

Form 3160-5  
(June 2019)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2021**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an**  
**abandoned well. Use Form 3160-3 (APD) for such proposals.**

5. Lease Serial No. NMNM113419

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator MARATHON OIL PERMIAN LLC

3a. Address 990 TOWN & COUNTRY BLVD, HOUSTON, TX 3b. Phone No. (include area code)  
(000) 000-00004. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SEC 14/T25S/R34E/NMP

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

8. Well Name and No. ENDER WIGGINS F C 25 34 14 WX

9. API Well No. 3002546597

10. Field and Pool or Exploratory Area

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

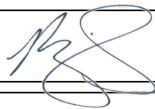
13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths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

Marathon Oil respectfully requests to make changes to the Approved APD for the above listed well. Changes include: Well Name, Depth, FTP, LTP, and Drilling Operations Plan including Casing & Cement. For a detailed summary of these changes please see page one of the attached file. Following the first page is the entire Sundry Package for the previously submitted sundry ID# 2389331, which is currently stuck or lost in the AFMSS system. This sundry is being submitted in it's place.

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

03/10/2022

**THE SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

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

Title Petroleum Engineer

Date

03/14/2022

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 of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

## Additional Information

### Location of Well

0. SHL: SWNW / 2451 FNL / 1735 FWL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1310125 / LONG: -103.4436864 ( TVD: 0 feet, MD: 0 feet )

PPP: SWSW / 0 FSL / 1324 FWL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1377572 / LONG: -103.4449394 ( TVD: 11532 feet, MD: 14717 feet )

PPP: SWNW / 2640 FNL / 1324 FWL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1450136 / LONG: -103.4448484 ( TVD: 11532 feet, MD: 17357 feet )

PPP: SWNW / 2489 FNL / 1322 FWL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1309097 / LONG: -103.4450211 ( TVD: 12532 feet, MD: 12880 feet )

BHL: NWNW / 150 FNL / 1325 FWL / TWSP: 25S / RANGE: 34E / SECTION: 11 / LAT: 32.1518487 / LONG: -103.4450314 ( TVD: 11532 feet, MD: 19848 feet )

CONFIDENTIAL

<b>Well Name:</b> ENDER WIGGINS 14 WXY FED COM	<b>Well Location:</b> T25S / R34E / SEC 14 / SWNW / 32.1310125 / -103.4436864	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 6H	<b>Type of Well:</b> CONVENTIONAL GAS WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM113419	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546597	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> MARATHON OIL PERMIAN LLC

Notice of Intent

**Sundry ID:** 2661312

**Type of Submission:** Notice of Intent

**Date Sundry Submitted:** 03/10/2022

**Date proposed operation will begin:** 03/11/2022

**Type of Action:** APD Change

**Time Sundry Submitted:** 11:50

**Procedure Description:** Marathon Oil respectfully requests to make changes to the Approved APD for the above listed well. Changes include: Well Name, Depth, FTP, LTP, and Drilling Operations Plan including Casing & Cement. For a detailed summary of these changes please see page one of the attached file. Following the first page is the entire Sundry Package for the previously submitted sundry ID# 2389331, which is currently stuck or lost in the AFMSS system. This sundry is being submitted in it's place.

NOI Attachments

Procedure Description

NOI\_SN\_Att\_Ender\_Wiggins\_14\_WA\_Fed\_Com\_6H\_AAPD\_Chng\_07.12.21\_20220310115023.pdf



<b>Well Name:</b> ENDER WIGGINS 14 WXY FED COM	<b>Well Location:</b> T25S / R34E / SEC 14 / SWNW / 32.1310125 / -103.4436864	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 6H	<b>Type of Well:</b> CONVENTIONAL GAS WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM113419	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546597	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> MARATHON OIL PERMIAN LLC

Conditions of Approval

**Specialist Review**  
Ender\_Wiggins\_14\_TB\_Fed\_Com\_11H\_COA\_20220314061249.pdf

Operator Certification

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

<b>Operator Electronic Signature:</b> MELISSA SZUDERA	<b>Signed on:</b> MAR 10, 2022 11:50 AM
<b>Name:</b> MARATHON OIL PERMIAN LLC	
<b>Title:</b> REGULATORY COMPLIANCE REPRESENTATIVE	
<b>Street Address:</b> 990 TOWN & COUNTRY BLVD	
<b>City:</b> Houston	<b>State:</b> TX
<b>Phone:</b> (713) 296-3179	
<b>Email address:</b> mszudera@marathonoil.com	

Field Representative

<b>Representative Name:</b>		
<b>Street Address:</b>		
<b>City:</b>	<b>State:</b>	<b>Zip:</b>
<b>Phone:</b>		
<b>Email address:</b>		

BLM Point of Contact

<b>BLM POC Name:</b> ZOTA M STEVENS	<b>BLM POC Title:</b> Petroleum Engineer
<b>BLM POC Phone:</b> 5752345998	<b>BLM POC Email Address:</b> ZSTEVENS@BLM.GOV
<b>Disposition:</b> Approved	<b>Disposition Date:</b> 03/14/2022
<b>Signature:</b> Zota Stevens	

<b>Well Name:</b> ENDER WIGGINS F C 25 34 14 WXY	<b>Well Location:</b> T25S / R34E / SEC 14 / SWNW / 32.1310125 / -103.4436864	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 6H	<b>Type of Well:</b> CONVENTIONAL GAS WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM113419	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546597	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> MARATHON OIL PERMIAN LLC

Notice of Intent

**Sundry ID:** 2389331

<b>Type of Submission:</b> Notice of Intent	<b>Type of Action:</b> Other
<b>Date Sundry Submitted:</b> 07/12/2021	<b>Time Sundry Submitted:</b> 08:03
<b>Date proposed operation will begin:</b> 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 WXY 6H to Ender Wiggins 14 WA Fed Com 6H - Formation: from Wolfcamp XY to Wolfcamp A - FTP: from 2489 FNL 1322 FWL to 2539 FNL 2189 FWL - LTP: from 150 FNL 1325 FWL to 100 FNL 2197 FEL - TVD: from 11532 feet to 12600 feet - MD: from 19848 feet to 20126 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\_6H\_sub\_06.09.21\_20210712080344.pdf
- Sub\_Rev\_C102\_ENDER\_WIGGINS\_14\_WA\_FED\_COM\_6H\_cert\_05.21.2021\_mro\_sgn\_20210527114344.pdf
- Sub\_Rev\_Pad\_Plat\_DOGIE\_DRAW\_ENDER\_WIGGINS\_Middle\_Pad\_cert\_05.21.2021\_20210527114344.pdf

<b>Well Name:</b> ENDER WIGGINS F C 25 34 14 WXY	<b>Well Location:</b> T25S / R34E / SEC 14 / SWNW / 32.1310125 / -103.4436864	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 6H	<b>Type of Well:</b> CONVENTIONAL GAS WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM113419	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002546597	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> 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.

<b>Operator Electronic Signature:</b> MELISSA SZUDERA	<b>Signed on:</b> JUL 12, 2021 08:03 AM
<b>Name:</b> MARATHON OIL PERMIAN LLC	
<b>Title:</b> REGULATORY COMPLIANCE REPRESENTATIVE	
<b>Street Address:</b> 5555 San Felipe St.	
<b>City:</b> Houston	<b>State:</b> TX
<b>Phone:</b> (713) 296-3179	
<b>Email address:</b> mszudera@marathonoil.com	

Field Representative

<b>Representative Name:</b>		
<b>Street Address:</b>		
<b>City:</b>	<b>State:</b>	<b>Zip:</b>
<b>Phone:</b>		
<b>Email address:</b>		

## Marathon Oil Permian, LLC.

Summary of Changes for NOI Change to AAPD Sundry Submittal

Well Name: **Ender Wiggins 14 WA Fed Com 6H**  
 APD ID Num: **10400029608**  
 API Num: **3002546597**

		Approved APD	Submitted sundry
<b>Well Name &amp; Number</b>		Ender Wiggins F C 25 34 14 WXY 6H	Ender Wiggins 14 WA Fed Com 6H
<b>Lateral Length</b>		XL	XL
<b>Target Formation</b>		WXY	WA
<b>TVD</b>		11532	12600
<b>MD</b>		19848	20126
<b>Pool Name</b>		*Red Hills; Bone Spring, East	Pitchfork Ranch; Wolfcamp South
<b>Pool Code</b>		*97369	96994
<b>Dedicated Acreage</b>		480	480
<b>Elevation</b>		3332	3332
<b>SHL</b>	FOOTAGE	2451 FNL 1735 FWL	2451 FNL 1735 FWL
	UL	F	F
	Q/Q	SENW	SENW
	S-T-R	14-25S-34E	14-25S-34E
	Latitude (NAD83)	32.13101249	32.13101232
	Longitude (NAD83)	-103.4436864	-103.4436864
<b>FTP</b>	FOOTAGE	2489 FNL 1322 FWL	2539 FNL 2189 FWL
	UL	F	F
	Q/Q	SENW	SENW
	S-T-R	14-25S-34E	14-25S-34E
	Latitude (NAD83)	32.13090972	32.13076556
	Longitude (NAD83)	-103.4450211	-103.4422207
<b>LTP</b>	FOOTAGE	150 FNL 1325 FWL	100 FNL 2197 FWL
	UL	D	C
	Q/Q	NWNW	NENW
	S-T-R	11-25S-34E	11-25S-34E
	Latitude (NAD83)	32.15184872	32.15197948
	Longitude (NAD83)	-103.4450314	-103.4422143
<b>Casing Stages</b>		4	3
<b>Surf Csg</b>	Top MD	0	0
	Bottom MD	950	1100
	Size, Weight, Grade Connection	13.375" 54.5# J55 STC	13.375" 54.5# J55 BTC
<b>Int 1 Csg</b>	Top MD	0	0
	Bottom MD	5400	12136
	Size, Weight, Grade Connection	9.625" 40# J55 LTC	9.625" 40# P110 BTC
<b>Int 2 Csg</b>	Top MD	0	-
	Bottom MD	11880	-
	Size, Weight, Grade Connection	7" 29# P110 BTC	-
<b>Prod Csg</b>	Top MD	1170	0
	Bottom MD	19848	20126
	Size, Weight, Grade Connection	4.5" 13.5# P110 BTC	5.5" 23# P110 TLW



## 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

<sup>1</sup> API Number 30-025-46597	<sup>2</sup> Pool Code 96994	<sup>3</sup> Pool Name PITCHFORK RANCH; WOLFCAMP (SOUTH)
<sup>4</sup> Property Code	<sup>5</sup> Property Name ENDER WIGGINS 14 WA FED COM	<sup>6</sup> Well Number 6H
<sup>7</sup> OGRID No. 372098	<sup>8</sup> Operator Name MARATHON OIL PERMIAN LLC	<sup>9</sup> Elevation 3332'

<sup>10</sup> Surface Location

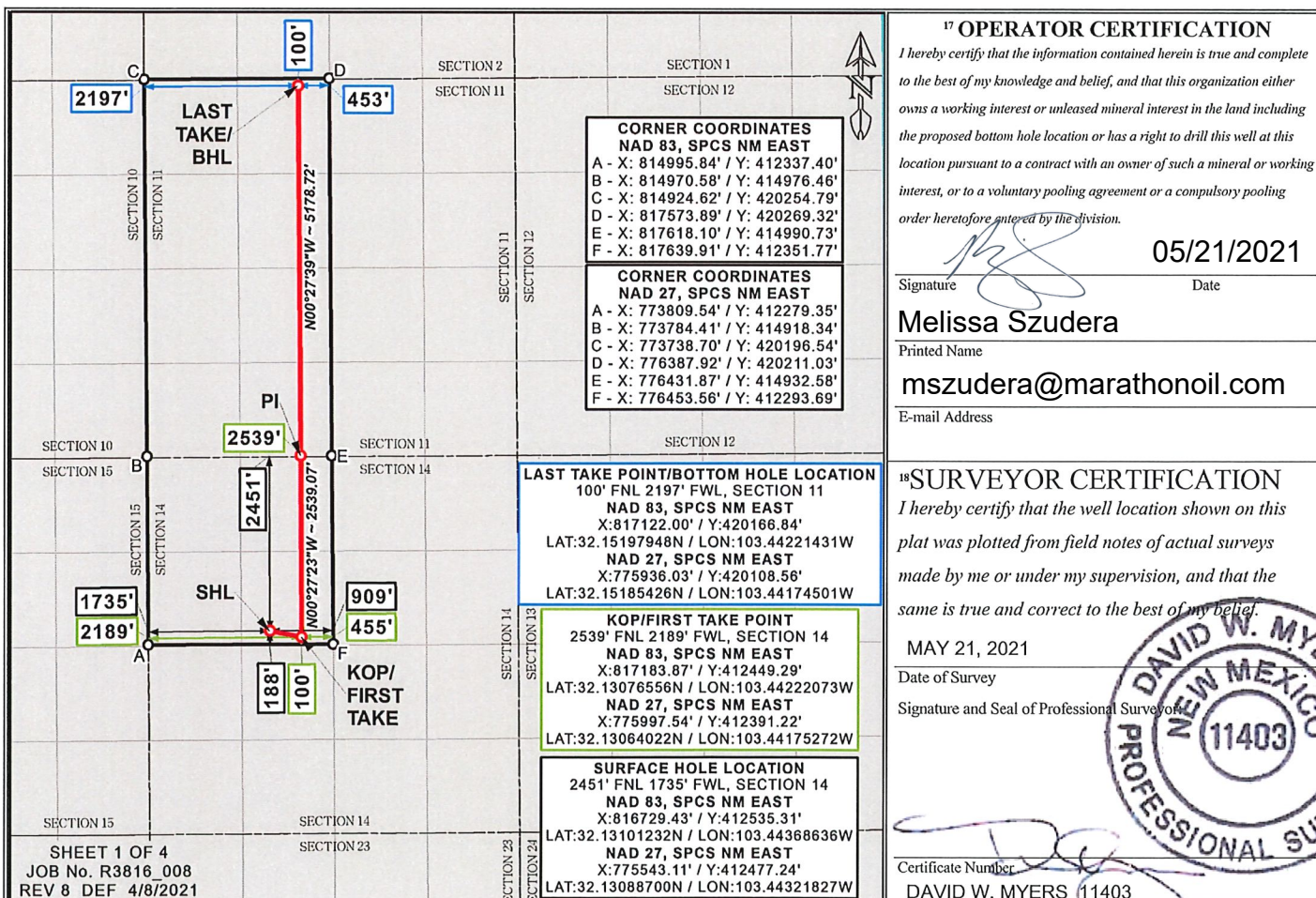
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	14	25S	34E		2451	NORTH	1735	WEST	LEA

