

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.
1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator		7. If Unit of CA/Agreement, Name and/or No.
3a. Address	3b. Phone No. (include area code)	8. Well Name and No.
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)		9. API Well No.
		10. Field and Pool or Exploratory Area
		11. Country or Parish, State

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

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

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

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	Title
Signature	Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Additional Remarks

Updated Pool Change: From: Purple Sage (Wolfcamp)

To: Laguna Salado: Bone Spring

Updated TVD/MD From: 21331.33' MD/10860' TVD

To: 19566.36' MD/8720' TVD

Updated Casing design to three strings. We are removing 7 5/8" intermediate II casing string. Please see attached plan for casing and cement design.

Please see attached updated C-102, Directional survey and drill plan.. No new disturbance.

Location of Well

0. SHL: SENE / 1420 FNL / 938 FEL / TWSP: 23S / RANGE: 29E / SECTION: 28 / LAT: 32.2793223 / LONG: -103.9842427 (TVD: 0 feet, MD: 0 feet)

PPP: SWSE / 100 FSL / 1669 FEL / TWSP: 23S / RANGE: 29E / SECTION: 21 / LAT: 32.2834936 / LONG: -103.9866149 (TVD: 10234 feet, MD: 10461 feet)

BHL: NWNE / 100 FNL / 1650 FEL / TWSP: 23S / RANGE: 29E / SECTION: 16 / LAT: 32.3121931 / LONG: -103.9864662 (TVD: 10860 feet, MD: 21331 feet)

CONFIDENTIAL

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Marathon Oil
LEASE NO.:	NMNM119272
LOCATION:	Section 28, T.23 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Blue Steel BS Fed Com 504H
SURFACE HOLE FOOTAGE:	1420'/N & 938'/E
BOTTOM HOLE FOOTAGE:	100'/N & 1020'/E

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input type="radio"/> None	<input type="radio"/> Secretary	<input checked="" type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Wolfcamp** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **420** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) 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

24 hours in the Potash Area 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 minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - 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 or potash.

 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
 - ❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing string must come to surface.
 3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculate to 11%. Additional cement maybe required.**

C. PRESSURE CONTROL

1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. 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.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. 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.

- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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)

Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
689-5981

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. **Operator is approved 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. Operator is approved to set surface casing with Spudder Rig**
- **Notify the BLM when moving in and removing the Spudder Rig.**
 - **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.**
 - **BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 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. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

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, 2) until cement has been in place at least 24 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-P 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
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:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. 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.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. 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.
 - a. 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 when specified), 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).
 - b. 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - d. 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.

- e. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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.
- h. 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 Onshore Order No. 2.

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.

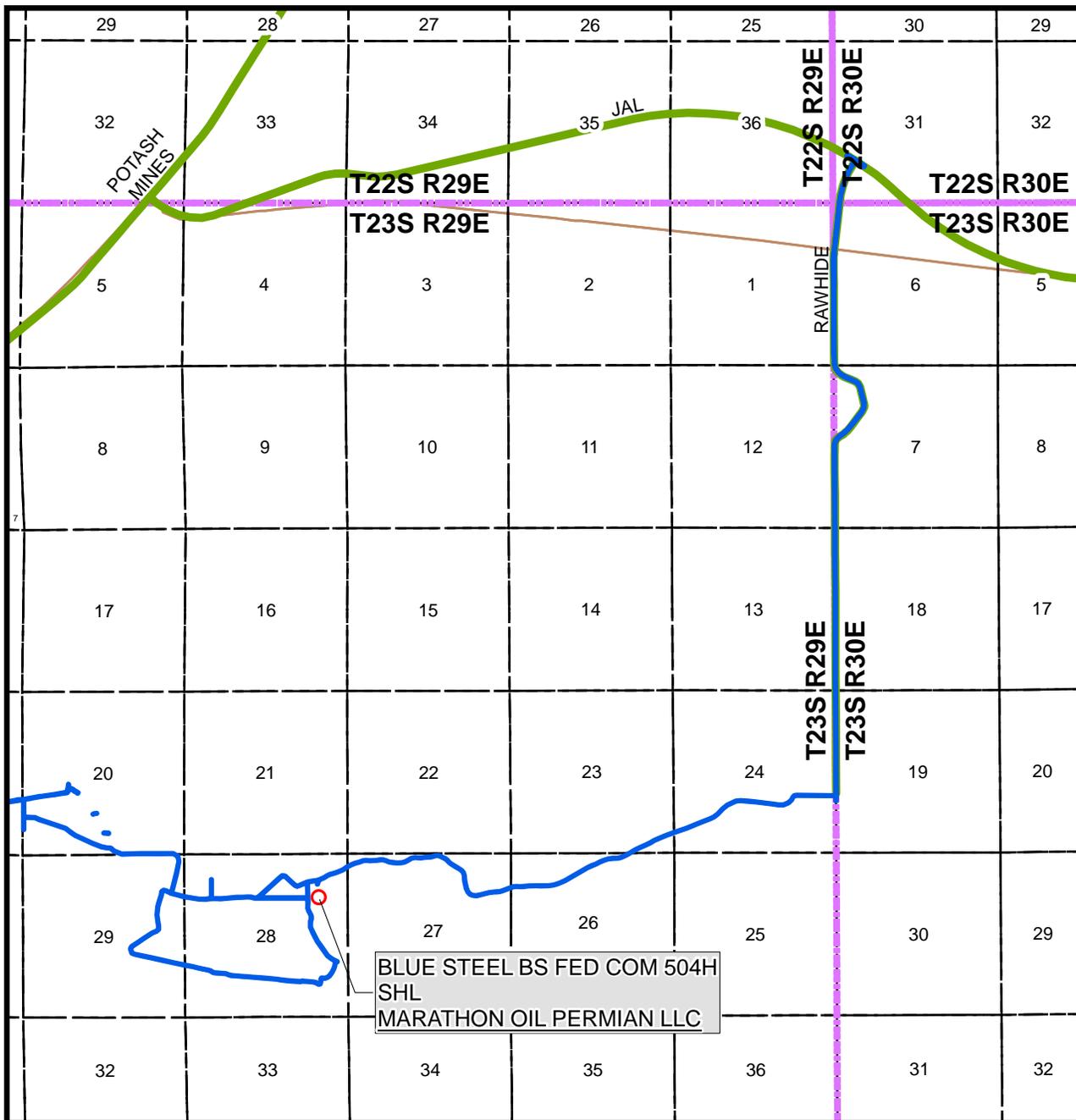
D. WASTE MATERIAL AND FLUIDS

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.

