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. NMNM113419

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. ENDER WIGGINS 14 WA FED COM

2. Name of Operator MARATHON OIL PERMIAN LLC

9. API Well No. 3002547020

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

3b. Phone No. *(include area code)* (000) 000-0000

10. Field and Pool or Exploratory Area PITCHFORK RANCH/WOLFCAMP; SOUTH

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 14/T25S/R34E/NMP

11. Country or Parish, State LEA/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 requests to make changes to the Approved Drilling Plan for the above listed well. The only changes being requested are to the Drill Plan, Casing & Cement program. No new surface disturbance is being requested. Please see attachment for a summary of the requested changes and a revised Drilling and Operations Plan.

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

Title REGULATORY COMPLIANCE REPRESENTATIVE

Signature

Date 02/15/2022

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by ZOTA M STEVENS / Ph: (575) 234-5998 / Approved

Title Petroleum Engineer

Date 04/20/2022

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

Location of Well

0. SHL: SENE / 2490 FNL / 1166 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1308871 / LONG: -103.4359669 (TVD: 0 feet, MD: 0 feet)

PPP: SENE / 2640 FNL / 995 FEL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1449801 / LONG: -103.4349364 (TVD: 12698 feet, MD: 17507 feet)

PPP: SESE / 0 FSL / 994 FEL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1377235 / LONG: -103.4349392 (TVD: 12698 feet, MD: 14867 feet)

PPP: SENE / 2409 FNL / 993 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1308864 / LONG: -103.4354094 (TVD: 12698 feet, MD: 13031 feet)

BHL: NENE / 150 FNL / 995 FEL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1518257 / LONG: -103.4349364 (TVD: 12698 feet, MD: 20042 feet)

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

05/02/2022

Well Name: ENDER WIGGINS 14 WA FED COM

Well Location: T25S / R34E / SEC 14 / SENE / 32.1308871 / -103.4359669

County or Parish/State: LEA / NM

Well Number: 19H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM113419

Unit or CA Name:

Unit or CA Number:

US Well Number: 300254702000X1

Well Status: Approved Application for Permit to Drill

Operator: MARATHON OIL PERMIAN LLC

Notice of Intent

Sundry ID: 2657248

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 02/15/2022

Time Sundry Submitted: 03:08

Date proposed operation will begin: 03/01/2022

Procedure Description: Marathon Oil Permian LLC. respectfully requests to make changes to the Approved Drilling Plan for the above listed well. The only changes being requested are to the Drill Plan, Casing & Cement program. No new surface disturbance is being requested. Please see attachment for a summary of the requested changes and a revised Drilling and Operations Plan.

NOI Attachments

Procedure Description

SN_Attch_Ender_Wiggins_14_WXY_Fed_Com_19H_Csg_Cmt_Chng_02.15.2022_20220215150742.pdf

Conditions of Approval

Specialist Review

Ender_Wiggings_14_WA_Fed_Com_19H_COA_20220420081755.pdf

Well Name: ENDER WIGGINS 14 WA FED COM

Well Location: T25S / R34E / SEC 14 / SENE / 32.1308871 / -103.4359669

County or Parish/State: LEA / NM

Well Number: 19H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM113419

Unit or CA Name:

Unit or CA Number:

US Well Number: 300254702000X1

Well Status: Approved Application for Permit to Drill

Operator: MARATHON OIL PERMIAN LLC

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: MELISSA SZUDERA

Signed on: FEB 15, 2022 03:07 PM

Name: MARATHON OIL PERMIAN LLC

Title: REGULATORY COMPLIANCE REPRESENTATIVE

Street Address: 990 TOWN & COUNTRY BLVD

City: Houston **State:** TX

Phone: (713) 296-3179

Email address: mszudera@marathonoil.com

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: ZOTA M STEVENS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752345998

BLM POC Email Address: ZSTEVENS@BLM.GOV

Disposition: Approved

Disposition Date: 04/20/2022

Signature: zota stevens

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Marathon Oil**
LEASE NO.:	**NMNM113419**
LOCATION:	Section 14, T.25 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Ender Wiggins 14 WXY Fed Com 19H
SURFACE HOLE FOOTAGE:	2490'/N & 1166'/E
BOTTOM HOLE FOOTAGE	150'/N & 995'/E

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **950** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface. **Excess calculates to 23%. Additional cement maybe requried.**

    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.

Intermediate casing must be kept 50% fluid filled to meet BLM minimum collapse requirement.

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.

CONTINGENCY

Operator is approved to use DV Tool. Operator shall contact BLM 4 hrs before proceeding with DV Tool operation.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

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 **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 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) 393-3612

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
   - 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 intergrity 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 intergrity 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 01262022

Marathon Oil Permian, LLC.

Summary of Changes for NOI Change to AAPD Sundry Submittal

Well Name: **Ender Wiggins 14 WA Fed Com 19H**
APD ID Num: **10400032773**
API Num: **3002547020**

		Appr-SN 09.23.21	NEW NOI Sundry
Well Name & Number		Ender Wiggins 14 WA Fed Com 19H	Ender Wiggins 14 WA Fed Com 19H
Casing Stages		3	3
Surf Csg	Top MD	0	0
	Bottom MD	1100	882
	Size, Weight, Grade Connection	10.75" 40.5# J55 STC	13.375" 54.5# J55 BTC
Int 1 Csg	Top MD	0	0
	Bottom MD	12125	11968
	Size, Weight, Grade Connection	7.625" 29.667# P110 BTC	9.625" 40# P110HC BTC
Prod Csg	Top MD	0	0
	Bottom MD	20115	20204
	Size, Weight, Grade Connection	5.5" 20# P110 BTC	5.5" 23# P110HC TLW

MARATHON OIL PERMIAN, LLC.

DRILLING AND OPERATIONS PLAN

WELL NAME & NUMBER: **Ender Wiggins 14 WA Fed Com 19H**

LOCATION: SECTION **14** TOWNSHIP **25S** RANGE **34E**

LEA COUNTY, **NEW MEXICO**

Section 1: GEOLOGICAL FORMATIONS

Name of Surface Formation: Permian

Elevation: 3358 *feet*

Estimated Tops of Important Geological Markers:

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	857	857	2501	Anhydrite	Brine	No
Salado	1363	1363	1995	Salt/Anhydrite	Brine	No
Castille	3562	3562	-204	Salt/Anhydrite	Brine	No
Lamar/Base of Salt	5370	5372	-2012	Salt/Anhydrite	Brine	No
Lamar	5370	5372	-2121	Sandstone/Shale	None	No
Bell Canyon	5402	5404	-2044	Sandstone	Oil	No
Cherry Canyon	6710	6712	-3352	Sandstone	Oil	No
Brushy Canyon	8013	8015	-4655	Sandstone	Oil	No
Bone Spring Lime	9296	9298	-5938	Limestone	None	No
Upper Avalon Shale	9296	9298	-6093	Shale	Oil	Yes
1st Bone Spring Sand	10346	10348	-6988	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	10925	10927	-7567	Limestone/Shale	None	No
2nd Bone Spring Sand	10925	10927	-7567	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	11966	11968	-8608	Limestone	Oil	No
3rd Bone Spring Sand	11966	11968	-8608	Sandstone	Oil	Yes
Wolfcamp	12422	12448	-9064	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	12565	12691	-9207	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	12918	NA	-9560	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	13020	NA	-9662	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp D	13352	NA	-9994	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 50% WP for the Annular and 10,000 psi for the BOP Stacking. 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 will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.
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 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	882	0	882	3358	2476	54.5	J55	BTC	5.22	1.81	BUOY	4.52	BUOY	4.52
Intermediate	12.25	9.625	0	11968	0	11966	3358	-8608	40	P110HC	BTC	1.20	1.42	BUOY	2.44	BUOY	2.44
Production	8.75	5.5	0	20204	0	12729	3358	-9371	23	P110HC	TLW	2.53	1.26	BUOY	2.22	BUOY	2.22

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 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 Onshore Order #1.	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-P and SOPA?	No
If yes, are the first three strings cemented to surface?	
Is the second string set 100' to 600' below the base of salt?	
Is well located in SOPA but not in R-111-P?	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 (ft³/sks)	Density (ppg)	Slurry Volume (ft³)	Excess (%)	Cement Type	Additives
Surface	Lead	0	582	261	2.12	12.5	554	25	Class C	Extender,Accelerator,LCM
Surface	Tail	582	882	197	1.32	14.8	260	25	Class C	Accelerator
Intermediate	Lead	0	11468	2084	2.18	12.4	4544	25	Class C	Extender,Accelerator,LCM
Intermediate	Tail	11468	11968	147	1.33	14.8	196	25	Class C	Retarder
Production	Tail	11668	20204	1645	1.68	13	2763	25	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 previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Pilot Hole? 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	882	Water Based Mud	8.4	8.8
882	11968	Brine or Oil Based Mud	9.2	10.2
11968	20204	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: **8274** 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.

DRILL PLAN CHANGE REGISTER

Ender Wiggins 14 WA Fed Com 19H
SECTION 14, TOWNSHIP 25S, RANGE 34E
LEA COUNTY, NEW MEXICO

Original Document Date:	Wednesday, February 9, 2022
Prepared By:	Court Nelson
Submitted By:	Melissa Szudera

Revised Date:	Friday, June 4, 2021	Submittal Date:	Wednesday, June 9, 2021
Revised By:	Kyler Rose (Drilling Engineer)	Submittal Type:	NOI Change to AAPD Sundry Notice
		Submitted By:	Melissa Szudera

Summary of Revisions:

Section	Description
All	Name: from Ender Wiggins F C 25 34 14 WA 19H to Ender Wiggins 14 WA Fed Com 19H
	FTP: from 2490 FNL 993 FEL to 2539 FNL 1254 FEL
	LTP: from 150 FNL 995 FEL to 100 FNL 1254 FEL
	TVD: from 12698 feet to 12729 feet
	MD: from 20042 feet to 20230 feet

Revised Date:	Wednesday, February 9, 2022	Submittal Date:	Tuesday, February 15, 2022
Revised By:	Court Nelson (Drilling Engineer)	Submittal Type:	NOI Change to AAPD Sundry Notice
		Submitted By:	Melissa Szudera

Summary of Revisions:

Section	Description
4 - Cement	Updated Calculations for new casing plan.

Revised Date:		Submittal Date:	
Revised By:		Submittal Type:	
		Submitted By:	

Summary of Revisions:

Section	Description

Revised Date:		Submittal Date:	
Revised By:		Submittal Type:	
		Submitted By:	

Summary of Revisions:

Section	Description

Marathon Oil Permian, LLC.

Summary of Changes for NOI Change to AAPD Sundry Submittal

Well Name: **Ender Wiggins 14 WA Fed Com 19H**
APD ID Num: **10400032773**
API Num: **3002547020**

		Appr-SN 09.23.21	NEW NOI Sundry
Well Name & Number		Ender Wiggins 14 WA Fed Com 19H	Ender Wiggins 14 WA Fed Com 19H
Casing Stages		3	3
Surf Csg	Top MD	0	0
	Bottom MD	1100	882
	Size, Weight, Grade Connection	10.75" 40.5# J55 STC	13.375" 54.5# J55 BTC
Int 1 Csg	Top MD	0	0
	Bottom MD	12125	11968
	Size, Weight, Grade Connection	7.625" 29.667# P110 BTC	9.625" 40# P110HC BTC
Prod Csg	Top MD	0	0
	Bottom MD	20115	20204
	Size, Weight, Grade Connection	5.5" 20# P110 BTC	5.5" 23# P110HC TLW

MARATHON OIL PERMIAN, LLC.

DRILLING AND OPERATIONS PLAN

WELL NAME & NUMBER: **Ender Wiggins 14 WA Fed Com 19H**

LOCATION: SECTION **14** TOWNSHIP **25S** RANGE **34E**

LEA COUNTY, **NEW MEXICO**

Section 1: GEOLOGICAL FORMATIONS

Name of Surface Formation: Permian

Elevation: 3358 *feet*

Estimated Tops of Important Geological Markers:

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	857	857	2501	Anhydrite	Brine	No
Salado	1363	1363	1995	Salt/Anhydrite	Brine	No
Castille	3562	3562	-204	Salt/Anhydrite	Brine	No
Lamar/Base of Salt	5370	5372	-2012	Salt/Anhydrite	Brine	No
Lamar	5370	5372	-2121	Sandstone/Shale	None	No
Bell Canyon	5402	5404	-2044	Sandstone	Oil	No
Cherry Canyon	6710	6712	-3352	Sandstone	Oil	No
Brushy Canyon	8013	8015	-4655	Sandstone	Oil	No
Bone Spring Lime	9296	9298	-5938	Limestone	None	No
Upper Avalon Shale	9296	9298	-6093	Shale	Oil	Yes
1st Bone Spring Sand	10346	10348	-6988	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	10925	10927	-7567	Limestone/Shale	None	No
2nd Bone Spring Sand	10925	10927	-7567	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	11966	11968	-8608	Limestone	Oil	No
3rd Bone Spring Sand	11966	11968	-8608	Sandstone	Oil	Yes
Wolfcamp	12422	12448	-9064	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	12565	12691	-9207	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	12918	NA	-9560	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	13020	NA	-9662	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp D	13352	NA	-9994	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 50% WP for the Annular and 10,000 psi for the BOP Stacking. 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 will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.
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 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	882	0	882	3358	2476	54.5	J55	BTC	5.22	1.81	BUOY	4.52	BUOY	4.52
Intermediate	12.25	9.625	0	11968	0	11966	3358	-8608	40	P110HC	BTC	1.20	1.42	BUOY	2.44	BUOY	2.44
Production	8.75	5.5	0	20204	0	12729	3358	-9371	23	P110HC	TLW	2.53	1.26	BUOY	2.22	BUOY	2.22
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 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 Onshore Order #1.	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-P and SOPA?	No
If yes, are the first three strings cemented to surface?	
Is the second string set 100' to 600' below the base of salt?	
Is well located in SOPA but not in R-111-P?	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
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Section 4: CEMENT PROGRAM

String Type	Lead/Tail	Top MD	Bottom MD	Quantity (sks)	Yield (ft³/sks)	Density (ppg)	Slurry Volume (ft³)	Excess (%)	Cement Type	Additives
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Intermediate	Tail	11468	11968	147	1.33	14.8	196	25	Class C	Retarder
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Stage tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Pilot Hole? 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.

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Section 6: TESTING, LOGGING, CORING

List of production tests including testing procedures, equipment and safety measures:
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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: **8274** 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.

DRILL PLAN CHANGE REGISTER

Ender Wiggins 14 WA Fed Com 19H
SECTION 14, TOWNSHIP 25S, RANGE 34E
LEA COUNTY, NEW MEXICO

Original Document Date:	Wednesday, February 9, 2022
Prepared By:	Court Nelson
Submitted By:	Melissa Szudera

Revised Date:	Friday, June 4, 2021	Submittal Date:	Wednesday, June 9, 2021
Revised By:	Kyler Rose (Drilling Engineer)	Submittal Type:	NOI Change to AAPD Sundry Notice
		Submitted By:	Melissa Szudera

Summary of Revisions:

Section	Description
All	Name: from Ender Wiggins F C 25 34 14 WA 19H to Ender Wiggins 14 WA Fed Com 19H
	FTP: from 2490 FNL 993 FEL to 2539 FNL 1254 FEL
	LTP: from 150 FNL 995 FEL to 100 FNL 1254 FEL
	TVD: from 12698 feet to 12729 feet
	MD: from 20042 feet to 20230 feet

Revised Date:	Wednesday, February 9, 2022	Submittal Date:	Tuesday, February 15, 2022
Revised By:	Court Nelson (Drilling Engineer)	Submittal Type:	NOI Change to AAPD Sundry Notice
		Submitted By:	Melissa Szudera

Summary of Revisions:

Section	Description
4 - Cement	Updated Calculations for new casing plan.

Revised Date:		Submittal Date:	
Revised By:		Submittal Type:	
		Submitted By:	

Summary of Revisions:

Section	Description

Revised Date:		Submittal Date:	
Revised By:		Submittal Type:	
		Submitted By:	

Summary of Revisions:

Section	Description

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. NMNM113419

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. ENDER WIGGINS FC 25 34 14 WA/

2. Name of Operator MARATHON OIL PERMIAN LLC

9. API Well No. 3002547020

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

3b. Phone No. *(include area code)* (000) 000-0000

10. Field and Pool or Exploratory Area PITCHFORK RANCH/WOLFCAMP; SOUTH

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 14/T25S/R34E/NMP

11. Country or Parish, State LEA/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 respectfully requests to make the below listed changes to the above listed APD.

- Name: from Ender Wiggins F C 25 34 14 WA 19H to Ender Wiggins 14 WA Fed Com 19H
- FTP: from 2490 FNL 993 FEL to 2539 FNL 1254 FEL
- LTP: from 150 FNL 995 FEL to 100 FNL 1254 FEL
- TVD: from 12698 feet to 12729 feet
- MD: from 20042 feet to 20230 feet

See attachments for revised C-102 Well Plat, Revised Drill Plan and Drilling Directional Plan.