<sup>11</sup> 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
C	11	25S	34E		100	NORTH	2197	WEST	LEA

<sup>12</sup> Dedicated Acres 480.0	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



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

☐ Horizontal Spacing Unit





# 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.

**WELL 1 (W1)**  
ENDER WIGGINS 14 WA FED COM 6H  
MARATHON OIL PERMIAN LLC  
2451' FNL 1735' FWL, SECTION 14  
NAD 83, SPCS NM EAST  
X:816729.43' / Y:412535.31'  
LAT:32.13101232N / LON:103.44368636W  
NAD 27, SPCS NM EAST  
X:775543.11' / Y:412477.24'  
LAT:32.13088700N / LON:103.44321827W  
ELEVATION: 3332'

**WELL 2 (W2)**  
ENDER WIGGINS 14 TB FED COM 11H  
MARATHON OIL PERMIAN LLC  
2451' FNL 1765' FWL, SECTION 14  
NAD 83, SPCS NM EAST  
X:816759.43' / Y:412535.32'  
LAT:32.13101166N / LON:103.44358946W  
NAD 27, SPCS NM EAST  
X:775573.10' / Y:412477.25'  
LAT:32.13088634N / LON:103.44312137W  
ELEVATION: 3332'

**WELL 3 (W3)**  
ENDER WIGGINS 14 WXY FED COM 13H  
MARATHON OIL PERMIAN LLC  
2451' FNL 1795' FWL, SECTION 14  
NAD 83, SPCS NM EAST  
X:816789.43' / Y:412535.33'  
LAT:32.13101100N / LON:103.44349255W  
NAD 27, SPCS NM EAST  
X:775603.10' / Y:412477.26'  
LAT:32.13088568N / LON:103.44302447W  
ELEVATION: 3332'

**WELL 4 (W4)**  
DOGIE DRAW 14 WXY FED COM 7H  
MARATHON OIL PERMIAN LLC  
2602' FSL 1786' FWL, SECTION 14  
NAD 83, SPCS NM EAST  
X:816782.09' / Y:412309.49'  
LAT:32.13039042N / LON:103.44352227W  
NAD 27, SPCS NM EAST  
X:775595.76' / Y:412225.142'  
LAT:32.13026509N / LON:103.44305423W  
ELEVATION: 3331'

**WELL 5 (W5)**  
DOGIE DRAW 14 TB FED COM 10H  
MARATHON OIL PERMIAN LLC  
2602' FSL 1836' FWL, SECTION 14  
NAD 83, SPCS NM EAST  
X:816832.13' / Y:412309.59'  
LAT:32.13038957N / LON:103.44336065W  
NAD 27, SPCS NM EAST  
X:775645.79' / Y:412225.152'  
LAT:32.13026424N / LON:103.44289261W  
ELEVATION: 3331'

**WELL 6 (W6)**  
DOGIE DRAW 14 WA FED COM 11H  
MARATHON OIL PERMIAN LLC  
2602' FSL 1886' FWL, SECTION 14  
NAD 83, SPCS NM EAST  
X:816882.14' / Y:412309.54'  
LAT:32.13038828N / LON:103.44319909W  
NAD 27, SPCS NM EAST  
X:775695.81' / Y:412225.147'  
LAT:32.13026295N / LON:103.44273106W  
ELEVATION: 3331'

MAY 20, 2021

DAVID W. MYERS 11403



SHEET 2 OF 2

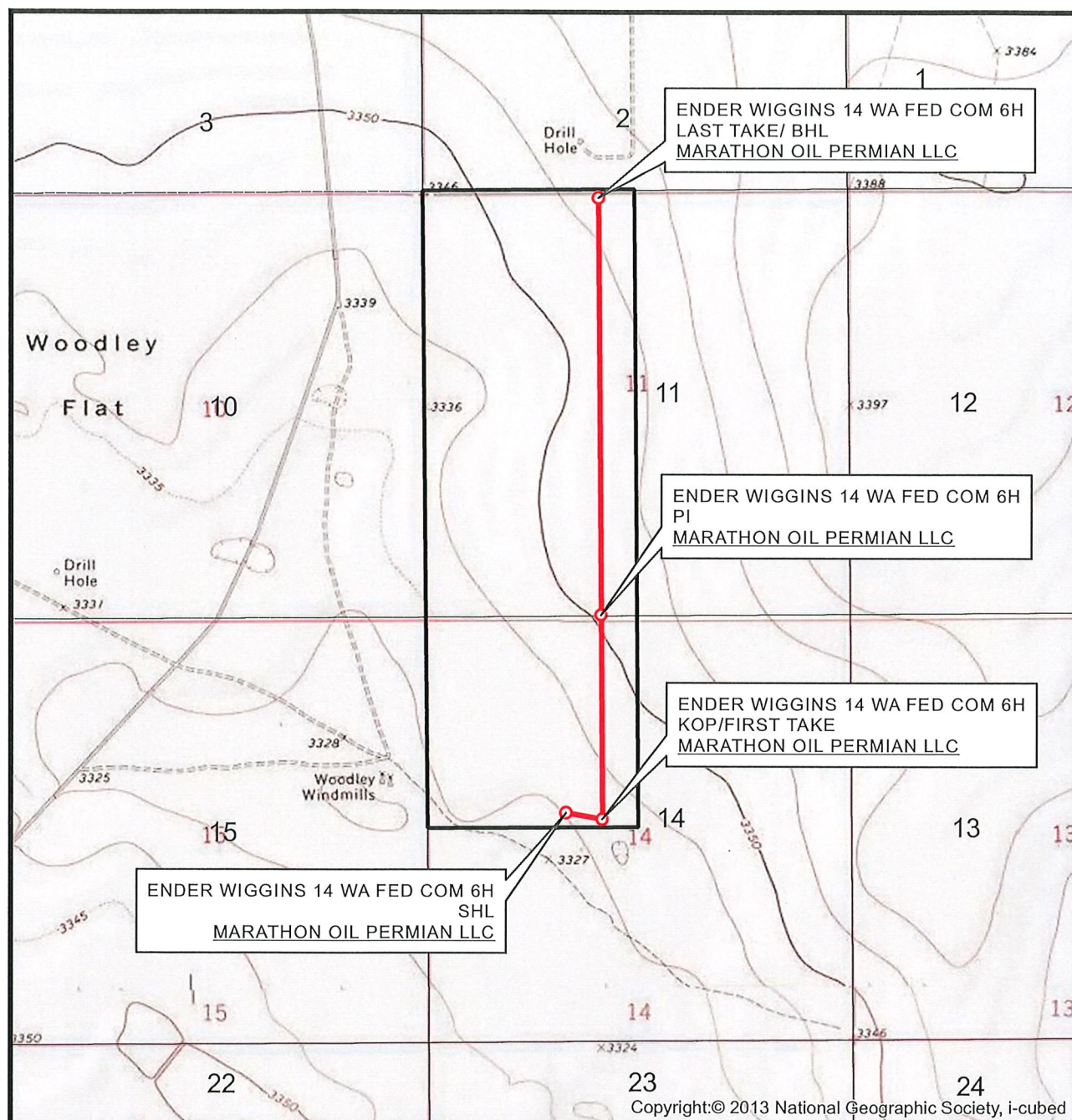
PREPARED BY:  
R-SQUARED GLOBAL, LLC  
610 TRENTON ST., UNIT B,  
WEST MONROE, LA 71291  
318-323-6000 OFFICE  
JOB No. R3755

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'



# LOCATION VERIFICATION MAP



SEC. 14 TWP. 25-S RGE. 34-E  
 SURVEY: N.M.P.M.  
 COUNTY: LEA  
 OPERATOR: MARATHON OIL PERMIAN LLC  
 DESCRIPTION: 2451' FNL & 1735' FWL  
 ELEVATION: 3332'  
 LEASE: ENDER WIGGINS 14 FED COM  
 U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

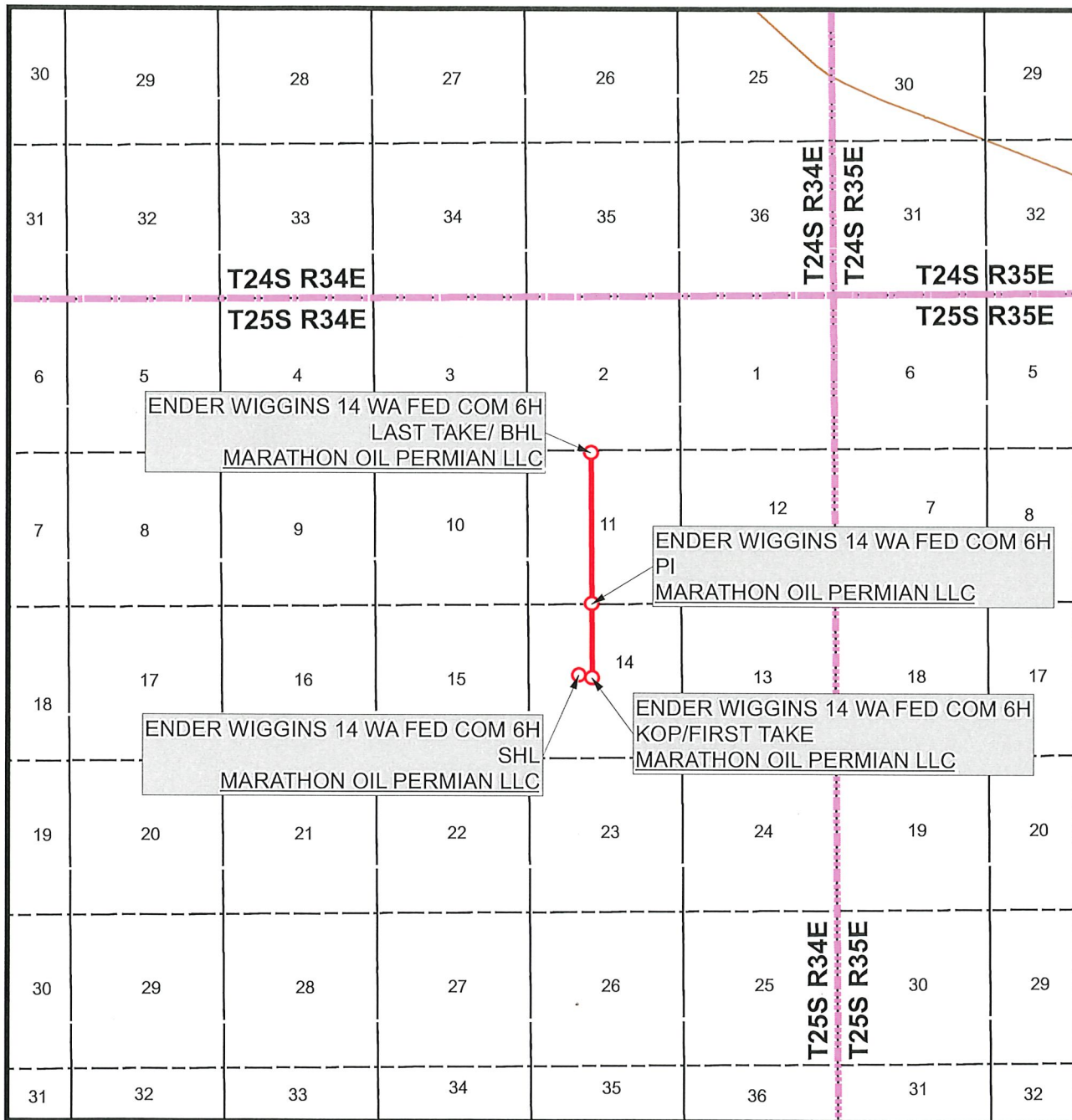
1" = 2,000'  
 CONTOUR INTERVAL = 10'



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\_008

# VICINITY MAP



SEC. 14 TWP. 25-S RGE. 34-E

1" = 1 MILE

SURVEY: N.M.P.M.

COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC

DESCRIPTION: 2451' FNL & 1735' FWL

ELEVATION: 3332'

LEASE: ENDER WIGGINS 14 FED COM

U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

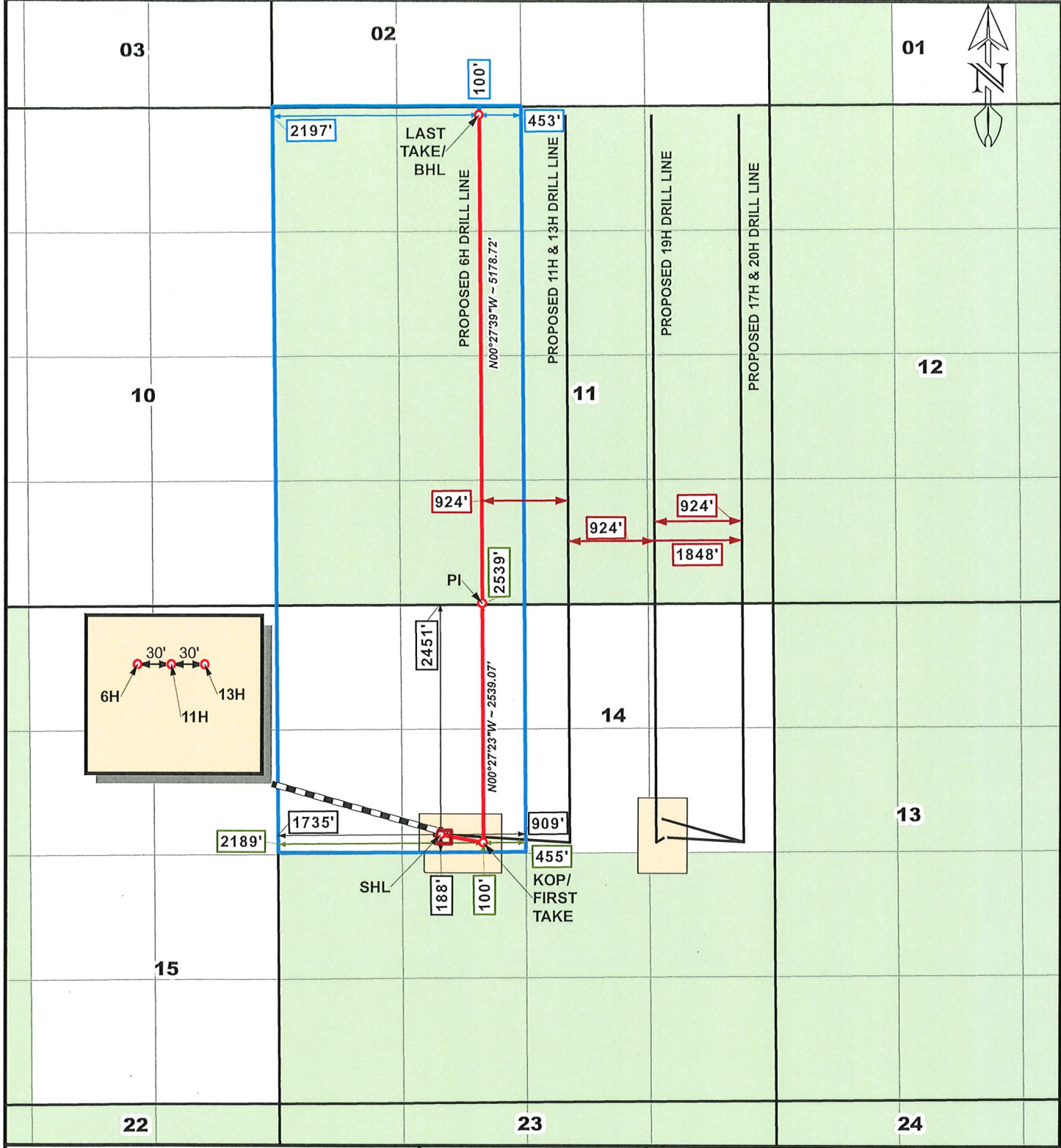


SHEET 3 OF 4

PREPARED BY:  
R-SQUARED GLOBAL, LLC  
510 TRENTON ST., UNIT B, WEST MONROE, LA 71291  
318-323-6900 OFFICE  
JOB No. R3816\_008



JOB No. R3816\_008 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

R<sup>2</sup>

GLOBAL LLC

Marathon Oil

Permian LLC

8

4/06/2021

UPDATE DRILL LINE

DEF

MWS

REV.

DATE

DESCRIPTION

CHKD

SHEET 4 OF 4

DRAWN BY: DEF

DATE DRAWN: 4/8/2021

CHECKED BY: MWS

WELL NAME

ENDER WIGGINS 14

WA FED COM 6H

510 TRENTON ST., UNIT B,

WEST MONROE, LA 71291

(318) 323-6900

MARATHON OIL PERMIAN, LLC.  
**DRILLING AND OPERATIONS PLAN**



WELL NAME & NUMBER:  
LOCATION:

**Ender Wiggins 14 WA Fed Com 6H**  
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	Lease Type	Lease Number
SHL	32.1310123	-103.4436864	3332	0	0	2451	FNL	1735	FWL	25S	34E	14	SENW		PRIVATE
KOP/FTP	32.1307656	-103.4422207	-8791	12136	12123	2539	FNL	2189	FWL	25S	34E	14	SENW		PRIVATE
PPP-2	32.1377447	-103.4422182	-9268	14948	12600	0	FSL	2193	FWL	25S	34E	11	SESW	F	NMNM113419
PPP-3	32.1449995	-103.4422162	-9268	17587	12600	2639	FSL	2195	FWL	25S	34E	11	SENW	F	NMNM108476
LTP/BHL	32.1519795	-103.4422143	-9268	20126	12600	100	FNL	2197	FWL	25S	34E	11	NENW	F	NMNM108476

GEOLOGIC FORMATIONS

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	857	857	2475	Anhydrite/Dolomite	Brine	N
Castille	3562	3562	-230	Base Salt	Brine	N
Lamar/Base of Salt	5370	5372	-2038	Limey Sands	Brine	N
Bell Canyon	5402	5404	-2070	Sand/Carbonate/Dolomite	Oil	Y
Cherry Canyon	6710	6714	-3378	Sand/Shale/Carbonate	Oil	Y
Brushy Canyon	8013	8019	-4681	Sand/Shale/Carbonate	Oil	Y
Bone Spring	9296	9305	-5964	Sand/Shale/Carbonate	Oil	Y
1st Bone Spring Sand	10346	10357	-7014	Sand	Oil	Y
2nd Bone Spring Sand	10925	10937	-7593	Sand	Oil	Y
3rd Bone Spring Sand	11966	11979	-8634	Sand	Oil	Y
Wolfcamp	12422	12460	-9090	Sand/Shale/Carbonate	Oil	Y
Wolfcamp X Sand	12461	12512	-9129	Sand	Oil	Y
Wolfcamp Y Sand	12533	12630	-9201	Sand	Oil	Y
Wolfcamp A	12565	12702	-9233	Sand/Shale/Carbonate	Oil	Y
Wolfcamp B	12918	NA	-9586	Sand/Shale/Carbonate	Oil	Y
Wolfcamp C	13020	NA	-9688	Sand/Shale/Carbonate	Oil	Y
Wolfcamp D	13352	NA	-10020	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:
	12 1/4"	13 5/8"	10000	Annular	50% of working pressure
				BOP Stack	10000
	8 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	17 1/2	13 3/8	0	1100.0	0	1100.0	3332.0	2232.0	54.5	J55	BTC	2.50	1.76	BUOY	4.34	BUOY	4.34	N
Intermediate	12 1/4	9 5/8	0	12136.0	0	12122.5	3332.0	-8790.5	40.0	P110	BTC	1.16	1.15	BUOY	2.18	BUOY	2.18	N
Production	8 3/4	5 1/2	0	20126.0	0	12600.0	3332.0	-9268.0	23.0	P110	Tec Lock Wedge	1.91	1.24	BUOY	1.98	BUOY	1.98	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	Top MD	Bottom MD	Quantity (sks)	Yield (ft3/sks)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	0	800	351	2.12	12.5	743	25	Class C	LCM
Surface	Tail	880	1100	197	1.32	14.8	260	25	Class C	Accelerator
Intermediate	Lead	0	11636	2121	2.18	12.4	4623	25	Class C	Extender, Accelerator
Intermediate	Tail	11636	12136	147	1.33	14.8	196	25	Class C	Retarder
Production	Tail	11836	20126	1599	1.68	13.0	2686	25	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)
0	1100	Freshwater	8.4	8.8
1100	12136	Brine/OBM	9.2	10.2
12136	20126	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:  
List of open and cased hole logs run in the well:  
Coring operation description for the well:

GR from TD to surface (horizontal well - vertical portion of hole)  
GR while drilling from Intermediate casing shoe to TD.  
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 Permian LLC**

**Lea County, New Mexico (NAD 27)**

**Sec 14, T25S, R34E**

**Ender Wiggins 14 WA FED COM 6H**

**Wellbore #1**

**Plan: Prelim #1**

## **KLX Well Planning Report**

**04 June, 2021**







**KLX**  
Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Ender Wiggins 14 WA FED COM 6H
<b>Company:</b>	Marathon Oil Permian LLC	<b>TVD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Project:</b>	Lea County, New Mexico (NAD 27)	<b>MD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Site:</b>	Sec 14, T25S, R34E	<b>North Reference:</b>	Grid
<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Prelim #1		

<b>Project</b>	Lea County, New Mexico (NAD 27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	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 6H					
Well Position	+N/-S	225.8 usft	Northing:	412,477.24 usft	Latitude:	32° 7' 51.193 N
	+E/-W	-52.7 usft	Easting:	775,543.10 usft	Longitude:	103° 26' 35.586 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,332.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM2021	6/2/2021	6.37	59.72	47,544.60000000

<b>Design</b>	Prelim #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	359.54

<b>Plan Sections</b>										
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	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,170.7	3.41	100.72	4,170.6	-0.9	5.0	2.00	2.00	0.00	100.72	
11,765.5	3.41	100.72	11,751.9	-85.1	449.4	0.00	0.00	0.00	0.00	
11,936.2	0.00	0.00	11,922.5	-86.0	454.4	2.00	-2.00	0.00	180.00	VP - EW 14 WA FC 6I
12,136.2	0.00	0.00	12,122.5	-86.0	454.4	0.00	0.00	0.00	0.00	
12,886.2	90.00	359.54	12,600.0	391.4	450.6	12.00	12.00	-0.06	359.54	
20,126.3	90.00	359.54	12,600.0	7,631.3	392.9	0.00	0.00	0.00	0.00	LTP/BHL - EW 14 WA



**KLX**  
Well Planning Report



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<b>Site:</b>	Sec 14, T25S, R34E	<b>North Reference:</b>	Grid
<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
<b>Rustler</b>									
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
<b>Salado</b>									
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
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	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Castile</b>									
3,562.0	0.00	0.00	3,562.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Build 2°/100'</b>									
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	2.00	100.72	4,100.0	-0.3	1.7	-0.3	2.00	2.00	0.00
<b>EOB @ 3.41°Inc/100.72°Azm</b>									
4,170.7	3.41	100.72	4,170.6	-0.9	5.0	-1.0	2.00	2.00	0.00
4,200.0	3.41	100.72	4,199.8	-1.3	6.7	-1.3	0.00	0.00	0.00
4,300.0	3.41	100.72	4,299.7	-2.4	12.6	-2.5	0.00	0.00	0.00
4,400.0	3.41	100.72	4,399.5	-3.5	18.4	-3.6	0.00	0.00	0.00



**KLX**  
Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Ender Wiggins 14 WA FED COM 6H
<b>Company:</b>	Marathon Oil Permian LLC	<b>TVD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Project:</b>	Lea County, New Mexico (NAD 27)	<b>MD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Site:</b>	Sec 14, T25S, R34E	<b>North Reference:</b>	Grid
<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
4,500.0	3.41	100.72	4,499.3	-4.6	24.3	-4.8	0.00	0.00	0.00
4,600.0	3.41	100.72	4,599.1	-5.7	30.1	-5.9	0.00	0.00	0.00
4,700.0	3.41	100.72	4,699.0	-6.8	36.0	-7.1	0.00	0.00	0.00
4,800.0	3.41	100.72	4,798.8	-7.9	41.8	-8.3	0.00	0.00	0.00
4,900.0	3.41	100.72	4,898.6	-9.0	47.7	-9.4	0.00	0.00	0.00
5,000.0	3.41	100.72	4,998.4	-10.1	53.5	-10.6	0.00	0.00	0.00
5,100.0	3.41	100.72	5,098.2	-11.2	59.4	-11.7	0.00	0.00	0.00
5,200.0	3.41	100.72	5,198.1	-12.3	65.2	-12.9	0.00	0.00	0.00
5,300.0	3.41	100.72	5,297.9	-13.5	71.1	-14.0	0.00	0.00	0.00
<b>Lamar/Base of Salt</b>									
5,372.2	3.41	100.72	5,370.0	-14.3	75.3	-14.9	0.00	0.00	0.00
5,400.0	3.41	100.72	5,397.7	-14.6	76.9	-15.2	0.00	0.00	0.00
<b>Bell Canyon</b>									
5,404.3	3.41	100.72	5,402.0	-14.6	77.2	-15.2	0.00	0.00	0.00
5,500.0	3.41	100.72	5,497.5	-15.7	82.8	-16.3	0.00	0.00	0.00
5,600.0	3.41	100.72	5,597.4	-16.8	88.6	-17.5	0.00	0.00	0.00
5,700.0	3.41	100.72	5,697.2	-17.9	94.5	-18.6	0.00	0.00	0.00
5,800.0	3.41	100.72	5,797.0	-19.0	100.3	-19.8	0.00	0.00	0.00
5,900.0	3.41	100.72	5,896.8	-20.1	106.2	-21.0	0.00	0.00	0.00
6,000.0	3.41	100.72	5,996.7	-21.2	112.0	-22.1	0.00	0.00	0.00
6,100.0	3.41	100.72	6,096.5	-22.3	117.9	-23.3	0.00	0.00	0.00
6,200.0	3.41	100.72	6,196.3	-23.4	123.7	-24.4	0.00	0.00	0.00
6,300.0	3.41	100.72	6,296.1	-24.5	129.6	-25.6	0.00	0.00	0.00
6,400.0	3.41	100.72	6,395.9	-25.6	135.5	-26.7	0.00	0.00	0.00
6,500.0	3.41	100.72	6,495.8	-26.7	141.3	-27.9	0.00	0.00	0.00
6,600.0	3.41	100.72	6,595.6	-27.9	147.2	-29.0	0.00	0.00	0.00
6,700.0	3.41	100.72	6,695.4	-29.0	153.0	-30.2	0.00	0.00	0.00
<b>Cherry Canyon</b>									
6,714.6	3.41	100.72	6,710.0	-29.1	153.9	-30.4	0.00	0.00	0.00
6,800.0	3.41	100.72	6,795.2	-30.1	158.9	-31.3	0.00	0.00	0.00
6,900.0	3.41	100.72	6,895.1	-31.2	164.7	-32.5	0.00	0.00	0.00
7,000.0	3.41	100.72	6,994.9	-32.3	170.6	-33.7	0.00	0.00	0.00
7,100.0	3.41	100.72	7,094.7	-33.4	176.4	-34.8	0.00	0.00	0.00
7,200.0	3.41	100.72	7,194.5	-34.5	182.3	-36.0	0.00	0.00	0.00
7,300.0	3.41	100.72	7,294.3	-35.6	188.1	-37.1	0.00	0.00	0.00
7,400.0	3.41	100.72	7,394.2	-36.7	194.0	-38.3	0.00	0.00	0.00
7,500.0	3.41	100.72	7,494.0	-37.8	199.8	-39.4	0.00	0.00	0.00
7,600.0	3.41	100.72	7,593.8	-38.9	205.7	-40.6	0.00	0.00	0.00
7,700.0	3.41	100.72	7,693.6	-40.0	211.5	-41.7	0.00	0.00	0.00
7,800.0	3.41	100.72	7,793.5	-41.1	217.4	-42.9	0.00	0.00	0.00
7,900.0	3.41	100.72	7,893.3	-42.3	223.2	-44.0	0.00	0.00	0.00
8,000.0	3.41	100.72	7,993.1	-43.4	229.1	-45.2	0.00	0.00	0.00
<b>Brushy Canyon</b>									
8,019.9	3.41	100.72	8,013.0	-43.6	230.3	-45.4	0.00	0.00	0.00
8,100.0	3.41	100.72	8,092.9	-44.5	234.9	-46.4	0.00	0.00	0.00
8,200.0	3.41	100.72	8,192.7	-45.6	240.8	-47.5	0.00	0.00	0.00
8,300.0	3.41	100.72	8,292.6	-46.7	246.6	-48.7	0.00	0.00	0.00
8,400.0	3.41	100.72	8,392.4	-47.8	252.5	-49.8	0.00	0.00	0.00
8,500.0	3.41	100.72	8,492.2	-48.9	258.3	-51.0	0.00	0.00	0.00
8,600.0	3.41	100.72	8,592.0	-50.0	264.2	-52.1	0.00	0.00	0.00
8,700.0	3.41	100.72	8,691.9	-51.1	270.0	-53.3	0.00	0.00	0.00
8,800.0	3.41	100.72	8,791.7	-52.2	275.9	-54.4	0.00	0.00	0.00
8,900.0	3.41	100.72	8,891.5	-53.3	281.8	-55.6	0.00	0.00	0.00