ZS 05112022

PUBLIC ACCESS ROAD MAP



SEC. 21, 28, 16 TWP. 23-S RGE. 29-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 1420' FNL & 938' FEL
 ELEVATION: 2995'
 LEASE: BLUE STEEL BS FED COM
 U.S.G.S. TOPOGRAPHIC MAP: REMUDA BASIN, NM.

1 IN = 5,280 FT

FROM THE MARATHON OFFICE AT 4111 TIDWELL, CARLSBAD, NM HEAD SOUTH ON TIDWELL RD TOWARD US HWY 285 N FOR 0.2 MILES. TURN LEFT ONTO US HWY 285 S, HEADING SOUTH, FOR 5.1 MILES TO NM-HWY 31. TURN LEFT ONTO NM-HWY 31, HEADING EAST, FOR 7.7 MILES TO NM-HWY 128 E. TURN RIGHT ONTO NM-HWY 128 E, HEADING EAST, FOR 4.5 MILES TO RAWHIDE ROAD. TURN RIGHT ONTO RAWHIDE ROAD, HEADING SOUTH, FOR 4.1 MILES TO A CALICHE ROAD. TURN RIGHT ONTO CALICHE ROAD, HEADING WEST, FOR 3.6 MILES TO A PROPOSED LEASE ROAD. TURN LEFT ONTO PROPOSED LEASE ROAD, HEADING SOUTH FOR 0.2 MILES TO THE PROPOSED LEASE ROAD FOR THE BLUE STEEL 21 FED COM WELL LOCATION PAD. TURN LEFT ONTO SAID PROPOSED LEASE ROAD FOR 41 FEET ENTERING THE WEST SIDE OF SAID WELL



SHEET 2 OF 2
 PREPARED BY:
 DELTA FIELD SERVICES, LLC
 510 TRENTON STREET
 WEST MONROE, LA 71291
 318-323-6900 OFFICE
 JOB No. R3942_020

RKB @ 3025.00usft (TBD)
 Ground Level: 2995.00

WELL DETAILS						
				2995.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	465466.46	608039.04	32° 16' 45.120633 N	103° 59' 1.506598 W	

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
BHLv2 - Blue Steel BS FC 504H	8720.00	11957.78	-95.35	477424.24	607943.69	32° 18' 43.458891 N
FTPv2 - Blue Steel BS FC 504H	8720.00	1519.07	-88.79	466985.53	607950.25	32° 17' 0.156376 N

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00		KOP, Begin 2.00°/100' Build
2	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.000	0.00		Hold 10.00° Inc at 354.66° Azm
3	2300.12	10.00	354.66	2297.59	43.36	-4.05	2.00	354.660	43.36		Begin 2.00°/100' Drop
4	7269.57	10.00	354.66	7191.50	902.76	-84.38	0.00	0.000	902.82		Begin Vertical Hold
5	7769.70	0.00	0.00	7689.09	946.11	-88.43	2.00	180.000	946.17		KOP, Begin 10.00°/100' Build
6	8227.65	0.00	0.00	8147.04	946.11	-88.43	0.00	0.000	946.17		LP, Hold 90.00° Inc at 359.96° Azm
7	9127.65	90.00	359.96	8720.00	1519.07	-88.79	10.00	359.964	1519.13	FTPv2 - Blue Steel BS FC 504H	
8	19566.36	90.00	359.96	8720.00	11957.78	-95.35	0.00	0.000	1957.84	BHLv2 - Blue Steel BS FC 504H	TD at 19566.36

