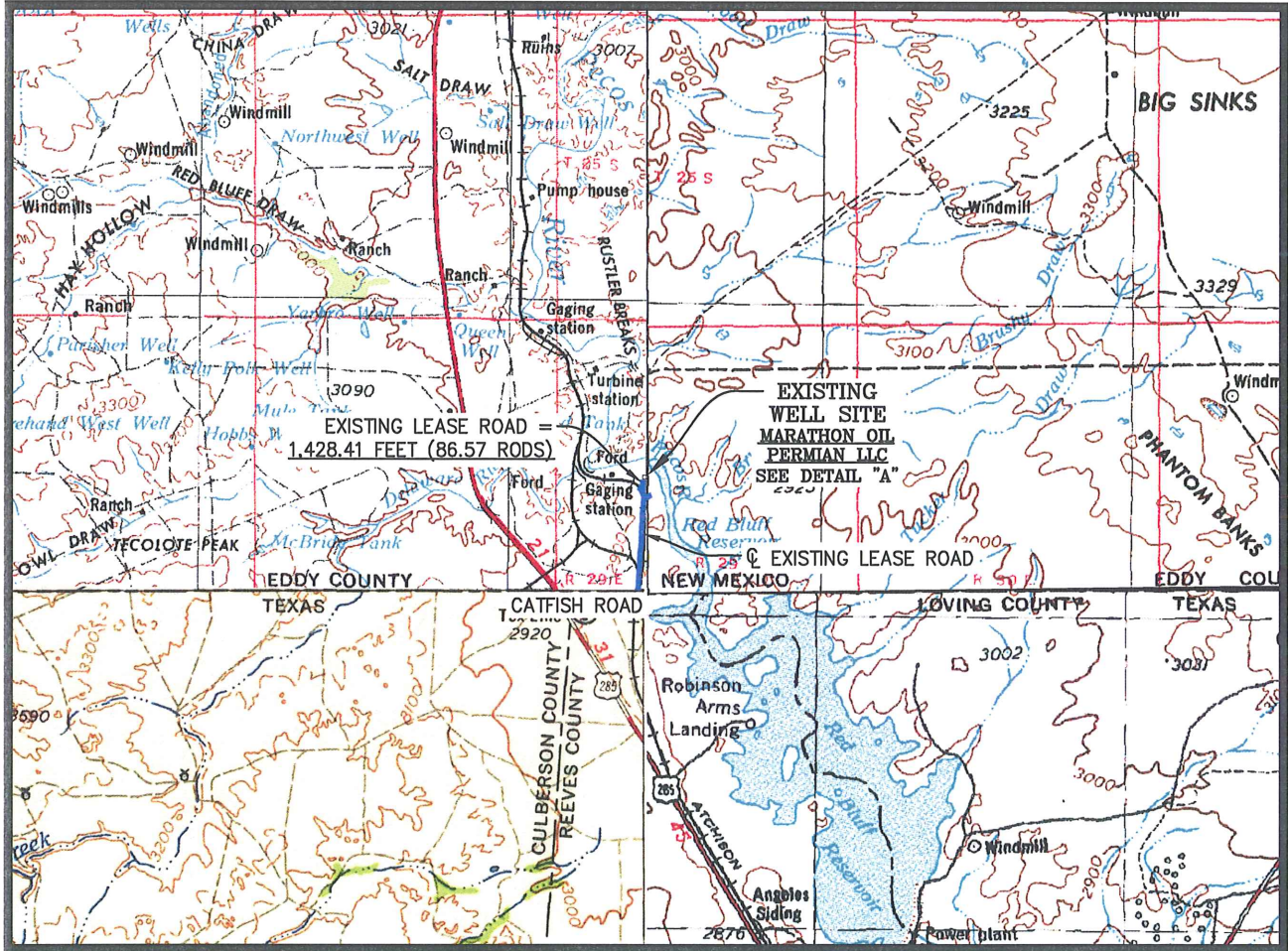
SEC. 20 TWP. 26-S RGE. 29-E

SURVEY: N.M.P.M.

COUNTY: EDDY

OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: RED BLUFF, N.M. & ROSS RANCH, N.M.



SCALE: 1" = 20,000'
CONTOUR INTERVAL = 100'

DIRECTIONS TO LOCATION:

FROM THE MARATHON OFFICE AT 4111 TIDWELL, CARLSBAD, NM, HEAD SOUTH ON TIDWELL RD TOWARD US HWY 285 N FOR 0.2 MILES. TURN LEFT ONTO US HWY 285 S, HEADING SOUTH, FOR 28.6 MILES TO CATFISH ROAD. TURN LEFT ONTO CATFISH ROAD ON THE NEW MEXICO / TEXAS STATE LINE, HEADING EAST, FOR 17.7 MILES TO A CALICHE ROAD. TURN LEFT ONTO THE CALICHE ROAD, HEADING NORTH, FOR 2.17 MILES TO THE EXISTING LEASE ROAD FOR THE MAZER RACKHAM 20 FED COM WA 1H, SB 5H, WB 4H, WB 8H, AND WA 6H WELL PAD LOCATION. TURN RIGHT ONTO SAID EXISTING LEASE ROAD, HEADING NORTHEAST, FOR 0.2 MILES ENTERING THE SOUTHWEST CORNER OF SAID WELL PAD LOCATION.

SHEET 4 OF 4

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-8900 OFFICE
JOB No. R3893_018

REV.	DATE	BY
3	05/02/2019	ANC

DETAIL A
N.T.S.

Company Name: Marathon Oil Permian LLC
 Mazer Rackham 20 SB Fed Com #5H
 Eddy County, New Mexico (NAD 27)
 Rig: PD #101
 Created By: Michael Hilliard
 Date: 10/8/2021