**KLX**  
Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Ender Wiggins 14 WA FED COM 6H
<b>Company:</b>	Marathon Oil Permian LLC	<b>TVD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Project:</b>	Lea County, New Mexico (NAD 27)	<b>MD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Site:</b>	Sec 14, T25S, R34E	<b>North Reference:</b>	Grid
<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
9,000.0	3.41	100.72	8,991.3	-54.4	287.6	-56.7	0.00	0.00	0.00
9,100.0	3.41	100.72	9,091.1	-55.5	293.5	-57.9	0.00	0.00	0.00
9,200.0	3.41	100.72	9,191.0	-56.7	299.3	-59.1	0.00	0.00	0.00
9,300.0	3.41	100.72	9,290.8	-57.8	305.2	-60.2	0.00	0.00	0.00
<b>Bone Spring</b>									
9,305.2	3.41	100.72	9,296.0	-57.8	305.5	-60.3	0.00	0.00	0.00
9,400.0	3.41	100.72	9,390.6	-58.9	311.0	-61.4	0.00	0.00	0.00
9,500.0	3.41	100.72	9,490.4	-60.0	316.9	-62.5	0.00	0.00	0.00
9,600.0	3.41	100.72	9,590.3	-61.1	322.7	-63.7	0.00	0.00	0.00
9,700.0	3.41	100.72	9,690.1	-62.2	328.6	-64.8	0.00	0.00	0.00
9,800.0	3.41	100.72	9,789.9	-63.3	334.4	-66.0	0.00	0.00	0.00
9,900.0	3.41	100.72	9,889.7	-64.4	340.3	-67.1	0.00	0.00	0.00
10,000.0	3.41	100.72	9,989.6	-65.5	346.1	-68.3	0.00	0.00	0.00
10,100.0	3.41	100.72	10,089.4	-66.6	352.0	-69.5	0.00	0.00	0.00
10,200.0	3.41	100.72	10,189.2	-67.7	357.8	-70.6	0.00	0.00	0.00
10,300.0	3.41	100.72	10,289.0	-68.8	363.7	-71.8	0.00	0.00	0.00
<b>1st Bone Spring Sand</b>									
10,357.1	3.41	100.72	10,346.0	-69.5	367.0	-72.4	0.00	0.00	0.00
10,400.0	3.41	100.72	10,388.8	-70.0	369.5	-72.9	0.00	0.00	0.00
10,500.0	3.41	100.72	10,488.7	-71.1	375.4	-74.1	0.00	0.00	0.00
10,600.0	3.41	100.72	10,588.5	-72.2	381.2	-75.2	0.00	0.00	0.00
10,700.0	3.41	100.72	10,688.3	-73.3	387.1	-76.4	0.00	0.00	0.00
10,800.0	3.41	100.72	10,788.1	-74.4	392.9	-77.5	0.00	0.00	0.00
10,900.0	3.41	100.72	10,888.0	-75.5	398.8	-78.7	0.00	0.00	0.00
<b>2nd Bone Spring Sand</b>									
10,937.1	3.41	100.72	10,925.0	-75.9	401.0	-79.1	0.00	0.00	0.00
11,000.0	3.41	100.72	10,987.8	-76.6	404.6	-79.8	0.00	0.00	0.00
11,100.0	3.41	100.72	11,087.6	-77.7	410.5	-81.0	0.00	0.00	0.00
11,200.0	3.41	100.72	11,187.4	-78.8	416.3	-82.2	0.00	0.00	0.00
11,300.0	3.41	100.72	11,287.2	-79.9	422.2	-83.3	0.00	0.00	0.00
11,400.0	3.41	100.72	11,387.1	-81.0	428.0	-84.5	0.00	0.00	0.00
11,500.0	3.41	100.72	11,486.9	-82.1	433.9	-85.6	0.00	0.00	0.00
11,600.0	3.41	100.72	11,586.7	-83.2	439.8	-86.8	0.00	0.00	0.00
11,700.0	3.41	100.72	11,686.5	-84.4	445.6	-87.9	0.00	0.00	0.00
<b>Drop 2°/100'</b>									
11,765.5	3.41	100.72	11,751.9	-85.1	449.4	-88.7	0.00	0.00	0.00
11,800.0	2.72	100.72	11,786.4	-85.4	451.3	-89.0	2.00	-2.00	0.00
11,900.0	0.72	100.72	11,886.3	-86.0	454.2	-89.6	2.00	-2.00	0.00
<b>EOD @ Vertical</b>									
11,936.2	0.00	0.00	11,922.5	-86.0	454.4	-89.7	2.00	-2.00	0.00
<b>3rd Bone Spring Sand</b>									
11,979.7	0.00	0.00	11,966.0	-86.0	454.4	-89.7	0.00	0.00	0.00
12,000.0	0.00	0.00	11,986.3	-86.0	454.4	-89.7	0.00	0.00	0.00
12,100.0	0.00	0.00	12,086.3	-86.0	454.4	-89.7	0.00	0.00	0.00
<b>Build 12°/100'</b>									
12,136.2	0.00	0.00	12,122.5	-86.0	454.4	-89.7	0.00	0.00	0.00
12,150.0	1.66	359.54	12,136.3	-85.8	454.4	-89.5	12.00	12.00	0.00
12,175.0	4.66	359.54	12,161.3	-84.4	454.4	-88.1	12.00	12.00	0.00
12,200.0	7.66	359.54	12,186.1	-81.8	454.4	-85.4	12.00	12.00	0.00
12,225.0	10.66	359.54	12,210.8	-77.8	454.4	-81.4	12.00	12.00	0.00
12,250.0	13.66	359.54	12,235.2	-72.5	454.3	-76.2	12.00	12.00	0.00
12,275.0	16.66	359.54	12,259.4	-66.0	454.3	-69.6	12.00	12.00	0.00
12,300.0	19.66	359.54	12,283.1	-58.2	454.2	-61.8	12.00	12.00	0.00



**KLX**  
Well Planning Report



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<b>Company:</b>	Marathon Oil Permian LLC	<b>TVD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Project:</b>	Lea County, New Mexico (NAD 27)	<b>MD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Site:</b>	Sec 14, T25S, R34E	<b>North Reference:</b>	Grid
<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
12,325.0	22.66	359.54	12,306.4	-49.2	454.1	-52.8	12.00	12.00	0.00
12,350.0	25.66	359.54	12,329.2	-38.9	454.1	-42.6	12.00	12.00	0.00
12,375.0	28.66	359.54	12,351.5	-27.5	454.0	-31.2	12.00	12.00	0.00
12,400.0	31.66	359.54	12,373.1	-15.0	453.9	-18.6	12.00	12.00	0.00
12,425.0	34.66	359.54	12,394.0	-1.3	453.8	-4.9	12.00	12.00	0.00
12,450.0	37.66	359.54	12,414.2	13.4	453.6	9.8	12.00	12.00	0.00
<b>Wolfcamp</b>									
12,459.9	38.85	359.54	12,422.0	19.6	453.6	15.9	12.00	12.00	0.00
12,475.0	40.66	359.54	12,433.6	29.2	453.5	25.6	12.00	12.00	0.00
12,500.0	43.66	359.54	12,452.1	46.0	453.4	42.4	12.00	12.00	0.00
<b>Wolfcamp X Sand</b>									
12,512.4	45.15	359.54	12,461.0	54.7	453.3	51.1	12.00	12.00	0.00
12,525.0	46.66	359.54	12,469.7	63.7	453.2	60.1	12.00	12.00	0.00
12,550.0	49.66	359.54	12,486.4	82.4	453.1	78.7	12.00	12.00	0.00
12,575.0	52.66	359.54	12,502.1	101.8	452.9	98.2	12.00	12.00	0.00
12,600.0	55.66	359.54	12,516.7	122.1	452.8	118.4	12.00	12.00	0.00
12,625.0	58.66	359.54	12,530.3	143.1	452.6	139.4	12.00	12.00	0.00
<b>Wolfcamp Y Sand</b>									
12,630.3	59.29	359.54	12,533.0	147.6	452.6	143.9	12.00	12.00	0.00
12,650.0	61.66	359.54	12,542.7	164.8	452.4	161.1	12.00	12.00	0.00
12,675.0	64.66	359.54	12,554.0	187.1	452.3	183.4	12.00	12.00	0.00
12,700.0	67.66	359.54	12,564.1	209.9	452.1	206.3	12.00	12.00	0.00
<b>Wolfcamp A</b>									
12,702.3	67.94	359.54	12,565.0	212.1	452.1	208.4	12.00	12.00	0.00
12,725.0	70.66	359.54	12,573.0	233.3	451.9	229.7	12.00	12.00	0.00
12,750.0	73.66	359.54	12,580.7	257.1	451.7	253.5	12.00	12.00	0.00
12,775.0	76.66	359.54	12,587.1	281.2	451.5	277.6	12.00	12.00	0.00
12,800.0	79.66	359.54	12,592.2	305.7	451.3	302.1	12.00	12.00	0.00
12,825.0	82.66	359.54	12,596.0	330.4	451.1	326.8	12.00	12.00	0.00
12,850.0	85.66	359.54	12,598.6	355.3	450.9	351.6	12.00	12.00	0.00
12,875.0	88.66	359.54	12,599.8	380.2	450.7	376.6	12.00	12.00	0.00
<b>EOB @ 90.00°Inc/359.54°Az</b>									
12,886.2	90.00	359.54	12,600.0	391.4	450.6	387.8	12.00	12.00	0.00
12,900.0	90.00	359.54	12,600.0	405.2	450.5	401.6	0.00	0.00	0.00
13,000.0	90.00	359.54	12,600.0	505.2	449.7	501.6	0.00	0.00	0.00
13,100.0	90.00	359.54	12,600.0	605.2	448.9	601.6	0.00	0.00	0.00
13,200.0	90.00	359.54	12,600.0	705.2	448.1	701.6	0.00	0.00	0.00
13,300.0	90.00	359.54	12,600.0	805.2	447.3	801.6	0.00	0.00	0.00
13,400.0	90.00	359.54	12,600.0	905.2	446.5	901.6	0.00	0.00	0.00
13,500.0	90.00	359.54	12,600.0	1,005.2	445.7	1,001.6	0.00	0.00	0.00
13,600.0	90.00	359.54	12,600.0	1,105.2	444.9	1,101.6	0.00	0.00	0.00
13,700.0	90.00	359.54	12,600.0	1,205.2	444.1	1,201.6	0.00	0.00	0.00
13,800.0	90.00	359.54	12,600.0	1,305.2	443.3	1,301.6	0.00	0.00	0.00
13,900.0	90.00	359.54	12,600.0	1,405.2	442.5	1,401.6	0.00	0.00	0.00
14,000.0	90.00	359.54	12,600.0	1,505.2	441.8	1,501.6	0.00	0.00	0.00
14,100.0	90.00	359.54	12,600.0	1,605.2	441.0	1,601.6	0.00	0.00	0.00
14,200.0	90.00	359.54	12,600.0	1,705.2	440.2	1,701.6	0.00	0.00	0.00
14,300.0	90.00	359.54	12,600.0	1,805.2	439.4	1,801.6	0.00	0.00	0.00
14,400.0	90.00	359.54	12,600.0	1,905.2	438.6	1,901.6	0.00	0.00	0.00
14,500.0	90.00	359.54	12,600.0	2,005.2	437.8	2,001.6	0.00	0.00	0.00
14,600.0	90.00	359.54	12,600.0	2,105.2	437.0	2,101.6	0.00	0.00	0.00
14,700.0	90.00	359.54	12,600.0	2,205.2	436.2	2,201.6	0.00	0.00	0.00
14,800.0	90.00	359.54	12,600.0	2,305.2	435.4	2,301.6	0.00	0.00	0.00