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

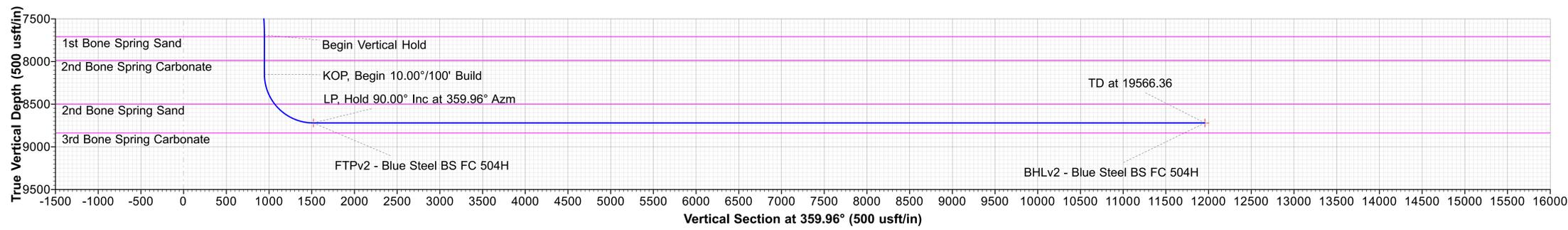
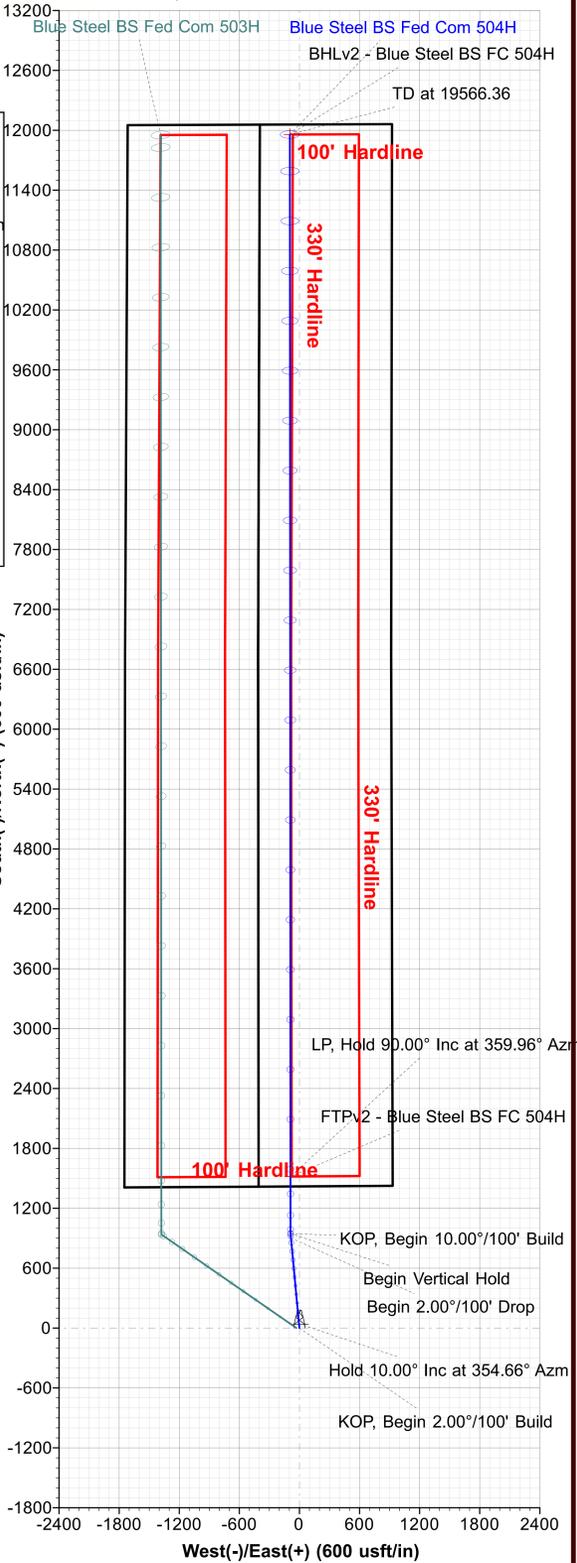
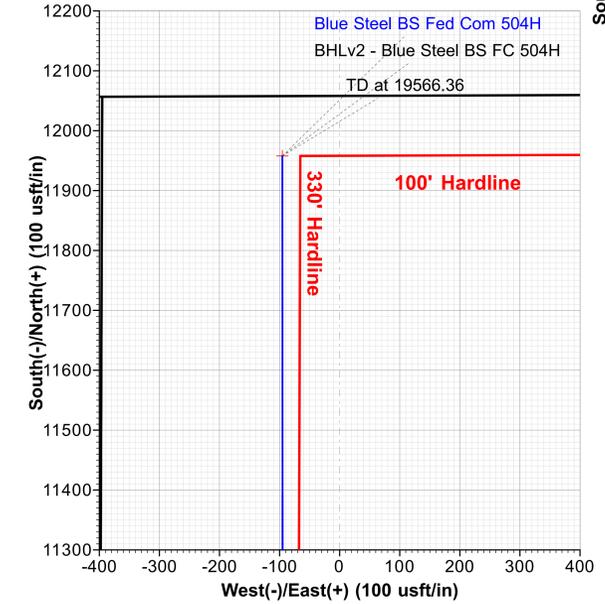
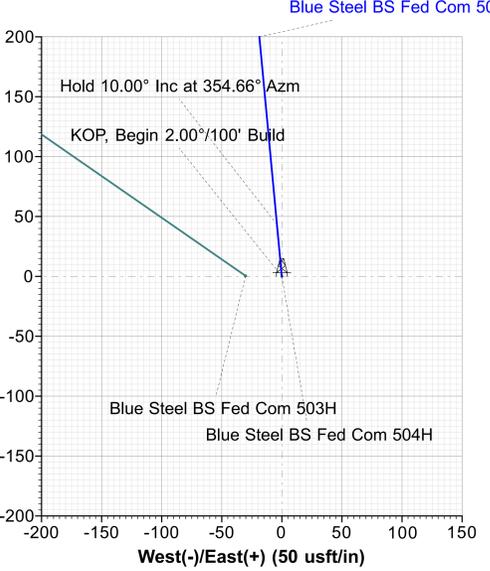
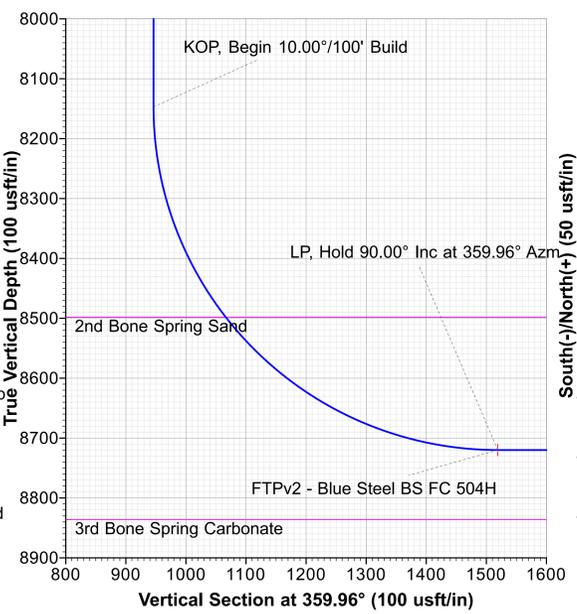
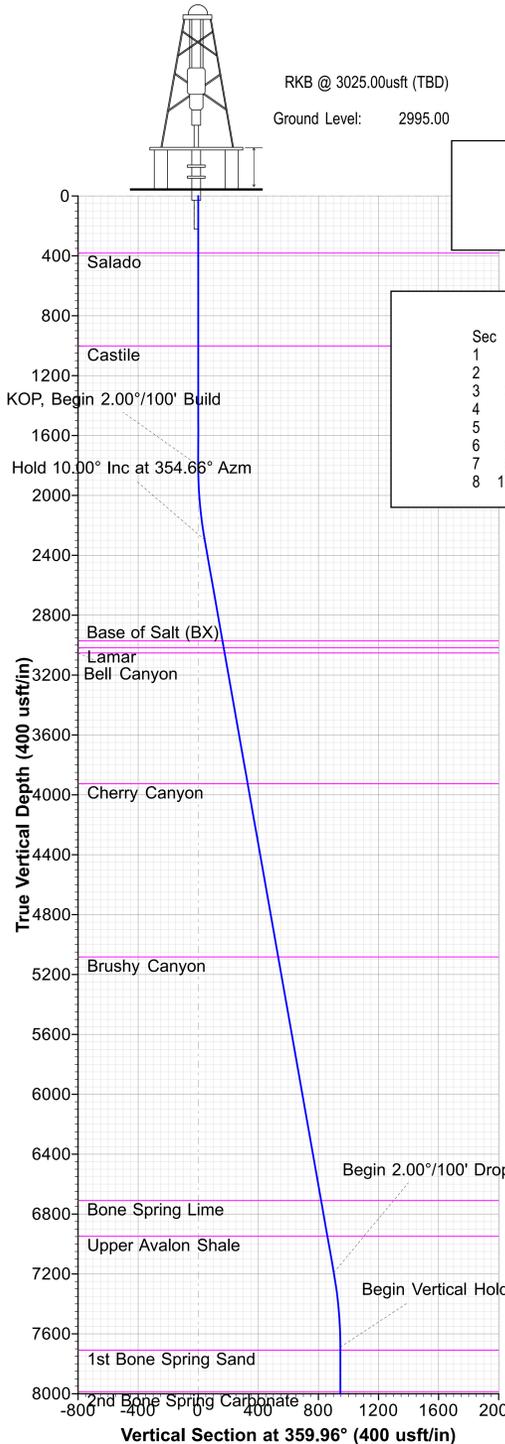
Local Origin: Well Blue Steel BS Fed Com 504H, Grid North