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

Title REGULATORY COMPLIANCE REPRESENTATIVE

Signature

Date 05/27/2021

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved

Title Petroleum Engineer

Date 09/23/2021

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

Office 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

Location of Well

0. SHL: SENE / 2490 FNL / 1166 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1308871 / LONG: -103.4359669 (TVD: 0 feet, MD: 0 feet)

PPP: SENE / 2409 FNL / 993 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1308864 / LONG: -103.4354094 (TVD: 12698 feet, MD: 13031 feet)

PPP: SESE / 0 FSL / 994 FEL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1377235 / LONG: -103.4349392 (TVD: 12698 feet, MD: 14867 feet)

PPP: SENE / 2640 FNL / 995 FEL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1449801 / LONG: -103.4349364 (TVD: 12698 feet, MD: 17507 feet)

BHL: NENE / 150 FNL / 995 FEL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1518257 / LONG: -103.4349364 (TVD: 12698 feet, MD: 20042 feet)

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

03/22/2022

Well Name: ENDER WIGGINS 14 WA FED COM	**Well Location:** T25S / R34E / SEC 14 / SENE / 32.1308871 / -103.4359669	**County or Parish/State:** LEA / NM
Well Number: 19H	**Type of Well:** OIL WELL	**Allottee or Tribe Name:**
Lease Number: NMNM113419	**Unit or CA Name:**	**Unit or CA Number:**
US Well Number: 3002547020	**Well Status:** Approved Application for Permit to Drill	**Operator:** MARATHON OIL PERMIAN LLC

Notice of Intent

Sundry ID: 2389335

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 06/09/2021

Time Sundry Submitted: 12:35

Date proposed operation will begin: 09/30/2021

Procedure Description: Marathon Oil Permian respectfully requests to make the below listed changes to the above listed APD. - Name: from Ender Wiggins F C 25 34 14 WA 19H to Ender Wiggins 14 WA Fed Com 19H - FTP: from 2490 FNL 993 FEL to 2539 FNL 1254 FEL - LTP: from 150 FNL 995 FEL to 100 FNL 1254 FEL - TVD: from 12698 feet to 12729 feet - MD: from 20042 feet to 20230 feet See attachments for revised C-102 Well Plat, Revised Drill Plan and Drilling Directional Plan.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

REV_BLM_Drill_Plan_SUNDRY_Ender_Wiggins_14_WA_FED_COM_19H_sub_06.09.21_20210609123502.pdf

Sub_Rev_C102_ENDER_WIGGINS_14_WA_FED_COM_19H_cert_05.21.2021_mro_sgn_20210527115111.pdf

Sub_Rev_Pad_Plat_DOGIE_DRAW_ENDER_WIGGINS_East_Pad_cert_05.21.2021_20210527115110.pdf

Well Name: ENDER WIGGINS 14 WA FED COM

Well Location: T25S / R34E / SEC 14 / SENE / 32.1308871 / -103.4359669

County or Parish/State: LEA / NM

Well Number: 19H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM113419

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002547020

Well Status: Approved Application for Permit to Drill

Operator: MARATHON OIL PERMIAN LLC

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: MELISSA SZUDERA

Signed on: MAY 27, 2021 11:51 AM

Name: MARATHON OIL PERMIAN LLC

Title: REGULATORY COMPLIANCE REPRESENTATIVE

Street Address: 990 TOWN & COUNTRY BLVD

City: Houston **State:** TX

Phone: (713) 296-3179

Email address: mszudera@marathonoil.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 09/23/2021

Signature: Chris Walls

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
30-025-47020	96994	PITCHFORK RANCH; WOLFCAMP (SOUTH)

[4] Property Code	[5] Property Name	[6] Well Number
	ENDER WIGGINS 14 WA FED COM	19H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372098	MARATHON OIL PERMIAN LLC	3358'

[10] Surface Location

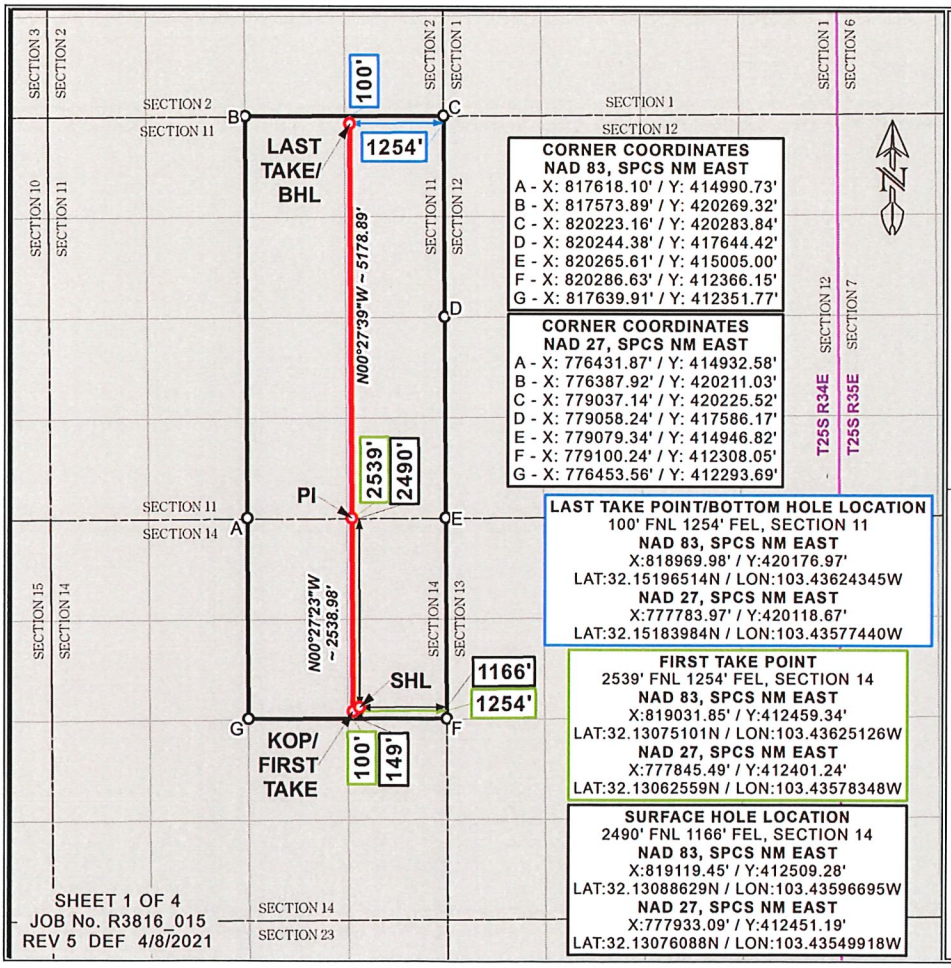
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	14	25S	34E		2490	NORTH	1166	EAST	LEA

[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
A	11	25S	34E		100	NORTH	1254	EAST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
480.0			

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.

05/21/2021
Signature Date

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.

MAY 21, 2021
Date of Survey

Signature and Seal of Professional Surveyor:

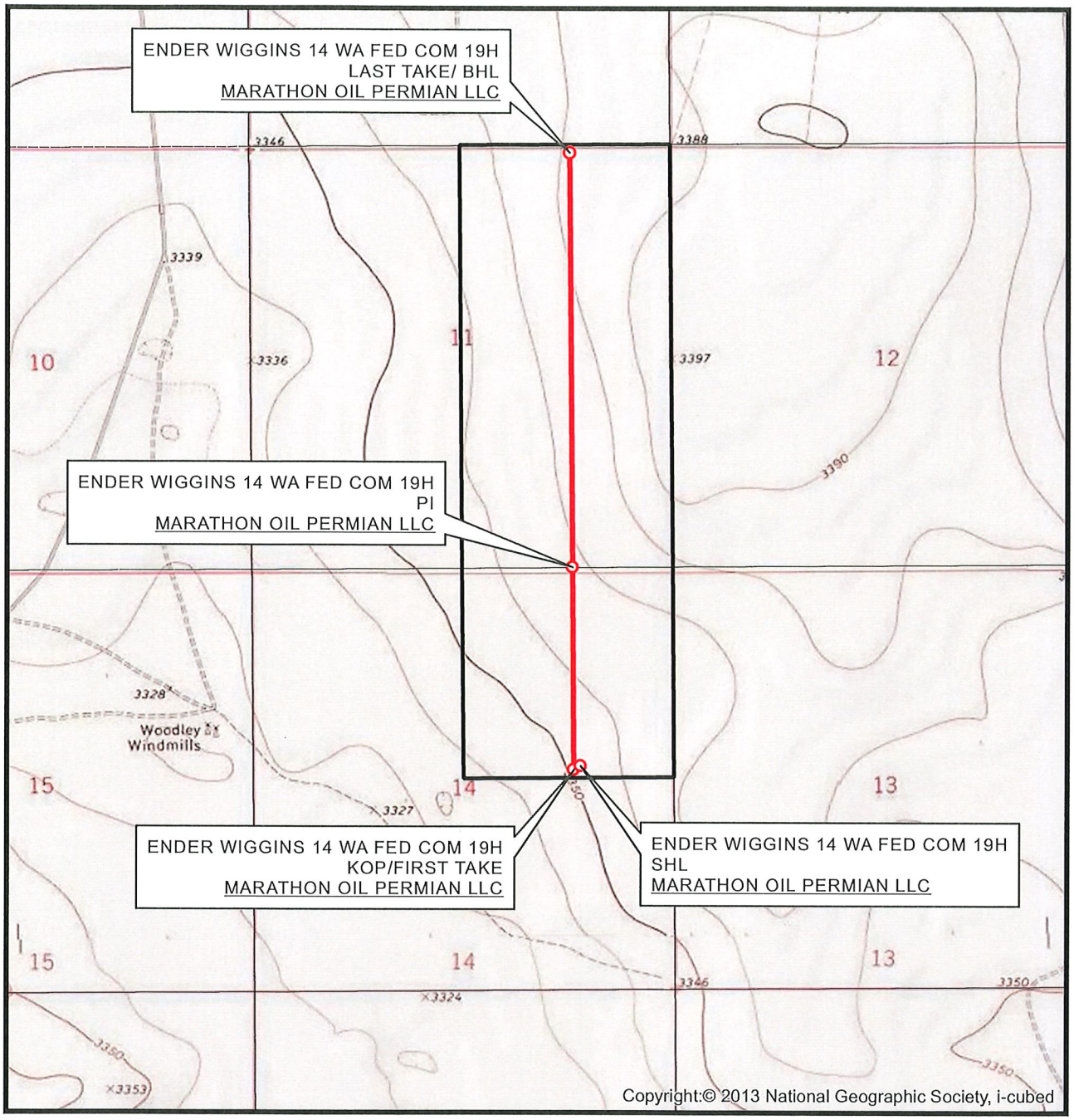
DAVID W. MYERS NEW MEXICO 11403 PROFESSIONAL SURVEYOR

Certificate Number
DAVID W. MYERS 11403

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99985058 Convergence Angle: 00°28'24.77529"

☐ Horizontal Spacing Unit

LOCATION VERIFICATION MAP



SEC. 14 TWP. 25-S RGE. 34-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: MARATHON OIL PERMIAN LLC
DESCRIPTION: 2490' FNL & 1166' FEL
ELEVATION: 3358'
LEASE: ENDER WIGGINS 14 FED COM
U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

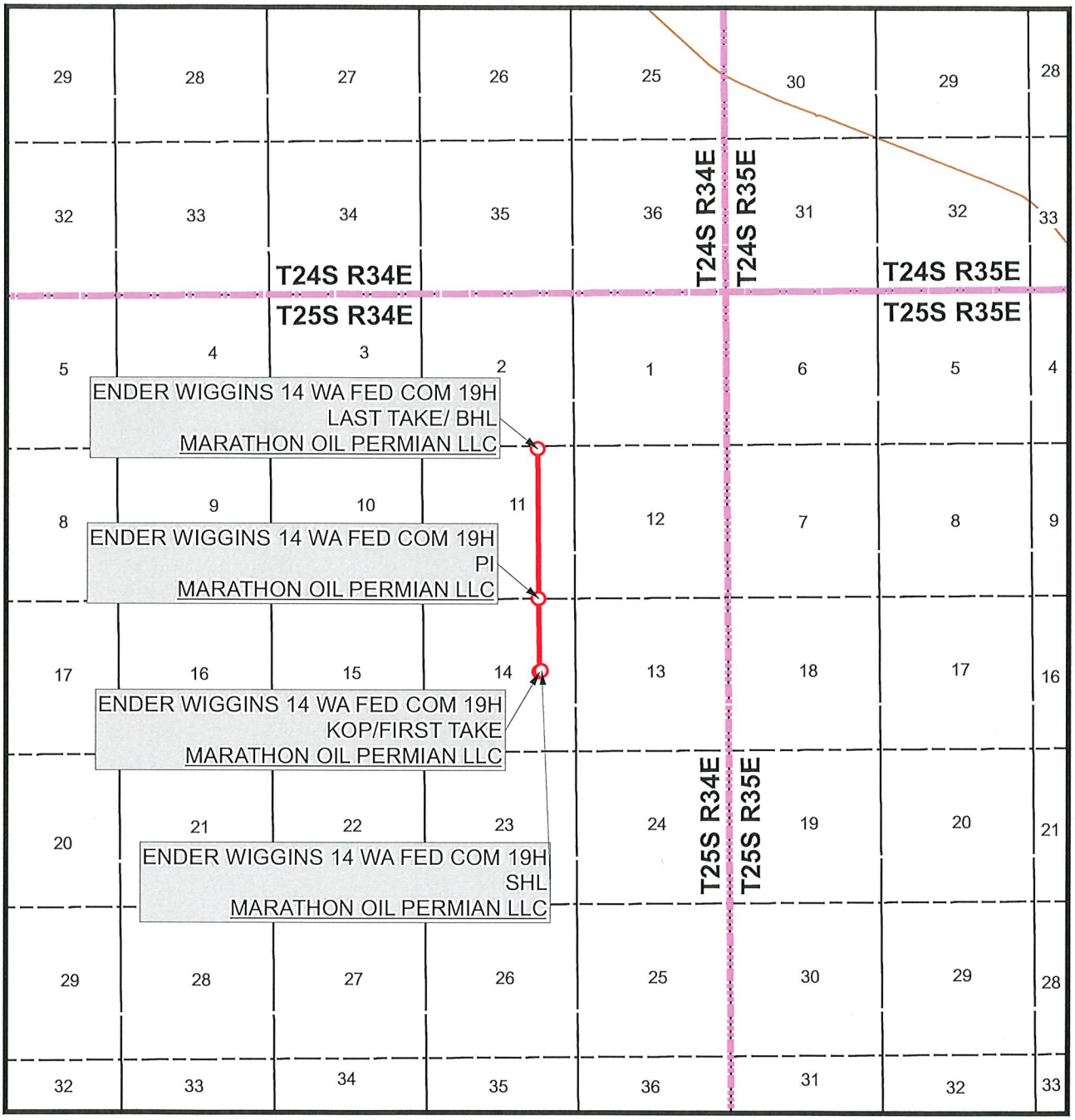
1 " = 2,000 '
CONTOUR INTERVAL = 10'

SHEET 2 OF 4

PREPARED BY:
R-SQUARED GLOBAL, LLC
510 TRENTON ST., UNIT B, WEST MONROE, LA 71291
318-323-6900 OFFICE

JOB No. R3816_015

VICINITY MAP



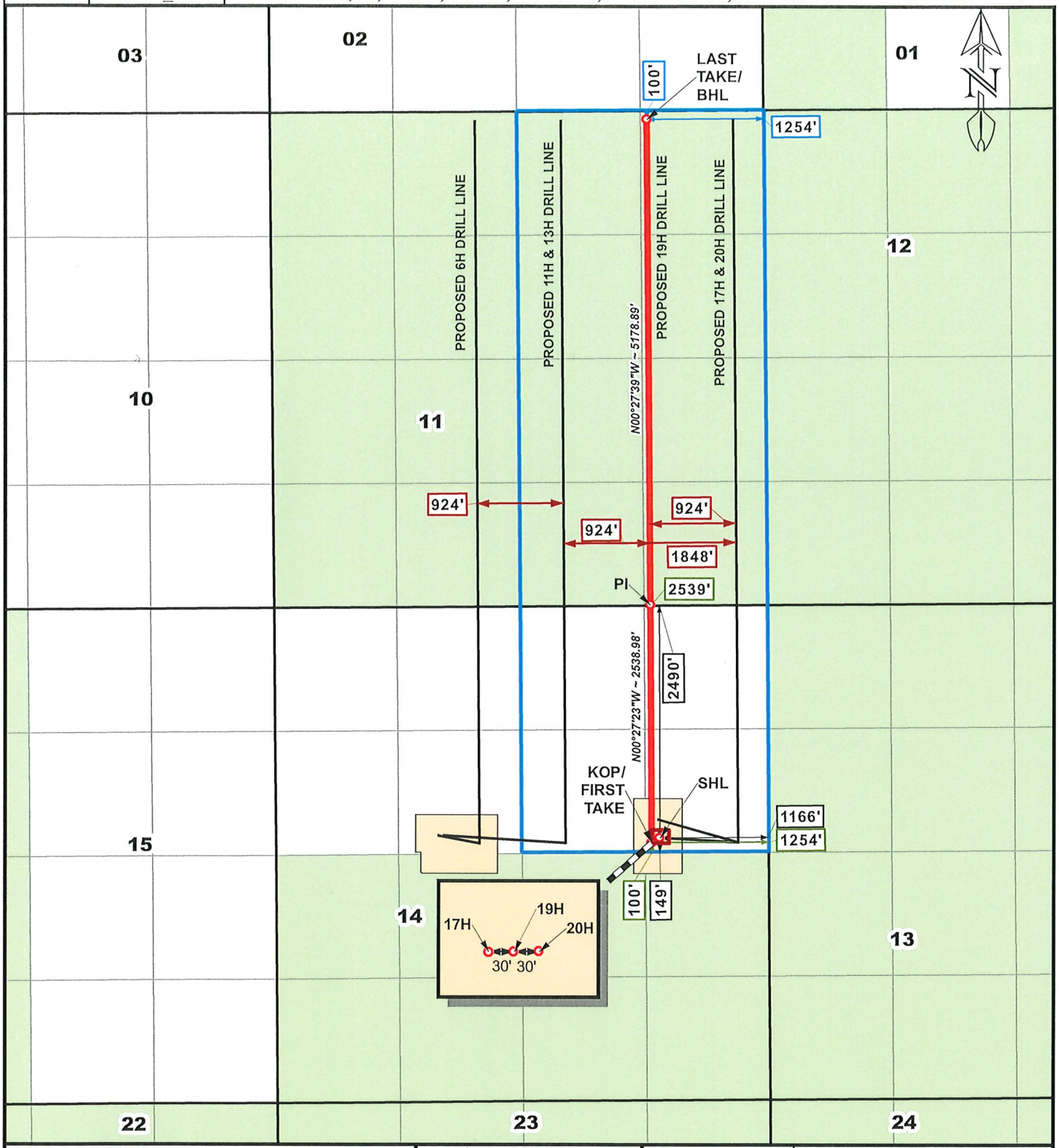
SEC. 14 TWP. 25-S RGE. 34-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: MARATHON OIL PERMIAN LLC
DESCRIPTION: 2490' FNL & 1166' FEL
ELEVATION: 3358'
LEASE: ENDER WIGGINS 14 FED COM
U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

1 " = 1 MILE

SHEET 3 OF 4

PREPARED BY:
R-SQUARED GLOBAL, LLC
510 TRENTON ST., UNIT B, WEST MONROE, LA 71291
318-323-6900 OFFICE
JOB No. R3816_015

JOB No.	R3816_015	SECTIONS 11, 14, T-25-S, R-34-E, N.M.P.M., LEA COUNTY, NEW MEXICO



1,000 0 1,000

1 inch = 1,500 feet

LEGEND

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

R-SQUARED GLOBAL LLC

Marathon Oil Permian LLC

WELL NAME

ENDER WIGGINS 14 WA FED COM 19H

REV.	DATE	DESCRIPTION		CHKD
5	4/06/2021	UPDATE DRILL LINE	DEF	MWS

SHEET 4 OF 4

DRAWN BY:	DEF
DATE DRAWN:	4/8/2021
CHECKED BY:	MWS

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

WELL LOCATION PLAT

DOGIE DRAW 14 FED COM /
ENDER WIGGINS 14 FED COM
SEC. 14 TWP. 25-S RGE. 34-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, N.M.