**KLX**  
Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Ender Wiggins 14 WA FED COM 6H
<b>Company:</b>	Marathon Oil Permian LLC	<b>TVD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Project:</b>	Lea County, New Mexico (NAD 27)	<b>MD Reference:</b>	25'KB @ 3357.0usft (25'KB)
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<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
14,900.0	90.00	359.54	12,600.0	2,405.2	434.6	2,401.6	0.00	0.00	0.00
15,000.0	90.00	359.54	12,600.0	2,505.2	433.8	2,501.6	0.00	0.00	0.00
15,100.0	90.00	359.54	12,600.0	2,605.2	433.0	2,601.6	0.00	0.00	0.00
15,200.0	90.00	359.54	12,600.0	2,705.2	432.2	2,701.6	0.00	0.00	0.00
15,300.0	90.00	359.54	12,600.0	2,805.2	431.4	2,801.6	0.00	0.00	0.00
15,400.0	90.00	359.54	12,600.0	2,905.2	430.6	2,901.6	0.00	0.00	0.00
15,500.0	90.00	359.54	12,600.0	3,005.2	429.8	3,001.6	0.00	0.00	0.00
15,600.0	90.00	359.54	12,600.0	3,105.2	429.0	3,101.6	0.00	0.00	0.00
15,700.0	90.00	359.54	12,600.0	3,205.2	428.2	3,201.6	0.00	0.00	0.00
15,800.0	90.00	359.54	12,600.0	3,305.2	427.4	3,301.6	0.00	0.00	0.00
15,900.0	90.00	359.54	12,600.0	3,405.1	426.6	3,401.6	0.00	0.00	0.00
16,000.0	90.00	359.54	12,600.0	3,505.1	425.8	3,501.6	0.00	0.00	0.00
16,100.0	90.00	359.54	12,600.0	3,605.1	425.0	3,601.6	0.00	0.00	0.00
16,200.0	90.00	359.54	12,600.0	3,705.1	424.2	3,701.6	0.00	0.00	0.00
16,300.0	90.00	359.54	12,600.0	3,805.1	423.4	3,801.6	0.00	0.00	0.00
16,400.0	90.00	359.54	12,600.0	3,905.1	422.6	3,901.6	0.00	0.00	0.00
16,500.0	90.00	359.54	12,600.0	4,005.1	421.8	4,001.6	0.00	0.00	0.00
16,600.0	90.00	359.54	12,600.0	4,105.1	421.0	4,101.6	0.00	0.00	0.00
16,700.0	90.00	359.54	12,600.0	4,205.1	420.2	4,201.6	0.00	0.00	0.00
16,800.0	90.00	359.54	12,600.0	4,305.1	419.4	4,301.6	0.00	0.00	0.00
16,900.0	90.00	359.54	12,600.0	4,405.1	418.6	4,401.6	0.00	0.00	0.00
17,000.0	90.00	359.54	12,600.0	4,505.1	417.8	4,501.6	0.00	0.00	0.00
17,100.0	90.00	359.54	12,600.0	4,605.1	417.0	4,601.6	0.00	0.00	0.00
17,200.0	90.00	359.54	12,600.0	4,705.1	416.2	4,701.6	0.00	0.00	0.00
17,300.0	90.00	359.54	12,600.0	4,805.1	415.5	4,801.6	0.00	0.00	0.00
17,400.0	90.00	359.54	12,600.0	4,905.1	414.7	4,901.6	0.00	0.00	0.00
17,500.0	90.00	359.54	12,600.0	5,005.1	413.9	5,001.6	0.00	0.00	0.00
17,600.0	90.00	359.54	12,600.0	5,105.1	413.1	5,101.6	0.00	0.00	0.00
17,700.0	90.00	359.54	12,600.0	5,205.1	412.3	5,201.6	0.00	0.00	0.00
17,800.0	90.00	359.54	12,600.0	5,305.1	411.5	5,301.6	0.00	0.00	0.00
17,900.0	90.00	359.54	12,600.0	5,405.1	410.7	5,401.6	0.00	0.00	0.00
18,000.0	90.00	359.54	12,600.0	5,505.1	409.9	5,501.6	0.00	0.00	0.00
18,100.0	90.00	359.54	12,600.0	5,605.1	409.1	5,601.6	0.00	0.00	0.00
18,200.0	90.00	359.54	12,600.0	5,705.1	408.3	5,701.6	0.00	0.00	0.00
18,300.0	90.00	359.54	12,600.0	5,805.1	407.5	5,801.6	0.00	0.00	0.00
18,400.0	90.00	359.54	12,600.0	5,905.1	406.7	5,901.6	0.00	0.00	0.00
18,500.0	90.00	359.54	12,600.0	6,005.1	405.9	6,001.6	0.00	0.00	0.00
18,600.0	90.00	359.54	12,600.0	6,105.1	405.1	6,101.6	0.00	0.00	0.00
18,700.0	90.00	359.54	12,600.0	6,205.1	404.3	6,201.6	0.00	0.00	0.00
18,800.0	90.00	359.54	12,600.0	6,305.1	403.5	6,301.6	0.00	0.00	0.00
18,900.0	90.00	359.54	12,600.0	6,405.1	402.7	6,401.6	0.00	0.00	0.00
19,000.0	90.00	359.54	12,600.0	6,505.0	401.9	6,501.6	0.00	0.00	0.00
19,100.0	90.00	359.54	12,600.0	6,605.0	401.1	6,601.6	0.00	0.00	0.00
19,200.0	90.00	359.54	12,600.0	6,705.0	400.3	6,701.6	0.00	0.00	0.00
19,300.0	90.00	359.54	12,600.0	6,805.0	399.5	6,801.6	0.00	0.00	0.00
19,400.0	90.00	359.54	12,600.0	6,905.0	398.7	6,901.6	0.00	0.00	0.00
19,500.0	90.00	359.54	12,600.0	7,005.0	397.9	7,001.6	0.00	0.00	0.00
19,600.0	90.00	359.54	12,600.0	7,105.0	397.1	7,101.6	0.00	0.00	0.00
19,700.0	90.00	359.54	12,600.0	7,205.0	396.3	7,201.6	0.00	0.00	0.00
19,800.0	90.00	359.54	12,600.0	7,305.0	395.5	7,301.6	0.00	0.00	0.00
19,900.0	90.00	359.54	12,600.0	7,405.0	394.7	7,401.6	0.00	0.00	0.00
20,000.0	90.00	359.54	12,600.0	7,505.0	393.9	7,501.6	0.00	0.00	0.00
20,100.0	90.00	359.54	12,600.0	7,605.0	393.1	7,601.6	0.00	0.00	0.00



**KLX**  
Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Ender Wiggins 14 WA FED COM 6H
<b>Company:</b>	Marathon Oil Permian LLC	<b>TVD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Project:</b>	Lea County, New Mexico (NAD 27)	<b>MD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Site:</b>	Sec 14, T25S, R34E	<b>North Reference:</b>	Grid
<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
TD @ 20126.3'MD/12600.0'TVD									
20,126.3	90.00	359.54	12,600.0	7,631.3	392.9	7,627.9	0.00	0.00	0.00

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 6H - plan hits target center - Point	0.00	0.00	11,922.5	-86.0	454.4	412,391.22	775,997.54	32° 7' 50.305 N	103° 26' 30.310 W
KOP/FTP - EW 6H(1213 - plan hits target center - Point	0.00	0.00	12,122.5	-86.0	454.4	412,391.22	775,997.54	32° 7' 50.305 N	103° 26' 30.310 W
LTP/BHL - EW 14 WA FC - plan hits target center - Point	0.00	0.00	12,600.0	7,631.3	392.9	420,108.56	775,936.03	32° 9' 6.675 N	103° 26' 30.282 W
PPP-3 - EW 6H(17587.0 - plan misses target center by 0.1usft at 17587.0usft MD (12600.0 TVD, 5092.1 N, 413.2 E) - Point	0.00	0.00	12,600.0	5,092.1	413.2	417,569.35	775,956.33	32° 8' 41.547 N	103° 26' 30.290 W
PPP-2 - EW 6H(14947.7 - plan misses target center by 0.1usft at 14947.7usft MD (12600.0 TVD, 2452.9 N, 434.2 E) - Point	0.00	0.00	12,600.0	2,452.9	434.3	414,930.14	775,977.43	32° 8' 15.430 N	103° 26' 30.299 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				
3,562.0	3,562.0	Castile				
5,372.2	5,370.0	Lamar/Base of Salt				
5,404.3	5,402.0	Bell Canyon				
6,714.6	6,710.0	Cherry Canyon				
8,019.9	8,013.0	Brushy Canyon				
9,305.2	9,296.0	Bone Spring				
10,357.1	10,346.0	1st Bone Spring Sand				
10,937.1	10,925.0	2nd Bone Spring Sand				
11,979.7	11,966.0	3rd Bone Spring Sand		0.00	359.54	
12,459.9	12,422.0	Wolfcamp		0.00	359.54	
12,512.4	12,461.0	Wolfcamp X Sand		0.00	359.54	
12,630.3	12,533.0	Wolfcamp Y Sand		0.00	359.54	
12,702.3	12,565.0	Wolfcamp A		0.00	359.54	





**KLX**  
Well Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Ender Wiggins 14 WA FED COM 6H
<b>Company:</b>	Marathon Oil Permian LLC	<b>TVD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Project:</b>	Lea County, New Mexico (NAD 27)	<b>MD Reference:</b>	25'KB @ 3357.0usft (25'KB)
<b>Site:</b>	Sec 14, T25S, R34E	<b>North Reference:</b>	Grid
<b>Well:</b>	Ender Wiggins 14 WA FED COM 6H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Prelim #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,000.0	4,000.0	0.0	0.0	Build 2°/100'
4,170.7	4,170.6	-0.9	5.0	EOB @ 3.41°Inc/100.72°Azm
11,765.5	11,751.9	-85.1	449.4	Drop 2°/100'
11,936.2	11,922.5	-86.0	454.4	EOD @ Vertical
12,136.2	12,122.5	-86.0	454.4	Build 12°/100'
12,886.2	12,600.0	391.4	450.6	EOB @ 90.00°Inc/359.54°Azm
20,126.3	12,600.0	7,631.3	392.9	TD @ 20126.3°MD/12600.0°TVD



Company Name: Marathon Oil Permian LLC  
Ender Wiggins 14 WA FED COM 6H  
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 6H  
Lea County, New Mexico (NAD 27)  
Q210\*\*\* & WT-210\*\*\*  
Prelim #1

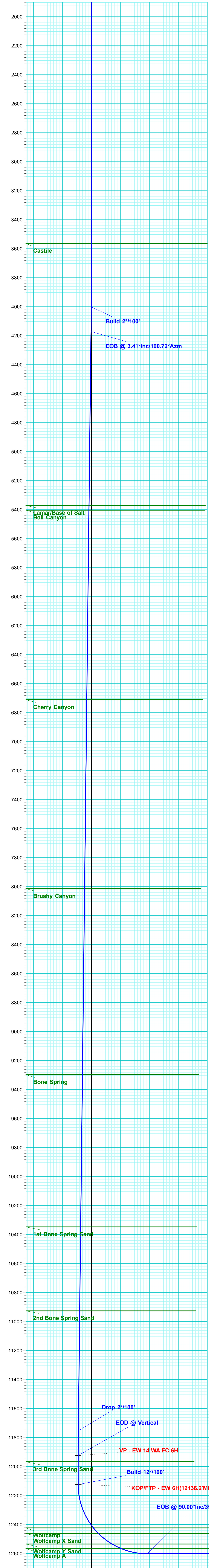
WELL DETAILS: Ender Wiggins 14 WA FED COM 6H						
			3332.0			
+N/-S	+E/-W	Northing	Easting	Latitude		Longitude
0.0	0.0	412477.24	775543.11	32° 7' 51.193 N03° 26' 35.586 W		

TGM

Azimuths to Grid North

Correction: 5.89°

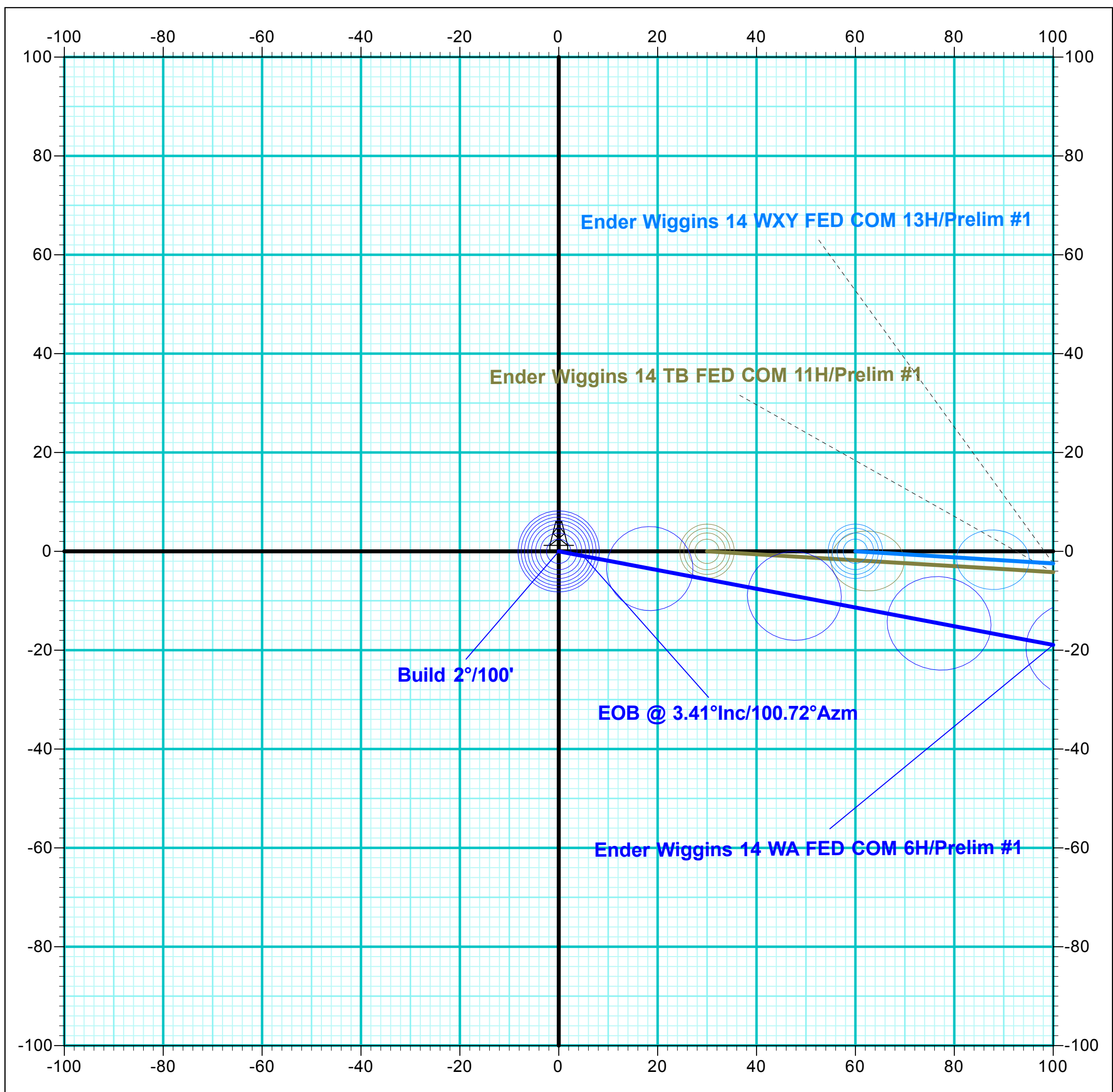
Magnetic Field  
Strength: 47544.6nT  
Dip Angle: 59.72°  
Date: 6/2/2021  
Model: HDGM2021