Latitude: 32° 16' 45.120633 N
 Longitude: 103° 59' 1.506598 W

Grid East: 608039.04
 Grid North: 465466.46
 Scale Factor: 1.000

Geomagnetic Model: MVHD
 Sample Date: 24-Jul-23
 Magnetic Declination: 6.632°
 Dip Angle from Horizontal: 59.889°
 Magnetic Field Strength: 47496.74603582nT

To convert a Magnetic Direction to a Grid Direction, Add 6.445°
 To convert a Magnetic Direction to a True Direction, Add 6.632° East
 To convert a True Direction to a Grid Direction, Subtract 0.187°





Marathon Oil Permian LLC

Eddy County, NM (NAD27-NME)

Blue Steel

Blue Steel BS Fed Com 504H

OH

Plan: Plan 2 06-01-23

Standard Planning Report

01 June, 2023





Phoenix
Planning Report



Database:	USAEDMDB	Local Co-ordinate Reference:	Well Blue Steel BS Fed Com 504H
Company:	Marathon Oil Permian LLC	TVD Reference:	RKB @ 3025.00usft (TBD)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	RKB @ 3025.00usft (TBD)
Site:	Blue Steel	North Reference:	Grid
Well:	Blue Steel BS Fed Com 504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 06-01-23		

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 Fed Com 504H					
Well Position	+N/-S	0.00 usft	Northing:	465,466.46 usft	Latitude:	32° 16' 45.120633 N
	+E/-W	0.00 usft	Easting:	608,039.04 usft	Longitude:	103° 59' 1.506598 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,995.00 usft
Grid Convergence:	0.187 °					

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	7/24/23	6.632	59.889	47,496.74603582

Design	Plan 2 06-01-23			
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	359.96

Plan Survey Tool Program	Date	6/01/23		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,566.36 Plan 2 06-01-23 (OH)	MWD+IFR1+MS	
			OWSG Rev. 2 MWD + IFR1	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
2,300.12	10.00	354.66	2,297.59	43.36	-4.05	2.00	2.00	0.00	354.660	
7,269.57	10.00	354.66	7,191.50	902.76	-84.38	0.00	0.00	0.00	0.000	
7,769.70	0.00	0.00	7,689.09	946.11	-88.43	2.00	-2.00	0.00	180.000	
8,227.65	0.00	0.00	8,147.04	946.11	-88.43	0.00	0.00	0.00	0.000	
9,127.65	90.00	359.96	8,720.00	1,519.07	-88.79	10.00	0.00	0.00	359.964	FTPv2 - Blue Steel
19,566.36	90.00	359.96	8,720.00	11,957.78	-95.35	0.00	0.00	0.00	0.000	BHLv2 - Blue Steel



Phoenix
Planning Report



Database:	USAEDMDB	Local Co-ordinate Reference:	Well Blue Steel BS Fed Com 504H
Company:	Marathon Oil Permian LLC	TVD Reference:	RKB @ 3025.00usft (TBD)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	RKB @ 3025.00usft (TBD)
Site:	Blue Steel	North Reference:	Grid
Well:	Blue Steel BS Fed Com 504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 06-01-23		

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
382.00	0.00	0.00	382.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,002.00	0.00	0.00	1,002.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
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	354.66	1,899.98	1.74	-0.16	1.74	2.00	2.00	0.00
2,000.00	4.00	354.66	1,999.84	6.95	-0.65	6.95	2.00	2.00	0.00
2,100.00	6.00	354.66	2,099.45	15.63	-1.46	15.63	2.00	2.00	0.00
2,200.00	8.00	354.66	2,198.70	27.76	-2.59	27.76	2.00	2.00	0.00
2,300.00	10.00	354.66	2,297.47	43.33	-4.05	43.34	2.00	2.00	0.00
2,300.12	10.00	354.66	2,297.59	43.36	-4.05	43.36	2.00	2.00	0.00
Hold 10.00° Inc at 354.66° Azm									
2,400.00	10.00	354.66	2,395.95	60.63	-5.67	60.63	0.00	0.00	0.00
2,500.00	10.00	354.66	2,494.43	77.92	-7.28	77.93	0.00	0.00	0.00
2,600.00	10.00	354.66	2,592.91	95.21	-8.90	95.22	0.00	0.00	0.00
2,700.00	10.00	354.66	2,691.39	112.51	-10.52	112.52	0.00	0.00	0.00
2,800.00	10.00	354.66	2,789.87	129.80	-12.13	129.81	0.00	0.00	0.00
2,900.00	10.00	354.66	2,888.35	147.10	-13.75	147.11	0.00	0.00	0.00
2,984.95	10.00	354.66	2,972.00	161.79	-15.12	161.80	0.00	0.00	0.00
Base of Salt (BX)									
3,000.00	10.00	354.66	2,986.83	164.39	-15.36	164.40	0.00	0.00	0.00
3,031.66	10.00	354.66	3,018.00	169.86	-15.88	169.88	0.00	0.00	0.00
Lamar									
3,067.20	10.00	354.66	3,053.00	176.01	-16.45	176.02	0.00	0.00	0.00
Bell Canyon									
3,100.00	10.00	354.66	3,085.31	181.68	-16.98	181.70	0.00	0.00	0.00
3,200.00	10.00	354.66	3,183.79	198.98	-18.60	198.99	0.00	0.00	0.00
3,300.00	10.00	354.66	3,282.27	216.27	-20.21	216.28	0.00	0.00	0.00
3,400.00	10.00	354.66	3,380.75	233.56	-21.83	233.58	0.00	0.00	0.00
3,500.00	10.00	354.66	3,479.23	250.86	-23.45	250.87	0.00	0.00	0.00
3,600.00	10.00	354.66	3,577.71	268.15	-25.06	268.17	0.00	0.00	0.00
3,700.00	10.00	354.66	3,676.19	285.45	-26.68	285.46	0.00	0.00	0.00
3,800.00	10.00	354.66	3,774.67	302.74	-28.30	302.76	0.00	0.00	0.00
3,900.00	10.00	354.66	3,873.15	320.03	-29.91	320.05	0.00	0.00	0.00
3,953.67	10.00	354.66	3,926.00	329.31	-30.78	329.34	0.00	0.00	0.00
Cherry Canyon									
4,000.00	10.00	354.66	3,971.63	337.33	-31.53	337.35	0.00	0.00	0.00
4,100.00	10.00	354.66	4,070.11	354.62	-33.15	354.64	0.00	0.00	0.00
4,200.00	10.00	354.66	4,168.59	371.91	-34.76	371.94	0.00	0.00	0.00
4,300.00	10.00	354.66	4,267.07	389.21	-36.38	389.23	0.00	0.00	0.00
4,400.00	10.00	354.66	4,365.55	406.50	-37.99	406.53	0.00	0.00	0.00
4,500.00	10.00	354.66	4,464.03	423.80	-39.61	423.82	0.00	0.00	0.00
4,600.00	10.00	354.66	4,562.51	441.09	-41.23	441.12	0.00	0.00	0.00
4,700.00	10.00	354.66	4,660.99	458.38	-42.84	458.41	0.00	0.00	0.00
4,800.00	10.00	354.66	4,759.47	475.68	-44.46	475.71	0.00	0.00	0.00
4,900.00	10.00	354.66	4,857.95	492.97	-46.08	493.00	0.00	0.00	0.00
5,000.00	10.00	354.66	4,956.43	510.26	-47.69	510.30	0.00	0.00	0.00
5,100.00	10.00	354.66	5,054.91	527.56	-49.31	527.59	0.00	0.00	0.00
5,128.53	10.00	354.66	5,083.00	532.49	-49.77	532.53	0.00	0.00	0.00
Brushy Canyon									
5,200.00	10.00	354.66	5,153.39	544.85	-50.93	544.89	0.00	0.00	0.00