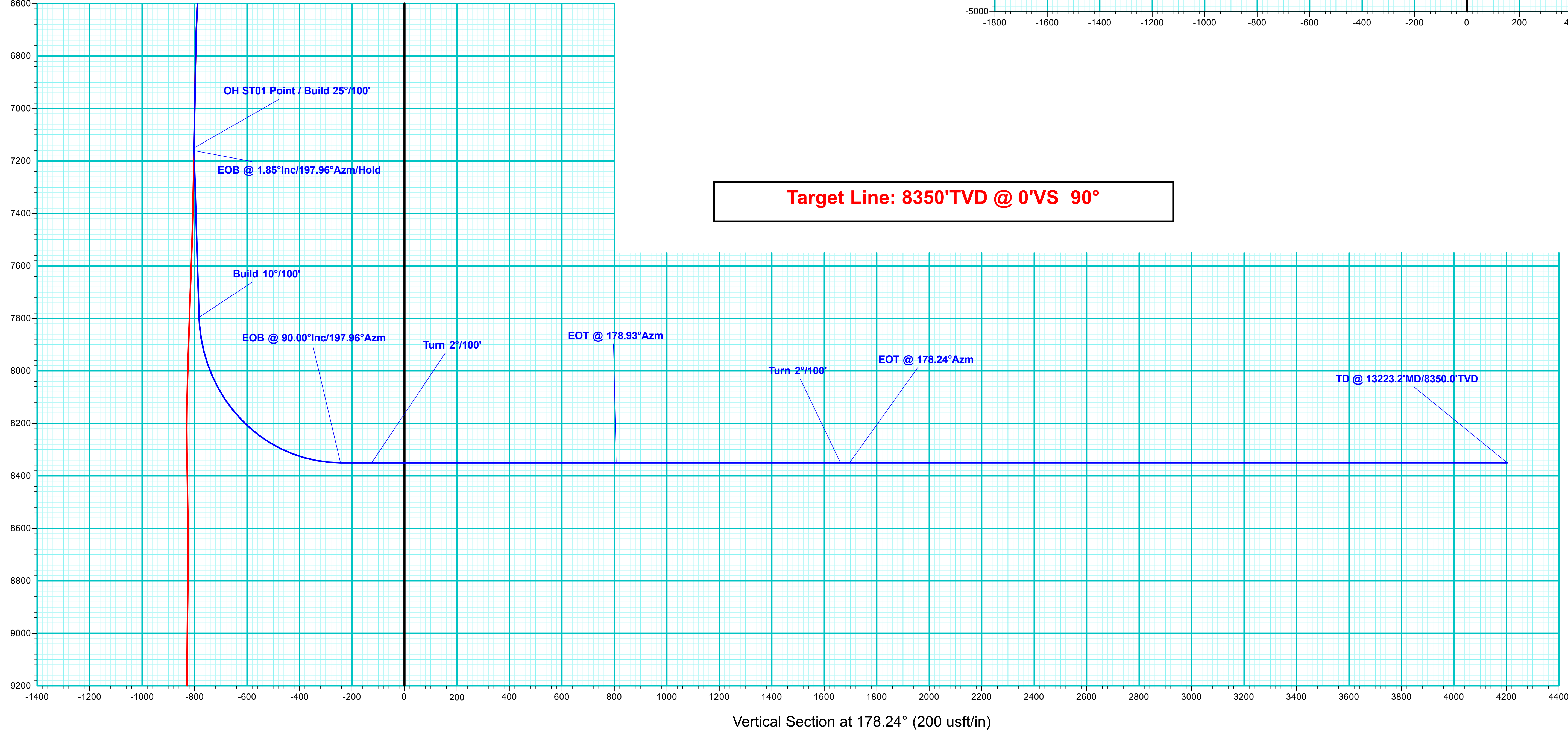
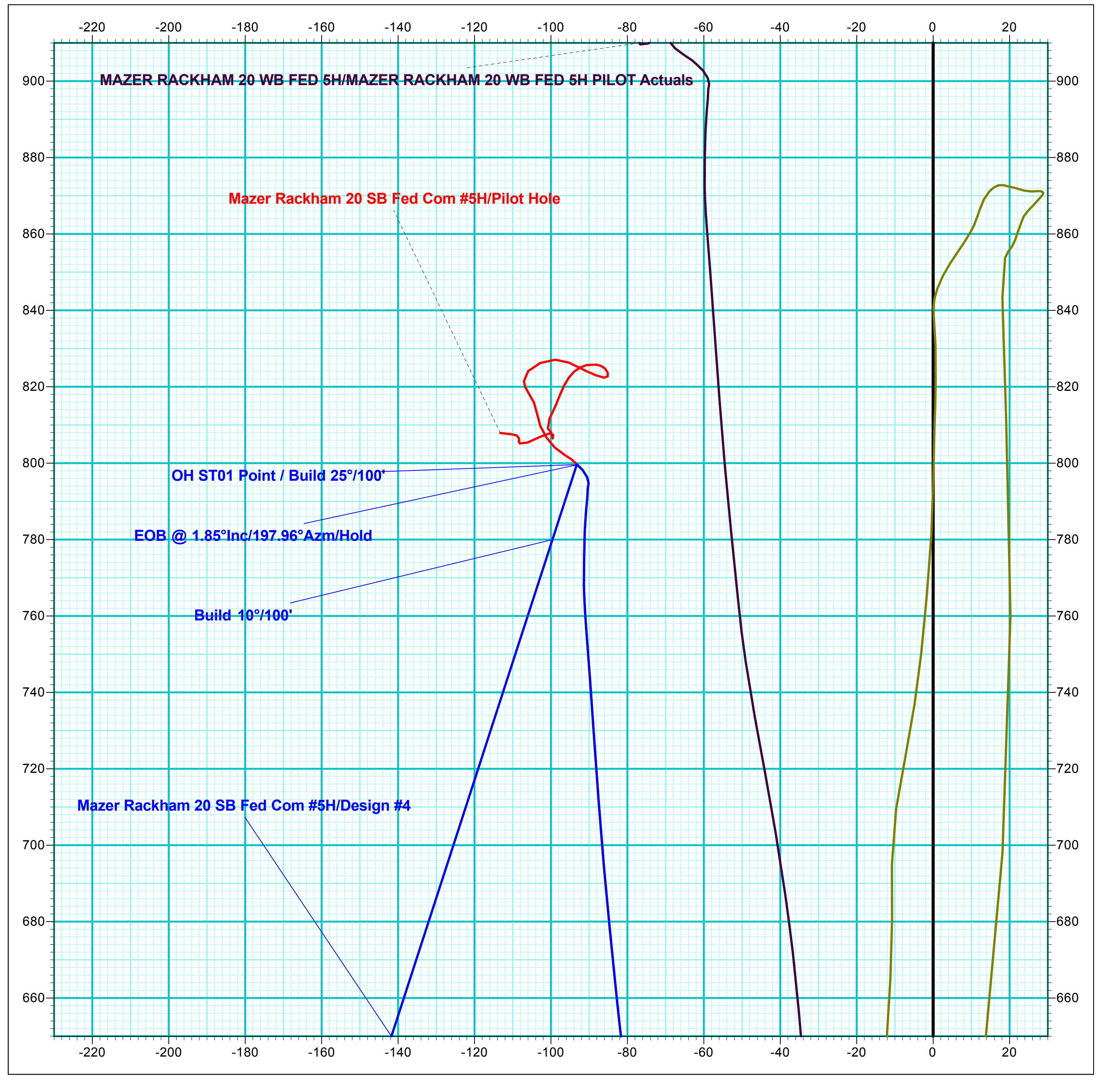
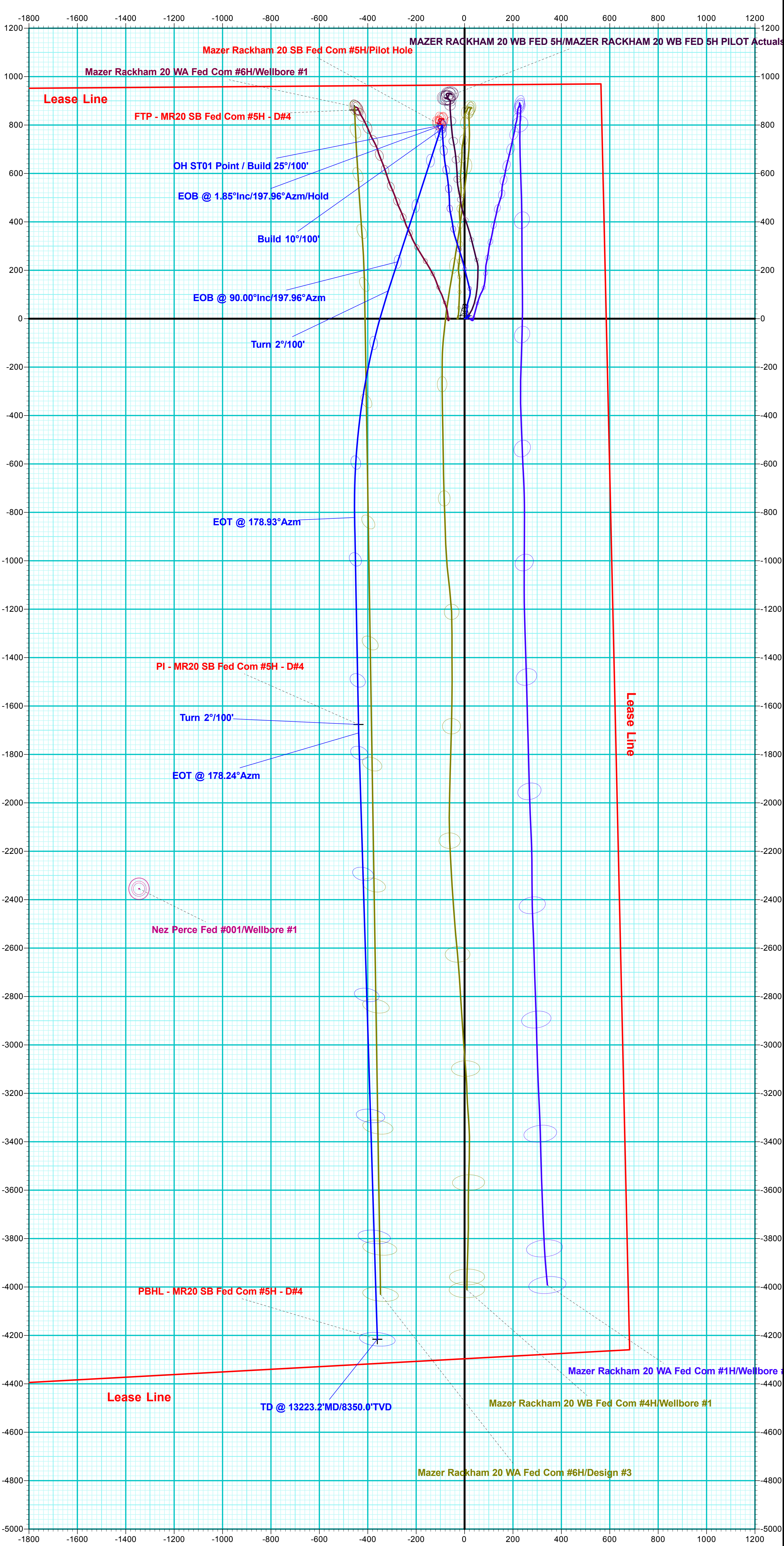
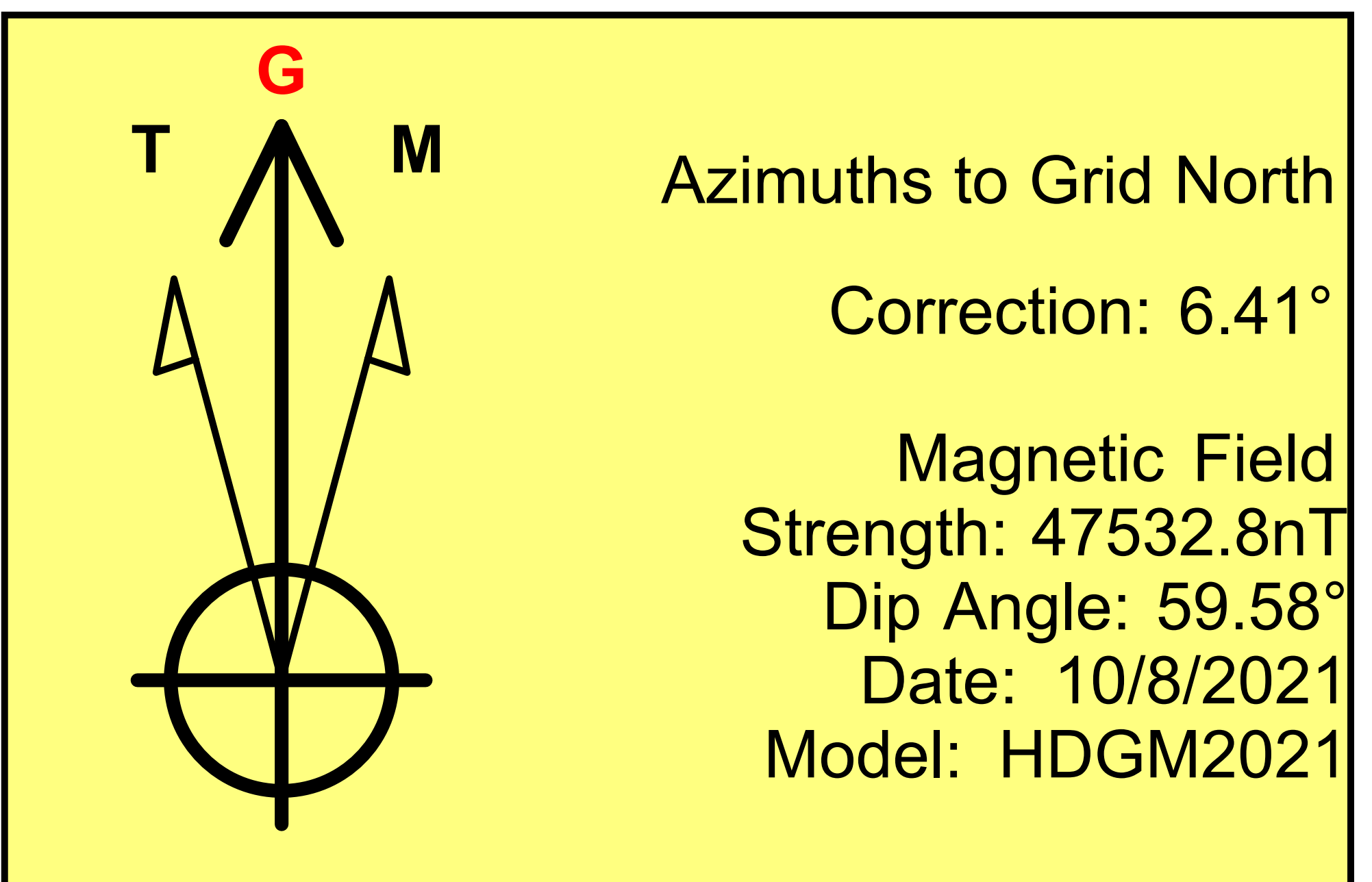
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP - MR20 SB Fed Com #5H - D#4	0.0	862.1	-455.5	376672.24	602970.21	32° 2' 6.544 N	104° 0' 3.743 W
- plan misses target center by 975.1usft at 1.9usft MD (1.9 TVD, 0.0 N, 0.0 E)							
PBHL - MR20 SB Fed Com #5H - D#4	8350.0	-4215.9	-360.3	371594.15	603065.47	32° 1' 16.286 N	104° 0' 2.818 W
- plan hits target center							
PI - MR20 SB Fed Com #5H - D#4	8350.0	-1676.2	-438.2	374133.87	602987.57	32° 1' 41.422 N	104° 0' 3.632 W
- plan hits target center							