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	3562.0	Castle		
5370.0	5372.0	Lamar/Base of Salt		
5402.0	5404.3	Bull Canyon		
6710.0	6714.6	Cherry Canyon		
8013.0	8019.9	Brushy Canyon		
9296.0	9305.2	Bone Spring		
10346.0	10355.0	1st Bone Spring Sand		
10925.0	10928.0	2nd Bone Spring Sand		
11966.0	11969.0	3rd Bone Spring Sand	0.00	359.54
12422.0	12459.9	Wolfcamp	0.00	359.54
12461.0	12512	Wolfcamp X Sand	0.00	359.54
12533.0	12630	Wolfcamp Y Sand	0.00	359.54
12665.0	12702.3	Wolfcamp A	0.00	359.54



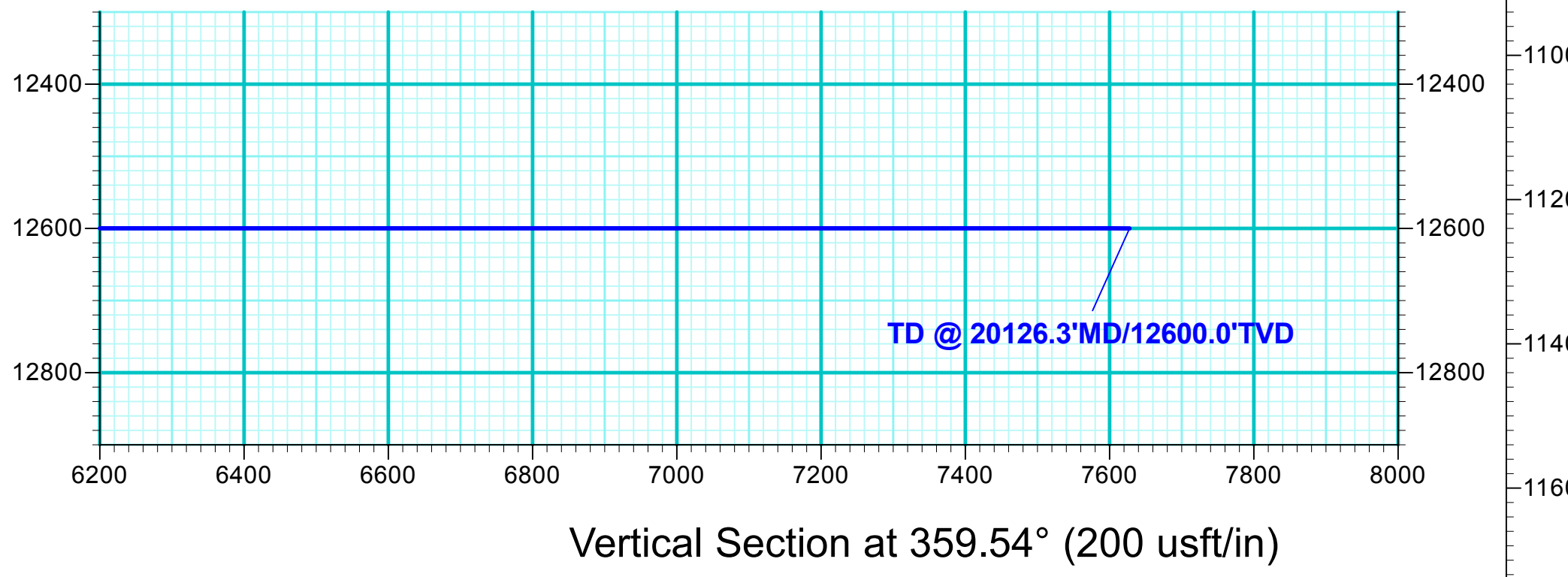
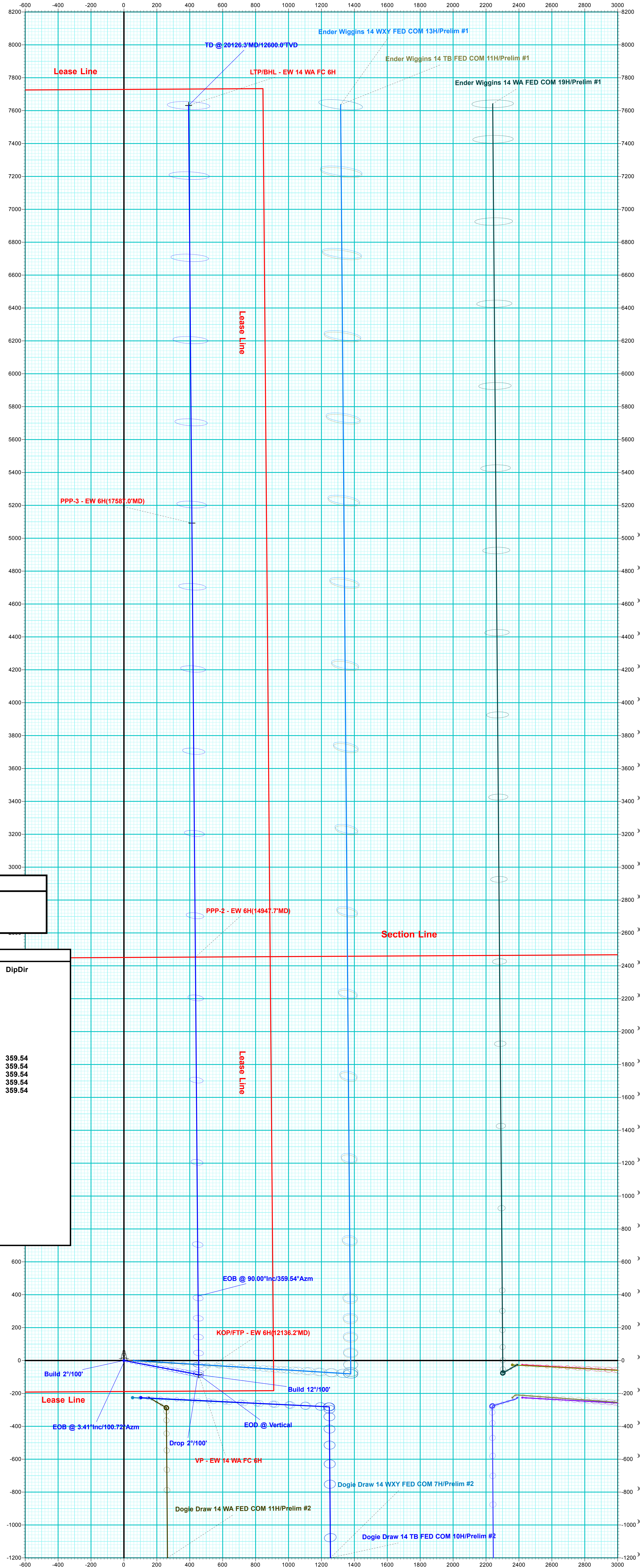
Target Line: 12,600' TVD @ 0°VS 90° 10' U/D

PPP-2 - EW 6H(14947.7MD)

Vertical Section at 359.54° (200 usft/in)

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
VP - EW 14 WA FC 6H	11922.5	-86.0	454.4	412391.22	775997.54	32° 7' 50.305 N03° 26' 30.310 W		Point	
- plan hits target center									
KOP/FTP - EW 6H(12136.2MD)	12122.5	-86.0	454.4	412391.22	775997.54	32° 7' 50.305 N03° 26' 30.310 W		Point	
- plan hits target center									
LTP/BHL - EW 14 WA FC 6H	12600.0	7631.3	392.9	420108.56	775936.03	32° 8' 6.675 N03° 26' 30.282 W		Point	
- plan hits target center									
PPP-2 - EW 6H(14947.7MD)	12600.0	2452.9	434.3	414930.14	775977.43	32° 8' 15.430 N03° 26' 30.299 W		Point	
- plan misses target center by 0.1usft at 14947.7usft MD (12600.0 TVD, 2452.9 N, 434.2 E)									
PPP-3 - EW 6H(17587.0MD)	12600.0	5092.1	413.2	417569.35	775956.33	32° 8' 41.547 N03° 26' 30.290 W		Point	
- plan misses target center by 0.1usft at 17587.0usft MD (12600.0 TVD, 5092.1 N, 413.2 E)									

DESIGN ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation	
4000.0	0.00	0.00	4000.0	0.0	0.0	0.0	0.0	Build 2°/100'	
4170.7	3.41	100.72	4170.6	-0.9	5.0	-1.0	5.1	EOB @ 3.41°Inc/100.72°Azim	
11765.5	3.41	100.72	11751.9	-85.1	449.4	-88.7	457.4	Drop 2°/100'	
11936.2	0.00	0.00	11922.5	-86.0	454.4	-89.7	462.5	EOD @ Vertical	
12136.2	0.00	0.00	12122.5	-86.0	454.4	-89.7	462.5	Build 12°/100'	
121986.2	90.00	359.54	12600.0	391.4	450.6	387.8	940.0	EOB @ 90.00°Inc/359.54°Azim	
20126.3	90.00	359.54	12600.0	7631.3	392.9	7627.9	8180.1	TD @ 20126.3MD/12600.0TVD	



Vertical Section at 359.54° (200 usft/in)

PPP-3 - EW 6H(17587.0MD)

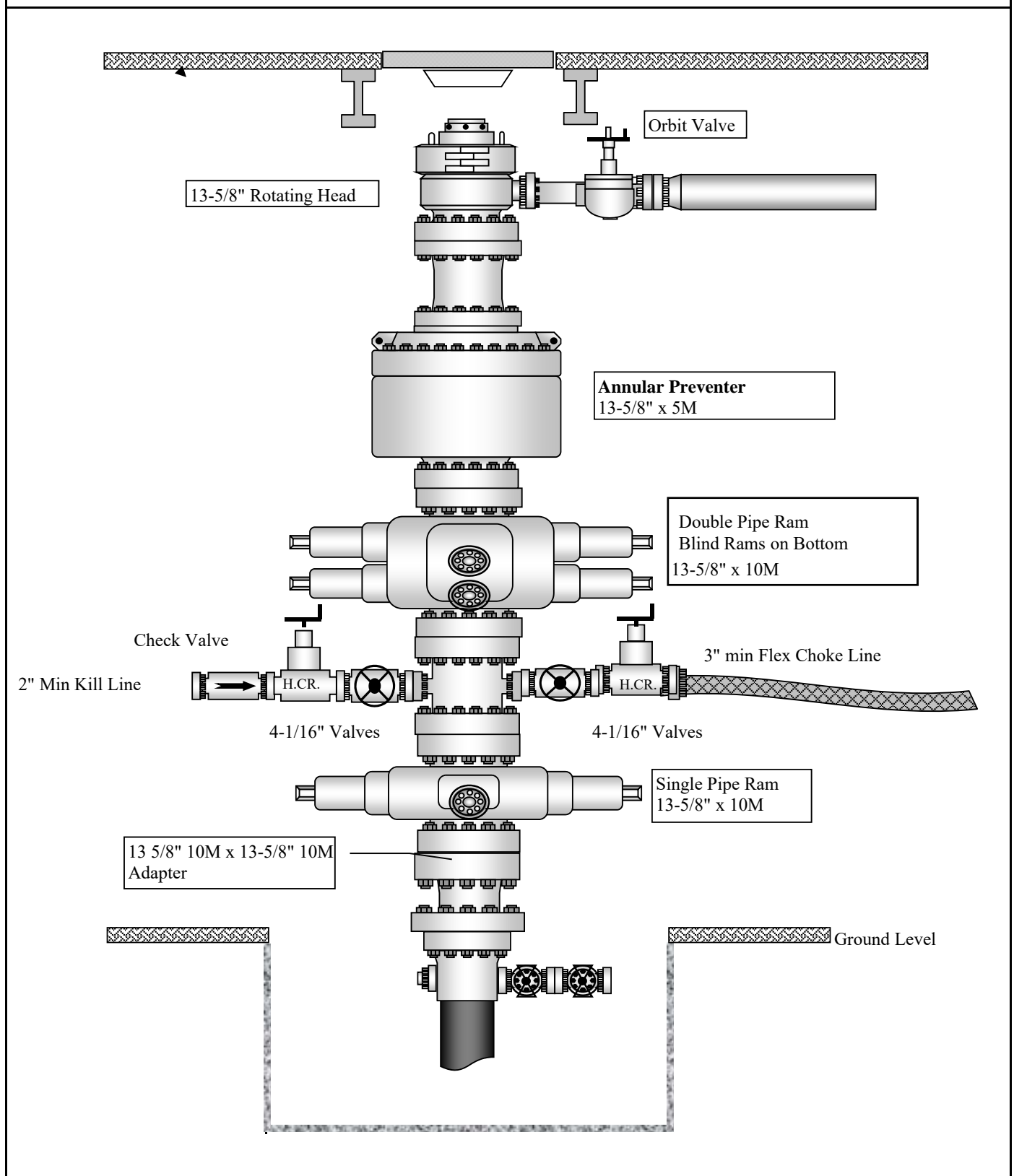


### Batch Drilling Plan

- 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 nipped 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

