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.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No. NMNM86024

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
BLUE STEEL 21 SB FEE/4H

2. Name of Operator MARATHON OIL PERMIAN LLC

9. API Well No. 3001553819

3a. Address 990 TOWN & COUNTRY BLVD, HOUSTON, TX

3b. Phone No. *(include area code)* (713) 296-2113

10. Field and Pool or Exploratory Area
Culebra Bluff, South/BONE SPRING

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
SEC 28/T23S/R29E/NMP

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			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☑ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ 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 recomplete 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 perfonned 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 detennined that the site is ready for final inspection.)

Marathon Oil Permian LLC respectfully request approval to make changes to the current approved APD including name change, FTP, and drill plan as described below and on the attached.

API# 30-015-53819

Name Change
From: Blue Steel 21 SB Fee 4H
To: Blue Steel BS Fee 501H

FTP Change
From: 100 FSL 665 FWL, Sec 21-T23S-R29E
To: 100 FSL 660 FWL, Sec 21-T23S-R29E

Continued on page 3 additional information

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*
ADRIAN COVARRUBIAS / Ph: (713) 296-3368

Title regulatory Compliance Representative

Signature (Electronic Submission)

Date 11/06/2024

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by
KEITH P IMMATTY / Ph: (575) 988-4722 / Approved

Title ENGINEER

Date 11/24/2024

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)

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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand 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

Additional Remarks

No Changes to Approved Location Table

Casing Design Change

Surface Set Depth
From: 420' MD
To: 450' MD

Intermediate Set Depth
From: 3060' MD
To: 2987' MD

Production Set Depth
From: 19035' MD
To: 18883' MD

Cement Design Changes - Please see attached drill plan.

Please see attached drill plan, directional plan, and C-102s (proposed & previously approved) for review and approval.
No additional surface disturbance.

Location of Well

0. SHL: NWNW / 470 FNL / 1104 FWL / TWSP: 23S / RANGE: 29E / SECTION: 28 / LAT: 32.2819294 / LONG: -103.994906 (TVD: 0 feet, MD: 0 feet)
PPP: SWSW / 100 FSL / 665 FWL / TWSP: 23S / RANGE: 29E / SECTION: 21 / LAT: 32.2834992 / LONG: -103.996332 (TVD: 8397 feet, MD: 8463 feet)
BHL: NWNW / 100 FNL / 660 FWL / TWSP: 23S / RANGE: 29E / SECTION: 16 / LAT: 32.3121895 / LONG: -103.9960803 (TVD: 8736 feet, MD: 19035 feet)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA INC.
WELL NAME & NO.:	BLUE STEEL BS FEE 501H
LOCATION:	Sec28, T23S, R29E
COUNTY:	Eddy County, New Mexico

COA

H_2S	○ No		◉ Yes	
Potash / WIPP	○ None	○ Secretary	◉ R-111-Q	☑ Open Annulus
	3-String Design: Open Production Casing Annulus			☐ WIPP
Cave / Karst	○ Low	◉ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☑ Primary Squeeze	☐ Cont. Squeeze	☑ EchoMeter	☐ DV Tool
Special Req	☐ Capitan Reef	☐ Water Disposal	☐ COM	☐ Unit
Waste Prev.	○ Self-Certification	○ Waste Min. Plan	◉ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☑ Break Testing
	☐ Four-String	☑ Offline Cementing	☐ Fluid-Filled	

APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.

A. CASING

Operator has listed the 3- String Design from R111Q order in the proposal.

1. The **13-3/8** inch surface casing shall be set at approximately **450** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after

bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The **9-5/8** inch intermediate salt protection casing shall be set at approximately **2987** feet **TVD**. Well trajectory must remain vertical until the Salt Protection string is set. *Please set Salt Protection string prior to entering hydrocarbon bearing zone (Delaware).*

   Operator submitted an updated directional plan maintaining the well vertical through the salt interval. If anticollision becomes a concern, please review the "Anticollision Measures" section of R111Q and follow instructions to correct well trajectory. Efforts must be made to minimize DLS if corrections are needed and maintain the well as close to vertical as practicable. Contact BLM if inclination exceeds 5 degrees due to Anticollision related directional work. Inclination shall not exceed 10 degrees till after the salt interval.

   The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

   Option 1 (Single Stage):

   - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

3. The **5-1/2** inch production casing shall be set at approximately **18,941** feet. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   Option 1 (Primary + Post Frac Bradenhead):

   A monitored open annulus will be incorporated during completion by leaving the Intermediate Casing x Production Casing annulus un-cemented and monitored. Operator must follow monitoring requirements listed within R-111-Q. Tieback requirements shall be met within **180 days. In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and (575-361-2822 Eddy County).**

   Operator has proposed to pump down **intermediate x production** annulus post completion. **Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the production casing to surface after the second stage BH to verify TOC.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry during second stage bradenhead when running Echo-meter if cement is required to surface. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

   Operator has proposed an open annulus completion in R-111-Q. Operator shall provide a method of verification pre-completion top of cement. **Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on both the intermediate annulus and the production annulus for the life of the well.**

- Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

Contact Eddy County Petroleum Engineering Inspection Staff:
Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;
BLM_NM_CFO_DrillingNotifications@BLM.GOV; (575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
        iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
    i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi

compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

v. The results of the test shall be reported to the appropriate BLM office.

vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

vii. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

KPI -11/24/2024

Marathon Oil Corporation

Company: Marathon Oil
Well: Blue Steel BS Fee 501H
County: Eddy County, New Mexico (NAD 27)
Rig: Cactus 169
Wellbore: Wellbore #1
Design: Design #1
Date: 9:09, November 21 2024

WELL DETAILS: Blue Steel BS Fee 501H

+N/-S	+E/-W	GL @ 3000.00 Northing	Well @ 3023.60usft (Cactus 169) Easting	Latitude	Longitude
0.00	0.00	466404.32	604740.61	32° 16' 54.507 N	103° 59' 39.893 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	0.000	0.00	KOP, 2.00°/100' Build
3162.51	5.25	269.58	3162.15	-0.09	-12.02	2.00	269.578	-0.15	Begin 5.25° Tangent
7815.14	5.25	269.58	7795.25	-3.22	-437.75	0.00	0.000	-5.28	Begin 2.00°/100' Drop
8077.65	0.00	0.00	8057.40	-3.31	-449.77	2.00	180.000	-5.43	KOP, 10.00°/100' Build
8977.67	90.00	0.27	8630.36	569.66	-447.03	10.00	0.274	567.55	Begin 90.00° Lateral
19414.98	90.00	0.27	8630.00	11006.85	-397.19	0.00	0.000	11004.86	PBHL

SURVEY PROGRAM

Depth From	Depth To	Survey/Plan	Tool
0.00	19414.98	Design #1 (Wellbore #1)	MWD+IFR1+FDIR

DESIGN TARGET DETAILS

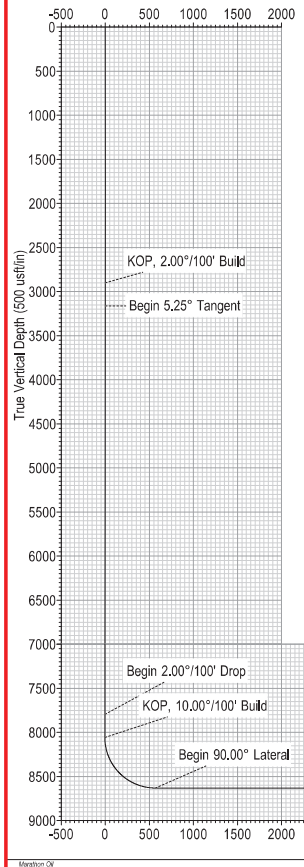
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP/FTP_Blue Steel 501H	8630.00	569.66	-447.03	466973.98	604293.58	32° 17' 0.158 N	103° 59' 45.080 W
LTP/PBHL_Blue Steel 501H	8630.00	11006.85	-397.19	477411.17	604343.42	32° 18' 43.444 N	103° 59' 44.116 W

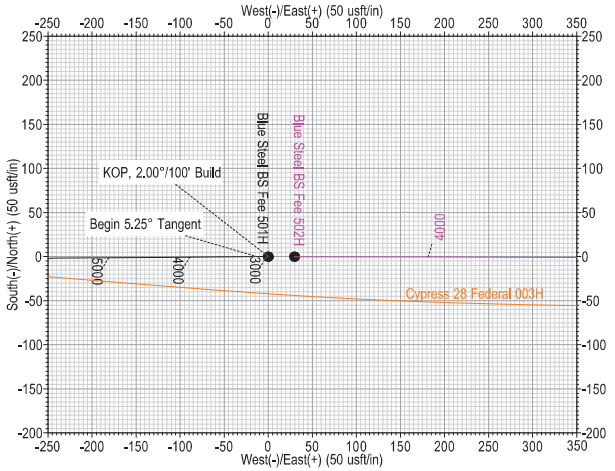
Azimuths to Grid North
True North: -0.18°
Magnetic North: 6.37°

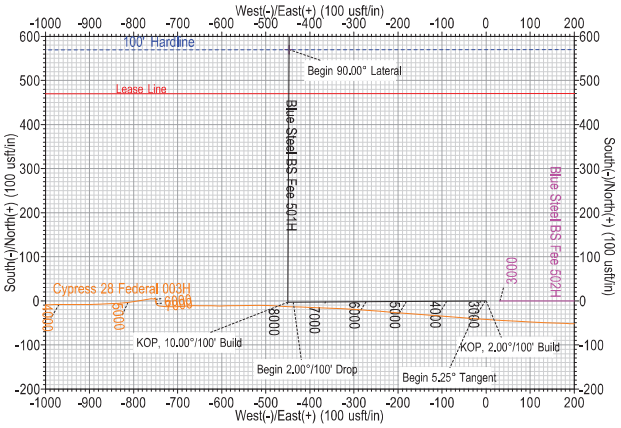
Magnetic Field
Strength: 47289.4nT
Dip Angle: 59.85°
Date: 11/25/2024
Model: HDGM2024

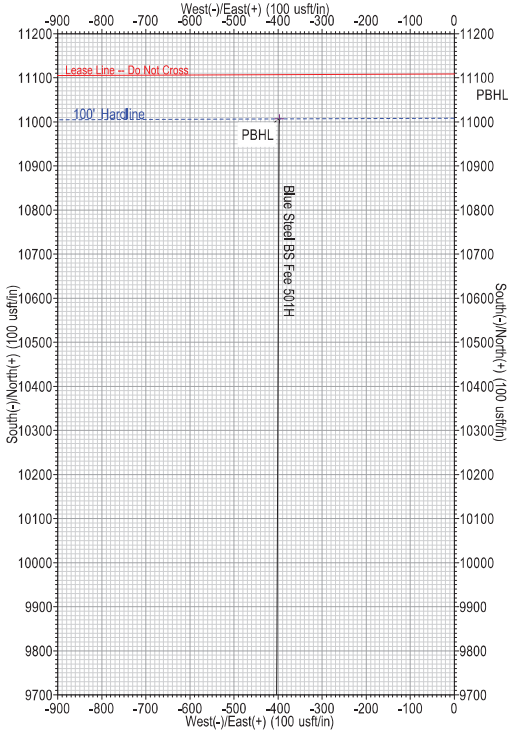
To convert a Magnetic Direction to a Grid Direction, Add 6.369°
To convert a Magnetic Direction to a True Direction, Add 6.550° East
To convert a True Direction to a Grid Direction, Subtract 0.181°