LEGEND

- PROPOSED WELL PAD
- ARCH SURVEY LIMITS
- PROPOSED LEASE ROAD
- EXISTING LEASE ROAD
- SECTION LINE
- EXISTING PIPELINE
- PROPOSED WATERLINE (W)

WELL 1 (W1)
ENDER WIGGINS 14 TB FED COM 17H
MARATHON OIL PERMIAN LLC
2490' FNL 1196' FEL, SECTION 14
NAD 83, SPCS NM EAST
X:819089.39' / Y:412508.62'
LAT:32.13088516N / LON:103.43606407W
NAD 27, SPCS NM EAST
X:777903.03' / Y:412450.53'
LAT:32.13075974N / LON:103.43559629W
ELEVATION: 3359'

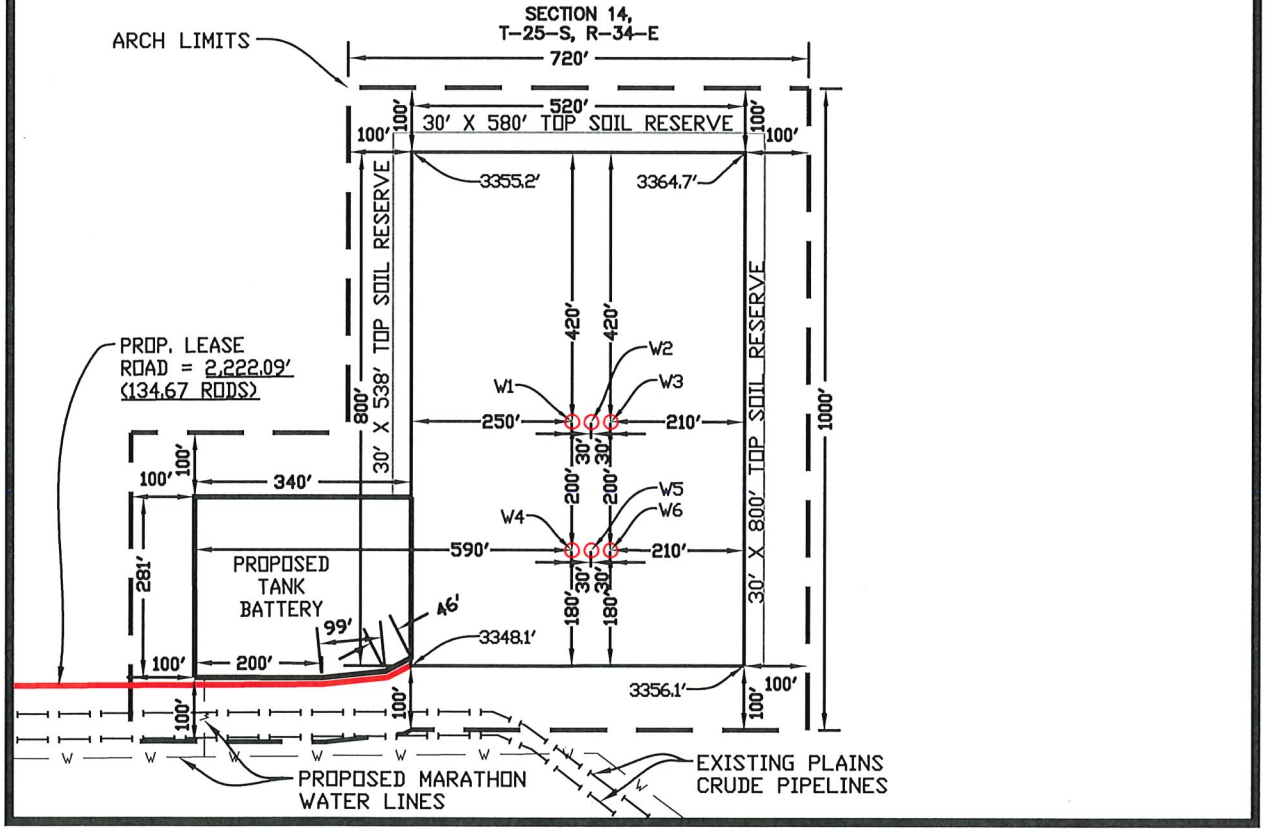
WELL 2 (W2)
ENDER WIGGINS 14 WA FED COM 19H
MARATHON OIL PERMIAN LLC
2490' FNL 1166' FEL, SECTION 14
NAD 83, SPCS NM EAST
X:819119.45' / Y:412509.28'
LAT:32.13088629N / LON:103.43596695W
NAD 27, SPCS NM EAST
X:777933.09' / Y:412451.19'
LAT:32.13076088N / LON:103.43549918W
ELEVATION: 3358'

WELL 3 (W3)
ENDER WIGGINS 14 WXY FED COM 20H
MARATHON OIL PERMIAN LLC
2490' FNL 1136' FEL, SECTION 14
NAD 83, SPCS NM EAST
X:819149.50' / Y:412509.45'
LAT:32.13088605N / LON:103.43586988W
NAD 27, SPCS NM EAST
X:777963.14' / Y:412451.35'
LAT:32.13076063N / LON:103.43540211W
ELEVATION: 3358'

WELL 4 (W4)
DOGIE DRAW 14 TB FED COM 17H
MARATHON OIL PERMIAN LLC
2589' FSL 1197' FEL, SECTION 14
NAD 83, SPCS NM EAST
X:819089.63' / Y:412309.51'
LAT:32.13033787N / LON:103.43606866W
NAD 27, SPCS NM EAST
X:777903.26' / Y:412251.42'
LAT:32.13021246N / LON:103.43560091W
ELEVATION: 3355'

WELL 5 (W5)
DOGIE DRAW 14 WA FED COM 18H
MARATHON OIL PERMIAN LLC
2589' FSL 1167' FEL, SECTION 14
NAD 83, SPCS NM EAST
X:819119.70' / Y:412309.32'
LAT:32.13033665N / LON:103.43597154W
NAD 27, SPCS NM EAST
X:777933.32' / Y:412251.23'
LAT:32.13021124N / LON:103.43550380W
ELEVATION: 3355'

WELL 6 (W6)
DOGIE DRAW 14 WXY FED COM 21H
MARATHON OIL PERMIAN LLC
2589' FSL 1137' FEL, SECTION 14
NAD 83, SPCS NM EAST
X:819149.70' / Y:412309.56'
LAT:32.13033662N / LON:103.43587463W
NAD 27, SPCS NM EAST
X:777963.32' / Y:412251.47'
LAT:32.13021120N / LON:103.43540690W
ELEVATION: 3356'



MAY 20, 2021

DAVID W. MYERS 11403

DAVID W. MYERS
NEW MEXICO
11403
PROFESSIONAL SURVEYOR

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

150' 0' 150' 300'
SCALE: 1" = 300'

SHEET 1 OF 1

PREPARED BY:
R-SQUARED GLOBAL, LLC
510 TRENTON ST., UNIT B,
WEST MONROE, LA 71291
318-323-6900 OFFICE
JOB No. R3755

MARATHON OIL PERMIAN, LLC.

DRILLING AND OPERATIONS PLAN

WELL NAME & NUMBER: **Ender Wiggins 14 WA Fed Com 19H**

LOCATION: SECTION **14** TOWNSHIP **25S** RANGE **34E**

Lea COUNTY, **New Mexico**

WELL LOCATION TABLE

Traverse Segment	Latitude NAD83	Longitude NAD83	Elevation (ft SS)	MD (RKB)	TVD (RKB)	NS Foot	NS Indicator	EW Foot	EW Indicator	Township	Range	Section	Aliquot/Lot	Leasy Type	Lease Number
SHL	32.1308863	-103.4359670	3358	0	0	2490	FNL	1166	FEL	25S	34E	14	SENE		PRIVATE
KOP/FTP	32.1307510	-103.4362513	-8765	12125	12123	2539	FNL	1254	FEL	25S	34E	14	SENE		PRIVATE
PPP-2	32.1377299	-103.4362483	-9242	14937	12600		FSL	1254	FEL	25S	34E	11	SESE	F	NMNM113419
PPP-3	32.1449850	-103.4362458	-9242	17576	12600	2639	FSL	1254	FEL	25S	34E	11	SENE	F	NMNM108476
LTP/BHL	32.1519651	-103.4362435	-9242	20115	12600	100	FNL	1254	FEL	25S	34E	11	NENE	F	NMNM108476

GEOLOGIC FORMATIONS

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	857	857	2501	Anhydrite/Dolomite	Brine	N
Castille	3562	3562	-204	Base Salt	Brine	N
Lamar/Base of Salt	5370	5372	-2012	Limey Sands	Brine	N
Bell Canyon	5402	5404	-2044	Sand/Carbonate/Dolomite	Oil	Y
Cherry Canyon	6710	6712	-3352	Sand/Shale/Carbonate	Oil	Y
Brushy Canyon	8013	8015	-4655	Sand/Shale/Carbonate	Oil	Y
Bone Spring	9296	9298	-5938	Sand/Shale/Carbonate	Oil	Y
1st Bone Spring Sand	10346	10348	-6988	Sand	Oil	Y
2nd Bone Spring Sand	10925	10927	-7567	Sand	Oil	Y
3rd Bone Spring Sand	11966	11968	-8608	Sand	Oil	Y
Wolfcamp	12422	12448	-9064	Sand/Shale/Carbonate	Oil	Y
Wolfcamp X Sand	12461	12501	-9103	Sand	Oil	Y
Wolfcamp Y Sand	12533	12619	-9175	Sand	Oil	Y
Wolfcamp A	12565	12691	-9207	Sand/Shale/Carbonate	Oil	Y
Wolfcamp B	12918	NA	-9560	Sand/Shale/Carbonate	Oil	Y
Wolfcamp C	13020	NA	-9662	Sand/Shale/Carbonate	Oil	Y
Wolfcamp D	13352	NA	-9994	Sand/Shale/Carbonate	Oil	Y

BLOWOUT PREVENTION

Pressure Rating (PSI): 10000
Rating Depth: All depths

Equipment:

Hole Size	BOP Size	Min. Required WP	Type	Tested to:
9 7/8"	13 5/8"	10000	Annular	50% of working pressure
			BOP Stack	10000
6 3/4"	13 5/8"	10000	Annular	50% of working pressure
			BOP Stack	10000

Requesting Variance? Y

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

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	Tapered String?
Surface	14 3/4	10 3/4	0	1100	0	1100	3358	2258	40 1/2	J55	STC	6.57	1.95	BUOY	2.98	BUOY	2.98	N
Intermediate	9 7/8	7 5/8	0	12125 1/5	0	12122 1/2	3358	-8764 1/2	29 2/3	P110	BTC	2.30	1.24	BUOY	2.35	BUOY	2.35	N
Production	6 3/4	5 1/2	0	20115 2/5	0	12600	3358	-9242	20	P110	BTC	1.33	1.24	BUOY	1.86	BUOY	1.86	N

Casing Condition: New
Casing Standard: API

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

CASING PROGRAM *continued*

Is casing new? If used, attach certification as required in Onshore Order #1.	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is proposed well within the designated four string boundary?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is the second string set 100' to 600' below the base of salt?	
Is well located in SOPA but not in R-111-P?	N
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?	N
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?	N
If yes, are there three strings cemented to surface?	

CEMENT PROGRAM

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sks)	Yield (ft3/sks)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	--	0	880	707	1.73	13.5	1224	150	Class C	LCM
Surface	Tail	--	880	1100	184	1.33	14.8	245	100	Class C	Accelerator
Intermediate	Lead	--	0	11125.2	1919	2.49	11	4778	100	Class C	Extender, Accelerator
Intermediate	Tail	--	11125.2	12125.2	218	1.28	13.8	279	30	Class H	Retarder
Production	Lead	--	9625.2	10125.2	22	1.29	14.5	28	30	Class H	Viscosifier, Retarder, Extender
Production	Tail	--	10125.2	20115.4	1019	1.09	14.5	1111	30	Class H	Retarder, Extender, Fluid Loss, Dispersant

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

Pilot Hole? (Yes/No) **No**
if yes, provide information below

Pilot Hole Depth: N/A
KOP: 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

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)
	1100	Freshwater	8.4	8.8
1100	12125.2	Brine	9.2	10.2
12125.2	20115.4	OBM	10.5	12.5

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

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: No coring is planned at this time.

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

PRESSURE

Anticipated Bottom Hole Pressure: *(psi)* **8,190**
Anticipated Bottom Hole Temperature: *(F)* **195**
Anticipated Abnormal Pressure? *(Y/N)* **N**
Anticipated Abnormal Temperature? *(Y/N)* **N**

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.

OTHER

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.

MARATHON OIL
DRILL PLAN CHANGE REGISTER
Ender Wiggins 14 WA Fed Com 19H

Original Document Date: Thursday, May 10, 2018
Prepared By: Kyle Schriner

Drilling		Regulatory	
Revised By:	Kyler Rose	Submitted By:	Melissa Szudera
Date:	Friday, June 4, 2021	Agency Approved?	submitted Wednesday, June 9, 2021

Change Summary

Section	Description
All	Name: from Ender Wiggins F C 25 34 14 WA 19H to Ender Wiggins 14 WA Fed Com 19H
	FTP: from 2490 FNL 993 FEL to 2539 FNL 1254 FEL
	LTP: from 150 FNL 995 FEL to 100 FNL 1254 FEL
	TVD: from 12698 feet to 12729 feet
	MD: from 20042 feet to 20230 feet

Drilling		Regulatory	
Revised By:		Submitted By:	
Date:		Agency Approved?	

Change Summary

Section	Description

Drilling		Regulatory	
Revised By:		Submitted By:	
Date:		Agency Approved?	

Change Summary

Section	Description

Drilling		Regulatory	
Revised By:		Submitted By:	
Date:		Agency Approved?	

Change Summary

Section	Description

Marathon Oil Permian LLC

Lea County, New Mexico (NAD 27)
Sec 14, T25S, R34E
Ender Wiggins 14 WA FED COM 19H

Wellbore #1

Plan: Prelim #1

KLX Well Planning Report

04 June, 2021

Marathon Oil

KLX

Well Planning Report

KLX Directional Drilling

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Ender Wiggins 14 WA FED COM 19H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	25'KB @ 3383.0usft (25'KB)
Project:	Lea County, New Mexico (NAD 27)	**MD Reference:**	25'KB @ 3383.0usft (25'KB)
Site:	Sec 14, T25S, R34E	**North Reference:**	Grid
Well:	Ender Wiggins 14 WA FED COM 19H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #1		

Project Lea County, New Mexico (NAD 27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Sec 14, T25S, R34E

Site Position:		**Northing:**	412,251.42 usft	**Latitude:**	32° 7' 48.954 N
From:	Lat/Long	**Easting:**	775,595.75 usft	**Longitude:**	103° 26' 34.995 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.47 °

Well Ender Wiggins 14 WA FED COM 19H

Well Position	**+N/-S**	199.8 usft	**Northing:**	412,451.19 usft	**Latitude:**	32° 7' 50.739 N
	+E/-W	2,337.3 usft	**Easting:**	777,933.08 usft	**Longitude:**	103° 26' 7.797 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,358.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021	6/2/2021	6.37	59.72	47,543.30000000

Design Prelim #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.54

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,156.6	3.13	240.31	2,156.5	-2.1	-3.7	2.00	2.00	0.00	240.31	
3,846.1	3.13	240.31	3,843.5	-47.8	-83.9	0.00	0.00	0.00	0.00	
4,002.7	0.00	0.00	4,000.0	-49.9	-87.6	2.00	-2.00	0.00	180.00	VP - EW 14 WA FC 1
12,125.2	0.00	0.00	12,122.5	-49.9	-87.6	0.00	0.00	0.00	0.00	
12,875.2	90.00	359.54	12,600.0	427.5	-91.4	12.00	12.00	-0.06	359.54	
20,115.4	90.00	359.54	12,600.0	7,667.5	-149.1	0.00	0.00	0.00	0.00	LTP/BHL - EW 14 WA