Phoenix
Planning Report



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Company:	Marathon Oil Permian LLC	TVD Reference:	RKB @ 3025.00usft (TBD)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	RKB @ 3025.00usft (TBD)
Site:	Blue Steel	North Reference:	Grid
Well:	Blue Steel BS Fed Com 504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 06-01-23		

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)
5,300.00	10.00	354.66	5,251.87	562.14	-52.54	562.18	0.00	0.00	0.00
5,400.00	10.00	354.66	5,350.35	579.44	-54.16	579.48	0.00	0.00	0.00
5,500.00	10.00	354.66	5,448.83	596.73	-55.77	596.77	0.00	0.00	0.00
5,600.00	10.00	354.66	5,547.31	614.03	-57.39	614.07	0.00	0.00	0.00
5,700.00	10.00	354.66	5,645.79	631.32	-59.01	631.36	0.00	0.00	0.00
5,800.00	10.00	354.66	5,744.27	648.61	-60.62	648.66	0.00	0.00	0.00
5,900.00	10.00	354.66	5,842.75	665.91	-62.24	665.95	0.00	0.00	0.00
6,000.00	10.00	354.66	5,941.23	683.20	-63.86	683.25	0.00	0.00	0.00
6,100.00	10.00	354.66	6,039.71	700.49	-65.47	700.54	0.00	0.00	0.00
6,200.00	10.00	354.66	6,138.19	717.79	-67.09	717.83	0.00	0.00	0.00
6,300.00	10.00	354.66	6,236.67	735.08	-68.71	735.13	0.00	0.00	0.00
6,400.00	10.00	354.66	6,335.15	752.38	-70.32	752.42	0.00	0.00	0.00
6,500.00	10.00	354.66	6,433.63	769.67	-71.94	769.72	0.00	0.00	0.00
6,600.00	10.00	354.66	6,532.11	786.96	-73.55	787.01	0.00	0.00	0.00
6,700.00	10.00	354.66	6,630.59	804.26	-75.17	804.31	0.00	0.00	0.00
6,780.64	10.00	354.66	6,710.00	818.20	-76.47	818.26	0.00	0.00	0.00
Bone Spring Lime									
6,800.00	10.00	354.66	6,729.07	821.55	-76.79	821.60	0.00	0.00	0.00
6,900.00	10.00	354.66	6,827.55	838.84	-78.40	838.90	0.00	0.00	0.00
7,000.00	10.00	354.66	6,926.03	856.14	-80.02	856.19	0.00	0.00	0.00
7,022.31	10.00	354.66	6,948.00	860.00	-80.38	860.05	0.00	0.00	0.00
Upper Avalon Shale									
7,100.00	10.00	354.66	7,024.51	873.43	-81.64	873.49	0.00	0.00	0.00
7,200.00	10.00	354.66	7,122.99	890.73	-83.25	890.78	0.00	0.00	0.00
7,269.57	10.00	354.66	7,191.50	902.76	-84.38	902.82	0.00	0.00	0.00
Begin 2.00°/100' Drop									
7,300.00	9.39	354.66	7,221.49	907.86	-84.85	907.92	2.00	-2.00	0.00
7,400.00	7.39	354.66	7,320.42	922.39	-86.21	922.45	2.00	-2.00	0.00
7,500.00	5.39	354.66	7,419.79	933.48	-87.25	933.54	2.00	-2.00	0.00
7,600.00	3.39	354.66	7,519.49	941.11	-87.96	941.17	2.00	-2.00	0.00
7,700.00	1.39	354.66	7,619.40	945.27	-88.35	945.33	2.00	-2.00	0.00
7,769.70	0.00	0.00	7,689.09	946.11	-88.43	946.17	2.00	-2.00	0.00
Begin Vertical Hold									
7,789.61	0.00	0.00	7,709.00	946.11	-88.43	946.17	0.00	0.00	0.00
1st Bone Spring Sand									
8,066.61	0.00	0.00	7,986.00	946.11	-88.43	946.17	0.00	0.00	0.00
2nd Bone Spring Carbonate									
8,227.65	0.00	0.00	8,147.04	946.11	-88.43	946.17	0.00	0.00	0.00
KOP, Begin 10.00°/100' Build									
8,300.00	7.24	359.96	8,219.20	950.67	-88.43	950.74	10.00	10.00	0.00
8,400.00	17.24	359.96	8,316.81	971.84	-88.45	971.90	10.00	10.00	0.00
8,500.00	27.24	359.96	8,409.25	1,009.63	-88.47	1,009.69	10.00	10.00	0.00
8,600.00	37.24	359.96	8,493.73	1,062.90	-88.50	1,062.97	10.00	10.00	0.00
8,605.38	37.77	359.96	8,498.00	1,066.18	-88.51	1,066.24	10.00	10.00	0.00
2nd Bone Spring Sand									
8,700.00	47.24	359.96	8,567.68	1,130.04	-88.55	1,130.10	10.00	10.00	0.00
8,800.00	57.24	359.96	8,628.84	1,208.99	-88.60	1,209.05	10.00	10.00	0.00
8,900.00	67.24	359.96	8,675.37	1,297.36	-88.65	1,297.42	10.00	10.00	0.00
9,000.00	77.24	359.96	8,705.84	1,392.47	-88.71	1,392.54	10.00	10.00	0.00
9,100.00	87.24	359.96	8,719.33	1,491.43	-88.77	1,491.49	10.00	10.00	0.00
9,127.65	90.00	359.96	8,720.00	1,519.07	-88.79	1,519.13	10.00	10.00	0.00
LP, Hold 90.00° Inc at 359.96° Azm									
9,200.00	90.00	359.96	8,720.00	1,591.42	-88.84	1,591.48	0.00	0.00	0.00