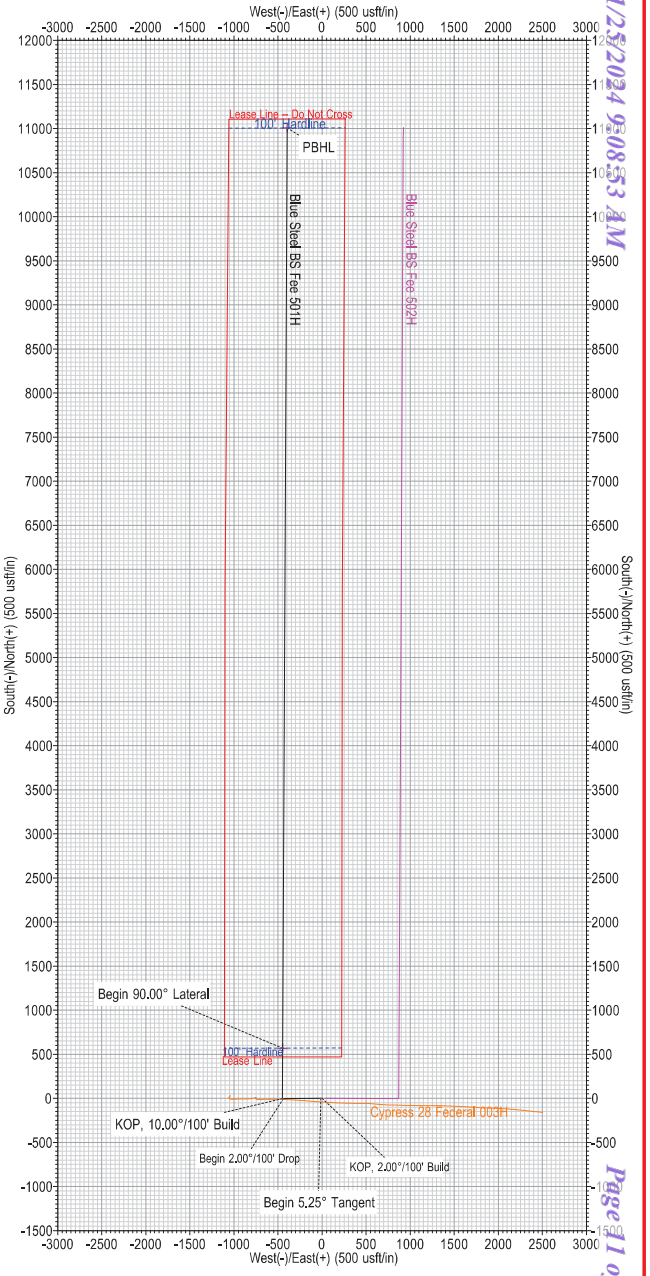
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level











Marathon Oil

Eddy County, New Mexico (NAD 27)
Blue Steel BS Fee (501H, 502H)
Blue Steel BS Fee 501H

Wellbore #1

Plan: Design #1

Standard Planning Report

21 November, 2024

Marathon Oil Corporation

Planning Report

MS Directional

Database:	TRG_EDMConroe	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil	**TVD Reference:**	Well @ 3023.60usft (Cactus 169)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	Well @ 3023.60usft (Cactus 169)
Site:	Blue Steel BS Fee (501H, 502H)	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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 Blue Steel BS Fee (501H, 502H)

Site Position:		**Northing:**	466,404.32 usft	**Latitude:**	32° 16' 54.507 N
From:	Map	**Easting:**	604,740.61 usft	**Longitude:**	103° 59' 39.893 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well Blue Steel BS Fee 501H

Well Position	**+N/-S**	0.00 usft	**Northing:**	466,404.32 usft	**Latitude:**	32° 16' 54.507 N
	+E/-W	0.00 usft	**Easting:**	604,740.61 usft	**Longitude:**	103° 59' 39.893 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,000.00 usft
Grid Convergence:		0.181 °				

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2024	11/25/2024	6.550	59.850	47,289.40

Design Design #1

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	0.27

Plan Survey Tool Program **Date** 11/20/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,414.98	Design #1 (Wellbore #1)	MWD+IFR1+FDIR	
				OWSG MWD + IFR1 + FDI	

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	0.000	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.000	
3,162.51	5.25	269.58	3,162.15	-0.09	-12.02	2.00	2.00	0.00	269.578	
7,815.14	5.25	269.58	7,795.25	-3.22	-437.75	0.00	0.00	0.00	0.000	
8,077.65	0.00	0.00	8,057.40	-3.31	-449.77	2.00	-2.00	0.00	180.000	
8,977.67	90.00	0.27	8,630.36	569.66	-447.03	10.00	10.00	0.03	0.274	
19,414.98	90.00	0.27	8,630.00	11,006.85	-397.19	0.00	0.00	0.00	0.000	LTP/PBHL_Blue St

Marathon Oil Corporation

Planning Report

MS Directional

Database:	TRG_EDMConroe	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil	**TVD Reference:**	Well @ 3023.60usft (Cactus 169)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	Well @ 3023.60usft (Cactus 169)
Site:	Blue Steel BS Fee (501H, 502H)	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 2.00°/100' Build									
3,000.00	2.00	269.58	2,999.98	-0.01	-1.75	-0.02	2.00	2.00	0.00
3,100.00	4.00	269.58	3,099.84	-0.05	-6.98	-0.08	2.00	2.00	0.00
3,162.51	5.25	269.58	3,162.15	-0.09	-12.02	-0.15	2.00	2.00	0.00
Begin 5.25° Tangent									
3,200.00	5.25	269.58	3,199.48	-0.11	-15.45	-0.19	0.00	0.00	0.00
3,300.00	5.25	269.58	3,299.06	-0.18	-24.60	-0.30	0.00	0.00	0.00
3,400.00	5.25	269.58	3,398.64	-0.25	-33.75	-0.41	0.00	0.00	0.00
3,500.00	5.25	269.58	3,498.22	-0.32	-42.90	-0.52	0.00	0.00	0.00
3,600.00	5.25	269.58	3,597.80	-0.38	-52.05	-0.63	0.00	0.00	0.00
3,700.00	5.25	269.58	3,697.38	-0.45	-61.20	-0.74	0.00	0.00	0.00
3,800.00	5.25	269.58	3,796.96	-0.52	-70.35	-0.85	0.00	0.00	0.00
3,900.00	5.25	269.58	3,896.54	-0.59	-79.50	-0.96	0.00	0.00	0.00
4,000.00	5.25	269.58	3,996.12	-0.65	-88.65	-1.07	0.00	0.00	0.00
4,100.00	5.25	269.58	4,095.70	-0.72	-97.80	-1.18	0.00	0.00	0.00
4,200.00	5.25	269.58	4,195.28	-0.79	-106.95	-1.29	0.00	0.00	0.00
4,300.00	5.25	269.58	4,294.86	-0.85	-116.10	-1.40	0.00	0.00	0.00
4,400.00	5.25	269.58	4,394.44	-0.92	-125.25	-1.51	0.00	0.00	0.00
4,500.00	5.25	269.58	4,494.02	-0.99	-134.40	-1.62	0.00	0.00	0.00
4,600.00	5.25	269.58	4,593.60	-1.06	-143.55	-1.73	0.00	0.00	0.00
4,700.00	5.25	269.58	4,693.18	-1.12	-152.70	-1.84	0.00	0.00	0.00
4,800.00	5.25	269.58	4,792.76	-1.19	-161.85	-1.95	0.00	0.00	0.00
4,900.00	5.25	269.58	4,892.34	-1.26	-171.01	-2.06	0.00	0.00	0.00

Marathon Oil Corporation

Planning Report

MS Directional

Database:	TRG_EDMConroe	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil	**TVD Reference:**	Well @ 3023.60usft (Cactus 169)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	Well @ 3023.60usft (Cactus 169)
Site:	Blue Steel BS Fee (501H, 502H)	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
5,000.00	5.25	269.58	4,991.92	-1.33	-180.16	-2.17	0.00	0.00	0.00
5,100.00	5.25	269.58	5,091.50	-1.39	-189.31	-2.29	0.00	0.00	0.00
5,200.00	5.25	269.58	5,191.08	-1.46	-198.46	-2.40	0.00	0.00	0.00
5,300.00	5.25	269.58	5,290.67	-1.53	-207.61	-2.51	0.00	0.00	0.00
5,400.00	5.25	269.58	5,390.25	-1.60	-216.76	-2.62	0.00	0.00	0.00
5,500.00	5.25	269.58	5,489.83	-1.66	-225.91	-2.73	0.00	0.00	0.00
5,600.00	5.25	269.58	5,589.41	-1.73	-235.06	-2.84	0.00	0.00	0.00
5,700.00	5.25	269.58	5,688.99	-1.80	-244.21	-2.95	0.00	0.00	0.00
5,800.00	5.25	269.58	5,788.57	-1.86	-253.36	-3.06	0.00	0.00	0.00
5,900.00	5.25	269.58	5,888.15	-1.93	-262.51	-3.17	0.00	0.00	0.00
6,000.00	5.25	269.58	5,987.73	-2.00	-271.66	-3.28	0.00	0.00	0.00
6,100.00	5.25	269.58	6,087.31	-2.07	-280.81	-3.39	0.00	0.00	0.00
6,200.00	5.25	269.58	6,186.89	-2.13	-289.96	-3.50	0.00	0.00	0.00
6,300.00	5.25	269.58	6,286.47	-2.20	-299.11	-3.61	0.00	0.00	0.00
6,400.00	5.25	269.58	6,386.05	-2.27	-308.26	-3.72	0.00	0.00	0.00
6,500.00	5.25	269.58	6,485.63	-2.34	-317.41	-3.83	0.00	0.00	0.00
6,600.00	5.25	269.58	6,585.21	-2.40	-326.56	-3.94	0.00	0.00	0.00
6,700.00	5.25	269.58	6,684.79	-2.47	-335.71	-4.05	0.00	0.00	0.00
6,800.00	5.25	269.58	6,784.37	-2.54	-344.86	-4.16	0.00	0.00	0.00
6,900.00	5.25	269.58	6,883.95	-2.61	-354.01	-4.27	0.00	0.00	0.00
7,000.00	5.25	269.58	6,983.53	-2.67	-363.16	-4.38	0.00	0.00	0.00
7,100.00	5.25	269.58	7,083.11	-2.74	-372.31	-4.49	0.00	0.00	0.00
7,200.00	5.25	269.58	7,182.69	-2.81	-381.46	-4.60	0.00	0.00	0.00
7,300.00	5.25	269.58	7,282.27	-2.87	-390.61	-4.72	0.00	0.00	0.00
7,400.00	5.25	269.58	7,381.85	-2.94	-399.76	-4.83	0.00	0.00	0.00
7,500.00	5.25	269.58	7,481.44	-3.01	-408.91	-4.94	0.00	0.00	0.00
7,600.00	5.25	269.58	7,581.02	-3.08	-418.06	-5.05	0.00	0.00	0.00
7,700.00	5.25	269.58	7,680.60	-3.14	-427.22	-5.16	0.00	0.00	0.00
7,800.00	5.25	269.58	7,780.18	-3.21	-436.37	-5.27	0.00	0.00	0.00
7,815.14	5.25	269.58	7,795.25	-3.22	-437.75	-5.28	0.00	0.00	0.00
Begin 2.00°/100' Drop									
7,900.00	3.55	269.58	7,879.86	-3.27	-444.26	-5.36	2.00	-2.00	0.00
8,000.00	1.55	269.58	7,979.76	-3.30	-448.72	-5.42	2.00	-2.00	0.00
8,077.65	0.00	0.00	8,057.40	-3.31	-449.77	-5.43	2.00	-2.00	0.00
KOP, 10.00°/100' Build									
8,100.00	2.23	0.27	8,079.74	-2.87	-449.77	-4.99	10.00	10.00	0.00
8,150.00	7.23	0.27	8,129.55	1.25	-449.75	-0.87	10.00	10.00	0.00
8,200.00	12.23	0.27	8,178.82	9.70	-449.71	7.58	10.00	10.00	0.00
8,250.00	17.23	0.27	8,227.16	22.42	-449.65	20.30	10.00	10.00	0.00
8,300.00	22.23	0.27	8,274.21	39.29	-449.57	37.17	10.00	10.00	0.00
8,350.00	27.23	0.27	8,319.61	60.21	-449.47	58.09	10.00	10.00	0.00
8,400.00	32.23	0.27	8,363.01	85.00	-449.35	82.88	10.00	10.00	0.00
8,450.00	37.23	0.27	8,404.09	113.48	-449.21	111.36	10.00	10.00	0.00
8,500.00	42.23	0.27	8,442.52	145.43	-449.06	143.31	10.00	10.00	0.00
8,550.00	47.23	0.27	8,478.03	180.61	-448.89	178.49	10.00	10.00	0.00
8,600.00	52.23	0.27	8,510.34	218.75	-448.71	216.63	10.00	10.00	0.00
8,650.00	57.23	0.27	8,539.20	259.56	-448.51	257.44	10.00	10.00	0.00
8,700.00	62.23	0.27	8,564.39	302.73	-448.31	300.61	10.00	10.00	0.00
8,750.00	67.23	0.27	8,585.72	347.93	-448.09	345.82	10.00	10.00	0.00
8,800.00	72.23	0.27	8,603.04	394.82	-447.87	392.71	10.00	10.00	0.00
8,850.00	77.23	0.27	8,616.20	443.04	-447.64	440.93	10.00	10.00	0.00
8,900.00	82.23	0.27	8,625.10	492.23	-447.40	490.11	10.00	10.00	0.00
8,950.00	87.23	0.27	8,629.69	542.00	-447.17	539.88	10.00	10.00	0.00
8,977.67	90.00	0.27	8,630.36	569.66	-447.03	567.55	10.00	10.00	0.00