Marathon Oil

KLX

Well Planning Report

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Site:	Sec 14, T25S, R34E	**North Reference:**	Grid
Well:	Ender Wiggins 14 WA FED COM 19H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
857.0	0.00	0.00	857.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
Salado									
1,363.0	0.00	0.00	1,363.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 2°/100'									
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	2.00	240.31	2,100.0	-0.9	-1.5	-0.9	2.00	2.00	0.00
EOB @ 3.13°Inc/240.31°Azm									
2,156.6	3.13	240.31	2,156.5	-2.1	-3.7	-2.1	2.00	2.00	0.00
2,200.0	3.13	240.31	2,199.9	-3.3	-5.8	-3.2	0.00	0.00	0.00
2,300.0	3.13	240.31	2,299.7	-6.0	-10.5	-5.9	0.00	0.00	0.00
2,400.0	3.13	240.31	2,399.6	-8.7	-15.3	-8.6	0.00	0.00	0.00
2,500.0	3.13	240.31	2,499.4	-11.4	-20.0	-11.2	0.00	0.00	0.00
2,600.0	3.13	240.31	2,599.3	-14.1	-24.8	-13.9	0.00	0.00	0.00
2,700.0	3.13	240.31	2,699.1	-16.8	-29.5	-16.6	0.00	0.00	0.00
2,800.0	3.13	240.31	2,799.0	-19.5	-34.2	-19.3	0.00	0.00	0.00
2,900.0	3.13	240.31	2,898.8	-22.2	-39.0	-21.9	0.00	0.00	0.00
3,000.0	3.13	240.31	2,998.7	-24.9	-43.7	-24.6	0.00	0.00	0.00
3,100.0	3.13	240.31	3,098.5	-27.6	-48.5	-27.3	0.00	0.00	0.00
3,200.0	3.13	240.31	3,198.4	-30.3	-53.2	-29.9	0.00	0.00	0.00
3,300.0	3.13	240.31	3,298.2	-33.1	-58.0	-32.6	0.00	0.00	0.00
3,400.0	3.13	240.31	3,398.1	-35.8	-62.7	-35.3	0.00	0.00	0.00
3,500.0	3.13	240.31	3,497.9	-38.5	-67.5	-37.9	0.00	0.00	0.00
Castile									
3,564.2	3.13	240.31	3,562.0	-40.2	-70.5	-39.6	0.00	0.00	0.00
3,600.0	3.13	240.31	3,597.8	-41.2	-72.2	-40.6	0.00	0.00	0.00
3,700.0	3.13	240.31	3,697.6	-43.9	-77.0	-43.3	0.00	0.00	0.00
3,800.0	3.13	240.31	3,797.5	-46.6	-81.7	-45.9	0.00	0.00	0.00
Drop 2°/100'									
3,846.1	3.13	240.31	3,843.5	-47.8	-83.9	-47.2	0.00	0.00	0.00
3,900.0	2.05	240.31	3,897.3	-49.0	-86.0	-48.3	2.00	-2.00	0.00
EOD @ Vertical									
4,002.7	0.00	0.00	4,000.0	-49.9	-87.6	-49.2	2.00	-2.00	0.00

Marathon Oil

KLX

Well Planning Report

KLX Directional Drilling

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Site:	Sec 14, T25S, R34E	**North Reference:**	Grid
Well:	Ender Wiggins 14 WA FED COM 19H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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)
4,100.0	0.00	0.00	4,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,300.0	0.00	0.00	4,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,400.0	0.00	0.00	4,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,500.0	0.00	0.00	4,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,600.0	0.00	0.00	4,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,700.0	0.00	0.00	4,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,800.0	0.00	0.00	4,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,100.0	0.00	0.00	5,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
Lamar/Base of Salt									
5,372.7	0.00	0.00	5,370.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
Bell Canyon									
5,404.7	0.00	0.00	5,402.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,100.0	0.00	0.00	6,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,500.0	0.00	0.00	6,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,700.0	0.00	0.00	6,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
Cherry Canyon									
6,712.7	0.00	0.00	6,710.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
6,900.0	0.00	0.00	6,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,100.0	0.00	0.00	7,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,300.0	0.00	0.00	7,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,500.0	0.00	0.00	7,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,600.0	0.00	0.00	7,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,700.0	0.00	0.00	7,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
7,900.0	0.00	0.00	7,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
Brushy Canyon									
8,015.7	0.00	0.00	8,013.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,100.0	0.00	0.00	8,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,200.0	0.00	0.00	8,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,300.0	0.00	0.00	8,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,400.0	0.00	0.00	8,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,500.0	0.00	0.00	8,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00

Marathon Oil

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Design:	Prelim #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)
8,600.0	0.00	0.00	8,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,700.0	0.00	0.00	8,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,800.0	0.00	0.00	8,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
8,900.0	0.00	0.00	8,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,000.0	0.00	0.00	8,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,100.0	0.00	0.00	9,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,200.0	0.00	0.00	9,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
Bone Spring									
9,298.7	0.00	0.00	9,296.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,300.0	0.00	0.00	9,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,400.0	0.00	0.00	9,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,500.0	0.00	0.00	9,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,600.0	0.00	0.00	9,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,700.0	0.00	0.00	9,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,800.0	0.00	0.00	9,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
9,900.0	0.00	0.00	9,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,000.0	0.00	0.00	9,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,100.0	0.00	0.00	10,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,200.0	0.00	0.00	10,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,300.0	0.00	0.00	10,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
1st Bone Spring Sand									
10,348.7	0.00	0.00	10,346.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,400.0	0.00	0.00	10,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,500.0	0.00	0.00	10,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,600.0	0.00	0.00	10,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,700.0	0.00	0.00	10,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,800.0	0.00	0.00	10,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
10,900.0	0.00	0.00	10,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
2nd Bone Spring Sand									
10,927.7	0.00	0.00	10,925.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,000.0	0.00	0.00	10,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,100.0	0.00	0.00	11,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,200.0	0.00	0.00	11,197.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,300.0	0.00	0.00	11,297.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,400.0	0.00	0.00	11,397.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,500.0	0.00	0.00	11,497.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,600.0	0.00	0.00	11,597.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,700.0	0.00	0.00	11,697.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,800.0	0.00	0.00	11,797.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
11,900.0	0.00	0.00	11,897.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
3rd Bone Spring Sand									
11,968.7	0.00	0.00	11,966.0	-49.9	-87.6	-49.2	0.00	0.00	0.00
12,000.0	0.00	0.00	11,997.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
12,100.0	0.00	0.00	12,097.3	-49.9	-87.6	-49.2	0.00	0.00	0.00
Build 12°/100'									
12,125.2	0.00	0.00	12,122.5	-49.9	-87.6	-49.2	0.00	0.00	0.00
12,150.0	2.98	359.54	12,147.3	-49.3	-87.6	-48.6	12.00	12.00	0.00
12,175.0	5.98	359.54	12,172.2	-47.4	-87.6	-46.6	12.00	12.00	0.00
12,200.0	8.98	359.54	12,197.0	-44.1	-87.6	-43.4	12.00	12.00	0.00
12,225.0	11.98	359.54	12,221.6	-39.6	-87.7	-38.8	12.00	12.00	0.00
12,250.0	14.98	359.54	12,245.9	-33.7	-87.7	-33.0	12.00	12.00	0.00
12,275.0	17.98	359.54	12,269.9	-26.6	-87.8	-25.9	12.00	12.00	0.00
12,300.0	20.98	359.54	12,293.4	-18.3	-87.9	-17.6	12.00	12.00	0.00
12,325.0	23.98	359.54	12,316.5	-8.7	-87.9	-8.0	12.00	12.00	0.00

Marathon Oil

KLX

Well Planning Report

KLX Directional Drilling

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Ender Wiggins 14 WA FED COM 19H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	25'KB @ 3383.0usft (25'KB)
Project:	Lea County, New Mexico (NAD 27)	**MD Reference:**	25'KB @ 3383.0usft (25'KB)
Site:	Sec 14, T25S, R34E	**North Reference:**	Grid
Well:	Ender Wiggins 14 WA FED COM 19H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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)
12,350.0	26.98	359.54	12,339.1	2.0	-88.0	2.7	12.00	12.00	0.00
12,375.0	29.98	359.54	12,361.1	13.9	-88.1	14.6	12.00	12.00	0.00
12,400.0	32.98	359.54	12,382.4	27.0	-88.2	27.7	12.00	12.00	0.00
12,425.0	35.98	359.54	12,403.0	41.1	-88.3	41.8	12.00	12.00	0.00
Wolfcamp									
12,448.9	38.85	359.54	12,422.0	55.7	-88.4	56.4	12.00	12.00	0.00
12,450.0	38.98	359.54	12,422.8	56.3	-88.4	57.0	12.00	12.00	0.00
12,475.0	41.98	359.54	12,441.9	72.6	-88.6	73.3	12.00	12.00	0.00
12,500.0	44.98	359.54	12,460.0	89.8	-88.7	90.5	12.00	12.00	0.00
Wolfcamp X Sand									
12,501.4	45.15	359.54	12,461.0	90.8	-88.7	91.5	12.00	12.00	0.00
12,525.0	47.98	359.54	12,477.2	107.9	-88.9	108.6	12.00	12.00	0.00
12,550.0	50.98	359.54	12,493.4	126.9	-89.0	127.6	12.00	12.00	0.00
12,575.0	53.98	359.54	12,508.7	146.7	-89.2	147.4	12.00	12.00	0.00
12,600.0	56.98	359.54	12,522.8	167.3	-89.3	168.0	12.00	12.00	0.00
Wolfcamp Y Sand									
12,619.2	59.29	359.54	12,533.0	183.7	-89.5	184.4	12.00	12.00	0.00
12,625.0	59.98	359.54	12,535.9	188.6	-89.5	189.3	12.00	12.00	0.00
12,650.0	62.98	359.54	12,547.8	210.6	-89.7	211.3	12.00	12.00	0.00
12,675.0	65.98	359.54	12,558.6	233.1	-89.9	233.9	12.00	12.00	0.00
Wolfcamp A									
12,691.3	67.94	359.54	12,565.0	248.2	-90.0	248.9	12.00	12.00	0.00
12,700.0	68.98	359.54	12,568.2	256.2	-90.0	256.9	12.00	12.00	0.00
12,725.0	71.98	359.54	12,576.5	279.8	-90.2	280.5	12.00	12.00	0.00
12,750.0	74.98	359.54	12,583.6	303.8	-90.4	304.5	12.00	12.00	0.00
12,775.0	77.98	359.54	12,589.5	328.1	-90.6	328.8	12.00	12.00	0.00
12,800.0	80.98	359.54	12,594.1	352.6	-90.8	353.4	12.00	12.00	0.00
12,825.0	83.98	359.54	12,597.3	377.4	-91.0	378.1	12.00	12.00	0.00
12,850.0	86.98	359.54	12,599.3	402.3	-91.2	403.1	12.00	12.00	0.00
EOB @ 90.00°Inc/359.54°Azm									
12,875.2	90.00	359.54	12,600.0	427.5	-91.4	428.2	12.00	12.00	0.00
12,900.0	90.00	359.54	12,600.0	452.3	-91.6	453.0	0.00	0.00	0.00
13,000.0	90.00	359.54	12,600.0	552.3	-92.4	553.0	0.00	0.00	0.00
13,100.0	90.00	359.54	12,600.0	652.3	-93.2	653.0	0.00	0.00	0.00
13,200.0	90.00	359.54	12,600.0	752.3	-94.0	753.0	0.00	0.00	0.00
13,300.0	90.00	359.54	12,600.0	852.3	-94.8	853.0	0.00	0.00	0.00
13,400.0	90.00	359.54	12,600.0	952.3	-95.6	953.0	0.00	0.00	0.00
13,500.0	90.00	359.54	12,600.0	1,052.3	-96.4	1,053.0	0.00	0.00	0.00
13,600.0	90.00	359.54	12,600.0	1,152.3	-97.2	1,153.0	0.00	0.00	0.00
13,700.0	90.00	359.54	12,600.0	1,252.3	-98.0	1,253.0	0.00	0.00	0.00
13,800.0	90.00	359.54	12,600.0	1,352.3	-98.8	1,353.0	0.00	0.00	0.00
13,900.0	90.00	359.54	12,600.0	1,452.3	-99.6	1,453.0	0.00	0.00	0.00
14,000.0	90.00	359.54	12,600.0	1,552.3	-100.4	1,553.0	0.00	0.00	0.00
14,100.0	90.00	359.54	12,600.0	1,652.3	-101.2	1,653.0	0.00	0.00	0.00
14,200.0	90.00	359.54	12,600.0	1,752.3	-102.0	1,753.0	0.00	0.00	0.00
14,300.0	90.00	359.54	12,600.0	1,852.3	-102.8	1,853.0	0.00	0.00	0.00
14,400.0	90.00	359.54	12,600.0	1,952.3	-103.6	1,953.0	0.00	0.00	0.00
14,500.0	90.00	359.54	12,600.0	2,052.3	-104.4	2,053.0	0.00	0.00	0.00
14,600.0	90.00	359.54	12,600.0	2,152.3	-105.2	2,153.0	0.00	0.00	0.00
14,700.0	90.00	359.54	12,600.0	2,252.3	-106.0	2,253.0	0.00	0.00	0.00
14,800.0	90.00	359.54	12,600.0	2,352.3	-106.7	2,353.0	0.00	0.00	0.00
14,900.0	90.00	359.54	12,600.0	2,452.3	-107.5	2,453.0	0.00	0.00	0.00
15,000.0	90.00	359.54	12,600.0	2,552.3	-108.3	2,553.0	0.00	0.00	0.00

Marathon Oil

KLX

Well Planning Report

KLX Directional Drilling

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Ender Wiggins 14 WA FED COM 19H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	25'KB @ 3383.0usft (25'KB)
Project:	Lea County, New Mexico (NAD 27)	**MD Reference:**	25'KB @ 3383.0usft (25'KB)
Site:	Sec 14, T25S, R34E	**North Reference:**	Grid
Well:	Ender Wiggins 14 WA FED COM 19H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #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)
15,100.0	90.00	359.54	12,600.0	2,652.3	-109.1	2,653.0	0.00	0.00	0.00
15,200.0	90.00	359.54	12,600.0	2,752.2	-109.9	2,753.0	0.00	0.00	0.00
15,300.0	90.00	359.54	12,600.0	2,852.2	-110.7	2,853.0	0.00	0.00	0.00
15,400.0	90.00	359.54	12,600.0	2,952.2	-111.5	2,953.0	0.00	0.00	0.00
15,500.0	90.00	359.54	12,600.0	3,052.2	-112.3	3,053.0	0.00	0.00	0.00
15,600.0	90.00	359.54	12,600.0	3,152.2	-113.1	3,153.0	0.00	0.00	0.00
15,700.0	90.00	359.54	12,600.0	3,252.2	-113.9	3,253.0	0.00	0.00	0.00
15,800.0	90.00	359.54	12,600.0	3,352.2	-114.7	3,353.0	0.00	0.00	0.00
15,900.0	90.00	359.54	12,600.0	3,452.2	-115.5	3,453.0	0.00	0.00	0.00
16,000.0	90.00	359.54	12,600.0	3,552.2	-116.3	3,553.0	0.00	0.00	0.00
16,100.0	90.00	359.54	12,600.0	3,652.2	-117.1	3,653.0	0.00	0.00	0.00
16,200.0	90.00	359.54	12,600.0	3,752.2	-117.9	3,753.0	0.00	0.00	0.00
16,300.0	90.00	359.54	12,600.0	3,852.2	-118.7	3,853.0	0.00	0.00	0.00
16,400.0	90.00	359.54	12,600.0	3,952.2	-119.5	3,953.0	0.00	0.00	0.00
16,500.0	90.00	359.54	12,600.0	4,052.2	-120.3	4,053.0	0.00	0.00	0.00
16,600.0	90.00	359.54	12,600.0	4,152.2	-121.1	4,153.0	0.00	0.00	0.00
16,700.0	90.00	359.54	12,600.0	4,252.2	-121.9	4,253.0	0.00	0.00	0.00
16,800.0	90.00	359.54	12,600.0	4,352.2	-122.7	4,353.0	0.00	0.00	0.00
16,900.0	90.00	359.54	12,600.0	4,452.2	-123.5	4,453.0	0.00	0.00	0.00
17,000.0	90.00	359.54	12,600.0	4,552.2	-124.3	4,553.0	0.00	0.00	0.00
17,100.0	90.00	359.54	12,600.0	4,652.2	-125.1	4,653.0	0.00	0.00	0.00
17,200.0	90.00	359.54	12,600.0	4,752.2	-125.9	4,753.0	0.00	0.00	0.00
17,300.0	90.00	359.54	12,600.0	4,852.2	-126.7	4,853.0	0.00	0.00	0.00
17,400.0	90.00	359.54	12,600.0	4,952.2	-127.5	4,953.0	0.00	0.00	0.00
17,500.0	90.00	359.54	12,600.0	5,052.2	-128.3	5,053.0	0.00	0.00	0.00
17,600.0	90.00	359.54	12,600.0	5,152.2	-129.1	5,153.0	0.00	0.00	0.00
17,700.0	90.00	359.54	12,600.0	5,252.2	-129.9	5,253.0	0.00	0.00	0.00
17,800.0	90.00	359.54	12,600.0	5,352.2	-130.7	5,353.0	0.00	0.00	0.00
17,900.0	90.00	359.54	12,600.0	5,452.2	-131.5	5,453.0	0.00	0.00	0.00
18,000.0	90.00	359.54	12,600.0	5,552.2	-132.3	5,553.0	0.00	0.00	0.00
18,100.0	90.00	359.54	12,600.0	5,652.2	-133.0	5,653.0	0.00	0.00	0.00
18,200.0	90.00	359.54	12,600.0	5,752.2	-133.8	5,753.0	0.00	0.00	0.00
18,300.0	90.00	359.54	12,600.0	5,852.1	-134.6	5,853.0	0.00	0.00	0.00
18,400.0	90.00	359.54	12,600.0	5,952.1	-135.4	5,953.0	0.00	0.00	0.00
18,500.0	90.00	359.54	12,600.0	6,052.1	-136.2	6,053.0	0.00	0.00	0.00
18,600.0	90.00	359.54	12,600.0	6,152.1	-137.0	6,153.0	0.00	0.00	0.00
18,700.0	90.00	359.54	12,600.0	6,252.1	-137.8	6,253.0	0.00	0.00	0.00
18,800.0	90.00	359.54	12,600.0	6,352.1	-138.6	6,353.0	0.00	0.00	0.00
18,900.0	90.00	359.54	12,600.0	6,452.1	-139.4	6,453.0	0.00	0.00	0.00
19,000.0	90.00	359.54	12,600.0	6,552.1	-140.2	6,553.0	0.00	0.00	0.00
19,100.0	90.00	359.54	12,600.0	6,652.1	-141.0	6,653.0	0.00	0.00	0.00
19,200.0	90.00	359.54	12,600.0	6,752.1	-141.8	6,753.0	0.00	0.00	0.00
19,300.0	90.00	359.54	12,600.0	6,852.1	-142.6	6,853.0	0.00	0.00	0.00
19,400.0	90.00	359.54	12,600.0	6,952.1	-143.4	6,953.0	0.00	0.00	0.00
19,500.0	90.00	359.54	12,600.0	7,052.1	-144.2	7,053.0	0.00	0.00	0.00
19,600.0	90.00	359.54	12,600.0	7,152.1	-145.0	7,153.0	0.00	0.00	0.00
19,700.0	90.00	359.54	12,600.0	7,252.1	-145.8	7,253.0	0.00	0.00	0.00
19,800.0	90.00	359.54	12,600.0	7,352.1	-146.6	7,353.0	0.00	0.00	0.00
19,900.0	90.00	359.54	12,600.0	7,452.1	-147.4	7,453.0	0.00	0.00	0.00
20,000.0	90.00	359.54	12,600.0	7,552.1	-148.2	7,553.0	0.00	0.00	0.00
20,100.0	90.00	359.54	12,600.0	7,652.1	-149.0	7,653.0	0.00	0.00	0.00
TD @ 20115.4'MD/12600.0'TVD									
20,115.4	90.00	359.54	12,600.0	7,667.5	-149.1	7,668.4	0.00	0.00	0.00