Phoenix
Planning Report



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Company:	Marathon Oil Permian LLC	TVD Reference:	RKB @ 3025.00usft (TBD)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	RKB @ 3025.00usft (TBD)
Site:	Blue Steel	North Reference:	Grid
Well:	Blue Steel BS Fed Com 504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 06-01-23		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,300.00	90.00	359.96	8,720.00	1,691.42	-88.90	1,691.48	0.00	0.00	0.00
9,400.00	90.00	359.96	8,720.00	1,791.42	-88.96	1,791.48	0.00	0.00	0.00
9,500.00	90.00	359.96	8,720.00	1,891.42	-89.02	1,891.48	0.00	0.00	0.00
9,600.00	90.00	359.96	8,720.00	1,991.42	-89.09	1,991.48	0.00	0.00	0.00
9,700.00	90.00	359.96	8,720.00	2,091.42	-89.15	2,091.48	0.00	0.00	0.00
9,800.00	90.00	359.96	8,720.00	2,191.42	-89.21	2,191.48	0.00	0.00	0.00
9,900.00	90.00	359.96	8,720.00	2,291.42	-89.28	2,291.48	0.00	0.00	0.00
10,000.00	90.00	359.96	8,720.00	2,391.42	-89.34	2,391.48	0.00	0.00	0.00
10,100.00	90.00	359.96	8,720.00	2,491.42	-89.40	2,491.48	0.00	0.00	0.00
10,200.00	90.00	359.96	8,720.00	2,591.42	-89.46	2,591.48	0.00	0.00	0.00
10,300.00	90.00	359.96	8,720.00	2,691.42	-89.53	2,691.48	0.00	0.00	0.00
10,400.00	90.00	359.96	8,720.00	2,791.42	-89.59	2,791.48	0.00	0.00	0.00
10,500.00	90.00	359.96	8,720.00	2,891.42	-89.65	2,891.48	0.00	0.00	0.00
10,600.00	90.00	359.96	8,720.00	2,991.42	-89.72	2,991.48	0.00	0.00	0.00
10,700.00	90.00	359.96	8,720.00	3,091.42	-89.78	3,091.48	0.00	0.00	0.00
10,800.00	90.00	359.96	8,720.00	3,191.42	-89.84	3,191.48	0.00	0.00	0.00
10,900.00	90.00	359.96	8,720.00	3,291.42	-89.90	3,291.48	0.00	0.00	0.00
11,000.00	90.00	359.96	8,720.00	3,391.42	-89.97	3,391.48	0.00	0.00	0.00
11,100.00	90.00	359.96	8,720.00	3,491.42	-90.03	3,491.48	0.00	0.00	0.00
11,200.00	90.00	359.96	8,720.00	3,591.42	-90.09	3,591.48	0.00	0.00	0.00
11,300.00	90.00	359.96	8,720.00	3,691.42	-90.16	3,691.48	0.00	0.00	0.00
11,400.00	90.00	359.96	8,720.00	3,791.42	-90.22	3,791.48	0.00	0.00	0.00
11,500.00	90.00	359.96	8,720.00	3,891.42	-90.28	3,891.48	0.00	0.00	0.00
11,600.00	90.00	359.96	8,720.00	3,991.42	-90.34	3,991.48	0.00	0.00	0.00
11,700.00	90.00	359.96	8,720.00	4,091.42	-90.41	4,091.48	0.00	0.00	0.00
11,800.00	90.00	359.96	8,720.00	4,191.42	-90.47	4,191.48	0.00	0.00	0.00
11,900.00	90.00	359.96	8,720.00	4,291.42	-90.53	4,291.48	0.00	0.00	0.00
12,000.00	90.00	359.96	8,720.00	4,391.42	-90.60	4,391.48	0.00	0.00	0.00
12,100.00	90.00	359.96	8,720.00	4,491.42	-90.66	4,491.48	0.00	0.00	0.00
12,200.00	90.00	359.96	8,720.00	4,591.42	-90.72	4,591.48	0.00	0.00	0.00
12,300.00	90.00	359.96	8,720.00	4,691.42	-90.78	4,691.48	0.00	0.00	0.00
12,400.00	90.00	359.96	8,720.00	4,791.42	-90.85	4,791.48	0.00	0.00	0.00
12,500.00	90.00	359.96	8,720.00	4,891.42	-90.91	4,891.48	0.00	0.00	0.00
12,600.00	90.00	359.96	8,720.00	4,991.42	-90.97	4,991.48	0.00	0.00	0.00
12,700.00	90.00	359.96	8,720.00	5,091.42	-91.04	5,091.48	0.00	0.00	0.00
12,800.00	90.00	359.96	8,720.00	5,191.42	-91.10	5,191.48	0.00	0.00	0.00
12,900.00	90.00	359.96	8,720.00	5,291.42	-91.16	5,291.48	0.00	0.00	0.00
13,000.00	90.00	359.96	8,720.00	5,391.42	-91.22	5,391.48	0.00	0.00	0.00
13,100.00	90.00	359.96	8,720.00	5,491.42	-91.29	5,491.48	0.00	0.00	0.00
13,200.00	90.00	359.96	8,720.00	5,591.42	-91.35	5,591.48	0.00	0.00	0.00
13,300.00	90.00	359.96	8,720.00	5,691.42	-91.41	5,691.48	0.00	0.00	0.00
13,400.00	90.00	359.96	8,720.00	5,791.42	-91.48	5,791.48	0.00	0.00	0.00
13,500.00	90.00	359.96	8,720.00	5,891.42	-91.54	5,891.48	0.00	0.00	0.00
13,600.00	90.00	359.96	8,720.00	5,991.42	-91.60	5,991.48	0.00	0.00	0.00
13,700.00	90.00	359.96	8,720.00	6,091.42	-91.66	6,091.48	0.00	0.00	0.00
13,800.00	90.00	359.96	8,720.00	6,191.42	-91.73	6,191.48	0.00	0.00	0.00
13,900.00	90.00	359.96	8,720.00	6,291.42	-91.79	6,291.48	0.00	0.00	0.00
14,000.00	90.00	359.96	8,720.00	6,391.42	-91.85	6,391.48	0.00	0.00	0.00
14,100.00	90.00	359.96	8,720.00	6,491.42	-91.92	6,491.48	0.00	0.00	0.00
14,200.00	90.00	359.96	8,720.00	6,591.42	-91.98	6,591.48	0.00	0.00	0.00
14,300.00	90.00	359.96	8,720.00	6,691.42	-92.04	6,691.48	0.00	0.00	0.00
14,400.00	90.00	359.96	8,720.00	6,791.42	-92.10	6,791.48	0.00	0.00	0.00
14,500.00	90.00	359.96	8,720.00	6,891.42	-92.17	6,891.48	0.00	0.00	0.00
14,600.00	90.00	359.96	8,720.00	6,991.42	-92.23	6,991.48	0.00	0.00	0.00