PROJECT DETAILS: Eddy County, New Mexico (NAD 27)
 Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level

DESIGN ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation	
7223.0	1.10	311.10	7150.6	799.6	-93.1	-802.1	0.0	OH ST01 Point / Build 25°/100'	
7233.0	1.85	197.96	7160.5	799.5	-93.2	-802.0	0.3	EOB @ 1.85°Inc/197.96°Azmi/Hold	
7868.4	1.85	197.96	7795.6	780.0	-99.6	-782.7	20.8	Build 10°/100'	
8749.9	90.00	197.96	8350.0	235.2	-276.2	-243.6	593.5	EOB @ 90.00°Inc/197.96°Azmi	
8875.9	90.00	197.96	8350.0	115.4	-315.0	-125.0	719.5	Turn 2°/100'	
9827.3	90.00	178.93	8350.0	-821.4	-454.1	807.1	1670.9	EOT @ 178.93°Azmi	
10682.2	90.00	178.93	8350.0	-1676.2	-438.2	1662.0	2525.9	Turn 2°/100'	
10716.9	90.00	178.24	8350.0	-1710.9	-437.3	1696.6	2550.5	EOT @ 178.24°Azmi	
13223.2	90.00	178.24	8350.0	-4215.9	-360.3	4202.9	5066.8	TD @ 13223.2°MD/8350.0°TVD	

Mazer Rackham 20 SB Fed Com #5H
 Eddy County, New Mexico (NAD 27)
 Q210*** & WT-210***
 Design #4

WELL DETAILS: Mazer Rackham 20 SB Fed Com #5H						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	375810.09	603425.73	32° 1' 57.998 N	103° 59' 58.482 W	2871.6



Target Line: 8350°TVD @ 0°VS 90°

Vertical Section at 178.24° (200 usf/in)



Marathon Oil Permian LLC

Eddy County, New Mexico (NAD 27)

Sec 20, T26S, R29E

Mazer Rackham 20 SB Fed Com #5H

Curve & Lateral

Plan: Design #4

KLX Well Planning Report

08 October, 2021





KLX
Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Mazer Rackham 20 SB Fed Com #5H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 2896.5usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 2896.5usft (PD #101)
Site:	Sec 20, T26S, R29E	North Reference:	Grid
Well:	Mazer Rackham 20 SB Fed Com #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Curve & Lateral		
Design:	Design #4		

Project	Eddy County, New Mexico (NAD 27)		
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	Sec 20, T26S, R29E				
Site Position:	Northing:	375,810.09 usft	Latitude:	32° 1' 57.998 N	
From: Map	Easting:	603,425.73 usft	Longitude:	103° 59' 58.482 W	
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.18 °

Well	Mazer Rackham 20 SB Fed Com #5H					
Well Position	+N/-S	0.0 usft	Northing:	375,810.09 usft	Latitude:	32° 1' 57.998 N
	+E/-W	0.0 usft	Easting:	603,425.73 usft	Longitude:	103° 59' 58.482 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	2,871.5 usft

Wellbore	Curve & Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021	10/8/2021	6.58	59.58	47,532.80000000

Design	Design #4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	7,223.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	178.24

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
7,223.0	1.10	311.10	7,150.6	799.6	-93.1	0.00	0.00	0.00	0.00	
7,233.0	1.85	197.96	7,160.5	799.5	-93.2	25.00	7.54	-1,131.45	-137.00	
7,868.4	1.85	197.96	7,795.6	780.0	-99.6	0.00	0.00	0.00	0.00	
8,749.9	90.00	197.96	8,350.0	235.2	-276.2	10.00	10.00	0.00	0.00	
8,875.9	90.00	197.96	8,350.0	115.4	-315.0	0.00	0.00	0.00	0.00	
9,827.3	90.00	178.93	8,350.0	-821.4	-454.1	2.00	0.00	-2.00	-90.00	
10,682.2	90.00	178.93	8,350.0	-1,676.2	-438.2	0.00	0.00	0.00	0.00	PI - MR20 SB Fed Co
10,716.9	90.00	178.24	8,350.0	-1,710.9	-437.3	2.00	0.00	-2.00	-90.13	
13,223.2	90.00	178.24	8,350.0	-4,215.9	-360.3	0.00	0.00	0.00	0.00	PBHL - MR20 SB Fec