Marathon Oil Corporation

Planning Report

MS Directional

Database:	TRG_EDMConroe	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil	**TVD Reference:**	Well @ 3023.60usft (Cactus 169)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	Well @ 3023.60usft (Cactus 169)
Site:	Blue Steel BS Fee (501H, 502H)	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
Begin 90.00° Lateral									
9,000.00	90.00	0.27	8,630.36	591.99	-446.93	589.87	0.00	0.00	0.00
9,100.00	90.00	0.27	8,630.35	691.99	-446.45	689.87	0.00	0.00	0.00
9,200.00	90.00	0.27	8,630.35	791.98	-445.97	789.87	0.00	0.00	0.00
9,300.00	90.00	0.27	8,630.35	891.98	-445.49	889.87	0.00	0.00	0.00
9,400.00	90.00	0.27	8,630.34	991.98	-445.02	989.87	0.00	0.00	0.00
9,500.00	90.00	0.27	8,630.34	1,091.98	-444.54	1,089.87	0.00	0.00	0.00
9,600.00	90.00	0.27	8,630.34	1,191.98	-444.06	1,189.87	0.00	0.00	0.00
9,700.00	90.00	0.27	8,630.33	1,291.98	-443.58	1,289.87	0.00	0.00	0.00
9,800.00	90.00	0.27	8,630.33	1,391.98	-443.11	1,389.87	0.00	0.00	0.00
9,900.00	90.00	0.27	8,630.33	1,491.98	-442.63	1,489.87	0.00	0.00	0.00
10,000.00	90.00	0.27	8,630.32	1,591.98	-442.15	1,589.87	0.00	0.00	0.00
10,100.00	90.00	0.27	8,630.32	1,691.97	-441.67	1,689.87	0.00	0.00	0.00
10,200.00	90.00	0.27	8,630.32	1,791.97	-441.20	1,789.87	0.00	0.00	0.00
10,300.00	90.00	0.27	8,630.31	1,891.97	-440.72	1,889.87	0.00	0.00	0.00
10,400.00	90.00	0.27	8,630.31	1,991.97	-440.24	1,989.87	0.00	0.00	0.00
10,500.00	90.00	0.27	8,630.31	2,091.97	-439.76	2,089.87	0.00	0.00	0.00
10,600.00	90.00	0.27	8,630.30	2,191.97	-439.29	2,189.87	0.00	0.00	0.00
10,700.00	90.00	0.27	8,630.30	2,291.97	-438.81	2,289.87	0.00	0.00	0.00
10,800.00	90.00	0.27	8,630.30	2,391.97	-438.33	2,389.87	0.00	0.00	0.00
10,900.00	90.00	0.27	8,630.29	2,491.96	-437.85	2,489.87	0.00	0.00	0.00
11,000.00	90.00	0.27	8,630.29	2,591.96	-437.38	2,589.87	0.00	0.00	0.00
11,100.00	90.00	0.27	8,630.29	2,691.96	-436.90	2,689.87	0.00	0.00	0.00
11,200.00	90.00	0.27	8,630.28	2,791.96	-436.42	2,789.87	0.00	0.00	0.00
11,300.00	90.00	0.27	8,630.28	2,891.96	-435.94	2,889.87	0.00	0.00	0.00
11,400.00	90.00	0.27	8,630.27	2,991.96	-435.47	2,989.87	0.00	0.00	0.00
11,500.00	90.00	0.27	8,630.27	3,091.96	-434.99	3,089.87	0.00	0.00	0.00
11,600.00	90.00	0.27	8,630.27	3,191.96	-434.51	3,189.87	0.00	0.00	0.00
11,700.00	90.00	0.27	8,630.26	3,291.96	-434.03	3,289.87	0.00	0.00	0.00
11,800.00	90.00	0.27	8,630.26	3,391.95	-433.56	3,389.87	0.00	0.00	0.00
11,900.00	90.00	0.27	8,630.26	3,491.95	-433.08	3,489.87	0.00	0.00	0.00
12,000.00	90.00	0.27	8,630.25	3,591.95	-432.60	3,589.87	0.00	0.00	0.00
12,100.00	90.00	0.27	8,630.25	3,691.95	-432.12	3,689.87	0.00	0.00	0.00
12,200.00	90.00	0.27	8,630.25	3,791.95	-431.65	3,789.87	0.00	0.00	0.00
12,300.00	90.00	0.27	8,630.24	3,891.95	-431.17	3,889.87	0.00	0.00	0.00
12,400.00	90.00	0.27	8,630.24	3,991.95	-430.69	3,989.87	0.00	0.00	0.00
12,500.00	90.00	0.27	8,630.24	4,091.95	-430.21	4,089.87	0.00	0.00	0.00
12,600.00	90.00	0.27	8,630.23	4,191.95	-429.74	4,189.87	0.00	0.00	0.00
12,700.00	90.00	0.27	8,630.23	4,291.94	-429.26	4,289.87	0.00	0.00	0.00
12,800.00	90.00	0.27	8,630.23	4,391.94	-428.78	4,389.87	0.00	0.00	0.00
12,900.00	90.00	0.27	8,630.22	4,491.94	-428.30	4,489.87	0.00	0.00	0.00
13,000.00	90.00	0.27	8,630.22	4,591.94	-427.82	4,589.87	0.00	0.00	0.00
13,100.00	90.00	0.27	8,630.22	4,691.94	-427.35	4,689.87	0.00	0.00	0.00
13,200.00	90.00	0.27	8,630.21	4,791.94	-426.87	4,789.87	0.00	0.00	0.00
13,300.00	90.00	0.27	8,630.21	4,891.94	-426.39	4,889.87	0.00	0.00	0.00
13,400.00	90.00	0.27	8,630.21	4,991.94	-425.91	4,989.87	0.00	0.00	0.00
13,500.00	90.00	0.27	8,630.20	5,091.94	-425.44	5,089.87	0.00	0.00	0.00
13,600.00	90.00	0.27	8,630.20	5,191.93	-424.96	5,189.87	0.00	0.00	0.00
13,700.00	90.00	0.27	8,630.20	5,291.93	-424.48	5,289.87	0.00	0.00	0.00
13,800.00	90.00	0.27	8,630.19	5,391.93	-424.00	5,389.87	0.00	0.00	0.00
13,900.00	90.00	0.27	8,630.19	5,491.93	-423.53	5,489.87	0.00	0.00	0.00
14,000.00	90.00	0.27	8,630.19	5,591.93	-423.05	5,589.87	0.00	0.00	0.00
14,100.00	90.00	0.27	8,630.18	5,691.93	-422.57	5,689.87	0.00	0.00	0.00

Marathon Oil Corporation

Planning Report

MS Directional

Database:	TRG_EDMConroe	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil	**TVD Reference:**	Well @ 3023.60usft (Cactus 169)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	Well @ 3023.60usft (Cactus 169)
Site:	Blue Steel BS Fee (501H, 502H)	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
14,200.00	90.00	0.27	8,630.18	5,791.93	-422.09	5,789.87	0.00	0.00	0.00
14,300.00	90.00	0.27	8,630.18	5,891.93	-421.62	5,889.87	0.00	0.00	0.00
14,400.00	90.00	0.27	8,630.17	5,991.93	-421.14	5,989.87	0.00	0.00	0.00
14,500.00	90.00	0.27	8,630.17	6,091.92	-420.66	6,089.87	0.00	0.00	0.00
14,600.00	90.00	0.27	8,630.17	6,191.92	-420.18	6,189.87	0.00	0.00	0.00
14,700.00	90.00	0.27	8,630.16	6,291.92	-419.71	6,289.87	0.00	0.00	0.00
14,800.00	90.00	0.27	8,630.16	6,391.92	-419.23	6,389.87	0.00	0.00	0.00
14,900.00	90.00	0.27	8,630.15	6,491.92	-418.75	6,489.87	0.00	0.00	0.00
15,000.00	90.00	0.27	8,630.15	6,591.92	-418.27	6,589.87	0.00	0.00	0.00
15,100.00	90.00	0.27	8,630.15	6,691.92	-417.80	6,689.87	0.00	0.00	0.00
15,200.00	90.00	0.27	8,630.14	6,791.92	-417.32	6,789.87	0.00	0.00	0.00
15,300.00	90.00	0.27	8,630.14	6,891.91	-416.84	6,889.87	0.00	0.00	0.00
15,400.00	90.00	0.27	8,630.14	6,991.91	-416.36	6,989.87	0.00	0.00	0.00
15,500.00	90.00	0.27	8,630.13	7,091.91	-415.89	7,089.87	0.00	0.00	0.00
15,600.00	90.00	0.27	8,630.13	7,191.91	-415.41	7,189.87	0.00	0.00	0.00
15,700.00	90.00	0.27	8,630.13	7,291.91	-414.93	7,289.87	0.00	0.00	0.00
15,800.00	90.00	0.27	8,630.12	7,391.91	-414.45	7,389.87	0.00	0.00	0.00
15,900.00	90.00	0.27	8,630.12	7,491.91	-413.98	7,489.87	0.00	0.00	0.00
16,000.00	90.00	0.27	8,630.12	7,591.91	-413.50	7,589.87	0.00	0.00	0.00
16,100.00	90.00	0.27	8,630.11	7,691.91	-413.02	7,689.87	0.00	0.00	0.00
16,200.00	90.00	0.27	8,630.11	7,791.90	-412.54	7,789.87	0.00	0.00	0.00
16,300.00	90.00	0.27	8,630.11	7,891.90	-412.07	7,889.87	0.00	0.00	0.00
16,400.00	90.00	0.27	8,630.10	7,991.90	-411.59	7,989.87	0.00	0.00	0.00
16,500.00	90.00	0.27	8,630.10	8,091.90	-411.11	8,089.87	0.00	0.00	0.00
16,600.00	90.00	0.27	8,630.10	8,191.90	-410.63	8,189.87	0.00	0.00	0.00
16,700.00	90.00	0.27	8,630.09	8,291.90	-410.16	8,289.87	0.00	0.00	0.00
16,800.00	90.00	0.27	8,630.09	8,391.90	-409.68	8,389.87	0.00	0.00	0.00
16,900.00	90.00	0.27	8,630.09	8,491.90	-409.20	8,489.87	0.00	0.00	0.00
17,000.00	90.00	0.27	8,630.08	8,591.90	-408.72	8,589.87	0.00	0.00	0.00
17,100.00	90.00	0.27	8,630.08	8,691.89	-408.25	8,689.87	0.00	0.00	0.00
17,200.00	90.00	0.27	8,630.08	8,791.89	-407.77	8,789.87	0.00	0.00	0.00
17,300.00	90.00	0.27	8,630.07	8,891.89	-407.29	8,889.87	0.00	0.00	0.00
17,400.00	90.00	0.27	8,630.07	8,991.89	-406.81	8,989.87	0.00	0.00	0.00
17,500.00	90.00	0.27	8,630.07	9,091.89	-406.34	9,089.87	0.00	0.00	0.00
17,600.00	90.00	0.27	8,630.06	9,191.89	-405.86	9,189.87	0.00	0.00	0.00
17,700.00	90.00	0.27	8,630.06	9,291.89	-405.38	9,289.87	0.00	0.00	0.00
17,800.00	90.00	0.27	8,630.06	9,391.89	-404.90	9,389.87	0.00	0.00	0.00
17,900.00	90.00	0.27	8,630.05	9,491.89	-404.42	9,489.87	0.00	0.00	0.00
18,000.00	90.00	0.27	8,630.05	9,591.88	-403.95	9,589.87	0.00	0.00	0.00
18,100.00	90.00	0.27	8,630.05	9,691.88	-403.47	9,689.87	0.00	0.00	0.00
18,200.00	90.00	0.27	8,630.04	9,791.88	-402.99	9,789.87	0.00	0.00	0.00
18,300.00	90.00	0.27	8,630.04	9,891.88	-402.51	9,889.87	0.00	0.00	0.00
18,400.00	90.00	0.27	8,630.03	9,991.88	-402.04	9,989.87	0.00	0.00	0.00
18,500.00	90.00	0.27	8,630.03	10,091.88	-401.56	10,089.87	0.00	0.00	0.00
18,600.00	90.00	0.27	8,630.03	10,191.88	-401.08	10,189.87	0.00	0.00	0.00
18,700.00	90.00	0.27	8,630.02	10,291.88	-400.60	10,289.87	0.00	0.00	0.00
18,800.00	90.00	0.27	8,630.02	10,391.88	-400.13	10,389.87	0.00	0.00	0.00
18,900.00	90.00	0.27	8,630.02	10,491.87	-399.65	10,489.87	0.00	0.00	0.00
19,000.00	90.00	0.27	8,630.01	10,591.87	-399.17	10,589.87	0.00	0.00	0.00
19,100.00	90.00	0.27	8,630.01	10,691.87	-398.69	10,689.87	0.00	0.00	0.00
19,200.00	90.00	0.27	8,630.01	10,791.87	-398.22	10,789.87	0.00	0.00	0.00
19,300.00	90.00	0.27	8,630.00	10,891.87	-397.74	10,889.87	0.00	0.00	0.00
19,400.00	90.00	0.27	8,630.00	10,991.87	-397.26	10,989.87	0.00	0.00	0.00
19,414.98	90.00	0.27	8,630.00	11,006.85	-397.19	11,004.86	0.00	0.00	0.00