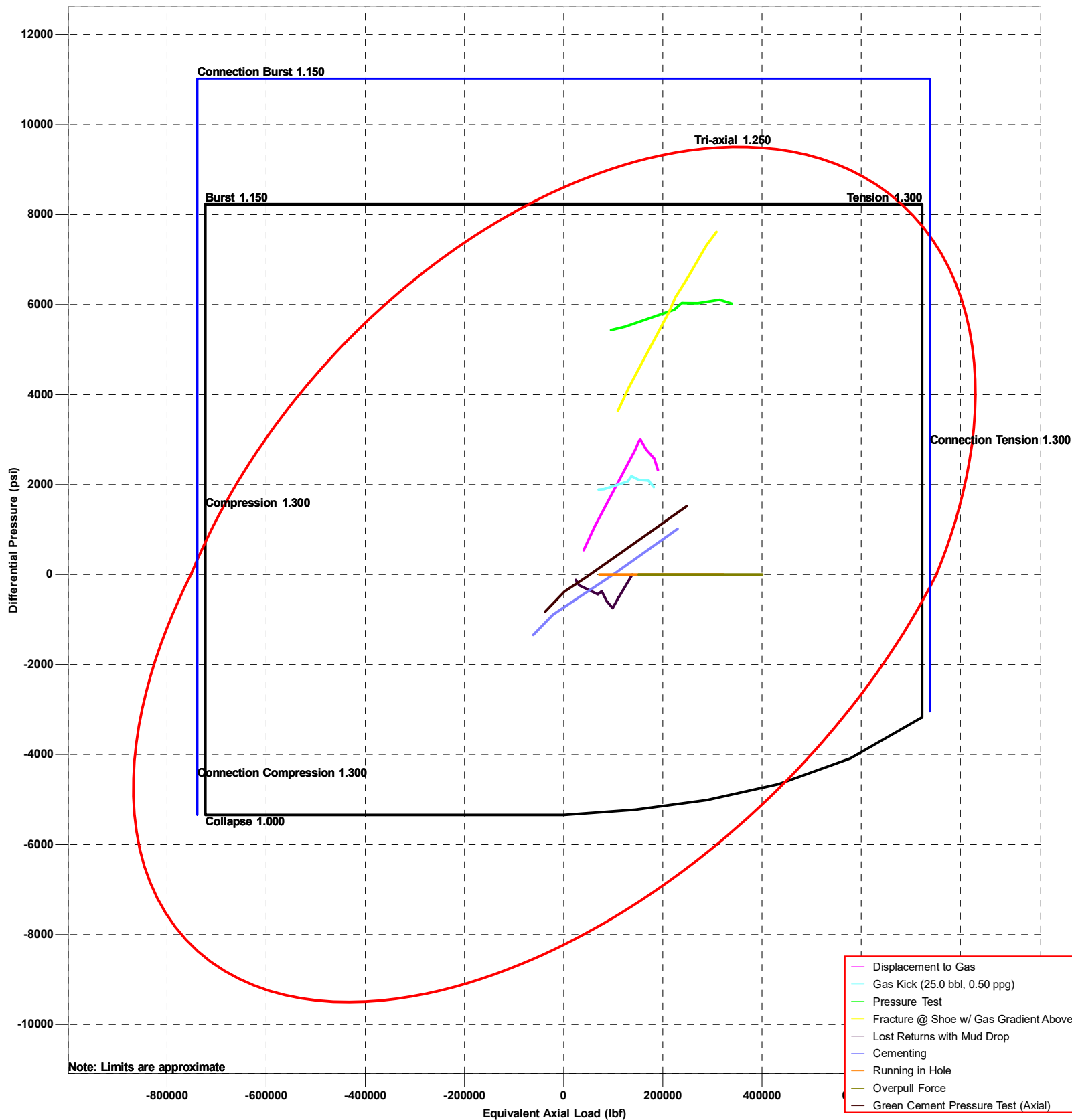
- Marathon Oil Permian LLC. Requests the option to contract a surface rig to drill, set surface casing and cement on the subject well. If the timing between rigs is such that Marathon Oil Permian LLC. would not be able to preset the surface section, the primary drilling rig will drill the well in its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