KLX
Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Mazer Rackham 20 SB Fed Com #5H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 2896.5usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 2896.5usft (PD #101)
Site:	Sec 20, T26S, R29E	North Reference:	Grid
Well:	Mazer Rackham 20 SB Fed Com #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Curve & Lateral		
Design:	Design #4		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
139.0	2.30	56.60	139.0	1.5	2.3	-1.5	1.65	1.65	0.00
233.0	2.90	53.10	232.9	4.0	5.8	-3.8	0.66	0.64	-3.72
420.0	3.30	62.90	419.6	9.3	14.4	-8.8	0.35	0.21	5.24
511.0	2.10	66.50	510.5	11.2	18.2	-10.6	1.33	-1.32	3.96
602.0	0.80	76.80	601.5	12.0	20.4	-11.3	1.45	-1.43	11.32
693.0	0.70	107.10	692.5	11.9	21.5	-11.3	0.44	-0.11	33.30
784.0	0.20	247.80	783.4	11.7	21.9	-11.0	0.95	-0.55	154.62
874.0	0.80	271.00	873.4	11.7	21.1	-11.0	0.69	0.67	25.78
967.0	0.90	259.10	966.4	11.5	19.8	-10.9	0.22	0.11	-12.80
1,056.0	1.00	253.90	1,055.4	11.2	18.3	-10.6	0.15	0.11	-5.84
1,145.0	1.20	241.60	1,144.4	10.5	16.8	-10.0	0.35	0.22	-13.82
1,235.0	1.40	218.30	1,234.4	9.2	15.3	-8.8	0.62	0.22	-25.89
1,325.0	1.50	204.80	1,324.4	7.3	14.1	-6.9	0.39	0.11	-15.00
1,414.0	1.90	195.50	1,413.3	4.8	13.2	-4.4	0.54	0.45	-10.45
1,503.0	1.30	199.30	1,502.3	2.4	12.5	-2.1	0.68	-0.67	4.27
1,592.0	0.90	216.70	1,591.3	0.9	11.7	-0.6	0.58	-0.45	19.55
1,681.0	0.70	249.00	1,680.3	0.2	10.8	0.2	0.54	-0.22	36.29
1,770.0	0.90	321.50	1,769.3	0.5	9.9	-0.2	1.08	0.22	81.46
1,860.0	1.00	343.70	1,859.2	1.8	9.2	-1.5	0.42	0.11	24.67
1,949.0	1.80	359.80	1,948.2	4.0	9.0	-3.7	0.99	0.90	18.09
2,039.0	3.00	356.00	2,038.1	7.7	8.8	-7.5	1.34	1.33	-4.22
2,128.0	4.60	357.60	2,126.9	13.6	8.5	-13.4	1.80	1.80	1.80
2,218.0	6.40	6.00	2,216.5	22.2	8.9	-21.9	2.19	2.00	9.33
2,307.0	9.50	2.80	2,304.7	34.5	9.8	-34.2	3.52	3.48	-3.60
2,396.0	11.80	4.60	2,392.1	50.9	10.8	-50.5	2.61	2.58	2.02
2,486.0	11.40	15.80	2,480.3	68.6	14.0	-68.2	2.54	-0.44	12.44
2,575.0	9.90	18.60	2,567.7	84.4	18.8	-83.7	1.78	-1.69	3.15
2,639.0	8.90	11.50	2,630.9	94.4	21.6	-93.7	2.39	-1.56	-11.09
2,757.0	7.90	359.70	2,747.6	111.5	23.4	-110.7	1.68	-0.85	-10.00
2,846.0	8.80	342.90	2,835.7	124.1	21.3	-123.4	2.91	1.01	-18.88
2,936.0	10.40	345.90	2,924.4	138.6	17.3	-138.0	1.86	1.78	3.33
3,025.0	11.00	345.60	3,011.9	154.6	13.3	-154.1	0.68	0.67	-0.34
3,114.0	11.00	346.50	3,099.3	171.1	9.2	-170.7	0.19	0.00	1.01
3,204.0	11.10	345.40	3,187.6	187.8	5.0	-187.5	0.26	0.11	-1.22
3,293.0	11.50	346.70	3,274.9	204.7	0.8	-204.6	0.53	0.45	1.46
3,382.0	11.20	345.80	3,362.1	221.7	-3.4	-221.7	0.39	-0.34	-1.01
3,472.0	11.20	344.10	3,450.4	238.6	-7.9	-238.7	0.37	0.00	-1.89
3,561.0	11.40	343.60	3,537.7	255.4	-12.8	-255.6	0.25	0.22	-0.56
3,651.0	10.70	342.50	3,626.0	271.9	-17.8	-272.3	0.81	-0.78	-1.22
3,740.0	10.10	340.90	3,713.6	287.1	-22.8	-287.7	0.75	-0.67	-1.80
3,830.0	11.10	342.30	3,802.0	302.8	-28.1	-303.5	1.15	1.11	1.56
3,914.0	11.10	342.50	3,884.4	318.2	-33.0	-319.1	0.05	0.00	0.24
4,008.0	11.30	341.60	3,976.7	335.6	-38.6	-336.6	0.28	0.21	-0.96
4,097.0	11.50	346.90	4,063.9	352.5	-43.3	-353.7	1.20	0.22	5.96
4,187.0	11.70	352.20	4,152.1	370.3	-46.6	-371.6	1.20	0.22	5.89
4,276.0	11.30	351.20	4,239.3	387.9	-49.2	-389.2	0.50	-0.45	-1.12
4,365.0	11.30	350.20	4,326.6	405.1	-52.0	-406.5	0.22	0.00	-1.12
4,455.0	11.00	349.10	4,414.9	422.2	-55.1	-423.7	0.41	-0.33	-1.22
4,544.0	10.70	347.70	4,502.3	438.6	-58.5	-440.2	0.45	-0.34	-1.57
4,633.0	10.60	354.10	4,589.7	454.8	-61.1	-456.5	1.33	-0.11	7.19
4,722.0	11.20	359.20	4,677.1	471.6	-62.0	-473.3	1.28	0.67	5.73
4,812.0	11.10	357.90	4,765.4	489.0	-62.5	-490.7	0.30	-0.11	-1.44
4,901.0	10.60	356.40	4,852.8	505.7	-63.3	-507.4	0.65	-0.56	-1.69



KLX
Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Mazer Rackham 20 SB Fed Com #5H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 2896.5usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 2896.5usft (PD #101)
Site:	Sec 20, T26S, R29E	North Reference:	Grid
Well:	Mazer Rackham 20 SB Fed Com #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Curve & Lateral		
Design:	Design #4		