Marathon Oil

KLX

Well Planning Report

KLX Directional Drilling

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Ender Wiggins 14 WA FED COM 19H
Company:	Marathon Oil Permian LLC	**TVD Reference:**	25'KB @ 3383.0usft (25'KB)
Project:	Lea County, New Mexico (NAD 27)	**MD Reference:**	25'KB @ 3383.0usft (25'KB)
Site:	Sec 14, T25S, R34E	**North Reference:**	Grid
Well:	Ender Wiggins 14 WA FED COM 19H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim #1		

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
VP - EW 14 WA FC 19H - plan hits target center - Point	0.00	0.00	4,000.0	-49.9	-87.6	412,401.24	777,845.48	32° 7' 50.252 N	103° 26' 8.821 W
KOP/FTP - EW 19H(121 - plan hits target center - Point	0.00	0.00	12,122.5	-49.9	-87.6	412,401.24	777,845.48	32° 7' 50.252 N	103° 26' 8.821 W
LTP/BHL - EW 14 WA F(- plan hits target center - Point	0.00	0.00	12,600.0	7,667.5	-149.1	420,118.67	777,783.97	32° 9' 6.623 N	103° 26' 8.788 W
PPP-3 - EW 19H(17576. - plan misses target center by 0.1usft at 17576.0usft MD (12600.0 TVD, 5128.2 N, -128.9 E) - Point	0.00	0.00	12,600.0	5,128.2	-128.8	417,579.37	777,804.27	32° 8' 41.495 N	103° 26' 8.798 W
PPP-2 - EW 19H(14936. - plan misses target center by 0.1usft at 14936.6usft MD (12600.0 TVD, 2488.9 N, -107.8 E) - Point	0.00	0.00	12,600.0	2,488.9	-107.7	414,940.08	777,825.38	32° 8' 15.376 N	103° 26' 8.808 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
857.0	857.0	Rustler			
1,363.0	1,363.0	Salado			
3,564.2	3,562.0	Castile			
5,372.7	5,370.0	Lamar/Base of Salt			
5,404.7	5,402.0	Bell Canyon			
6,712.7	6,710.0	Cherry Canyon			
8,015.7	8,013.0	Brushy Canyon			
9,298.7	9,296.0	Bone Spring			
10,348.7	10,346.0	1st Bone Spring Sand			
10,927.7	10,925.0	2nd Bone Spring Sand			
11,968.7	11,966.0	3rd Bone Spring Sand		0.00	359.54
12,448.9	12,422.0	Wolfcamp		0.00	359.54
12,501.4	12,461.0	Wolfcamp X Sand		0.00	359.54
12,619.2	12,533.0	Wolfcamp Y Sand		0.00	359.54
12,691.3	12,565.0	Wolfcamp A		0.00	359.54

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	Build 2°/100'
2,156.6	2,156.5	-2.1	-3.7	EOB @ 3.13°Inc/240.31°Azm
3,846.1	3,843.5	-47.8	-83.9	Drop 2°/100'
4,002.7	4,000.0	-49.9	-87.6	EOD @ Vertical
12,125.2	12,122.5	-49.9	-87.6	Build 12°/100'
12,875.2	12,600.0	427.5	-91.4	EOB @ 90.00°Inc/359.54°Azm
20,115.4	12,600.0	7,667.5	-149.1	TD @ 20115.4'MD/12600.0'TVD

Company Name: Marathon Oil Permian LLC
Ender Wiggins 14 WA FED COM 19H
Lea County, New Mexico (NAD 27)
Rig: 25'KB
Created By: Michael Hilliard
Date: 6/4/2021

PROJECT DETAILS: Lea County, New Mexico (NAD 27)

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

Ender Wiggins 14 WA FED COM 19H
Lea County, New Mexico (NAD 27)
Q210*** & WT-210***
Prelim #1

WELL DETAILS: Ender Wiggins 14 WA FED COM 19H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	412451.19	3358.0 777933.09	32° 7' 50.739 N	103° 26' 7.797 W

T G M

Azimuths to Grid North

Correction: 5.89°

Magnetic Field
Strength: 47543.3nT
Dip Angle: 59.72°
Date: 6/2/2021
Model: HDGM2021

KLX Directional Drilling

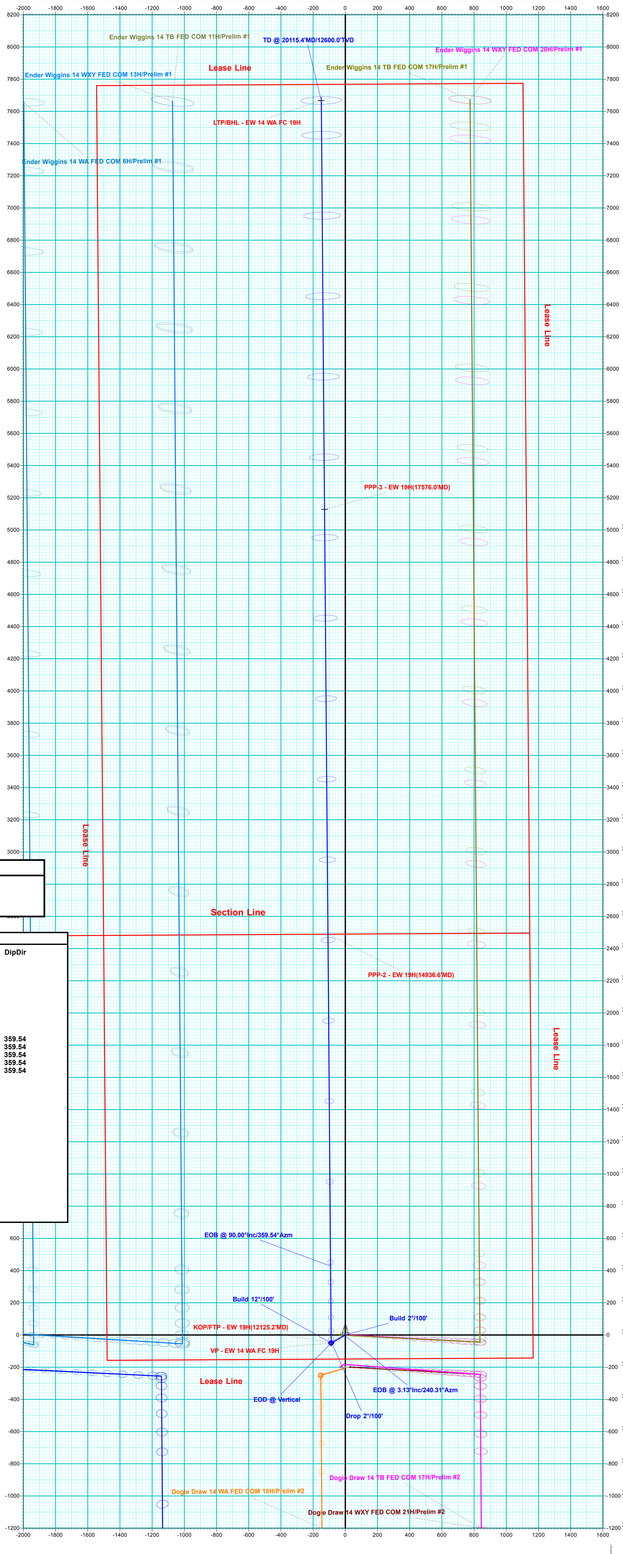
Marathon Oil

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
VP - EW 14 WA FC 19H	4000.0	-49.9	-87.6	412401.24	777845.49	32° 7' 50.252 N	103° 26' 8.821 W	Point
- plan hits target center								
KOP/FTP - EW 19H(12125.2'MD)	12122.5	-49.9	-87.6	412401.24	777845.49	32° 7' 50.252 N	103° 26' 8.821 W	Point
- plan hits target center								
LTP/BHL - EW 14 WA FC 19H	12600.0	7667.5	-149.1	420118.67	777783.97	32° 9' 6.623 N	103° 26' 8.788 W	Point
- plan hits target center								
PPP-2 - EW 19H(14936.6'MD)	12600.0	2488.9	-107.7	414940.08	777825.38	32° 8' 15.376 N	103° 26' 8.808 W	Point
- plan misses target center by 0.1usft at 14936.6usft MD (12600.0 TVD, 2488.9 N, -107.8 E)								
PPP-3 - EW 19H(17576.0'MD)	12600.0	5128.2	-128.8	417579.37	777804.28	32° 8' 41.495 N	103° 26' 8.798 W	Point
- plan misses target center by 0.1usft at 17576.0usft MD (12600.0 TVD, 5128.2 N, -128.9 E)								

DESIGN ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
2000.0	0.00	0.00	2000.0	0.0	0.0	0.0	0.0	Build 2°/100'
2156.6	3.13	240.31	2156.5	-2.1	-3.7	-2.1	4.3	EOB @ 3.13°Inc/240.31°Azm
3846.1	3.13	240.31	3843.5	-47.8	-63.9	-47.2	96.6	Drop 2°/100'
4002.7	0.00	0.00	4000.0	-49.9	-87.6	-49.2	100.8	EOD @ Vertical
12125.2	0.00	0.00	12122.5	-49.9	-87.6	-49.2	100.8	Build 12°/100'
12875.2	90.00	359.54	12600.0	427.5	-91.4	428.2	578.3	EOB @ 90.00°Inc/359.54°Azm
20115.4	90.00	359.54	12600.0	7667.5	-149.1	7668.4	7818.5	TD @ 20115.4'MD/12600.0'TVD

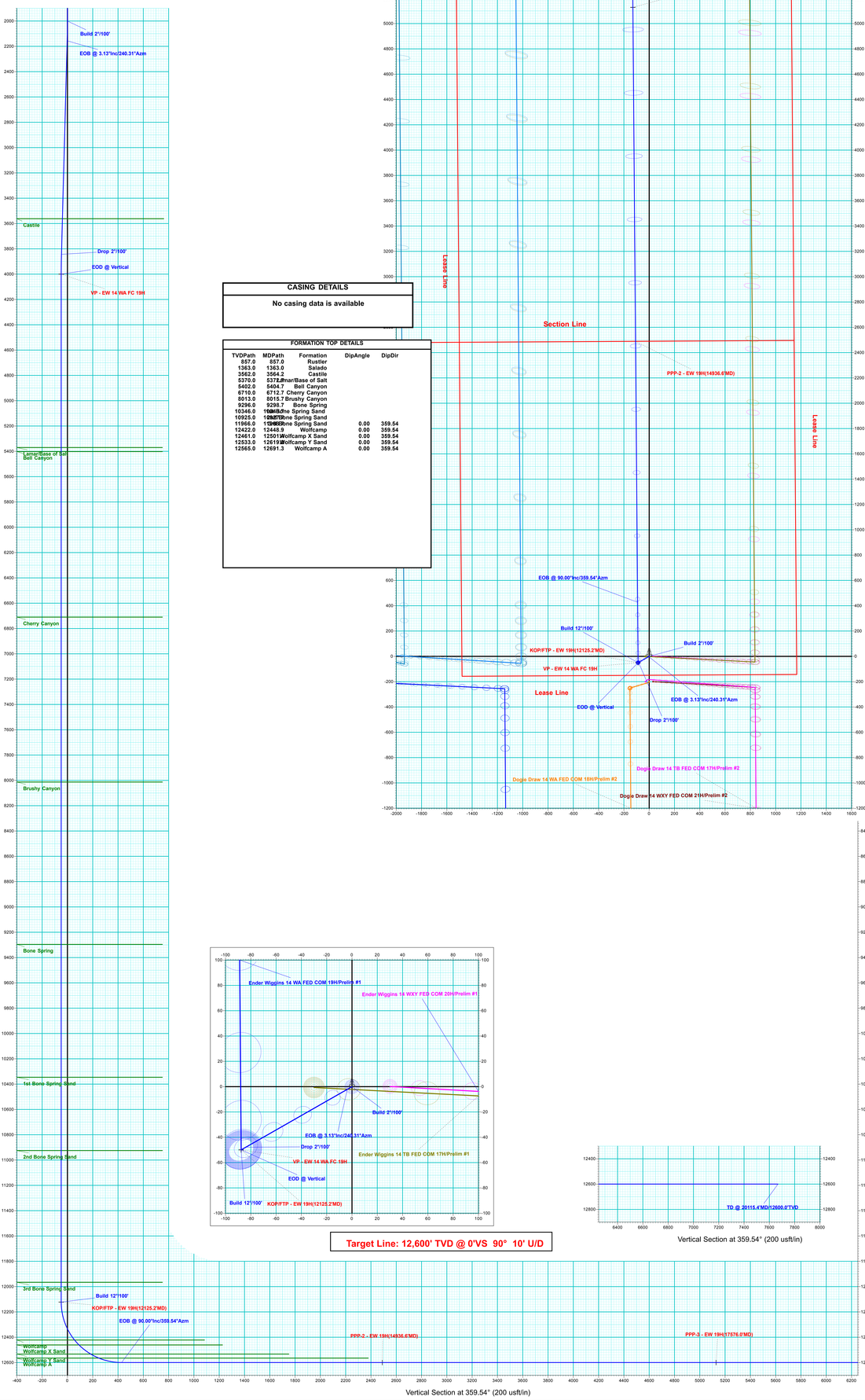


CASING DETAILS

No casing data is available

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
857.0	857.0	Rustler		
1363.0	1363.0	Salado		
3562.0	3564.2	Castile		
5370.0	5378.2	Lmar/Base of Salt		
5402.0	5404.7	Bell Canyon		
6710.0	6712.7	Cherry Canyon		
8013.0	8015.7	Brushy Canyon		
9296.0	9298.7	Bone Spring		
10346.0	10348.7	1st Bone Spring Sand		
10925.0	10927.7	2nd Bone Spring Sand		
11866.0	11868.7	3rd Bone Spring Sand		
12422.0	12448.9	Wolfcamp	0.00	359.54
12461.0	12501.9	Wolfcamp X Sand	0.00	359.54
12533.0	12619.9	Wolfcamp Y Sand	0.00	359.54
12565.0	12691.3	Wolfcamp A	0.00	359.54



Target Line: 12,600' TVD @ 0'VS 90° 10' U/D

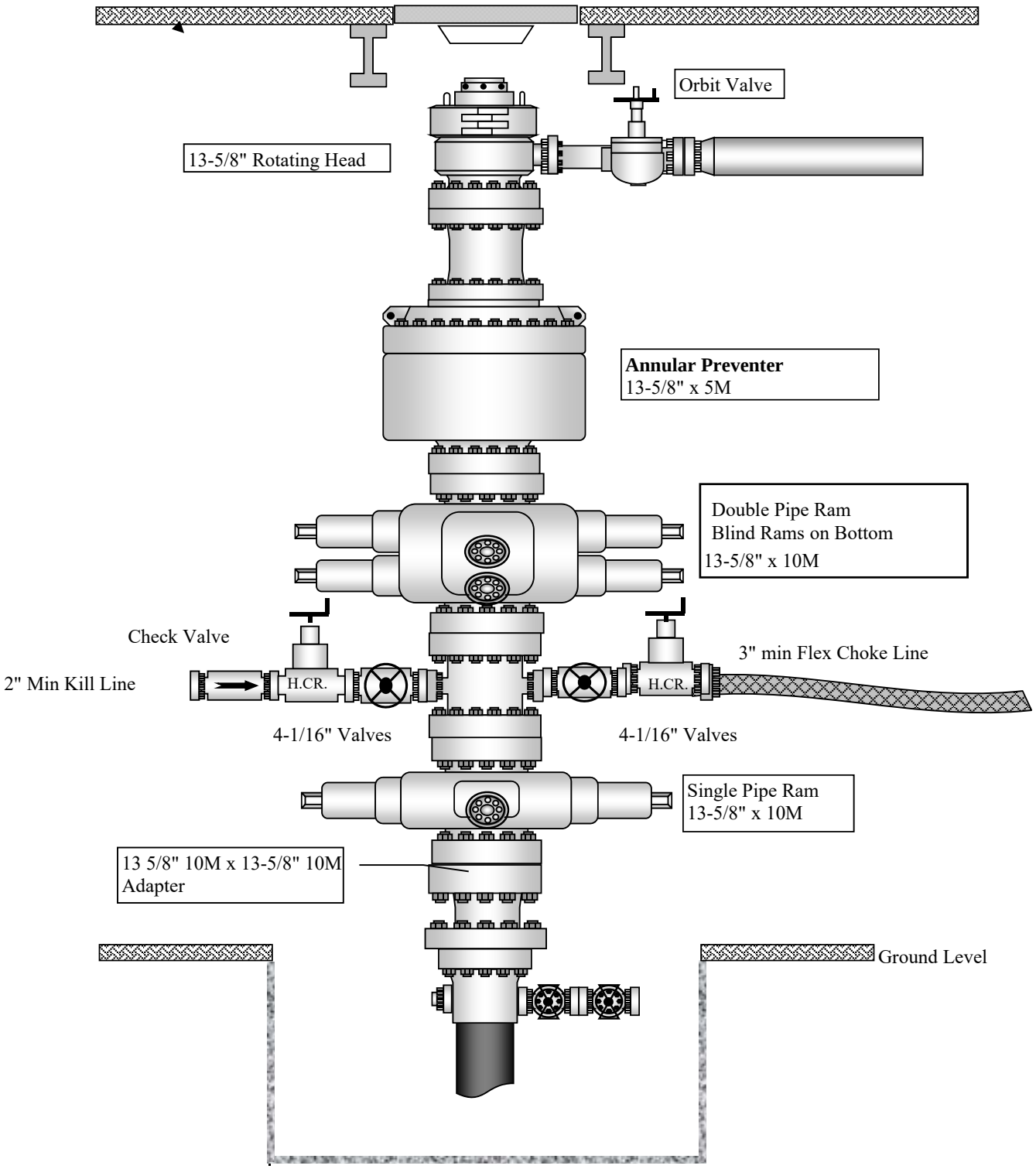
Batch Drilling Plan

- Marathon Oil Permian LLC. respectfully requests the option to “batch” drill sections of a well with intentions of returning to the well for later completion.
- When it is determined that the use of a “batch” drilling process to increase overall efficiency and reduce rig time on location, the following steps will be utilized to ensure compliant well control before releasing drilling rig during the batch process.
- Succeeding a successful cement job, fluid levels will be monitored in both the annulus and casing string to be verified static.
- A mandrel hanger packoff will be ran and installed in the multi-bowl wellhead isolating and creating a barrier on the annulus. This packoff will be tested to 5,000 PSI validating the seals.
- At this point the well is secure and the drilling adapter will be removed from the wellhead.
- A 13-5/8” 5M temporary abandonment cap will be installed on the wellhead by stud and nut flange. The seals of the TA cap will then be pressure tested to 5,000 PSI.
- The drilling rig will skid to the next well on the pad to continue the batch drilling process.
- When returning to the well with the TA cap, the TA cap will be removed and the BOP will be nippled up on the wellhead.
- A BOP test will then be conducted according to Onshore Order #2 and drilling operations will resume on the subject well.