Operator : Marathon Oil

File: Basis of Design (10.75-7.625-5.5) \*

Date: October 13, 2020 Page: 1

## Design Limits (7 5/8" Intermediate Casing - Section 1)



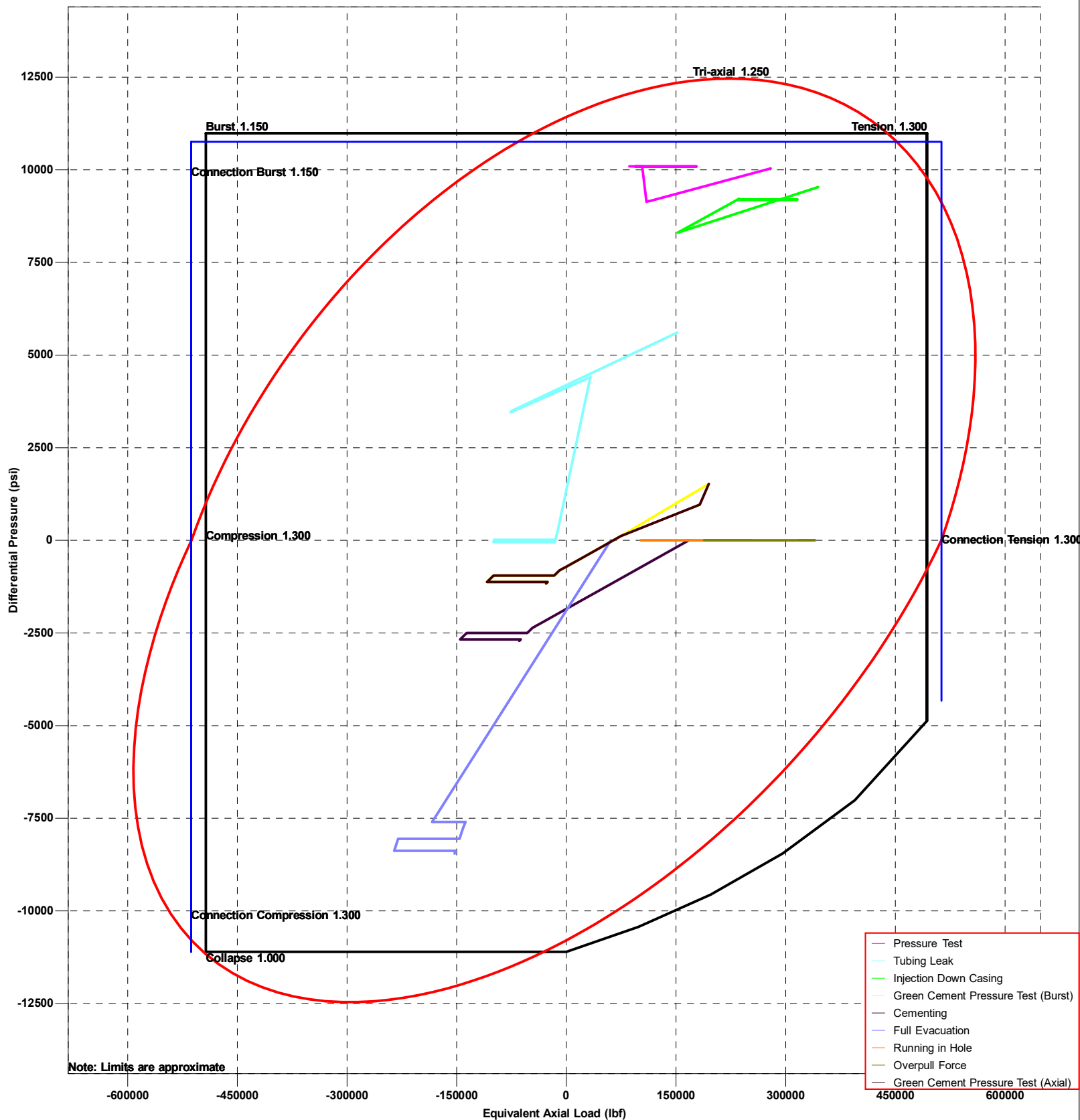
RED HILLS SB - 3 CSG STRING

StressCheck 5000.15.1.2 Build 21

File: Basis of Design (10.75-7.625-5.5) \*

Date: October 13, 2020 Page: 1

## Design Limits (5 1/2" Production Casing - Section 1)



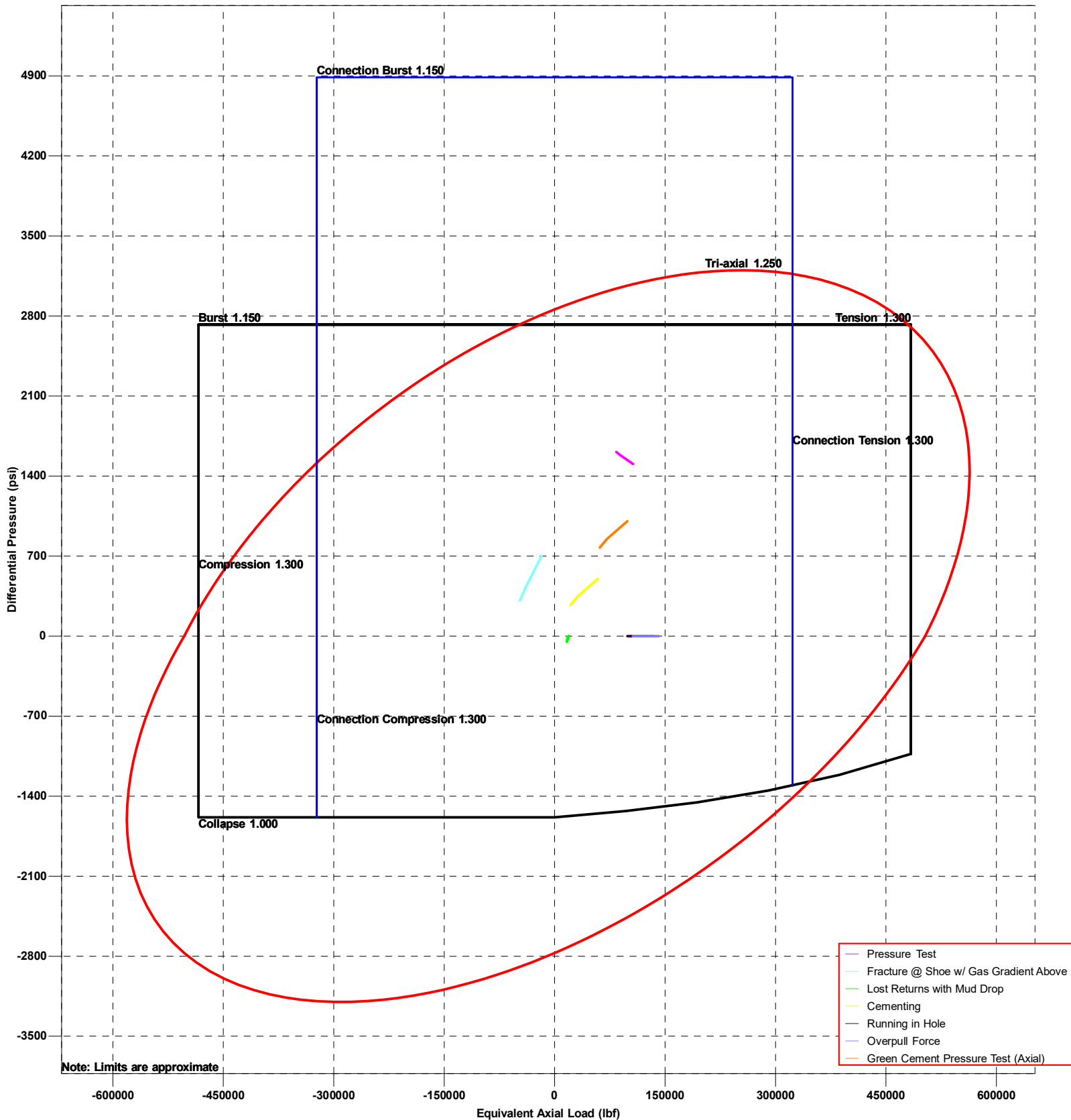
RED HILLS SB - 3 CSG STRING

StressCheck 5000.15.1.2 Build 21

File: Basis of Design (10.75-7.625-5.5) \*

Date: October 13, 2020 Page: 1

## Design Limits (10 3/4" Surface Casing - Section 1)



RED HILLS SB - 3 CSG STRING

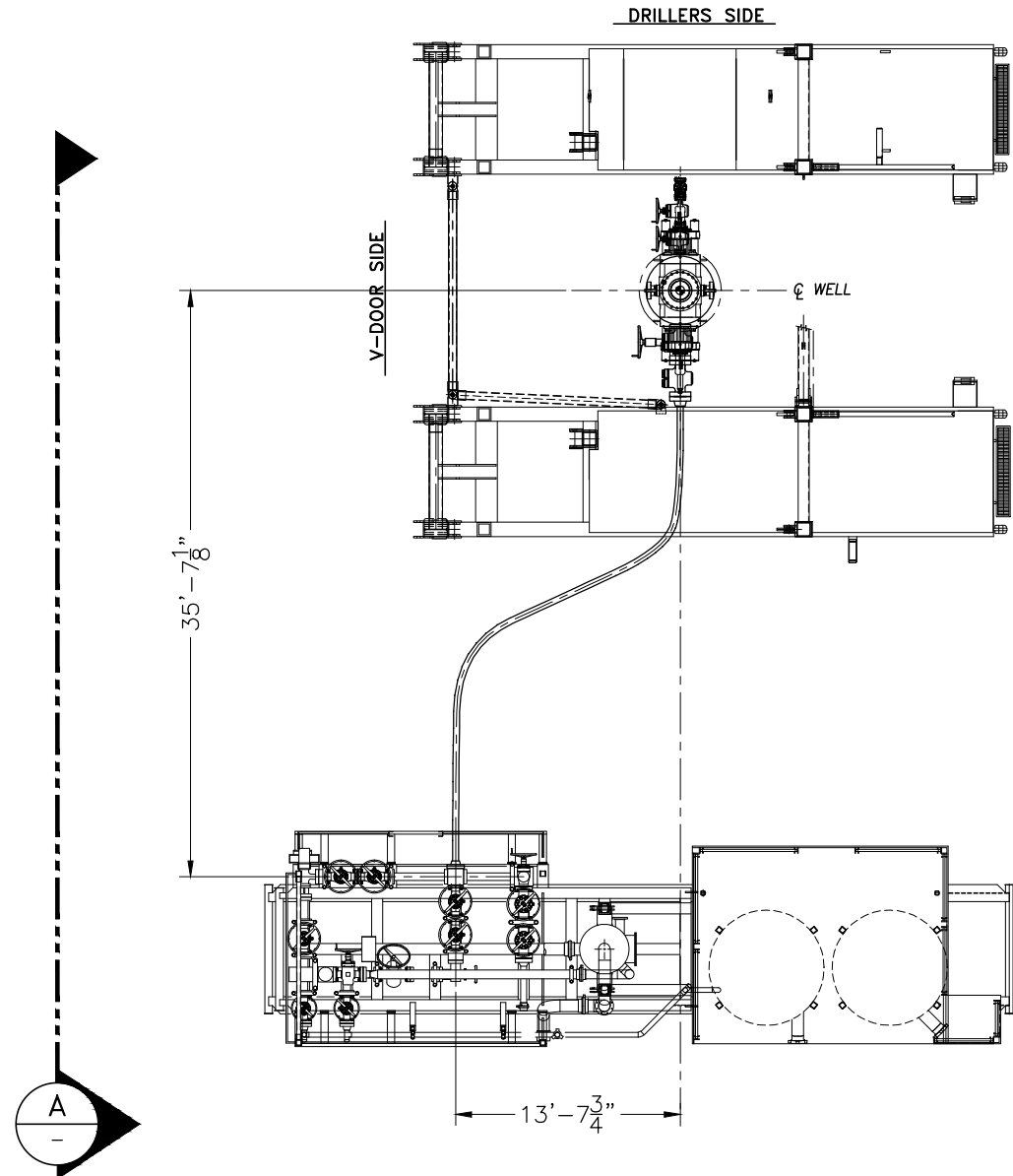
StressCheck 5000.15.1.2 Build 21



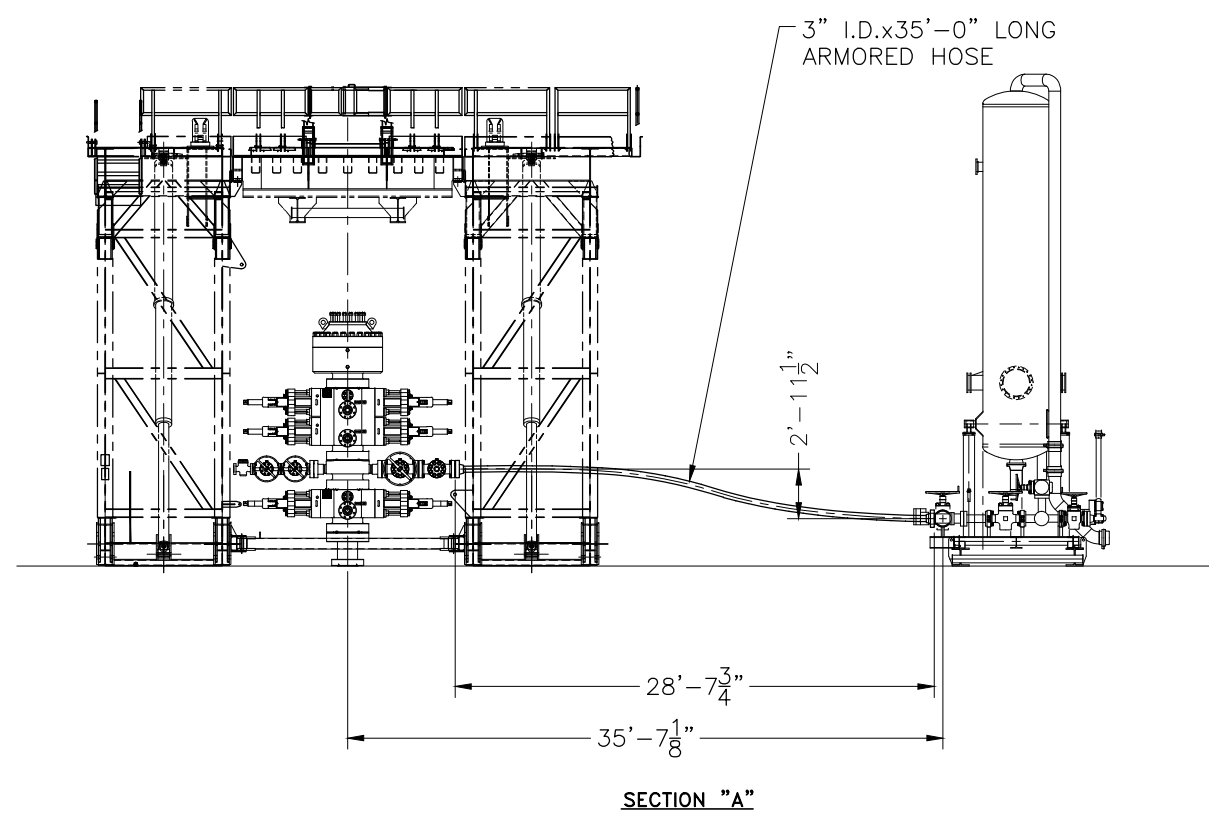


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WITHOUT THE PRIOR, WRITTEN CONSENT OF A DULY AUTHOR-  
IZED OFFICER OF HELMERICH & PAYNE INT'L DRILLING CO.

			ENGINEERING APPROVAL	DATE	TITLE:  CHOKE MANIFOLD RIG 216-234							
△									CUSTOMER: H&P			
△												
△												
△												
A	10/15/02	ADJUST DIM TO FIELD CONFIRMED DIM	RAY		DRAWN: MTS				DATE: 2-28-02	DWG. NO.:	REV:	
REV	DATE	DESCRIPTION	BY		SCALE: 3/4"=1'				SHEET: 1 OF 1	216-P1-05	A	



PLAN VIEW



ISSUED FOR FABRICATION  
December-19-2007  
DRAFTSMAN \_\_\_\_\_  
ENGINEER \_\_\_\_\_

PROPRIETARY

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ENGINEERING APPROVAL		DATE
△		
△		
△		
△		
△	12/18/07	REMOVED SHEET TOTAL CALLOUT
REV	DATE	DESCRIPTION

		HELMERICH & PAYNE INTERNATIONAL DRILLING CO.	
TITLE: CHOKE LINE SYSTEM FLEXRIG3			
CUSTOMER:			
PROJECT:			
DRAWN: JBG	DATE: 4-10-07	DWG. NO.:	REV:
SCALE: 3/16"=1'	SHEET: 2 OF 3	210-P1-07	A



# Certificate of Conformity

ContiTech

<b>Certificate Number</b> 953233-4	<b>COM Order Reference</b> 953233	<b>Customer Name &amp; Address</b> HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
<b>Customer Purchase Order No:</b> 740053080		
<b>Project:</b>		
<b>Test Center Address</b> ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	<b>Accepted by COM Inspection</b> Signed: Roger Suarez Date: 5/11/17 	<b>Accepted by Client Inspection</b>

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	Qty	Serial Number	Specifications
30		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	63393	ContiTech Standard



# Hydrostatic Test Certificate

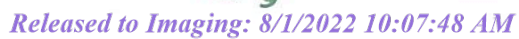
ContiTech

<b>Certificate Number</b> 953233-4	<b>COM Order Reference</b> 953233	<b>Customer Name &amp; Address</b> HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
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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	Qty	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









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 : <i>Leola Linder</i>
	Appr. by: <i>Leola Linder</i>

# 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.	No.: QC- DB- 380 / 2012
	Page: 2 / 61

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 ContiTech Rubber  
 Industrial Kft.  
 Quality Control Dept.  
 (1)



CONTITECH RUBBER  
Industrial Kft.

No:QC-DB- 380 /2012

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# 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](http://www.api.org/compositelist).



3400 116 (07/09) 114

CONTITECH RUBBER  
Industrial Kft.

No:QC-DB- 380 /2012

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**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**

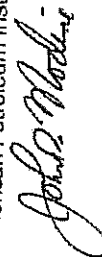
The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

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

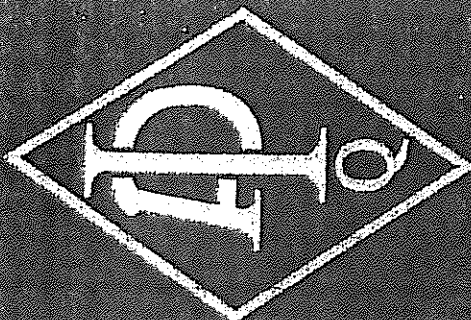
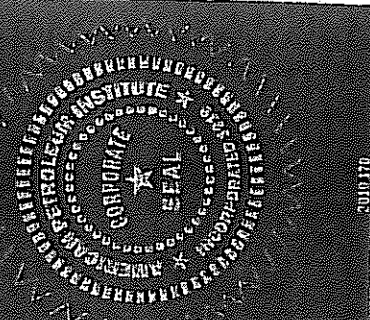
QMS Exclusions: No Exclusions Identified as Applicable

**COPY**

American Petroleum Institute



Director of Global Industry Services

**Effective Date: OCTOBER 15, 2010****Expiration Date: OCTOBER 15, 2013**To verify the authenticity of this license, go to [www.api.org/compositelist](http://www.api.org/compositelist).**American  
Petroleum  
Institute**

2010 170





CONTITECH RUBBER  
Industrial Kft.

No:QC-DB- 380 /2012

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<b>QUALITY CONTROL INSPECTION AND TEST CERTIFICATE</b>				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.	
<p>Pressure test with water at ambient temperature</p> <p style="text-align: center;">See attachment. ( 1 page )</p> <p>↑ 10 mm = 10 Min. → 10 mm = 20 MPa</p>					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		2156 2153		AISI 4130	
4 1/16" 10K API Flange end				AISI 4130	
				Heat N°	
				20231	
				34031	
<b>NOT DESIGNED FOR WELL TESTING</b>				<b>API Spec 16 C</b>	
				<b>Temperature rate:"B"</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
	Page: 10 /61



## 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
<b>Standard</b>	<b>API SPEC 16 C</b>
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.

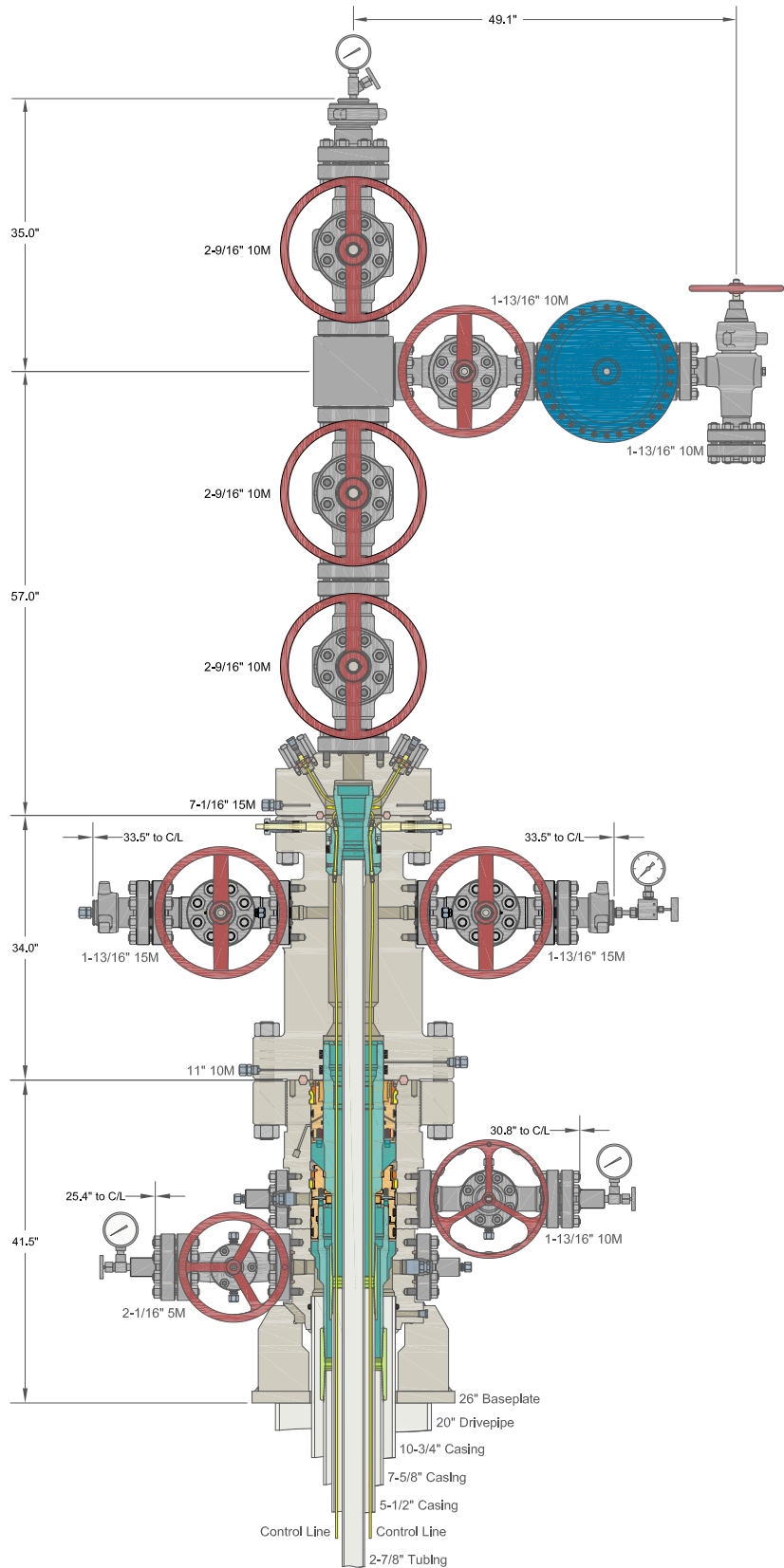
## 2.5 PROCEDURE WHILE PULLING BHA THRU STACK

- 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 NO 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



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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**  
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**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
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**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
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State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

CONDITIONS  
  
Action 126150

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 126150
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

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