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)
4,990.0	9.90	355.20	4,940.4	521.5	-64.5	-523.3	0.82	-0.79	-1.35
5,079.0	10.10	355.40	5,028.1	536.9	-65.7	-538.7	0.23	0.22	0.22
5,169.0	9.80	355.10	5,116.7	552.4	-67.0	-554.2	0.34	-0.33	-0.33
5,258.0	9.50	353.40	5,204.5	567.3	-68.5	-569.1	0.46	-0.34	-1.91
5,347.0	10.50	351.90	5,292.1	582.6	-70.5	-584.5	1.16	1.12	-1.69
5,437.0	10.60	350.60	5,380.6	598.9	-73.0	-600.8	0.29	0.11	-1.44
5,526.0	9.80	349.50	5,468.2	614.4	-75.7	-616.4	0.93	-0.90	-1.24
5,616.0	9.20	349.90	5,556.9	629.0	-78.4	-631.1	0.67	-0.67	0.44
5,705.0	9.90	351.40	5,644.7	643.6	-80.8	-645.8	0.83	0.79	1.69
5,794.0	11.50	354.50	5,732.2	660.0	-82.8	-662.2	1.91	1.80	3.48
5,883.0	11.30	354.00	5,819.4	677.5	-84.5	-679.8	0.25	-0.22	-0.56
5,972.0	11.30	355.20	5,906.7	694.8	-86.2	-697.2	0.26	0.00	1.35
6,061.0	10.90	355.70	5,994.0	711.9	-87.5	-714.3	0.46	-0.45	0.56
6,151.0	10.20	356.10	6,082.5	728.4	-88.7	-730.7	0.78	-0.78	0.44
6,240.0	9.10	355.90	6,170.2	743.2	-89.7	-745.6	1.24	-1.24	-0.22
6,329.0	8.40	355.50	6,258.2	756.7	-90.8	-759.2	0.79	-0.79	-0.45
6,419.0	6.10	359.00	6,347.5	768.1	-91.4	-770.5	2.60	-2.56	3.89
6,508.0	4.30	2.80	6,436.1	776.1	-91.3	-778.6	2.06	-2.02	4.27
6,597.0	3.70	359.90	6,524.9	782.3	-91.1	-784.8	0.71	-0.67	-3.26
6,687.0	2.60	9.20	6,614.7	787.3	-90.8	-789.7	1.34	-1.22	10.33
6,776.0	2.10	359.60	6,703.7	790.9	-90.5	-793.3	0.71	-0.56	-10.79
6,866.0	1.10	10.00	6,793.6	793.4	-90.4	-795.8	1.15	-1.11	11.56
6,955.0	0.70	7.20	6,882.6	794.8	-90.1	-797.2	0.45	-0.45	-3.15
7,044.0	1.50	336.50	6,971.6	796.4	-90.5	-798.8	1.09	0.90	-34.49
7,134.0	1.40	317.50	7,061.6	798.3	-91.7	-800.7	0.54	-0.11	-21.11
OH ST01 Point / Build 25°/100'									
7,223.0	1.10	311.10	7,150.6	799.6	-93.1	-802.1	0.37	-0.34	-7.19
EOB @ 1.85°Inc/197.96°Az/100'									
7,233.0	1.85	197.96	7,160.5	799.5	-93.2	-802.0	25.00	7.54	-1,131.45
7,300.0	1.85	197.96	7,227.5	797.5	-93.9	-800.0	0.00	0.00	0.00
7,400.0	1.85	197.96	7,327.5	794.4	-94.9	-796.9	0.00	0.00	0.00
7,500.0	1.85	197.96	7,427.4	791.3	-95.9	-793.9	0.00	0.00	0.00
7,600.0	1.85	197.96	7,527.4	788.2	-96.9	-790.8	0.00	0.00	0.00
7,700.0	1.85	197.96	7,627.3	785.2	-97.9	-787.8	0.00	0.00	0.00
7,800.0	1.85	197.96	7,727.3	782.1	-98.9	-784.8	0.00	0.00	0.00
Build 10°/100'									
7,868.4	1.85	197.96	7,795.6	780.0	-99.6	-782.7	0.00	0.00	0.00
7,900.0	5.01	197.96	7,827.2	778.2	-100.2	-780.9	10.00	10.00	0.01
7,950.0	10.01	197.96	7,876.7	772.0	-102.2	-774.7	10.00	10.00	0.00
8,000.0	15.01	197.96	7,925.5	761.7	-105.5	-764.5	10.00	10.00	0.00
8,050.0	20.01	197.96	7,973.2	747.4	-110.2	-750.4	10.00	10.00	0.00
8,100.0	25.01	197.96	8,019.3	729.1	-116.1	-732.4	10.00	10.00	0.00
8,150.0	30.01	197.96	8,063.7	707.2	-123.2	-710.6	10.00	10.00	0.00
8,200.0	35.01	197.96	8,105.8	681.6	-131.5	-685.3	10.00	10.00	0.00
8,250.0	40.01	197.96	8,145.5	652.7	-140.9	-656.7	10.00	10.00	0.00
8,300.0	45.01	197.96	8,182.3	620.5	-151.3	-624.9	10.00	10.00	0.00
8,350.0	50.01	197.96	8,216.1	585.5	-162.6	-590.2	10.00	10.00	0.00
8,400.0	55.01	197.96	8,246.5	547.7	-174.9	-552.9	10.00	10.00	0.00
8,450.0	60.01	197.96	8,273.3	507.6	-187.9	-513.2	10.00	10.00	0.00
8,500.0	65.01	197.96	8,296.4	465.5	-201.5	-471.4	10.00	10.00	0.00
8,550.0	70.01	197.96	8,315.5	421.5	-215.8	-427.9	10.00	10.00	0.00
8,600.0	75.01	197.96	8,330.6	376.2	-230.5	-383.1	10.00	10.00	0.00
8,650.0	80.01	197.96	8,341.4	329.7	-245.5	-337.1	10.00	10.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Mazer Rackham 20 SB Fed Com #5H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 2896.5usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 2896.5usft (PD #101)
Site:	Sec 20, T26S, R29E	North Reference:	Grid
Well:	Mazer Rackham 20 SB Fed Com #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Curve & Lateral		
Design:	Design #4		