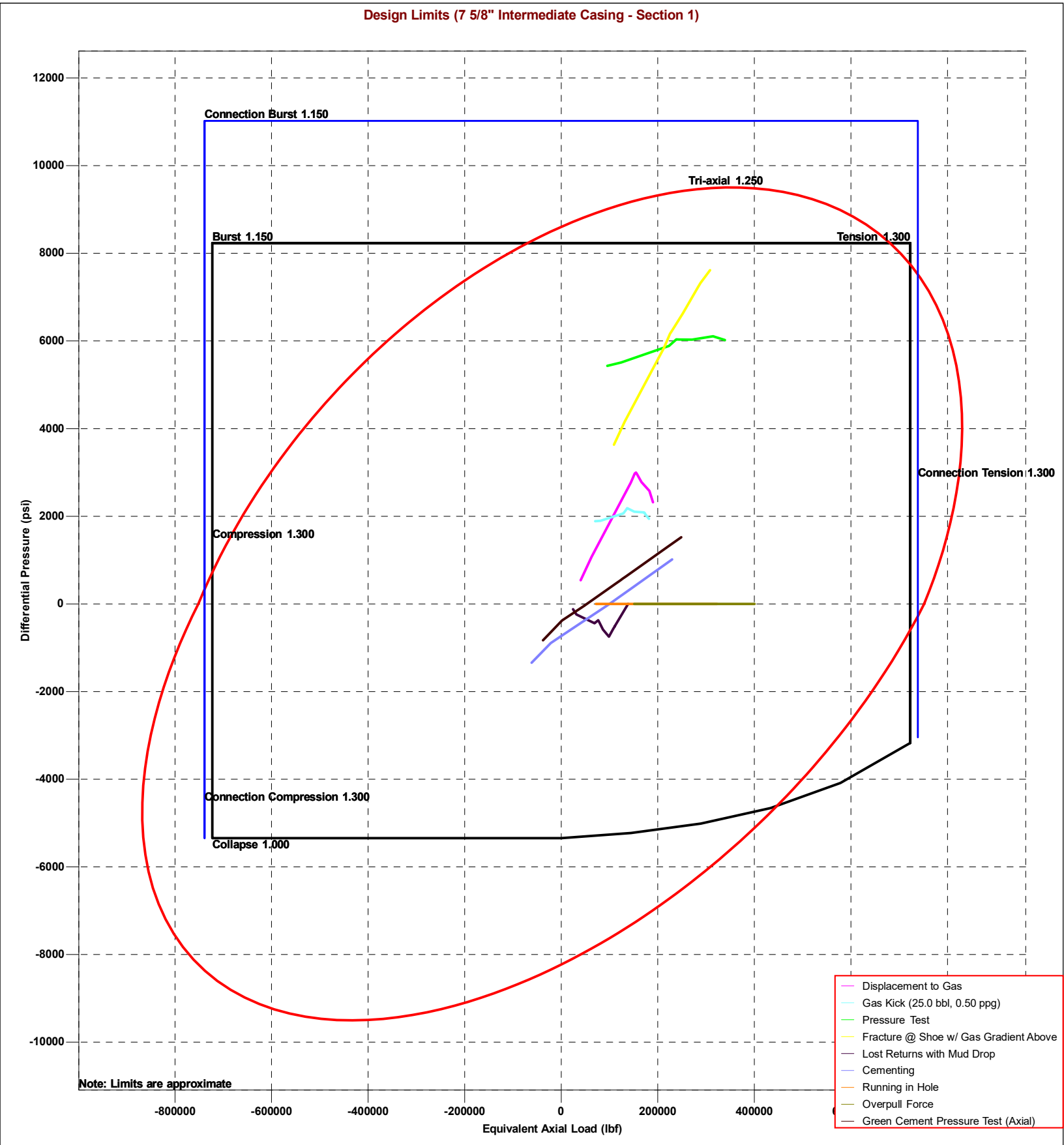
Request for Surface Rig

- Marathon Oil Permian LLC. Requests the option to contract a surface rig to drill, set surface casing and cement on the subject well. If the timing between rigs is such that Marathon Oil Permian LLC. would not be able to preset the surface section, the primary drilling rig will drill the well in its entirety per the APD.

Operator : **Marathon Oil**



File: Basis of Design (10.75-7.625-5.5) * Date: October 13, 2020 Page: 1



RED HILLS SB - 3 CSG STRING StressCheck 5000.15.1.2 Build 21

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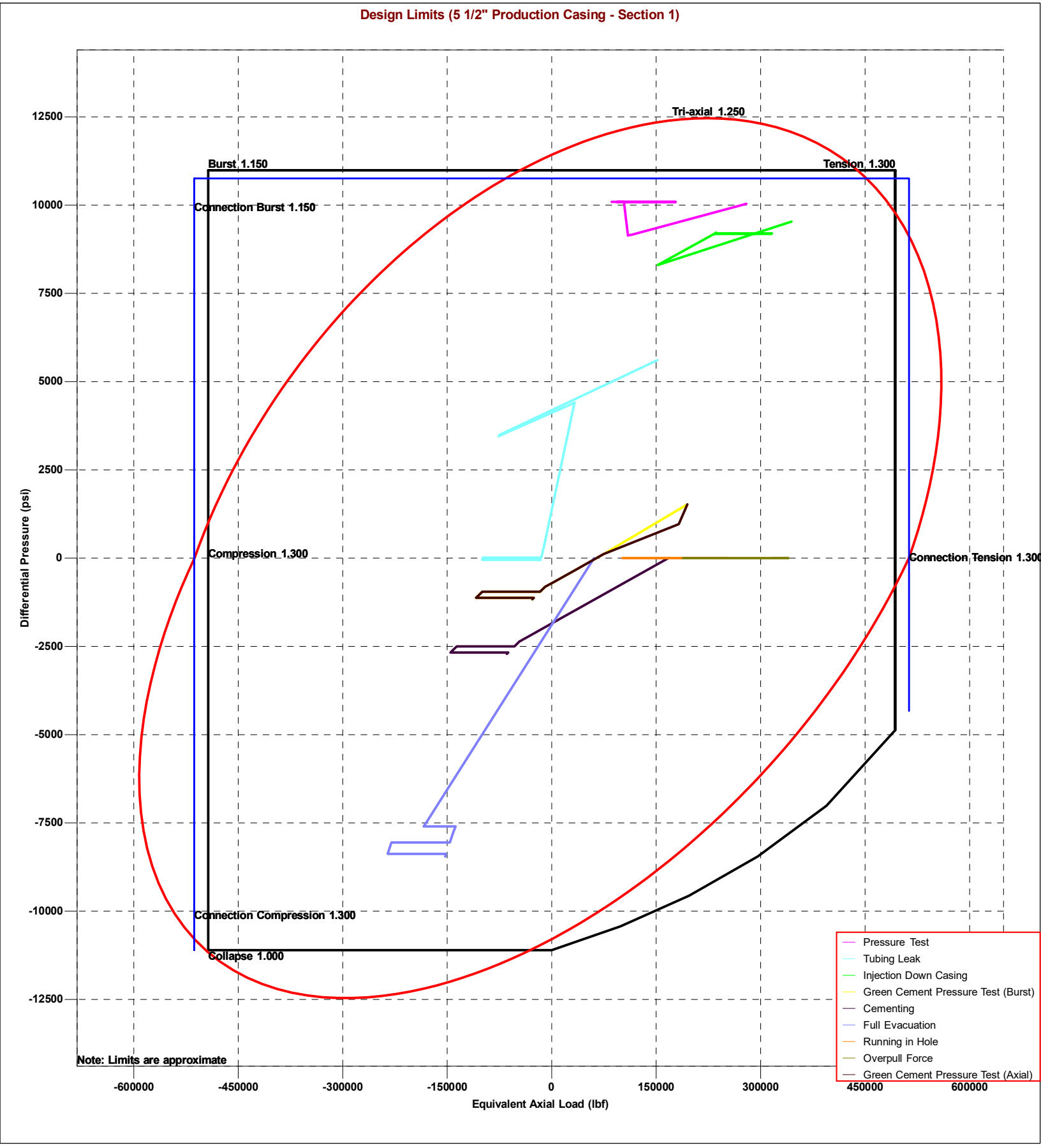
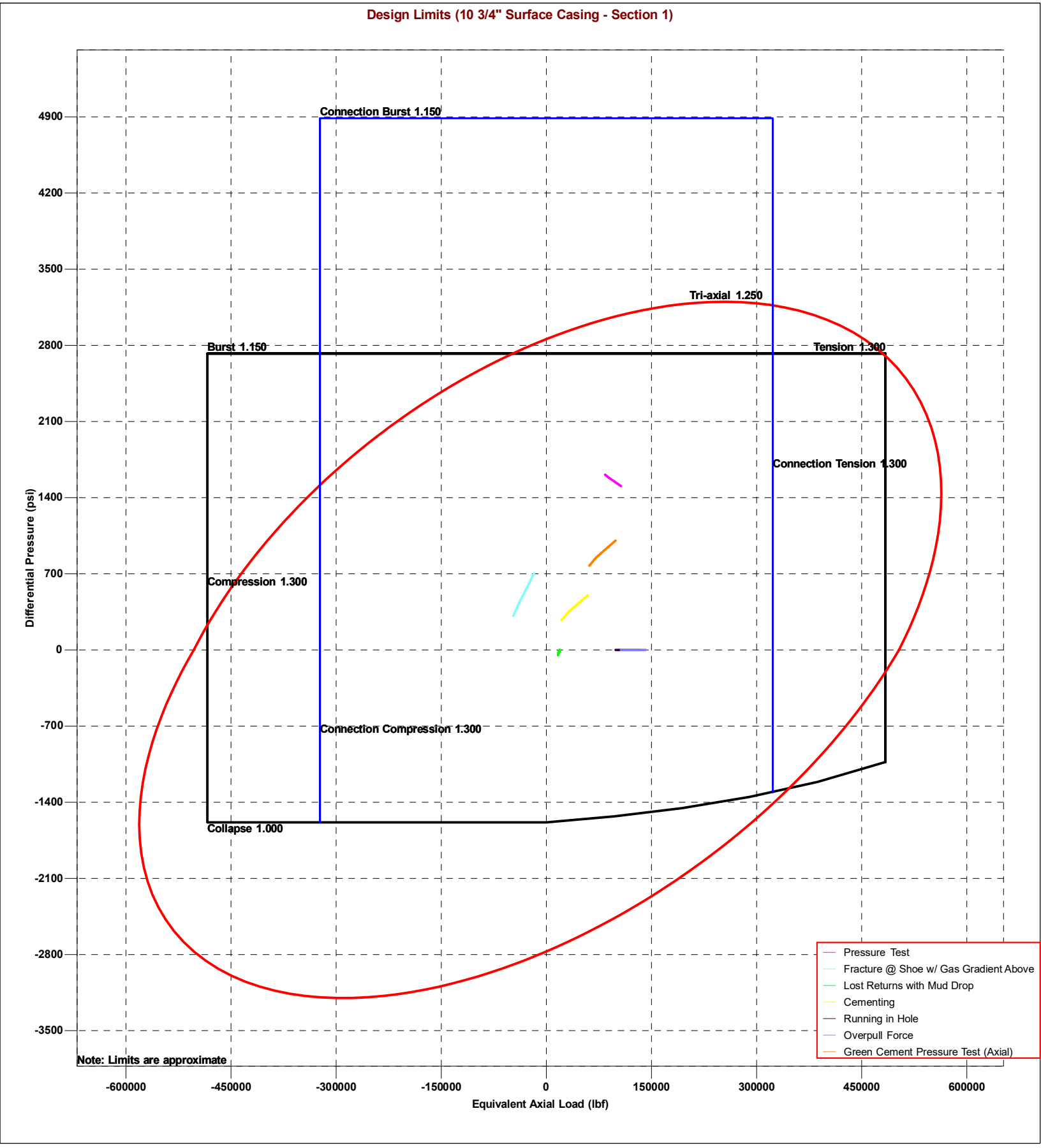
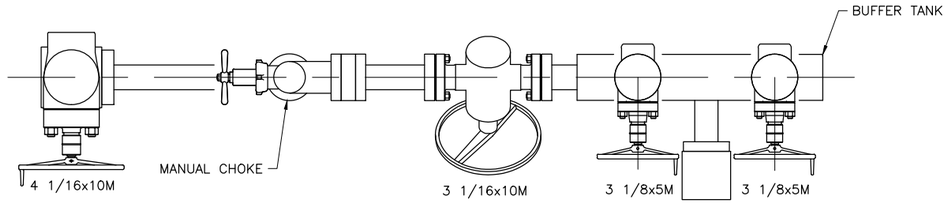


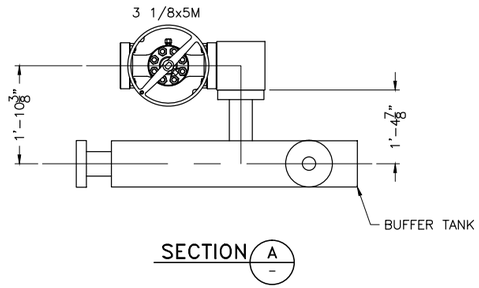
RED HILLS SB - 3 CSG STRING StressCheck 5000.15.1.2 Build 21

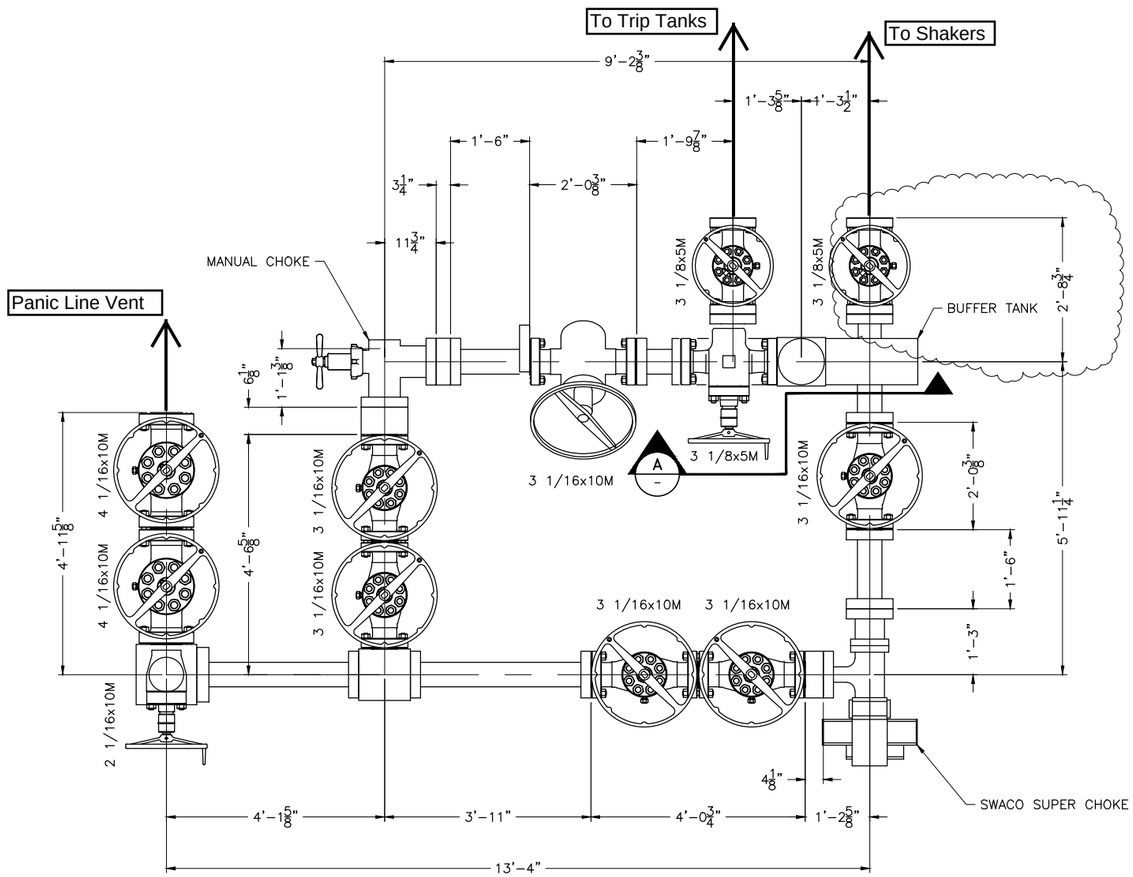
File: Basis of Design (10.75-7.625-5.5) * Date: October 13, 2020 Page: 1