Marathon Oil Corporation

Planning Report

MS Directional

Database:	TRG_EDMConroe	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil	**TVD Reference:**	Well @ 3023.60usft (Cactus 169)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	Well @ 3023.60usft (Cactus 169)
Site:	Blue Steel BS Fee (501H, 502H)	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)
PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP/FTP_Blue Steel - plan misses target center by 0.36usft at 8977.66usft MD (8630.36 TVD, 569.65 N, -447.03 E) - Point	0.00	0.00	8,630.00	569.66	-447.03	466,973.98	604,293.58	32° 17' 0.158 N	103° 59' 45.080 W
LTP/PBHL_Blue Steel - plan hits target center - Point	0.00	0.00	8,630.00	11,006.85	-397.19	477,411.17	604,343.42	32° 18' 43.444 N	103° 59' 44.116 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,900.00	2,900.00	0.00	0.00	KOP, 2.00°/100' Build
3,162.51	3,162.15	-0.09	-12.02	Begin 5.25° Tangent
7,815.14	7,795.25	-3.22	-437.75	Begin 2.00°/100' Drop
8,077.65	8,057.40	-3.31	-449.77	KOP, 10.00°/100' Build
8,977.67	8,630.36	569.66	-447.03	Begin 90.00° Lateral
19,414.98	8,630.00	11,006.85	-397.19	PBHL

MARATHON OIL PERMIAN, LLC.

DRILLING AND OPERATIONS PLAN

WELL NAME & NUMBER: **BLUE STEEL BS FEE COM 501**

LOCATION: SECTION **28** TOWNSHIP **23S** RANGE **29E**

EDDY COUNTY, **NEW MEXICO**

Section 1: GEOLOGICAL FORMATIONS

Name of Surface Formation: Permian

Elevation: 3000 *feet*

Estimated Tops of Important Geological Markers:

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	NA	NA	#VALUE!	Anhydrite	Brine	No
Salado	331	331	2669	Salt/Anhydrite	Brine	No
Castile	na	na	#VALUE!	Salt/Anhydrite	Brine	No
Base of Salt (BX)	2921	2921	79	Salt/Anhydrite	Brine	No
Lamar	2967	2967	33	Sandstone/Shale	None	No
Bell Canyon	3002	3002	-2	Sandstone	Oil	No
Cherry Canyon	3875	3875	-875	Sandstone	Oil	No
Brushy Canyon	5032	5032	-2032	Sandstone	Oil	No
Bone Spring Lime	6661	6661	-3661	Limestone	None	No
Upper Avalon Shale	6980	6980	-3980	Shale	Oil	Yes
1st Bone Spring Sand	7659	7659	-4659	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	7935	7935	-4935	Limestone/Shale	None	No
2nd Bone Spring Sand	8446	8446	-5446	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	8785	8785	-5785	Limestone	Oil	No
3rd Bone Spring Sand	9566	9566	-6566	Sandstone	Oil	Yes
Wolfcamp	9899	9899	-6899	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	10042	10042	-7042	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	10227	10227	-7227	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	10508	10508	-7508	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp D	11048	11048	-8048	Sandstone/Shale/Carbonates	Natural Gas / Oil	No

Section 2: BLOWOUT PREVENTER TESTING PROCEDURE

Pressure Rating (PSI): 10M

Rating Depth: 10000

Equipment: 13 5/8 BOP Annular (5,000 psi WP) and BOP Stack (10,000 psi WP) will be installed and tested before drilling all holes.

Requesting Variance? Yes

Variance Request: 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.

Testing Procedure: BOP/BOPE will be tested to 250 psi low and a high of 100% WP for the Annular and 5,000psi for the BOP Stack before drilling the intermediate hole, 10,000psi for the BOP Stacking before drilling the production hole. Testing will be conducted by an independent service company per 43 CFR 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the Equipment Description above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams and Blind rams will be operationally checked on each trip out of the hole, but not to exceed more than once per day. 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.

Formation integrity test will be performed per 43 CFR 3172. 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 43 CFR 3172 III.B.1.i. A multibowl wellhead is being used. The BOP will be tested per 43 CFR 3172 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.

Section 3: CASING PROGRAM

String Type	Hole Size	Casing Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Weight (lbs/ft)	Grade	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	450	0	450	3000	2550	54.5	J55	BTC	5.22	1.81	BUOY	4.52	BUOY	4.52
Intermediate	12.25	9.625	0	2987	0	2987	3000	13	40	P110HC	BTC	1.20	1.42	BUOY	2.44	BUOY	2.44
Production	8.75	5.5	0	18883	0	8600	3000	-5600	23	P110HC	TLW	2.53	1.26	BUOY	2.22	BUOY	2.22
All casing strings will be tested in accordance with 43 CFR 3172 III.B.1.h												Safety Factors will Meet or Exceed					

Casing Condition: New
Casing Standard: API
Tapered String? No

	Yes or No
Is casing new? If used, attach certification as required in 43 CFR 3171.	Yes
Does casing meet API specifications? If no, attach casing specification sheet.	Yes
Is premium or uncommon casing planned? If yes attach casing specification sheet.	No
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Yes
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Yes
Is well located within Capitan Reef?	No
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is proposed well within the designated four string boundary?	
Is well located in R-111-Q and SOPA?	No
Is the second string set 100' to 600' below the base of salt?	
Is well located in SOPA but not in R-111-Q?	No
If yes, are the first 2 strings cemented to surface and third string cement tied back 500' into previous casing?	
Is well located in high Cave/Karst?	No
If yes, are there two strings cemented to surface?	
If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	No
If yes, are there three strings cemented to surface?	

Section 4: CEMENT PROGRAM

String Type	Lead/Tail	Top MD	Bottom MD	Quantity (sks)	Yield (ft^3/sks)	Density (ppg)	Slurry Volume (ft^3)	Excess (%)	Cement Type	Additives
Surface	Lead	0	300	146	2.12	12.5	309	25	Class C	Extender,Accelerator,LCM
Surface	Tail	300	450	99	1.32	14.8	130	25	Class C	Accelerator
Intermediate	Lead	0	2487	459	2.18	12.4	1001	25	Class C	Extender,Accelerator,LCM
Intermediate	Tail	2487	2987	147	1.33	14.8	196	25	Class C	Retarder
Production	Tail	5032	18883	2468	1.68	13	4146	0	Class H	Retarder, Extender, Fluid Loss, Suspension Agent

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 the salt. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Within 180 days after frac a bradenhead cement squeeze will be performed to achieve tie back requirements.

Pilot Hole? No
Pilot Hole Depth: N/A
KOP Depth: N/A
Plugging Procedure for Pilot Hole: N/A

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

Section 5: CIRCULATING MEDIUM

Mud System Type: Closed
Will an air or gas system be used? No

Describe what will be on location to control well or mitigate other conditions:
The necessary mud products for additional weight and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized:
Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT.

Circulating Medium Table:

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max Weight (ppg)
0	450	Water Based Mud	8.4	8.8
450	2987	Brine or Oil Based Mud	9.2	10.2
2987	18883	Oil Based Mud	10.5	12.5

Section 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.

Section 7: ANTICIPATED PRESSURE

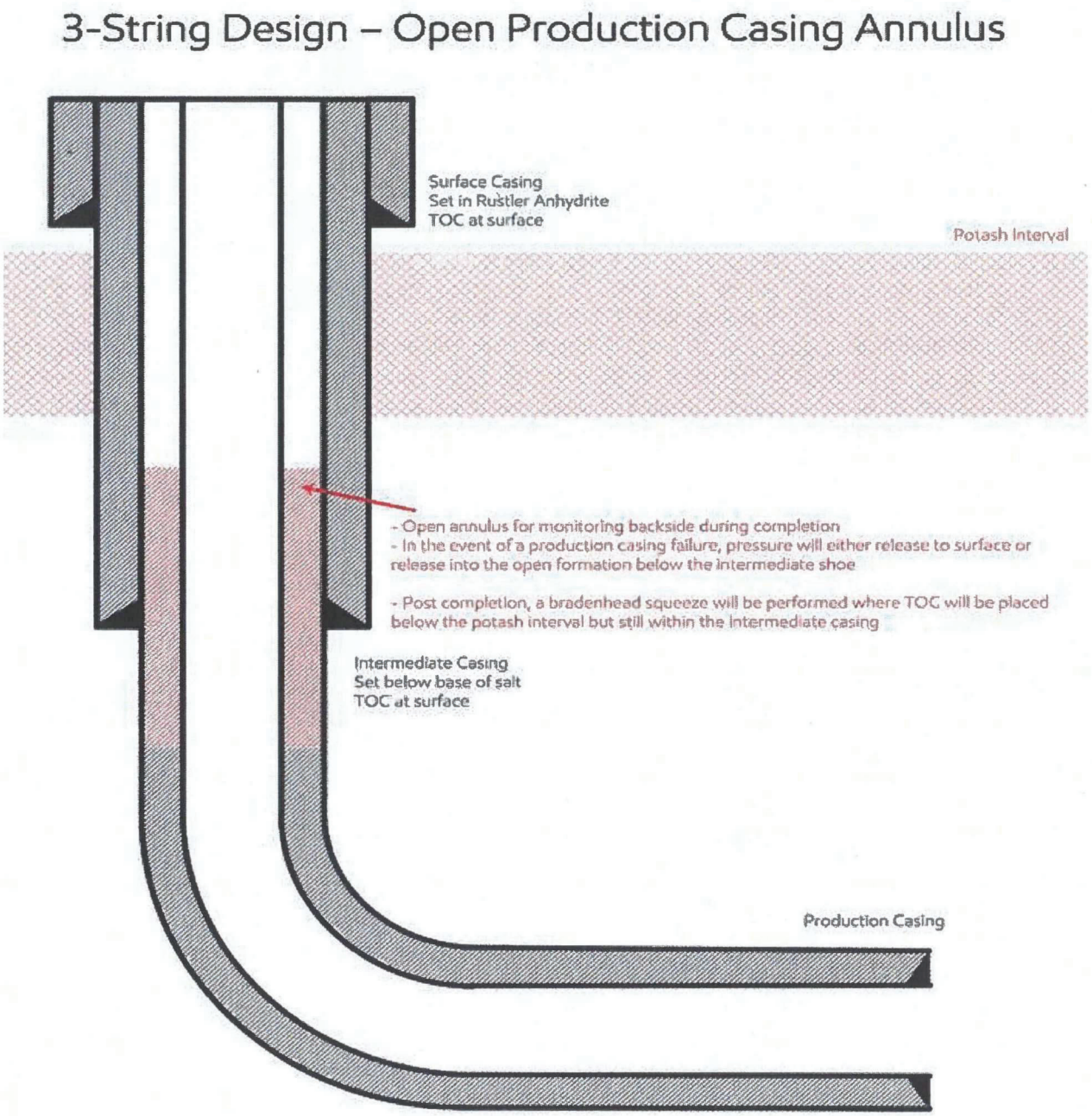
Anticipated Bottom Hole Pressure: **5590** PSI
Anticipated Bottom Hole Temperature: **195** ˚F
Anticipated Abnormal Pressure? **No**
Anticipated Abnormal Temperature? **No**

Potential Hazards:
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 43 CFR 3176. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. See attached H2S Contingency Plan.