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)
8,700.0	85.01	197.96	8,347.9	282.6	-260.8	-290.5	10.00	10.00	0.00
EOB @ 90.00°Inc/197.96°Azm									
8,749.9	90.00	197.96	8,350.0	235.2	-276.2	-243.6	10.00	10.00	0.00
8,800.0	90.00	197.96	8,350.0	187.5	-291.6	-196.4	0.00	0.00	0.00
Turn 2°/100'									
8,875.9	90.00	197.96	8,350.0	115.4	-315.0	-125.0	0.00	0.00	0.00
8,900.0	90.00	197.48	8,350.0	92.4	-322.4	-102.2	2.00	0.00	-2.00
9,000.0	90.00	195.48	8,350.0	-3.5	-350.7	-7.3	2.00	0.00	-2.00
9,100.0	90.00	193.48	8,350.0	-100.3	-375.7	88.7	2.00	0.00	-2.00
9,200.0	90.00	191.48	8,350.0	-198.0	-397.3	185.7	2.00	0.00	-2.00
9,300.0	90.00	189.48	8,350.0	-296.3	-415.5	283.4	2.00	0.00	-2.00
9,400.0	90.00	187.48	8,350.0	-395.2	-430.2	381.8	2.00	0.00	-2.00
9,500.0	90.00	185.48	8,350.0	-494.6	-441.5	480.8	2.00	0.00	-2.00
9,600.0	90.00	183.48	8,350.0	-594.2	-449.3	580.2	2.00	0.00	-2.00
9,700.0	90.00	181.48	8,350.0	-694.1	-453.7	679.9	2.00	0.00	-2.00
9,800.0	90.00	179.48	8,350.0	-794.1	-454.5	779.8	2.00	0.00	-2.00
EOT @ 178.93°Azm									
9,827.3	90.00	178.93	8,350.0	-821.4	-454.1	807.1	2.00	0.00	-2.00
9,900.0	90.00	178.93	8,350.0	-894.1	-452.8	879.8	0.00	0.00	0.00
10,000.0	90.00	178.93	8,350.0	-994.1	-450.9	979.8	0.00	0.00	0.00
10,100.0	90.00	178.93	8,350.0	-1,094.1	-449.0	1,079.8	0.00	0.00	0.00
10,200.0	90.00	178.93	8,350.0	-1,194.1	-447.2	1,179.8	0.00	0.00	0.00
10,300.0	90.00	178.93	8,350.0	-1,294.0	-445.3	1,279.8	0.00	0.00	0.00
10,400.0	90.00	178.93	8,350.0	-1,394.0	-443.4	1,379.8	0.00	0.00	0.00
10,500.0	90.00	178.93	8,350.0	-1,494.0	-441.6	1,479.7	0.00	0.00	0.00
10,600.0	90.00	178.93	8,350.0	-1,594.0	-439.7	1,579.7	0.00	0.00	0.00
Turn 2°/100'									
10,682.2	90.00	178.93	8,350.0	-1,676.2	-438.2	1,662.0	0.00	0.00	0.00
10,700.0	90.00	178.58	8,350.0	-1,694.0	-437.8	1,679.7	2.00	0.00	-2.00
EOT @ 178.24°Azm									
10,716.9	90.00	178.24	8,350.0	-1,710.9	-437.3	1,696.6	2.00	0.00	-2.00
10,800.0	90.00	178.24	8,350.0	-1,793.9	-434.8	1,779.7	0.00	0.00	0.00
10,900.0	90.00	178.24	8,350.0	-1,893.9	-431.7	1,879.7	0.00	0.00	0.00
11,000.0	90.00	178.24	8,350.0	-1,993.8	-428.6	1,979.7	0.00	0.00	0.00
11,100.0	90.00	178.24	8,350.0	-2,093.8	-425.5	2,079.7	0.00	0.00	0.00
11,200.0	90.00	178.24	8,350.0	-2,193.7	-422.5	2,179.7	0.00	0.00	0.00
11,300.0	90.00	178.24	8,350.0	-2,293.7	-419.4	2,279.7	0.00	0.00	0.00
11,400.0	90.00	178.24	8,350.0	-2,393.6	-416.3	2,379.7	0.00	0.00	0.00
11,500.0	90.00	178.24	8,350.0	-2,493.6	-413.2	2,479.7	0.00	0.00	0.00
11,600.0	90.00	178.24	8,350.0	-2,593.6	-410.2	2,579.7	0.00	0.00	0.00
11,700.0	90.00	178.24	8,350.0	-2,693.5	-407.1	2,679.7	0.00	0.00	0.00
11,800.0	90.00	178.24	8,350.0	-2,793.5	-404.0	2,779.7	0.00	0.00	0.00
11,900.0	90.00	178.24	8,350.0	-2,893.4	-400.9	2,879.7	0.00	0.00	0.00
12,000.0	90.00	178.24	8,350.0	-2,993.4	-397.9	2,979.7	0.00	0.00	0.00
12,100.0	90.00	178.24	8,350.0	-3,093.3	-394.8	3,079.7	0.00	0.00	0.00
12,200.0	90.00	178.24	8,350.0	-3,193.3	-391.7	3,179.7	0.00	0.00	0.00
12,300.0	90.00	178.24	8,350.0	-3,293.2	-388.6	3,279.7	0.00	0.00	0.00
12,400.0	90.00	178.24	8,350.0	-3,393.2	-385.6	3,379.7	0.00	0.00	0.00
12,500.0	90.00	178.24	8,350.0	-3,493.1	-382.5	3,479.7	0.00	0.00	0.00
12,600.0	90.00	178.24	8,350.0	-3,593.1	-379.4	3,579.7	0.00	0.00	0.00
12,700.0	90.00	178.24	8,350.0	-3,693.0	-376.3	3,679.7	0.00	0.00	0.00
12,800.0	90.00	178.24	8,350.0	-3,793.0	-373.3	3,779.7	0.00	0.00	0.00
12,900.0	90.00	178.24	8,350.0	-3,892.9	-370.2	3,879.7	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Mazer Rackham 20 SB Fed Com #5H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 2896.5usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 2896.5usft (PD #101)
Site:	Sec 20, T26S, R29E	North Reference:	Grid
Well:	Mazer Rackham 20 SB Fed Com #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Curve & Lateral		
Design:	Design #4		

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)
13,000.0	90.00	178.24	8,350.0	-3,992.9	-367.1	3,979.7	0.00	0.00	0.00
13,100.0	90.00	178.24	8,350.0	-4,092.8	-364.0	4,079.7	0.00	0.00	0.00
13,200.0	90.00	178.24	8,350.0	-4,192.8	-361.0	4,179.7	0.00	0.00	0.00
TD @ 13223.2'MD/8350.0'TVD									
13,223.2	90.00	178.24	8,350.0	-4,215.9	-360.3	4,202.9	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP - MR20 SB Fed Cor - hit/miss target - Shape - Point	90.00	178.59	0.0	862.1	-455.5	376,672.24	602,970.21	32° 2' 6.544 N	104° 0' 3.743 W
- plan misses target center by 975.1usft at 1.9usft MD (1.9 TVD, 0.0 N, 0.0 E)									
PBHL - MR20 SB Fed C - plan hits target center - Point	90.00	178.59	8,350.0	-4,215.9	-360.3	371,594.15	603,065.47	32° 1' 16.286 N	104° 0' 2.818 W
PI - MR20 SB Fed Com - plan hits target center - Point	90.00	178.59	8,350.0	-1,676.2	-438.2	374,133.86	602,987.57	32° 1' 41.422 N	104° 0' 3.632 W