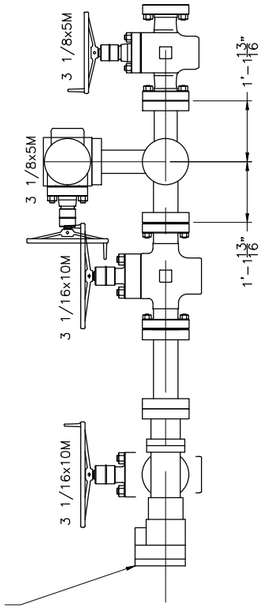


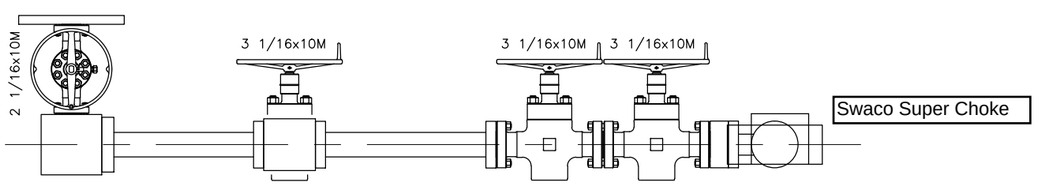
RED HILLS SB - 3 CSG STRING StressCheck 5000.15.1.2 Build 21











ISSUED FOR FABRICATION
October-15-2002
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY
A	10/15/02	ADJUST DIM TO FIELD CONFIRMED DIM	RAY

ENGINEERING APPROVAL | DATE

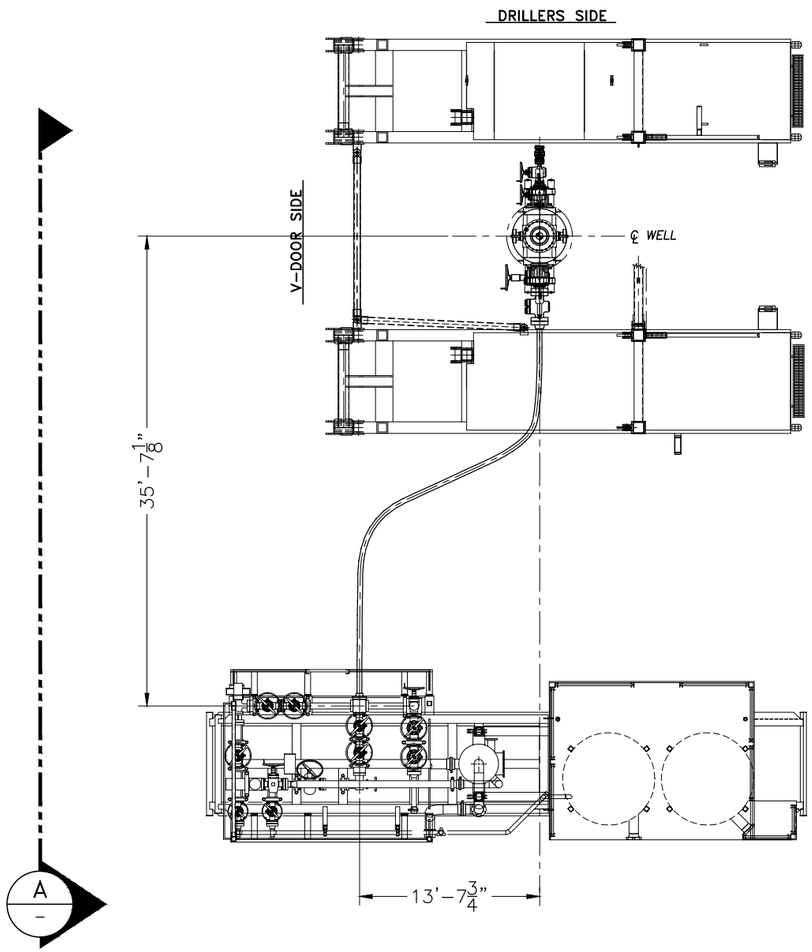
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE MANIFOLD
RIG 216-234

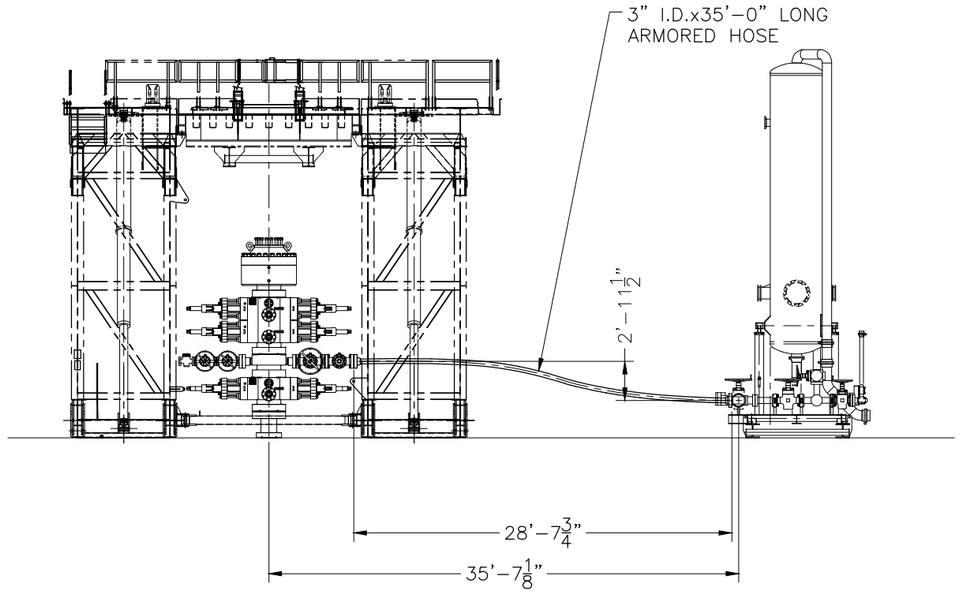
CUSTOMER: H&P

PROJECT: FLEXRIG3

DRAWN:	DATE:	DWG. NO.:	REV:
MTS	2-28-02	216-P1-05	A
SCALE: 3/4"=1'	SHEET: 1 OF 1		



PLAN VIEW



SECTION "A"

ISSUED FOR FABRICATION
December-19-2007
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY
A	12/18/07	REMOVED SHEET TOTAL CALLOUT	JAV

ENGINEERING APPROVAL	DATE

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE LINE SYSTEM FLEXRIG3

CUSTOMER:

PROJECT:

DRAWN:	DATE:	DWG. NO.:	REV:
JBG	4-10-07	210-P1-07	A

SCALE: 3/16"=1' SHEET: 2 OF 8

Certificate of Conformity

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
953233-4	953233	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740053080	
Project:		

Test Center Address	Accepted by COM Inspection		Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Roger Suarez 5/11/17	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No.	Description	Qnty	Serial Number	Specifications
30		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	63393	ContiTech Standard

Hydrostatic Test Certificate

ContiTech

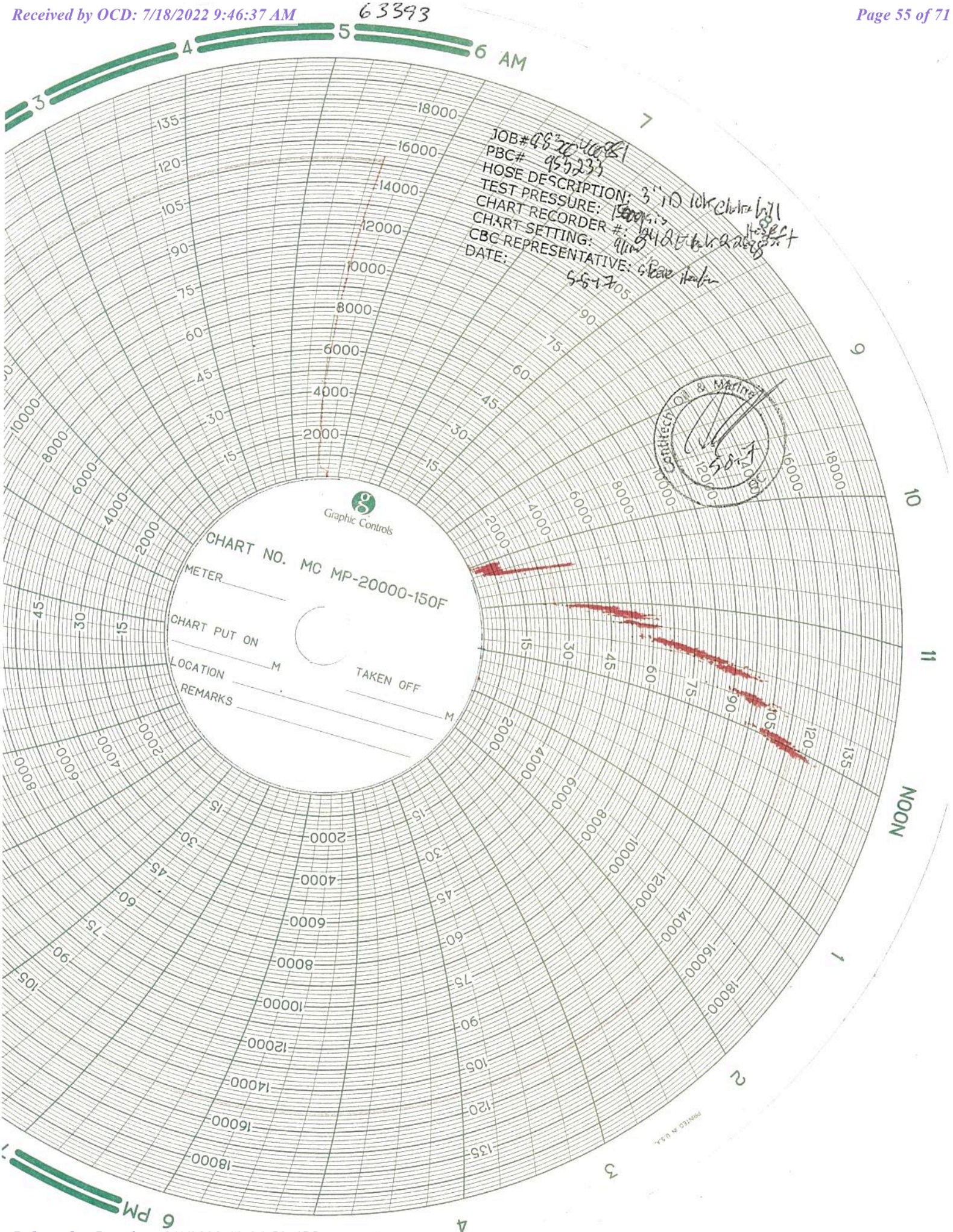
Certificate Number	COM Order Reference	Customer Name & Address
953233-4	953233	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740053080	
Project:		

Test Center Address	Accepted by COM Inspection		Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Roger Suarez 5/11/17	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qnty	Serial Number	Work. Press.	Test Press.	Test Time (minutes)
30		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	63393	10,000 psi	15,000 psi	60

63393


JOB#
PBC# 455231
HOSE DESCRIPTION:
TEST PRESSURE:
CHART RECORDER #:
CHART SETTING:
CBC REPRESENTATIVE:
DATE:
Graphic Controls
CHART NO. MC MP-20000-150F
METER
CHART PUT ON
M
LOCATION
TAKEN OFF
M
REMARKS
Contitech Oil & Marine
NOON
6 PM
6 AM

Continental CONTITECH

QUALITY CONTROL	No.: QC-DB- 380 / 2012
	Page : 1 / 61
Hose No.: 63389, 63390, 63391 63392, 63393	Revision : 0
	Date: 28. August 2012.
	Prepared by : Szalai Sándor
	Appr. by:

CHOKE AND KILL HOSES

id.: 3" 69 MPa x 35 ft (10,67 m)

DATA BOOK

Purchaser: H & P

Purchaser Order No.:

ContiTech Rubber Order No.: 531895

ContiTech Beattie Co. Order No.: 006227

NOT DESIGNED FOR WELL TESTING

ContiTech Rubber Industrial Kft.
Budapesti út 10., Szeged H-6728
P.O.Box 152 Szeged H-6701
Hungary
Phone: +36 62 566 737
Fax: +36 62 566 736
e-mail: info@fluid.contitech.hu
Internet: www.contitech-rubber.hu
The Court of Csongrád County as Registry Court
Registry Court No: HU 06-09-002502
EU VAT No: HU11087209
Bank data
Commercial and Creditbank
Szeged
10402805-28014250-00000000

CONTENT

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4.	Hose Data Sheet	10.
5.	Metal Parts	
5.1.	Raw Material Quality Certificates (No.: EUR-240960, EUR-251871, 81687/12-0)	11-14.
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5.3.	Ultrasonic Test Reports (No.: U12/124, U12/126, U12/129, U12/127)	18-21.
5.4.	NDT Examiner Certificate (Name: Joó Imre)	22-23.
5.5.	Welding Procedure Specification (No.: 140-60)	24-27.
5.6.	Welding Procedure Qualification Record (No.: BUD 0600014/1)	28-29.
5.7.	Welder's Approval Test Certificates (No.: RK-1894628-A1-X2, RK-1894628-A1-X-1, RK-2096656-B, RK-1894628-A1-X3, RK1079715-A1-X)	30-41.
5.8.	Welding Log Sheets (No.: 240, 241)	42-43.
5.9.	Visual Examination Record (No.: 696/12)	44.
5.10.	NDT Examiner Certificate (Name: Benkő Péter)	45-46.
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5.12.	NDT Examiner Certificate (Name: Ménesi István)	52-53.
5.13.	MP Examination Record (No.: 1262/12)	54.
5.14.	NDT Examiner Certificate (Name: Oravecz Gábor)	55-56.
6.	Steel Cord	
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ContiTech Rubber
Industrial Kft.
Quality Control Dept.
(1)

QMS REGISTERED

Certificate of Registration

APIQR REGISTRATION NUMBER
0760

This certifies that the quality management system of

CONTITECH RUBBER INDUSTRIAL LTD.
Budapesti ut 10
Szeged
Hungary

has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and found it to be in conformance with the following standard:

ISO 9001:2008

The scope of this registration and the approved quality management system applies to the
Design and Manufacture of High Pressure Hoses

APIQR® approves the organization's justification for excluding:
No Exclusions Identified as Applicable

COPY

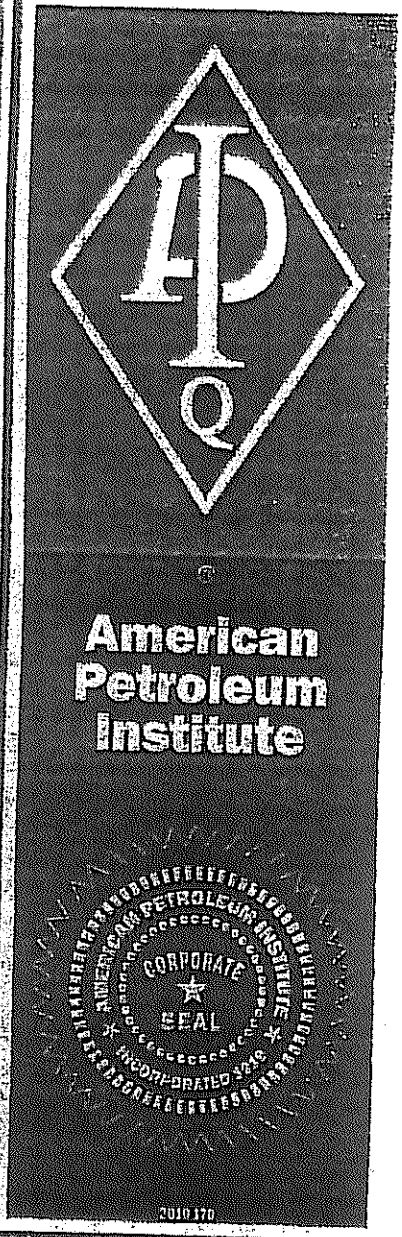
Effective Date: October 15, 2010
Expiration Date: October 15, 2013
Registered Since: October 15, 2007

W. Dan Whittaker
Manager of Operations, APIQR

Accredited by Member of the International Accreditation Forum Multilateral Recognition Arrangement for Quality Management Systems

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of APIQR's Registration Program and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. Further clarifications regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIQR offices located at 1220 L Street, N.W., Washington, D.C. 20005-4070, U.S.A., It is the property of APIQR, and must be returned upon request. To verify the authenticity of this certificate, go to www.api.org/compositelist.

QUALITY REGISTRAR



Certificate of Authority to use the Official API Monogram

License Number: 16C-0004

ORIGINAL

The American Petroleum Institute hereby grants to

CONTITECH RUBBER INDUSTRIAL LTD.
Budapesti ut 10
Szeged
Hungary

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API Spec 16C** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram should be used in conjunction with this certificate number: **16C-0004**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following product: Flexible Choke and Kill Lines

QMS Exclusions: No Exclusions Identified as Applicable

American Petroleum Institute

Effective Date: OCTOBER 15, 2010
Expiration Date: OCTOBER 15, 2013

To verify the authenticity of this license, go to www.api.org/compositelist.