Section 8: OTHER INFORMATION

Auxiliary Well Control and Monitoring Equipment:
A Kelly cock will be in the drill string at all times. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
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.

Anticipated Starting Date and Duration of Operations:
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.



[Figure B] 3 String - Uncemented production casing annulus

Marathon Oil Permian LLC is aware of the R111-Q update and will comply with the requirements including (but not limited to):
1)Alignment with KPLA requirements per schematic above, leaving open annulus for pressure monitoring during frac and utilizing new casing that meets API standards.
2)Contingency plans in place to divert formation fluids away from the salt interval in event of production casing failure
3)Bradenhead squeeze to be completed within 180 days to tie back TOC to salt string at least 500 ft but with top below Marker Bed 126
4)Production cement to be tied back no less than 500 ft inside previous casing shoe
5)While drilling salt interval, separation distance to any active/inactive producing offset well will be ensured such that SF > 1.0; Anti Collision reports will be provided in the APD packages for review where SF < 1.5 against any applicable offset well, or where center to center separation against a blind or inclination only surveyed offset well is less than 500 ft.

Marathon Oil Corporation

Project: Eddy County, NM (NAD27-NME
Site: Blue Steel
Well: Blue Steel BS Fee 501H
Wellbore: OH
Design: Permit Plan 1
Rig: Cactus 171

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.18°
Magnetic North: 6.35°

Magnetic Field
Strength: 47310.0nT
Dip Angle: 59.84°
Date: 1/2/2025
Model: MVHD

RKB @ 3023.60usft (Cactus 171)
Ground Level: 3000.00

WELL DETAILS

Ground Level: 3000.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	466404.32	604740.61	32° 16' 54.506545 N	103° 59' 39.893281 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00		
2	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.000	0.00		KOP, Begin 2.00°/100' Build
3	2612.83	16.26	321.88	2601.97	90.11	-70.71	2.00	321.878	89.77		Hold 16.26° Inc at 321.88° Azm
4	4381.20	16.26	321.88	4299.63	479.55	-376.32	0.00	0.000	477.75		Begin 2.00°/100' Drop
5	5194.03	0.00	0.00	5101.60	569.66	-447.03	2.00	180.000	567.52	FTP - BLSTL 501H	Begin Vertical Hold
6	8119.47	0.00	0.00	8027.04	569.66	-447.03	0.00	0.000	567.52		KOP2, Begin 10.00°/100' Build
7	9019.47	90.00	0.27	8600.00	1142.61	-444.29	10.00	0.274	1140.48		LP, Hold 90.00° Inc at 0.27° Azm
8	18883.82	90.00	0.27	8600.00	11006.85	-397.19	0.00	0.000	11004.83	LTP/BHL - BLSTL 501H	TD at 18883.82

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
400.60	400.60	Salado
2980.60	3017.65	Base of Salt (BX)
3036.60	3065.56	Lamar
3071.60	3102.02	Bell Canyon
3944.60	4011.38	Cherry Canyon
5101.60	5194.03	Brushy Canyon
6730.60	6823.03	Bone Spring Lime
7049.60	7142.03	Upper Avalon Shale
7728.60	7821.03	1st Bone Spring Sand
8004.60	8097.03	2nd Bone Spring Carbonate
8515.60	8704.53	2nd Bone Spring Sand

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

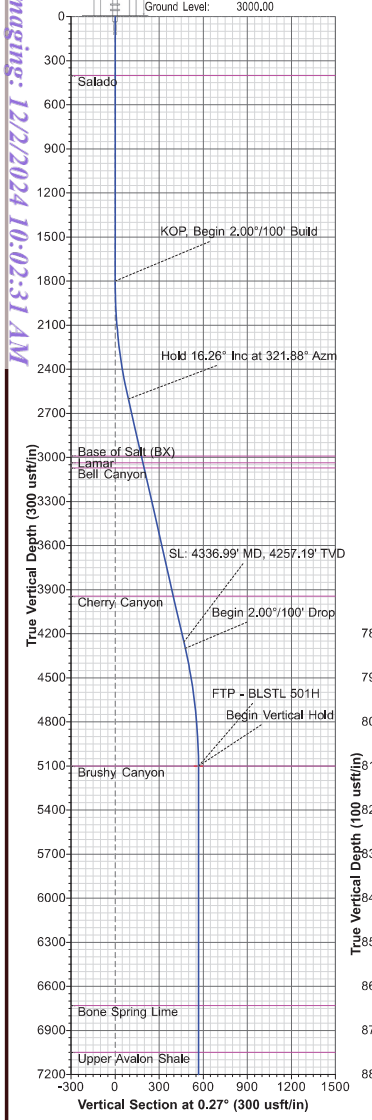
Local Origin: Well Blue Steel BS Fee 501H, Grid North

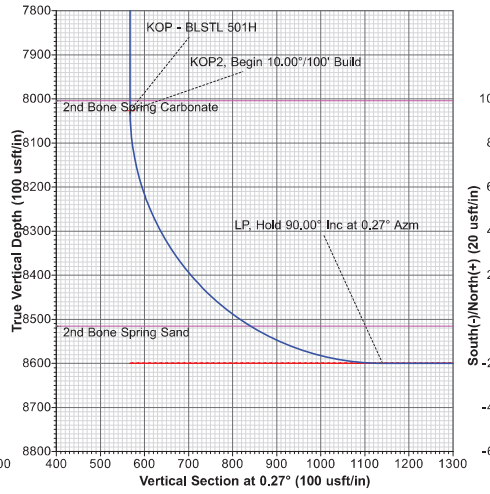
Latitude: 32° 16' 54.506545 N
Longitude: 103° 59' 39.893281 W

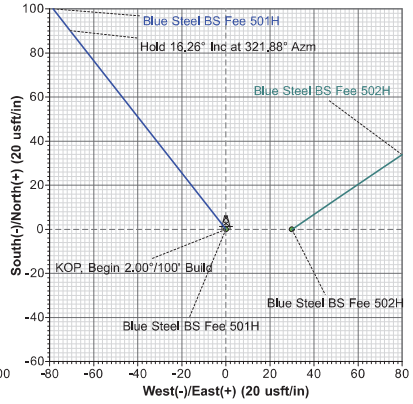
Grid East: 604740.61
Grid North: 466404.32
Scale Factor: 1.000

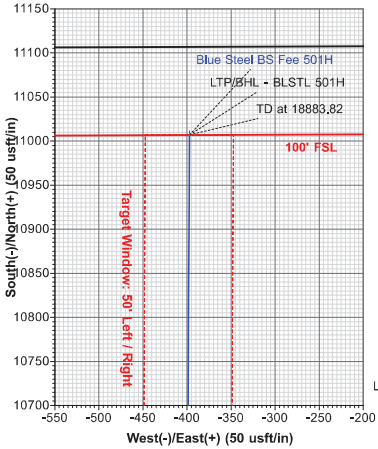
Geomagnetic Model: MVHD
Sample Date: 02-Jan-25
Magnetic Declination: 6.533°
Dip Angle from Horizontal: 59.844°
Magnetic Field Strength: 47310.01765827nT

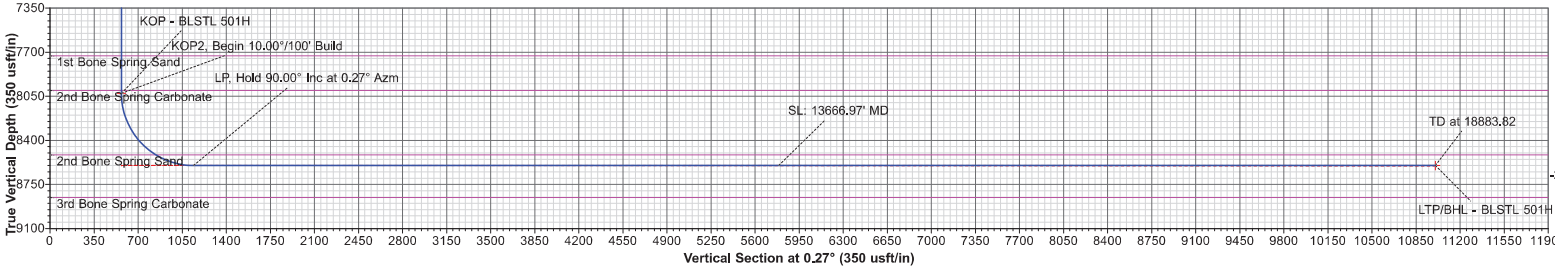
To convert a Magnetic Direction to a Grid Direction, Add 6.352°
To convert a Magnetic Direction to a True Direction, Add 6.533° East
To convert a True Direction to a Grid Direction, Subtract 0.181°

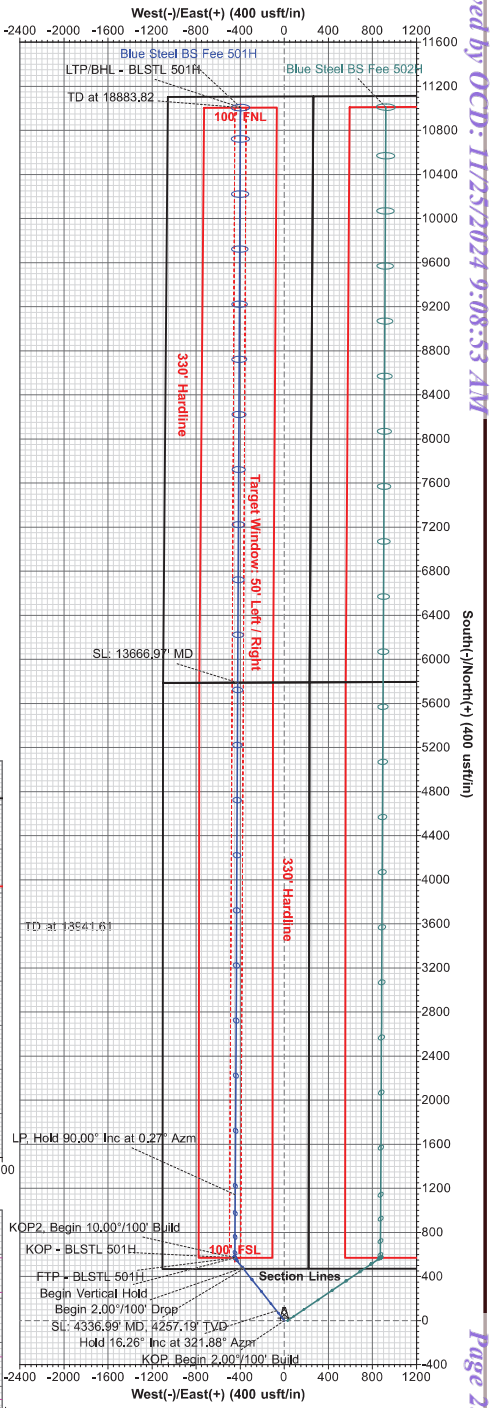












Date: 14:20, October 08 2024

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TECHNOLOGY SERVICES

Marathon Oil Permian LLC

Eddy County, NM (NAD27-NME)
Blue Steel
Blue Steel BS Fee 501H
3001553819
OH

Plan: Permit Plan 1

Standard Planning Report

08 October, 2024

Marathon Oil Corporation

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

Marathon Oil Corporation

Database:	USAEDMDB	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	RKB @ 3023.60usft (Cactus 171)
Project:	Eddy County, NM (NAD27-NME)	**MD Reference:**	RKB @ 3023.60usft (Cactus 171)
Site:	Blue Steel	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Permit Plan 1		