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
7,223.0	7,150.6	799.6	-93.1	OH ST01 Point / Build 25°/100'	
7,233.0	7,160.5	799.5	-93.2	EOB @ 1.85°Inc/197.96°AzM/Hold	
7,868.4	7,795.6	780.0	-99.6	Build 10°/100'	
8,749.9	8,350.0	235.2	-276.2	EOB @ 90.00°Inc/197.96°AzM	
8,875.9	8,350.0	115.4	-315.0	Turn 2°/100'	
9,827.3	8,350.0	-821.4	-454.1	EOT @ 178.93°AzM	
10,682.2	8,350.0	-1,676.2	-438.2	Turn 2°/100'	
10,716.9	8,350.0	-1,710.9	-437.3	EOT @ 178.24°AzM	
13,223.2	8,350.0	-4,215.9	-360.3	TD @ 13223.2'MD/8350.0'TVD	

MARATHON OIL PERMIAN LLC
DRILLING AND OPERATIONS PLAN

MAZER RACKHAM 20 SB FED COM 5H

SEC. 20, TWP. 26S, RNG. 29E
 EDDY COUNTY, NEW MEXICO

1. GEOLOGICAL FORMATIONS

Formation at Surface	Elevation
Permian / Quaternary Alluvium	2872

Formation	TVD	MD	Elevation	Lithology	Mineral Resources	Producing Formation
Rustler	414	414	2458	Anhydrite	Brine	No
Salado	780	780	2092	Salt/Anhydrite	Brine	No
Castile	1026	1026	1846	Salt/Anhydrite	Brine	No
Base of Salt (BX)	2772	2772	100	Salt/Anhydrite	Brine	No
Lamar	2772	2772	100	Sandstone/Shale	None	No
Bell Canyon	2817	2817	55	Sandstone	Oil	No
Cherry Canyon	3892	3892	-1020	Sandstone	Oil	No
Brushy Canyon	4932	4932	-2060	Sandstone	Oil	No
Bone Spring Lime	6547	6547	-3675	Limestone	None	No
Upper Avalon Shale	6574	6574	-3702	Shale	Oil	Yes
1st Bone Spring Sand	7446	7446	-4574	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	7729	7729	-4857	Limestone	None	No
2nd Bone Spring Sand	8028	8028	-5156	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	8623	N/A	-5751	Limestone	Oil	No
3rd Bone Spring Sand	9323	N/A	-6451	Sandstone	Oil	Yes
Wolfcamp	9674	N/A	-6802	Sandstone/Shale/Carbonates	Natural Gas/Oil	Yes
Wolfcamp A	9812	N/A	-6940	Sandstone/Shale/Carbonates	Natural Gas/Oil	Yes
Wolfcamp B	10149	N/A	-7277	Sandstone/Shale/Carbonates	Natural Gas/Oil	No
Wolfcamp C	10462	N/A	-7590	Sandstone/Shale/Carbonates	Natural Gas/Oil	No
Wolfcamp D	10986	N/A	-8114	Sandstone/Shale/Carbonates	Natural Gas/Oil	No

2. BLOWOUT PREVENTER TESTING PROCEDURE

BOP installed and tested before drilling which hole?	Size	Min. Required WP	Type	✓	Type
12 1/4	13 5/8	5000	Annular	x	50% of working pressure
			Blind Ram	x	
			Pipe Ram		
			Double Ram	x	
			Other*		
8 3/4	13 5/8	5000	Annular	x	50% of working pressure
			Blind Ram	x	
			Pipe Ram		
			Double Ram	x	
			Other*		
6 1/8	13 5/8	5000	Annular	x	50% of working pressure
			Blind Ram	x	
			Pipe Ram		
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

3. CASING PROGRAM

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	17 1/2	13 3/8	0	441	0	441	54.5	J55	STC	5.52	2.5	2.5
Intermediate I	12 1/4	9 5/8	0	2709	0	2609	40	J55	LTC	1.74	1.15	2.19
Intermediate II	8 3/4	7	0	9227	0	9227	29	P110	BTC	2.21	1.18	1.9
Production	6 1/8	4 1/2	7000	13223	6927	8350	13.5	P110	BTC	1.33	1.56	1.88

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

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	

Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
	Y or N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

4. CEMENT PROGRAM

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sx)	Yield (ft3/sx)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	--	0	0	0	1.73	13.5	0	100	Class C	
Surface	Tail	--	0	400	407	1.33	14.8	556	100	Class C	Extender, Accelerator
Intermediate I	Lead	--	0	1700	539	2.21	12.8	932	75	Class C	Extender, Accelerator
Intermediate I	Tail	--	1700	2700	353	1.33	14.8	470	50	Class C	Retarder
Intermediate II	Lead	--	2400	6800	416	3.21	11	1124	70	Class C	Retarder, Extender, Viscosifier
Intermediate II	Tail	--	6800	7850	178	1.15	13.8	205	30	Class H	Extender, Retarder
Production Liner	Tail	--	7000	13223	439	1.59	13.2	698	20	Class C	Extender, Fluid Loss, Dispersant

Stage tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Pilot Hole Depth: N/A TVD/MD
 KOP: N/A TVD/MD

Plug Top	Plug Bottom	Excess (%)	Quantity (sx)	Density (ppg)	Yield (ft3/sx)	Water gal/sk	Slurry Description and Cement Type

Attach plugging procedure for pilot hole: N/A

5. CIRCULATING MEDIUM

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max. Weight (ppg)
0	400	Water Based Mud	8.4	8.8
400	2700	Brine	9.9	10.2
2700	7850	Cut Brine	8.8	9.8
7223	13223	Oil Based Mud	9.0	11.5

Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times.

6. TESTING, LOGGING, CORING

List of production tests including testing procedures, equipment and safety measures:

GR from TD to surface (horizontal well - vertical portion of hole).

List of open and cased hole logs run in the well:

GR while drilling from Intermediate casing shoe to TD.

Coring operation description for the well:

Run gamma-ray (GR) and corrected neutron log (CNL) or analogous to surface for future development of the area, one per shared well pad not to exceed 200' radial distance.

Mud Logger: None
 DST's: None
 Open Hole Logs: GR while drilling from Intermediate casing shoe to TD.

7. ANTICIPATED PRESSURE

Anticipated Bottom Hole Pressure: 5068 PSI
 Anticipated Bottom Hole Temperature: 170 °F
 Anticipate Abnormal Pressure? No
 Anticipated Abnormal Temperature? No

- A. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.
- B. No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
- C. No losses are anticipated at this time.
- D. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.
- E. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

8. OTHER INFORMATION

- A. Auxiliary Well Control and Monitoring Equipment
 - i. A Kelly cock will be in the drill string at all times.
 - ii. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
 - iii. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe

until total depth is reached. If Hydrogen Sulfide is encountered , measured amounts and formations will be reported to the BLM

- B.** Anticipated Starting Date and Duration of Operations
 - i.* Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.
- C.** No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.
- D.** No losses are anticipated at this time.
- E.** All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.
- F.** Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

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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 118807

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 118807
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	None	6/24/2022