Phoenix
Planning Report



Database:	USAEDMDB	Local Co-ordinate Reference:	Well Blue Steel BS Fed Com 504H
Company:	Marathon Oil Permian LLC	TVD Reference:	RKB @ 3025.00usft (TBD)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	RKB @ 3025.00usft (TBD)
Site:	Blue Steel	North Reference:	Grid
Well:	Blue Steel BS Fed Com 504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 06-01-23		

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)
14,700.00	90.00	359.96	8,720.00	7,091.42	-92.29	7,091.48	0.00	0.00	0.00
14,800.00	90.00	359.96	8,720.00	7,191.42	-92.36	7,191.48	0.00	0.00	0.00
14,900.00	90.00	359.96	8,720.00	7,291.42	-92.42	7,291.48	0.00	0.00	0.00
15,000.00	90.00	359.96	8,720.00	7,391.42	-92.48	7,391.48	0.00	0.00	0.00
15,100.00	90.00	359.96	8,720.00	7,491.42	-92.54	7,491.48	0.00	0.00	0.00
15,200.00	90.00	359.96	8,720.00	7,591.42	-92.61	7,591.48	0.00	0.00	0.00
15,300.00	90.00	359.96	8,720.00	7,691.42	-92.67	7,691.48	0.00	0.00	0.00
15,400.00	90.00	359.96	8,720.00	7,791.42	-92.73	7,791.48	0.00	0.00	0.00
15,500.00	90.00	359.96	8,720.00	7,891.42	-92.80	7,891.48	0.00	0.00	0.00
15,600.00	90.00	359.96	8,720.00	7,991.42	-92.86	7,991.48	0.00	0.00	0.00
15,700.00	90.00	359.96	8,720.00	8,091.42	-92.92	8,091.48	0.00	0.00	0.00
15,800.00	90.00	359.96	8,720.00	8,191.42	-92.99	8,191.48	0.00	0.00	0.00
15,900.00	90.00	359.96	8,720.00	8,291.42	-93.05	8,291.48	0.00	0.00	0.00
16,000.00	90.00	359.96	8,720.00	8,391.42	-93.11	8,391.48	0.00	0.00	0.00
16,100.00	90.00	359.96	8,720.00	8,491.42	-93.17	8,491.48	0.00	0.00	0.00
16,200.00	90.00	359.96	8,720.00	8,591.42	-93.24	8,591.48	0.00	0.00	0.00
16,300.00	90.00	359.96	8,720.00	8,691.42	-93.30	8,691.48	0.00	0.00	0.00
16,400.00	90.00	359.96	8,720.00	8,791.42	-93.36	8,791.48	0.00	0.00	0.00
16,500.00	90.00	359.96	8,720.00	8,891.42	-93.43	8,891.48	0.00	0.00	0.00
16,600.00	90.00	359.96	8,720.00	8,991.42	-93.49	8,991.48	0.00	0.00	0.00
16,700.00	90.00	359.96	8,720.00	9,091.42	-93.55	9,091.48	0.00	0.00	0.00
16,800.00	90.00	359.96	8,720.00	9,191.42	-93.61	9,191.48	0.00	0.00	0.00
16,900.00	90.00	359.96	8,720.00	9,291.42	-93.68	9,291.48	0.00	0.00	0.00
17,000.00	90.00	359.96	8,720.00	9,391.42	-93.74	9,391.48	0.00	0.00	0.00
17,100.00	90.00	359.96	8,720.00	9,491.42	-93.80	9,491.48	0.00	0.00	0.00
17,200.00	90.00	359.96	8,720.00	9,591.42	-93.87	9,591.48	0.00	0.00	0.00
17,300.00	90.00	359.96	8,720.00	9,691.42	-93.93	9,691.48	0.00	0.00	0.00
17,400.00	90.00	359.96	8,720.00	9,791.42	-93.99	9,791.48	0.00	0.00	0.00
17,500.00	90.00	359.96	8,720.00	9,891.42	-94.05	9,891.48	0.00	0.00	0.00
17,600.00	90.00	359.96	8,720.00	9,991.42	-94.12	9,991.48	0.00	0.00	0.00
17,700.00	90.00	359.96	8,720.00	10,091.42	-94.18	10,091.48	0.00	0.00	0.00
17,800.00	90.00	359.96	8,720.00	10,191.42	-94.24	10,191.48	0.00	0.00	0.00
17,900.00	90.00	359.96	8,720.00	10,291.42	-94.31	10,291.48	0.00	0.00	0.00
18,000.00	90.00	359.96	8,720.00	10,391.42	-94.37	10,391.48	0.00	0.00	0.00
18,100.00	90.00	359.96	8,720.00	10,491.42	-94.43	10,491.48	0.00	0.00	0.00
18,200.00	90.00	359.96	8,720.00	10,591.42	-94.49	10,591.48	0.00	0.00	0.00
18,300.00	90.00	359.96	8,720.00	10,691.42	-94.56	10,691.48	0.00	0.00	0.00
18,400.00	90.00	359.96	8,720.00	10,791.42	-94.62	10,791.48	0.00	0.00	0.00
18,500.00	90.00	359.96	8,720.00	10,891.42	-94.68	10,891.48	0.00	0.00	0.00
18,600.00	90.00	359.96	8,720.00	10,991.42	-94.75	10,991.48	0.00	0.00	0.00
18,700.00	90.00	359.96	8,720.00	11,091.42	-94.81	11,091.48	0.00	0.00	0.00
18,800.00	90.00	359.96	8,720.00	11,191.42	-94.87	11,191.48	0.00	0.00	0.00
18,900.00	90.00	359.96	8,720.00	11,291.42	-94.93	11,291.48	0.00	0.00	0.00
19,000.00	90.00	359.96	8,720.00	11,391.42	-95.00	11,391.48	0.00	0.00	0.00
19,100.00	90.00	359.96	8,720.00	11,491.42	-95.06	11,491.48	0.00	0.00	0.00
19,200.00	90.00	359.96	8,720.00	11,591.42	-95.12	11,591.48	0.00	0.00	0.00
19,300.00	90.00	359.96	8,720.00	11,691.42	-95.19	11,691.48	0.00	0.00	0.00
19,400.00	90.00	359.96	8,720.00	11,791.42	-95.25	11,791.48	0.00	0.00	0.00
19,500.00	90.00	359.96	8,720.00	11,891.42	-95.31	11,891.48	0.00	0.00	0.00
19,566.36	90.00	359.96	8,720.00	11,957.78	-95.35	11,957.84	0.00	0.00	0.00
TD at 19566.36									