Project Eddy County, NM (NAD27-NME)

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

Site Position:		**Northing:**	465,466.90 usft	**Latitude:**	32° 16' 45.125959 N
From:	Map	**Easting:**	608,008.89 usft	**Longitude:**	103° 59' 1.857778 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "		

Well Blue Steel BS Fee 501H

Well Position	**+N/-S**	0.00 usft	**Northing:**	466,404.32 usft	**Latitude:**	32° 16' 54.506545 N
	+E/-W	0.00 usft	**Easting:**	604,740.61 usft	**Longitude:**	103° 59' 39.893281 W
Position Uncertainty		1.00 usft	**Wellhead Elevation:**	3,000.00 usft	**Ground Level:**	3,000.00 usft
Grid Convergence:		0.181 °				

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	1/2/2025	6.533	59.844	47,310.01765826

Design Permit Plan 1

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	0.27

Plan Survey Tool Program **Date** 10/8/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,883.82	Permit Plan 1 (OH)	A008Mc_MWD+IFR1+MS_MWD+IFR1+MSA	

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	0.000	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,612.83	16.26	321.88	2,601.97	90.11	-70.71	2.00	2.00	0.00	321.878	
4,381.20	16.26	321.88	4,299.63	479.55	-376.32	0.00	0.00	0.00	0.000	
5,194.03	0.00	0.00	5,101.60	569.66	-447.03	2.00	-2.00	0.00	180.000	FTP - BLSTL 501H
8,119.47	0.00	0.00	8,027.04	569.66	-447.03	0.00	0.00	0.00	0.000	
9,019.47	90.00	0.27	8,600.00	1,142.61	-444.29	10.00	10.00	0.00	0.274	
18,883.82	90.00	0.27	8,600.00	11,006.85	-397.19	0.00	0.00	0.00	0.000	LTP/BHL - BLSTL 5

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

Marathon Oil Corporation

Database:	USAEDMDB	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	RKB @ 3023.60usft (Cactus 171)
Project:	Eddy County, NM (NAD27-NME)	**MD Reference:**	RKB @ 3023.60usft (Cactus 171)
Site:	Blue Steel	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Permit Plan 1		

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
400.60	0.00	0.00	400.60	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
1,900.00	2.00	321.88	1,899.98	1.37	-1.08	1.37	2.00	2.00	0.00
2,000.00	4.00	321.88	1,999.84	5.49	-4.31	5.47	2.00	2.00	0.00
2,100.00	6.00	321.88	2,099.45	12.35	-9.69	12.30	2.00	2.00	0.00
2,200.00	8.00	321.88	2,198.70	21.93	-17.21	21.85	2.00	2.00	0.00
2,300.00	10.00	321.88	2,297.47	34.24	-26.87	34.11	2.00	2.00	0.00
2,400.00	12.00	321.88	2,395.62	49.25	-38.65	49.06	2.00	2.00	0.00
2,500.00	14.00	321.88	2,493.06	66.94	-52.53	66.69	2.00	2.00	0.00
2,600.00	16.00	321.88	2,589.64	87.30	-68.51	86.98	2.00	2.00	0.00
2,612.83	16.26	321.88	2,601.97	90.11	-70.71	89.77	2.00	2.00	0.00
Hold 16.26° Inc at 321.88° Azm									
2,700.00	16.26	321.88	2,685.65	109.31	-85.78	108.90	0.00	0.00	0.00
2,800.00	16.26	321.88	2,781.65	131.33	-103.06	130.84	0.00	0.00	0.00
2,900.00	16.26	321.88	2,877.66	153.35	-120.34	152.77	0.00	0.00	0.00
3,000.00	16.26	321.88	2,973.66	175.37	-137.62	174.71	0.00	0.00	0.00
3,017.65	16.26	321.88	2,990.60	179.26	-140.67	178.59	0.00	0.00	0.00
Base of Salt (BX)									
3,065.56	16.26	321.88	3,036.60	189.81	-148.95	189.10	0.00	0.00	0.00
Lamar									
3,100.00	16.26	321.88	3,069.66	197.40	-154.90	196.65	0.00	0.00	0.00
3,102.02	16.26	321.88	3,071.60	197.84	-155.25	197.10	0.00	0.00	0.00
Bell Canyon									
3,200.00	16.26	321.88	3,165.66	219.42	-172.19	218.59	0.00	0.00	0.00
3,300.00	16.26	321.88	3,261.66	241.44	-189.47	240.53	0.00	0.00	0.00
3,400.00	16.26	321.88	3,357.66	263.46	-206.75	262.47	0.00	0.00	0.00
3,500.00	16.26	321.88	3,453.67	285.49	-224.03	284.41	0.00	0.00	0.00
3,600.00	16.26	321.88	3,549.67	307.51	-241.31	306.35	0.00	0.00	0.00
3,700.00	16.26	321.88	3,645.67	329.53	-258.59	328.29	0.00	0.00	0.00
3,800.00	16.26	321.88	3,741.67	351.56	-275.88	350.23	0.00	0.00	0.00
3,900.00	16.26	321.88	3,837.67	373.58	-293.16	372.17	0.00	0.00	0.00
4,000.00	16.26	321.88	3,933.68	395.60	-310.44	394.11	0.00	0.00	0.00
4,011.38	16.26	321.88	3,944.60	398.11	-312.41	396.61	0.00	0.00	0.00
Cherry Canyon									
4,100.00	16.26	321.88	4,029.68	417.62	-327.72	416.05	0.00	0.00	0.00
4,200.00	16.26	321.88	4,125.68	439.65	-345.00	437.99	0.00	0.00	0.00
4,300.00	16.26	321.88	4,221.68	461.67	-362.29	459.93	0.00	0.00	0.00
4,336.99	16.26	321.88	4,257.19	469.82	-368.68	468.05	0.00	0.00	0.00
SL: 4336.99' MD, 4257.19' TVD									
4,381.20	16.26	321.88	4,299.63	479.55	-376.32	477.75	0.00	0.00	0.00
Begin 2.00°/100' Drop									
4,400.00	15.88	321.88	4,317.70	483.65	-379.53	481.83	2.00	-2.00	0.00
4,500.00	13.88	321.88	4,414.34	503.85	-395.38	501.95	2.00	-2.00	0.00
4,600.00	11.88	321.88	4,511.82	521.38	-409.15	519.42	2.00	-2.00	0.00
4,700.00	9.88	321.88	4,610.02	536.23	-420.80	534.22	2.00	-2.00	0.00
4,800.00	7.88	321.88	4,708.81	548.38	-430.33	546.31	2.00	-2.00	0.00
4,900.00	5.88	321.88	4,808.09	557.80	-437.72	555.70	2.00	-2.00	0.00
5,000.00	3.88	321.88	4,907.72	564.49	-442.98	562.37	2.00	-2.00	0.00
5,100.00	1.88	321.88	5,007.59	568.45	-446.08	566.31	2.00	-2.00	0.00
5,194.03	0.00	0.00	5,101.60	569.66	-447.03	567.52	2.00	-2.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

Marathon Oil Corporation

Database:	USAEDMDB	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	RKB @ 3023.60usft (Cactus 171)
Project:	Eddy County, NM (NAD27-NME)	**MD Reference:**	RKB @ 3023.60usft (Cactus 171)
Site:	Blue Steel	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Permit Plan 1		

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)
Begin Vertical Hold - Brushy Canyon									
6,823.03	0.00	0.00	6,730.60	569.66	-447.03	567.52	0.00	0.00	0.00
Bone Spring Lime									
7,142.03	0.00	0.00	7,049.60	569.66	-447.03	567.52	0.00	0.00	0.00
Upper Avalon Shale									
7,821.03	0.00	0.00	7,728.60	569.66	-447.03	567.52	0.00	0.00	0.00
1st Bone Spring Sand									
8,097.03	0.00	0.00	8,004.60	569.66	-447.03	567.52	0.00	0.00	0.00
2nd Bone Spring Carbonate									
8,119.47	0.00	0.00	8,027.04	569.66	-447.03	567.52	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
8,200.00	8.05	0.27	8,107.31	575.31	-447.00	573.17	10.00	10.00	0.00
8,300.00	18.05	0.27	8,204.60	597.87	-446.90	595.73	10.00	10.00	0.00
8,400.00	28.05	0.27	8,296.50	636.97	-446.71	634.83	10.00	10.00	0.00
8,500.00	38.05	0.27	8,380.21	691.45	-446.45	689.31	10.00	10.00	0.00
8,600.00	48.05	0.27	8,453.19	759.63	-446.12	757.49	10.00	10.00	0.00
8,700.00	58.05	0.27	8,513.22	839.44	-445.74	837.30	10.00	10.00	0.00
8,704.53	58.51	0.27	8,515.60	843.30	-445.72	841.16	10.00	10.00	0.00
2nd Bone Spring Sand									
8,800.00	68.05	0.27	8,558.48	928.47	-445.32	926.33	10.00	10.00	0.00
8,900.00	78.05	0.27	8,587.59	1,024.01	-444.86	1,021.87	10.00	10.00	0.00
9,000.00	88.05	0.27	8,599.67	1,123.15	-444.39	1,121.01	10.00	10.00	0.00
9,019.47	90.00	0.27	8,600.00	1,142.61	-444.29	1,140.48	10.00	10.00	0.00
LP, Hold 90.00° Inc at 0.27° Azm									
9,100.00	90.00	0.27	8,600.00	1,223.14	-443.91	1,221.01	0.00	0.00	0.00
9,200.00	90.00	0.27	8,600.00	1,323.14	-443.43	1,321.01	0.00	0.00	0.00
9,300.00	90.00	0.27	8,600.00	1,423.14	-442.95	1,421.01	0.00	0.00	0.00
9,400.00	90.00	0.27	8,600.00	1,523.14	-442.48	1,521.01	0.00	0.00	0.00
9,500.00	90.00	0.27	8,600.00	1,623.14	-442.00	1,621.01	0.00	0.00	0.00
9,600.00	90.00	0.27	8,600.00	1,723.13	-441.52	1,721.01	0.00	0.00	0.00
9,700.00	90.00	0.27	8,600.00	1,823.13	-441.04	1,821.01	0.00	0.00	0.00
9,800.00	90.00	0.27	8,600.00	1,923.13	-440.57	1,921.01	0.00	0.00	0.00
9,900.00	90.00	0.27	8,600.00	2,023.13	-440.09	2,021.01	0.00	0.00	0.00
10,000.00	90.00	0.27	8,600.00	2,123.13	-439.61	2,121.01	0.00	0.00	0.00
10,100.00	90.00	0.27	8,600.00	2,223.13	-439.13	2,221.01	0.00	0.00	0.00
10,200.00	90.00	0.27	8,600.00	2,323.13	-438.66	2,321.01	0.00	0.00	0.00
10,300.00	90.00	0.27	8,600.00	2,423.13	-438.18	2,421.01	0.00	0.00	0.00
10,400.00	90.00	0.27	8,600.00	2,523.13	-437.70	2,521.01	0.00	0.00	0.00
10,500.00	90.00	0.27	8,600.00	2,623.12	-437.22	2,621.01	0.00	0.00	0.00
10,600.00	90.00	0.27	8,600.00	2,723.12	-436.75	2,721.01	0.00	0.00	0.00
10,700.00	90.00	0.27	8,600.00	2,823.12	-436.27	2,821.01	0.00	0.00	0.00
10,800.00	90.00	0.27	8,600.00	2,923.12	-435.79	2,921.01	0.00	0.00	0.00
10,900.00	90.00	0.27	8,600.00	3,023.12	-435.31	3,021.01	0.00	0.00	0.00
11,000.00	90.00	0.27	8,600.00	3,123.12	-434.84	3,121.01	0.00	0.00	0.00
11,100.00	90.00	0.27	8,600.00	3,223.12	-434.36	3,221.01	0.00	0.00	0.00
11,200.00	90.00	0.27	8,600.00	3,323.12	-433.88	3,321.01	0.00	0.00	0.00
11,300.00	90.00	0.27	8,600.00	3,423.12	-433.40	3,421.01	0.00	0.00	0.00
11,400.00	90.00	0.27	8,600.00	3,523.11	-432.93	3,521.01	0.00	0.00	0.00
11,500.00	90.00	0.27	8,600.00	3,623.11	-432.45	3,621.01	0.00	0.00	0.00
11,600.00	90.00	0.27	8,600.00	3,723.11	-431.97	3,721.01	0.00	0.00	0.00
11,700.00	90.00	0.27	8,600.00	3,823.11	-431.49	3,821.01	0.00	0.00	0.00
11,800.00	90.00	0.27	8,600.00	3,923.11	-431.02	3,921.01	0.00	0.00	0.00
11,900.00	90.00	0.27	8,600.00	4,023.11	-430.54	4,021.01	0.00	0.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