Director of Global Industry Services

CONTITECH RUBBER Industrial Kft. | No:QC-DB- 380 /2012 | Page: 4 /61

Continental CONTITECH

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 380 /2012
	Page: 9 /61

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE					CERT. N°:	1599	
PURCHASER:	ContiTech Beattie Co.				P.O. N°:	006227	
CONTITECH ORDER N°:	531895		HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	63393		NOMINAL / ACTUAL LENGTH:		10,67 m / 10,72 m		
W.P. 68,9 MPa	10000 psi		T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 20 MPa

COUPLINGS Type	Serial N°		Quality	Heat N°
3" coupling with	2156	2153	AISI 4130	20231
4 1/16" 10K API Flange end			AISI 4130	34031

NOT DESIGNED FOR WELL TESTING

API Spec 16 C

Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
23. August 2012.		ContiTech Rubber Industrial Kft. Quality Control Dept. (1)

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 380 /2012
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Hose Data Sheet

CRI Order No.	531895
Customer	ContiTech Beattie Co.
Customer Order No	PO6227 Pbc13080-H&P
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSI C/W BX155RING GROOVE
Type of coupling other end	FLANGE 4 1/16" API SPEC 6A TYPE 6BX FOR 10000 PSI C/W BX155 RING GROOVE
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL RESISTANT
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
MBR operating [m]	1,60
MBR storage [m]	1,40
Type of packing	WOODEN CRATE ISPM-15

1. DRILLING WELL CONTROL PLAN

1.1 WELL CONTROL - CERTIFICATIONS

Required IADC/IWCF Well Control Certifications Supervisor Level:

Any personnel who supervises or operates the BOP must possess a valid current IADC training certification and photo identification. This would include the onsite drilling supervisor, tool pusher/rig manager, driller, and any personnel that will be acting in these capacities. Another example of this may be a wireline or snubbing crew rigged up on the rig to assist the rig, the operator of each system must also have a valid control certification for their level of operation.

BLM recognizes IADC training as the industry approved accredited training. Online self-certifications will not be acceptable. Enforcement actions for the lack of a valid Supervisory Level certificate shall be prompt action to correct the deficiency. **Enforcement actions include but are not limited to immediate replacement of personnel lacking certifications, drilling operations being shut down or installment of a 10M annular.**

IADC Driller Level for all Drillers and general knowledge for the Assistant Driller, Derrick Hands, Floor Hands and Motor Hands is recognized by the BLM; however, a Driller Level certification will need to be presented only if acting in a temporary Driller Level certification capacity.

Well Control-Position/Roles

IADC Well control training and certification is targeted toward each role, e.g., Supervisor Level toward those who direct, Driller Level to those who act, Introductory to those who need to know.

- **Supervisor Level**
  - Specifies and has oversight that the correct actions are carried out
  - Role is to supervise well control equipment, training, testing, and well control events
  - Directs the testing of BOP and other well control equipment
  - Regularly direct well control crew drills
  - Land based rigs – usually runs the choke during a well kill operation
  - Due to role on the rig, training and certification is targeted more toward management of well control and managing an influx out of the well

- **Driller Level**
  - Performs an action to prevent or respond to well control accident
  - Role is to monitor the well via electronic devices while drilling and detect unplanned influxes
  - Assist with the testing of BOP and other well control equipment
  - Regularly assist with well control crew drills
  - When influx is detected, responsible to close the BOP
  - Due to role on the rig, training and certification is targeted more toward monitoring and shutting the well in (closing the BOP) when an influx is detected

(Well Control-Positions/Roles Continued)

- **Derrick Hand, Assistant Driller Introductory Level**
  - Role is to assist Driller with kick detection by physically monitoring the well at the mixing pits/tanks
  - Regularly record mud weights/viscosity for analysis by the Supervisor level and mud engineer so pre-influx signs can be detected
  - Mix required kill fluids as directed by Supervisor or Driller
  - Due to role on the rig, training and certification is targeted more toward monitoring for influxes, either via mud samples or visual signs on the pits/tanks

- **Motorman, Floor Hand Introductory Level**
  - Role is to assist the Supervisor, Driller, or Derrick Hand with detecting influxes
  - Be certain all valves are aligned for proper well control as directed by Supervisor
  - Perform Supervisor or Driller assigned tasks during a well control event
  - Due to role on the rig, training and certification is targeted more toward monitoring for influxes

1.2 WELL CONTROL-COMPONENT AND PREVENTER COMPATIBILITY CHECKLIST

The table below, which covers the drilling and casing of the 10M Stack portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

- Example 6-1/8" Production hole section, 10M requirement

Component	OD	Preventer	RWP
Drill pipe	4"	Upper and Lower 3.5-5.5" VBRs	10M
HWDP	4"	Upper and Lower 3.5-5.5" VBRs	10M
Drill collars and MWD tools	4.75-5"	Upper and Lower 3.5-5.5" VBRs	10M
Mud Motor	4.75-5.25"	Upper and Lower 3.5-5.5" VBRs	10M
Production casing	4.5"	Upper and Lower 3.5-5.5" VBRs	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

- VBR = Variable Bore Ram. Compatible range listed in chart.

1.3 WELL CONTROL-BOP TESTING

BOP Test will be completed per Onshore Oil and Gas Order #2 Well Control requirements. The 5M Annular Preventer on a required 10M BOP stack will be tested to 70 % of rated working

pressure including a 10 minute low pressure test. Pressure shall be maintained at least 10 minutes.

1.4 WELL CONTROL - DRILLS

The following drills are conducted and recorded in the Daily Drilling Report and the Contractor's reporting system while engaged in drilling operations:

Type	Frequency	Objective	Comments
Shallow gas kick drill - drilling	Once per well with crew on tour	Response training to a shallow gas influx	To be done prior to drilling surface hole if shallow gas is noted
Kick drill - drilling	Once per week per crew	Response training to an influx while drilling (bit on bottom)	Only one kick drill per week per crew is required, alternating between drilling and tripping.
Kick drill - tripping	Once per week per crew	Response training to an influx while tripping (bit off bottom). Practice stabbing TIW valve	

1.5 WELL CONTROL – MONITORING

- Drilling operations which utilize static fluid levels in the wellbore as the active barrier element, a means of accurately monitoring fill-up and displacement volumes during trips are available to the driller and operator. A recirculating trip tank is installed and equipped with a volume indicator easily read from the driller's / operator's position. This data is recorded on a calibrated chart recorder or digitally. The actual volumes are compared to the calculated volumes.
- The On-Site Supervisor ensures hole-filling and pit monitoring procedures are established and documented for every rig operation.
- The well is kept full of fluid with a known density and monitored at all times even when out of the hole.
- Flow checks are a minimum of 15 minutes.
- A flow check is made:
  - In the event of a drilling break.
  - After indications of down hole gains or losses.
  - Prior to all trips out of the hole.
  - After pulling into the casing shoe.
  - Before the BHA enters the BOP stack.
  - If trip displacement is incorrect.

Well Control-Monitoring (Continued)

  - Prior to dropping a survey instrument.
  - Prior to dropping a core ball.

  - After a well kill operation.
  - When the mud density is reduced in the well.
- Flow checks may be made at any time at the sole discretion of the driller or his designate. The Onsite Supervisor ensures that personnel are aware of this authority and the authority to close the well in immediately without further consultation.
- Record slow circulating rates (SCR) after each crew change, bit trip, and 500' of new hole drilled and after any variance greater than 0.2 ppg in MW. Slow pump rate recordings should include return flow percent, TVD, MD & pressure. SCR's will be done on all pumps at 30, 40 & 50 SPM. Pressures will be recorded at the choke panel. SCR will be recorded in the IADC daily report and ORB Wellview daily report
- Drilling blind (i.e. without returns) is permissible only in known lithology where the absence of hydrocarbons has been predetermined and written approval of the Drilling Manager.
- All open hole logs to be run with pack-off or lubricator.
- The Drilling Contractor has a fully working pit level totalizer / monitoring system with read out for the driller and an audible alarm set to 10 BBL gain / loss volume. Systems are selectable to enable monitoring of all pits in use. Pit volumes are monitored at all times, especially when transferring fluids. Both systems data is recorded on a calibrated chart recorder or electronically.
- The Drilling Contractor has a fully working return mud flow indicator with drillers display and an audible alarm, and is adjustable to record any variance in return volumes.

1.6 WELL CONTROL – SHUT IN

- The "hard shut in" method (i.e. against a closed choke using either an annular or ram type preventer) is the Company standard.
- The HCR(s) or failsafe valves are left closed during drilling to prevent any erosion and buildup of solids. The adjustable choke should also be left closed.
- The rig specific shut in procedure, the BOP configuration along with space-out position for the tool joints is posted in the Driller's control cabin or doghouse.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Manager.
- During a well kill by circulation, constant bottom hole pressure is maintained throughout.
- Kill sheets are maintained by the Driller and posted in the Driller's control cabin or doghouse. The sheet is updated at a minimum every 500 feet.

2. SHUT-IN PROCEDURES:

2.1 PROCEDURE WHILE DRILLING

- Sound alarm (alert crew)

- Space out drill string – Stop rotating, pick the drill string up off bottom, and space out to ensure no tool joint is located in the BOP element selected for initial closure.
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
    - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify toolpusher/company representative
- Gather all relevant data required:
    - SIDPP and SICP
    - Hole Depth and Hole TVD
    - Pit gain
    - Time
    - Kick Volume
    - Pipe depth
    - MW in, MW out
    - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
- If pressure has built or is anticipated during the kill to reach 1,000 psi or greater, the annular preventer will not be used as the primary pressure control device and operations will swap to the upper BOP pipe ram.

2.2 PROCEDURE WHILE TRIPPING

- Sound alarm (alert crew)
- Stab full opening safety valve in the drill string and close.
- Space out drill string (ensure no tool joint is located in the BOP element selected for initial closure).
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
    - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify tool pusher/company representative
- Gather all relevant data required:
    - SIDPP and SICP
    - Hole Depth and Hole TVD
    - Pit gain

Procedure While Tripping (Continued)

- Time
- Kick Volume
- Pipe depth

- MW in, MW out
- SPR's (Slow Pump Rate's)

- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
- If pressure has built or is anticipated during the kill to reach 1,000 psi or greater, the annular preventer will not be used as the primary pressure control device and operations will swap to the upper BOP pipe ram.

2.3 PROCEDURE WHILE RUNNING CASING

- Sound alarm (alert crew)
- Stab crossover and full opening safety valve and close
- Space out casing (ensure no coupling is located in the BOP element selected for initial closure).
- Shut down pumps (stop pumps and observe well.)
- Shut-in Well - If flow is suspected or confirmed, close uppermost applicable BOP element. (HCR and choke will already be in the closed position.)
  - **Note:** Either the uppermost pipe ram or annular preventer can be used.
- Confirm shut-in
- Notify tool pusher/company representative
- Gather all relevant data required:
  - SIDPP and SICP
  - Hole Depth and Hole TVD
  - Pit gain
  - Time
  - Kick Volume
  - Pipe depth
  - MW in, MW out
  - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit
- If pressure has built or is anticipated during the kill to reach 1,000 psi or greater, the annular preventer will not be used as the primary pressure control device and operations will swap to the upper BOP pipe ram.

2.4 PROCEDURE WITH NO PIPE IN HOLE (OPEN HOLE)

- Sound alarm (alert crew)
- Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
- Confirm shut-in

- Notify toolpusher/company representative
- Gather all relevant data required:
  - Shut-In Pressure
  - Hole Depth and Hole TVD
  - Pit gain
  - Time
  - Kick Volume
  - MW in, MW out
  - SPR's (Slow Pump Rate's)
- Regroup and identify forward plan (let well stabilize, update kill sheet, inventory mud additives and mud volumes on location)
- Company Representative, Drilling Superintendent, Drilling Engineer and Drilling Manager will discuss well control kill method to be utilized. A verbal Risk Assessment and preferred kill method will be finalized. Initial Risk Assessment will be finalized within 1 hour of initial shut in.
- No well kill operation commences until there is a plan agreed by the Superintendent, On-Site Supervisor and the Drilling Contractor PIC.
- Recheck all pressures and fluid volume on accumulator unit.

2.5 PROCEDURE WHILE PULLING BHA THRU STACK

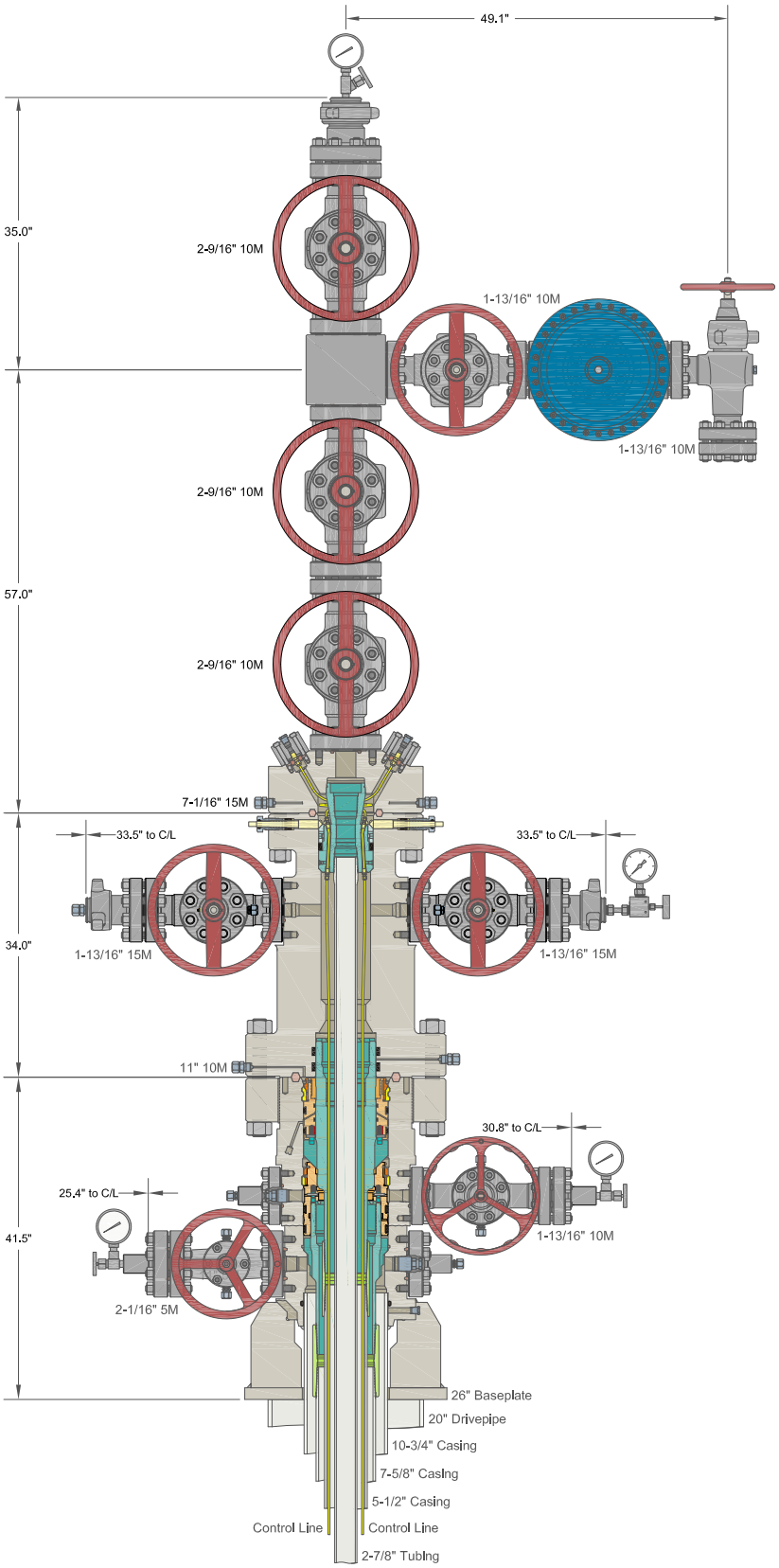
- PRIOR to pulling last joint of drill pipe thru the stack.
- Perform flow check, if flowing.
- Sound alarm (alert crew).
- Stab full opening safety valve and close
- Space out drill string with tool joint just beneath the upper pipe ram.
- Shut-in using upper pipe ram. (HCR and choke will already be in the closed position).
- Confirm shut-in.
- Notify toolpusher/company representative
- Read and record the following:
  - SIDPP and SICP
  - Pit gain
  - Time
- Regroup and identify forward plan

- **With BHA in the stack and compatible ram preventer and pipe combo immediately available**.
  - Sound alarm (alert crew)
  - Stab crossover and full opening safety valve and close
  - Space out drill string with upset just beneath the compatible pipe ram.
  - Shut-in using compatible pipe ram. (HCR and choke will already be in the closed position.)
  - Confirm shut-in
  - Notify toolpusher/company representative
  - Read and record the following:
    - SIDPP and SICP
    - Pit gain

Procedures While Pulling BHA thru Stack (Continued)

    - Time
  - Regroup and identify forward plan

- **With BHA in the stack and <u>NO</u> compatible ram preventer and pipe combo immediately available**.
    - Sound alarm (alert crew)
    - If possible to pick up high enough, pull string clear of the stack and follow “Open Hole” scenario.
    - If impossible to pick up high enough to pull the string clear of the stack:
    - Stab crossover, make up one joint/stand of drill pipe, and full opening safety valve and close
    - Space out drill string with tool joint just beneath the upper pipe ram.
    - Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
    - Confirm shut-in
    - Notify toolpusher/company representative
    - Read and record the following:
        - SIDPP and SICP
        - Pit gain
        - Time



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

20" x 10-3/4" x 7-5/8" x 5-1/2" x 2-7/8" MBU-T-SF Wellhead System
With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head
And 2-9/16" 10M x 1-13/16" 10M Production Tree Assembly

DRAWN	DLE	29JAN21
APPRV		
DRAWING NO.	MVE0001002	

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 126170

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 126170
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	8/1/2022