Phoenix
Planning Report



Database:	USAEDMDB	Local Co-ordinate Reference:	Well Blue Steel BS Fed Com 504H
Company:	Marathon Oil Permian LLC	TVD Reference:	RKB @ 3025.00usft (TBD)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	RKB @ 3025.00usft (TBD)
Site:	Blue Steel	North Reference:	Grid
Well:	Blue Steel BS Fed Com 504H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 06-01-23		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTPv2 - Blue Steel BS - hit/miss target - Shape - Point	0.00	0.00	8,720.00	1,519.07	-88.79	466,985.53	607,950.25	32° 17' 0.156376 N	03° 59' 2.483237 W
BHLv2 - Blue Steel BS - plan hits target center - Point	0.00	0.00	8,720.00	11,957.78	-95.35	477,424.24	607,943.69	12° 18' 43.458891 N	03° 59' 2.163470 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
382.00	382.00	Salado		0.000	359.96	
1,002.00	1,002.00	Castile		0.000	359.96	
2,984.95	2,972.00	Base of Salt (BX)		0.000	359.96	
3,031.66	3,018.00	Lamar		0.000	359.96	
3,067.20	3,053.00	Bell Canyon		0.000	359.96	
3,953.67	3,926.00	Cherry Canyon		0.000	359.96	
5,128.53	5,083.00	Brushy Canyon		0.000	359.96	
6,780.64	6,710.00	Bone Spring Lime		0.000	359.96	
7,022.31	6,948.00	Upper Avalon Shale		0.000	359.96	
7,789.61	7,709.00	1st Bone Spring Sand		0.000	359.96	
8,066.61	7,986.00	2nd Bone Spring Carbonate		0.000	359.96	
8,605.38	8,498.00	2nd Bone Spring Sand		0.000	359.96	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,800.00	1,800.00	0.00	0.00	KOP, Begin 2.00°/100' Build	
2,300.12	2,297.59	43.36	-4.05	Hold 10.00° Inc at 354.66° Azm	
7,269.57	7,191.50	902.76	-84.38	Begin 2.00°/100' Drop	
7,769.70	7,689.09	946.11	-88.43	Begin Vertical Hold	
8,227.65	8,147.04	946.11	-88.43	KOP, Begin 10.00°/100' Build	
9,127.65	8,720.00	1,519.07	-88.79	LP, Hold 90.00° Inc at 359.96° Azm	
19,566.36	8,720.00	11,957.78	-95.35	TD at 19566.36	

MARATHON OIL PERMIAN, LLC.
DRILLING AND OPERATIONS PLAN



WELL NAME & NUMBER:

BLUE STEEL BS FED COM 504H

LOCATION:

SECTION **28** TOWNSHIP **23S** RANGE **29E**
EDDY COUNTY, **NEW MEXICO**

Section 1: GEOLOGICAL FORMATIONS

Name of Surface Formation: Permian
 Elevation: 2995 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	382	382	2613	Salt/Anhydrite	Brine	No
Castile	3604	3604	-609	Salt/Anhydrite	Brine	No
Base of Salt (BX)	2972	2972	23	Salt/Anhydrite	Brine	No
Lamar	3018	3018	-23	Sandstone/Shale	None	No
Bell Canyon	3053	3053	-58	Sandstone	Oil	No
Cherry Canyon	3926	3926	-931	Sandstone	Oil	No
Brushy Canyon	5083	5083	-2088	Sandstone	Oil	No
Bone Spring Lime	6710	6710	-3715	Limestone	None	No
Upper Avalon Shale	6948	6948	-3953	Shale	Oil	Yes
1st Bone Spring Sand	7709	7709	-4714	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	7986	7986	-4991	Limestone/Shale	None	No
2nd Bone Spring Sand	8498	8498	-5503	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	8836	8836	-5841	Limestone	Oil	No
3rd Bone Spring Sand	9619	9619	-6624	Sandstone	Oil	Yes
Wolfcamp	9951	9951	-6956	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	10094	10094	-7099	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	10336	10336	-7341	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	10557	10557	-7562	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp D	11099	11099	-8104	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 Onshore Order 2 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 Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

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	420	Water Based Mud	8.4	8.8
420	3053	Brine or Oil Based Mud	9.2	10.2
3053	19566	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: 5668 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 Onshore Order #6. 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.

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 Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 225536

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 225536
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
dmcclore	None	11/16/2023