Marathon Oil Corporation

Database:	USAEDMDB	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	RKB @ 3023.60usft (Cactus 171)
Project:	Eddy County, NM (NAD27-NME)	**MD Reference:**	RKB @ 3023.60usft (Cactus 171)
Site:	Blue Steel	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Permit Plan 1		

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)
12,000.00	90.00	0.27	8,600.00	4,123.11	-430.06	4,121.01	0.00	0.00	0.00
12,100.00	90.00	0.27	8,600.00	4,223.11	-429.58	4,221.01	0.00	0.00	0.00
12,200.00	90.00	0.27	8,600.00	4,323.10	-429.11	4,321.01	0.00	0.00	0.00
12,300.00	90.00	0.27	8,600.00	4,423.10	-428.63	4,421.01	0.00	0.00	0.00
12,400.00	90.00	0.27	8,600.00	4,523.10	-428.15	4,521.01	0.00	0.00	0.00
12,500.00	90.00	0.27	8,600.00	4,623.10	-427.67	4,621.01	0.00	0.00	0.00
12,600.00	90.00	0.27	8,600.00	4,723.10	-427.20	4,721.01	0.00	0.00	0.00
12,700.00	90.00	0.27	8,600.00	4,823.10	-426.72	4,821.01	0.00	0.00	0.00
12,800.00	90.00	0.27	8,600.00	4,923.10	-426.24	4,921.01	0.00	0.00	0.00
12,900.00	90.00	0.27	8,600.00	5,023.10	-425.76	5,021.01	0.00	0.00	0.00
13,000.00	90.00	0.27	8,600.00	5,123.10	-425.29	5,121.01	0.00	0.00	0.00
13,100.00	90.00	0.27	8,600.00	5,223.09	-424.81	5,221.01	0.00	0.00	0.00
13,200.00	90.00	0.27	8,600.00	5,323.09	-424.33	5,321.01	0.00	0.00	0.00
13,300.00	90.00	0.27	8,600.00	5,423.09	-423.85	5,421.01	0.00	0.00	0.00
13,400.00	90.00	0.27	8,600.00	5,523.09	-423.38	5,521.01	0.00	0.00	0.00
13,500.00	90.00	0.27	8,600.00	5,623.09	-422.90	5,621.01	0.00	0.00	0.00
13,600.00	90.00	0.27	8,600.00	5,723.09	-422.42	5,721.01	0.00	0.00	0.00
13,666.97	90.00	0.27	8,600.00	5,790.06	-422.10	5,787.98	0.00	0.00	0.00
SL: 13666.97' MD									
13,700.00	90.00	0.27	8,600.00	5,823.09	-421.94	5,821.01	0.00	0.00	0.00
13,800.00	90.00	0.27	8,600.00	5,923.09	-421.47	5,921.01	0.00	0.00	0.00
13,900.00	90.00	0.27	8,600.00	6,023.09	-420.99	6,021.01	0.00	0.00	0.00
14,000.00	90.00	0.27	8,600.00	6,123.08	-420.51	6,121.01	0.00	0.00	0.00
14,100.00	90.00	0.27	8,600.00	6,223.08	-420.03	6,221.01	0.00	0.00	0.00
14,200.00	90.00	0.27	8,600.00	6,323.08	-419.56	6,321.01	0.00	0.00	0.00
14,300.00	90.00	0.27	8,600.00	6,423.08	-419.08	6,421.01	0.00	0.00	0.00
14,400.00	90.00	0.27	8,600.00	6,523.08	-418.60	6,521.01	0.00	0.00	0.00
14,500.00	90.00	0.27	8,600.00	6,623.08	-418.12	6,621.01	0.00	0.00	0.00
14,600.00	90.00	0.27	8,600.00	6,723.08	-417.65	6,721.01	0.00	0.00	0.00
14,700.00	90.00	0.27	8,600.00	6,823.08	-417.17	6,821.01	0.00	0.00	0.00
14,800.00	90.00	0.27	8,600.00	6,923.08	-416.69	6,921.01	0.00	0.00	0.00
14,900.00	90.00	0.27	8,600.00	7,023.07	-416.21	7,021.01	0.00	0.00	0.00
15,000.00	90.00	0.27	8,600.00	7,123.07	-415.74	7,121.01	0.00	0.00	0.00
15,100.00	90.00	0.27	8,600.00	7,223.07	-415.26	7,221.01	0.00	0.00	0.00
15,200.00	90.00	0.27	8,600.00	7,323.07	-414.78	7,321.01	0.00	0.00	0.00
15,300.00	90.00	0.27	8,600.00	7,423.07	-414.30	7,421.01	0.00	0.00	0.00
15,400.00	90.00	0.27	8,600.00	7,523.07	-413.83	7,521.01	0.00	0.00	0.00
15,500.00	90.00	0.27	8,600.00	7,623.07	-413.35	7,621.01	0.00	0.00	0.00
15,600.00	90.00	0.27	8,600.00	7,723.07	-412.87	7,721.01	0.00	0.00	0.00
15,700.00	90.00	0.27	8,600.00	7,823.07	-412.39	7,821.01	0.00	0.00	0.00
15,800.00	90.00	0.27	8,600.00	7,923.06	-411.92	7,921.01	0.00	0.00	0.00
15,900.00	90.00	0.27	8,600.00	8,023.06	-411.44	8,021.01	0.00	0.00	0.00
16,000.00	90.00	0.27	8,600.00	8,123.06	-410.96	8,121.01	0.00	0.00	0.00
16,100.00	90.00	0.27	8,600.00	8,223.06	-410.48	8,221.01	0.00	0.00	0.00
16,200.00	90.00	0.27	8,600.00	8,323.06	-410.01	8,321.01	0.00	0.00	0.00
16,300.00	90.00	0.27	8,600.00	8,423.06	-409.53	8,421.01	0.00	0.00	0.00
16,400.00	90.00	0.27	8,600.00	8,523.06	-409.05	8,521.01	0.00	0.00	0.00
16,500.00	90.00	0.27	8,600.00	8,623.06	-408.57	8,621.01	0.00	0.00	0.00
16,600.00	90.00	0.27	8,600.00	8,723.05	-408.10	8,721.01	0.00	0.00	0.00
16,700.00	90.00	0.27	8,600.00	8,823.05	-407.62	8,821.01	0.00	0.00	0.00
16,800.00	90.00	0.27	8,600.00	8,923.05	-407.14	8,921.01	0.00	0.00	0.00
16,900.00	90.00	0.27	8,600.00	9,023.05	-406.66	9,021.01	0.00	0.00	0.00
17,000.00	90.00	0.27	8,600.00	9,123.05	-406.19	9,121.01	0.00	0.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

Marathon Oil Corporation

Database:	USAEDMDB	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	RKB @ 3023.60usft (Cactus 171)
Project:	Eddy County, NM (NAD27-NME)	**MD Reference:**	RKB @ 3023.60usft (Cactus 171)
Site:	Blue Steel	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Permit Plan 1		

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)
17,100.00	90.00	0.27	8,600.00	9,223.05	-405.71	9,221.01	0.00	0.00	0.00
17,200.00	90.00	0.27	8,600.00	9,323.05	-405.23	9,321.01	0.00	0.00	0.00
17,300.00	90.00	0.27	8,600.00	9,423.05	-404.75	9,421.01	0.00	0.00	0.00
17,400.00	90.00	0.27	8,600.00	9,523.05	-404.28	9,521.01	0.00	0.00	0.00
17,500.00	90.00	0.27	8,600.00	9,623.04	-403.80	9,621.01	0.00	0.00	0.00
17,600.00	90.00	0.27	8,600.00	9,723.04	-403.32	9,721.01	0.00	0.00	0.00
17,700.00	90.00	0.27	8,600.00	9,823.04	-402.84	9,821.01	0.00	0.00	0.00
17,800.00	90.00	0.27	8,600.00	9,923.04	-402.37	9,921.01	0.00	0.00	0.00
17,900.00	90.00	0.27	8,600.00	10,023.04	-401.89	10,021.01	0.00	0.00	0.00
18,000.00	90.00	0.27	8,600.00	10,123.04	-401.41	10,121.01	0.00	0.00	0.00
18,100.00	90.00	0.27	8,600.00	10,223.04	-400.93	10,221.01	0.00	0.00	0.00
18,200.00	90.00	0.27	8,600.00	10,323.04	-400.46	10,321.01	0.00	0.00	0.00
18,300.00	90.00	0.27	8,600.00	10,423.04	-399.98	10,421.01	0.00	0.00	0.00
18,400.00	90.00	0.27	8,600.00	10,523.03	-399.50	10,521.01	0.00	0.00	0.00
18,500.00	90.00	0.27	8,600.00	10,623.03	-399.02	10,621.01	0.00	0.00	0.00
18,600.00	90.00	0.27	8,600.00	10,723.03	-398.55	10,721.01	0.00	0.00	0.00
18,700.00	90.00	0.27	8,600.00	10,823.03	-398.07	10,821.01	0.00	0.00	0.00
18,800.00	90.00	0.27	8,600.00	10,923.03	-397.59	10,921.01	0.00	0.00	0.00
18,883.82	90.00	0.27	8,600.00	11,006.85	-397.19	11,004.83	0.00	0.00	0.00
TD at 18883.82									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP - BLSTL 501H - plan hits target center - Point	0.00	0.00	5,101.60	569.66	-447.03	466,973.98	604,293.58	32° 17' 0.157914 N	3° 59' 45.079709 W
KOP - BLSTL 501H - plan hits target center - Point	0.00	0.00	8,027.04	569.66	-447.03	466,973.98	604,293.58	32° 17' 0.157914 N	3° 59' 45.079709 W
LTP/BHL - BLSTL 501 - plan hits target center - Rectangle (sides W100.00 H10,437.31 D0.00)	0.00	0.27	8,600.00	11,006.85	-397.19	477,411.17	604,343.42	32° 18' 43.443776 N	3° 59' 44.116181 W

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

Marathon Oil Corporation

Database:	USAEDMDB	**Local Co-ordinate Reference:**	Well Blue Steel BS Fee 501H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	RKB @ 3023.60usft (Cactus 171)
Project:	Eddy County, NM (NAD27-NME)	**MD Reference:**	RKB @ 3023.60usft (Cactus 171)
Site:	Blue Steel	**North Reference:**	Grid
Well:	Blue Steel BS Fee 501H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Permit Plan 1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
400.60	400.60	Salado		0.000	0.27
3,017.65	2,990.60	Base of Salt (BX)		0.000	0.27
3,065.56	3,036.60	Lamar		0.000	0.27
3,102.02	3,071.60	Bell Canyon		0.000	0.27
4,011.38	3,944.60	Cherry Canyon		0.000	0.27
5,194.03	5,101.60	Brushy Canyon		0.000	0.27
6,823.03	6,730.60	Bone Spring Lime		0.000	0.27
7,142.03	7,049.60	Upper Avalon Shale		0.000	0.27
7,821.03	7,728.60	1st Bone Spring Sand		0.000	0.27
8,097.03	8,004.60	2nd Bone Spring Carbonate		0.000	0.27
8,704.53	8,515.60	2nd Bone Spring Sand		0.000	0.27

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,800.00	1,800.00	0.00	0.00	KOP, Begin 2.00°/100' Build
2,612.83	2,601.97	90.11	-70.71	Hold 16.26° Inc at 321.88° Azm
4,336.99	4,257.19	469.82	-368.68	SL: 4336.99' MD, 4257.19' TVD
4,381.20	4,299.63	479.55	-376.32	Begin 2.00°/100' Drop
5,194.03	5,101.60	569.66	-447.03	Begin Vertical Hold
8,119.47	8,027.04	569.66	-447.03	KOP2, Begin 10.00°/100' Build
9,019.47	8,600.00	1,142.61	-444.29	LP, Hold 90.00° Inc at 0.27° Azm
13,666.97	8,600.00	5,790.06	-422.10	SL: 13666.97' MD
18,883.82	8,600.00	11,006.85	-397.19	TD at 18883.82

C-102

Submit Electronically
Via OCD Permitting

State of New Mexico
Energy, Minerals, & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024
PAGE 1 OF 2

Submittal Type: ☐ Initial Submittal ☒ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-015-53819	42800	MALAGA; BONE SPRING, NORTH

Property Code	Property Name	Well Number
325401	BLUE STEEL BS FEE	501H

OGRID No.	Operator Name	Ground Level Elevation
372098	MARATHON OIL PERMIAN LLC	3000'

Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal
Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
D	28	23S	29E		470' FNL	1104' FWL	32.28192949	-103.99490604	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
D	16	23S	29E		100' FNL	660' FWL	32.31218956	-103.99608027	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
320.00	Defining		N	P

Order Numbers:
Well setbacks are under Common Ownership: ☑ Yes ☐ No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
M	21	23S	29E		100' FSL	660' FWL	32.28349930	-103.99634681	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
M	21	23S	29E		100' FSL	660' FWL	32.28349930	-103.99634681	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
D	16	23S	29E		100' FNL	660' FWL	32.31218956	-103.99608027	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type: ☒ Horizontal ☐ Vertical	Ground Floor Elevation
		3000'

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Adrian Covarrubias — 10/29/2024
Signature — Date

Adrian Covarrubias
Printed Name

acovarrubias@marathonoil.com
Email Address

SURVEYOR CERTIFICATIONS

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.

LLOYD P. SHORT NEW MEXICO 21653 PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor

Certificate Number	Date of Survey
21653	OCTOBER 01, 2024

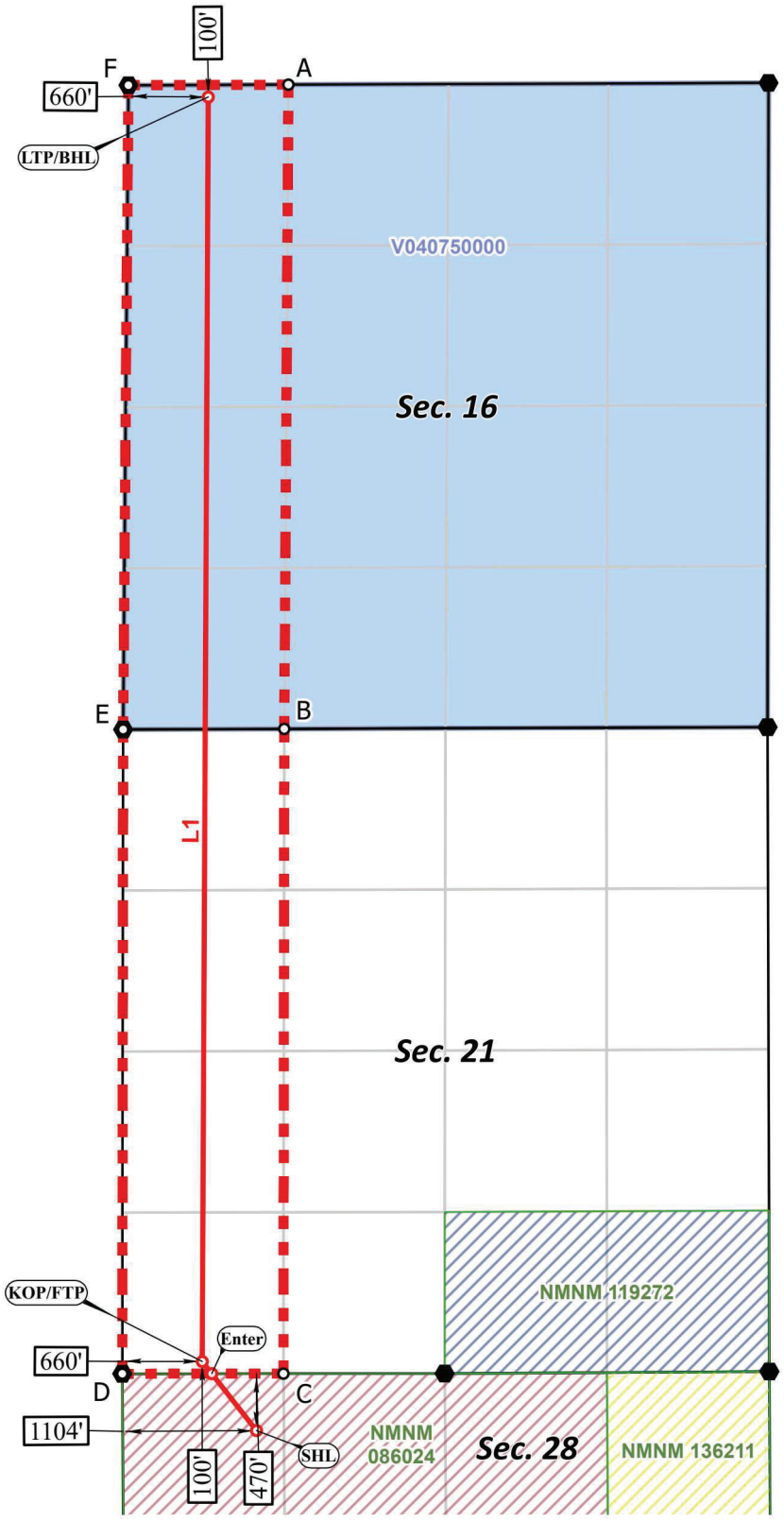
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

BLUE STEEL BS FEE 501H

LTP/BHL
FNL 100' FWL 660', SECTION 16
NAD 83, SPCS NM EAST
X:645526.40' / Y:477470.83'
LAT:32.31218956 / LON:-103.99608027
NAD 27, SPCS NM EAST
X:604343.42' / Y:477411.17'
LAT:32.31206770 / LON:-103.99558782

KOP/FTP
FSL 100' FWL 660', SECTION 21
NAD 83, SPCS NM EAST
X:645476.86' / Y:467033.41'
LAT:32.28349930 / LON:-103.99634681
NAD 27, SPCS NM EAST
X:604293.58' / Y:466973.98'
LAT:32.28337720 / LON:-103.99585547

SHL
FNL 470' FWL 1104', SECTION 28
NAD 83, SPCS NM EAST
X:645923.91' / Y:466463.73'
LAT:32.28192949 / LON:-103.99490604
NAD 27, SPCS NM EAST
X:604740.61' / Y:466404.32'
LAT:32.28180737 / LON:-103.99441480



*FTP TO LTP LINE BEARINGS

LINE	BEARING
L1	N 00°16'19" E ~ 10437.55'

CORNER COORDINATES NAD 83, SPCS NM EAST	CORNER COORDINATES NAD 27, SPCS NM EAST
A - X: 646187.07' / Y:477573.23'	A - X: 605004.08' / Y:477513.56'
B - X: 646152.59' / Y:472255.49'	B - X: 604969.46' / Y:472195.94'
C - X: 646145.88' / Y:466933.84'	C - X: 604962.60' / Y:466874.42'
D - X: 644816.72' / Y:466932.98'	D - X: 603633.45' / Y:466873.55'
E - X: 644823.90' / Y:472250.71'	E - X: 603640.77' / Y:472191.16'
F - X: 644867.18' / Y:477568.44'	F - X: 603684.20' / Y:477508.77'

DELTA FIELD SERVICES

Drill Line Events | Section Corners | Drill Line | Dimension Lines | Federal Leases | NMSLO | HSU | HSU Corners

JOB No. R3942_013
REV 1 ANC 9/27/2024

All bearings and coordinates refer to New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet.
Distances/areas relative to NAD 83 grid measurements. Combined Scale Factor: 0.99992163 and a Convergence Angle: 0.18084607°

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
30-015-53819	96721	LAGUNA SALADO (BONE SPRING)

[4] Property Code	[5] Property Name	[6] Well Number
325401	BLUE STEEL 21 SB FEE	4H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372098	MARATHON OIL PERMIAN LLC	3000'

[10] Surface Location

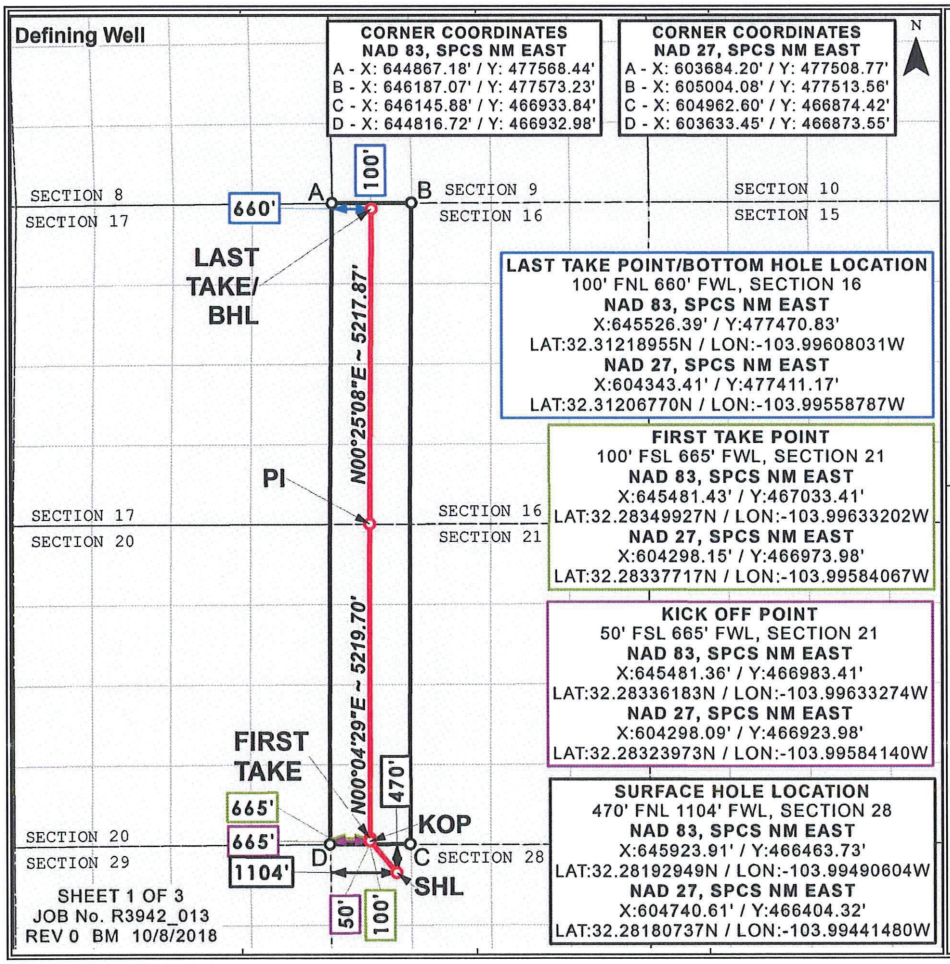
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	28	23S	29E		470	NORTH	1104	WEST	EDDY

[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
D	16	23S	29E		100	NORTH	660	WEST	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 — Date: 04/29/2020

Melissa Szudera
Printed Name

mszudera@marathonoil.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

OCTOBER 17, 2018
Date of Survey

Signature and Seal of Professional Surveyor:

LLOYD P. SHORT NEW MEXICO 21653 PROFESSIONAL SURVEYOR

Certificate Number
LLOYD P. SHORT 21653

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 406212
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	12/2/2024
ward.rikala	Operator must comply with all of the R-111-Q requirements.	12/2/2024