

Well Name: CHAOS 34-33 WC FED COM	Well Location: T22S / R28E / SEC 34 / NENE / 32.353839 / -104.0683122	County or Parish/State: EDDY / NM
Well Number: 10H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM19842B	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001553642	Operator: MARATHON OIL PERMIAN LLC	

Notice of Intent

Sundry ID: 2791807

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 05/21/2024	Time Sundry Submitted: 01:20
Date proposed operation will begin: 05/21/2024	

Procedure Description: Marathon Oil Permian LLC respectfully request approval to change tph well from a two-mile lateral to a three-mile lateral. We also propose changing the well name, SHL, BHL, and drill plan as described below and on the attached: Please change well name: From: Chaos 34-33 WXY Fed Com 10H To: Chaos WC Federal Com 701H SHL Change From: 958' FNL & 435' FEL Sec 34 22S 28E To: 890' FNL & 497' FEL Sec 34 22S 28E BHL Change From: 660' FNL & 330' FWL Sec 33 22S 28E To: 330' FNL & 330' FWL Sec 32 22S 28E Change Approved location table as follows: SHL: NMNM19842B KOP/PP1: NMNM19842B PPP2: NMNM22631 PPP3: Fee Exit/BHL: State Casing Design Changes: Surface Set Depth From: 500' To: 293' Intermediate Set Depth From: 2850' To: 8979' Production Set Depth From: 20484' To: 24740' No other changes to the casing design. Cement design changes - please see attached drill plan. Please see attached Drill plan, directional plan, and C-102s (proposed & previously approved) for review and approval.

NOI Attachments

Procedure Description

- Chaos_10H_Approved_C102_20240521131858.pdf
- Chaos_WC_Federal_Com_701H__Well_Plan_v2_20240521131858.pdf
- CHAOS_WC_FEDERAL_COM_701H_C102_20240521131859.pdf
- Chaos_WC_FED_COM_701H_Drill_Plan_20240521131858.pdf

Received by OCD: 7/18/2024 8:20:00 AM

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Conditions of Approval

Additional

CHAOS_WC_FEDERAL_COM_701H__SUNDRY_COA_20240717160907.pdf

Operator

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

Operator Electronic Signature: ADRIAN COVARRUBIAS	Signed on: JUL 09, 2024 12:35 PM
Name: MARATHON OIL PERMIAN LLC	
Title: regulatory Compliance Representative	
Street Address: 990 TOWN & COUNTRY BLVD	
City: HOUSTON	State: TX
Phone: (713) 296-3368	
Email address: acovarrubias@marathonoil.com	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 07/17/2024
Signature: Chris Walls	

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	11. Country or Parish, State

SUBMIT IN TRIPLICATE - Other instructions on page 2	
1. Type of Well	
<input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	
2. Name of Operator	
3a. Address	3b. Phone No. (include area code)
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)	

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation 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.)

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

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

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Additional Remarks

From: 660' FNL & 330' FWL Sec 33 22S 28E

To: 330' FNL & 330' FWL Sec 32 22S 28E

Change Approved location table as follows:

SHL: NMNM19842B

KOP/PP1: NMNM19842B

PPP2: NMNM22631

PPP3: Fee

Exit/BHL: State

Casing Design Changes:

Surface Set Depth

From: 500'

To: 293'

Intermediate Set Depth

From: 2850'

To: 8979'

Production Set Depth

From: 20484'

To: 24740'

No other changes to the casing design.

Cement design changes - please see attached drill plan.

Please see attached Drill plan, directional plan, and C-102s (proposed & previously approved) for review and approval.

Location of Well

0. SHL: NENE / 958 FNL / 435 FEL / TWSP: 22S / RANGE: 28E / SECTION: 34 / LAT: 32.353839 / LONG: -104.0683122 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 660 FNL / 0 FEL / TWSP: 22S / RANGE: 28E / SECTION: 33 / LAT: 32.3546153 / LONG: -104.0840067 (TVD: 10294 feet, MD: 15613 feet)

PPP: NENE / 660 FNL / 330 FEL / TWSP: 22S / RANGE: 28E / SECTION: 34 / LAT: 32.3546594 / LONG: -104.0679978 (TVD: 10398 feet, MD: 10668 feet)

BHL: NWNW / 660 FNL / 330 FWL / TWSP: 22S / RANGE: 28E / SECTION: 33 / LAT: 32.3546637 / LONG: -104.0997807 (TVD: 10192 feet, MD: 20484 feet)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MARATHON OIL COMPANY
WELL NAME & NO.:	CHAOS WC FEDERAL COM 701H
SURFACE HOLE FOOTAGE:	958'/N & 435'/E
BOTTOM HOLE FOOTAGE:	330'/N & 330'/W
LOCATION:	Section 34, T.22 S., R.28 E.
COUNTY:	Eddy County, New Mexico

ALL PREVIOUS COAs STILL APPLY

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Wellhead Variance	<input type="radio"/> Diverter		
Other	<input type="checkbox"/> 4 String	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Open Annulus
Cementing	<input type="checkbox"/> Contingency Cement Squeeze	<input type="checkbox"/> EchoMeter	<input type="checkbox"/> Primary Cement Squeeze
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry		
Special Requirements Variance	<input type="checkbox"/> Break Testing	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

A. CASING

Alternate Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **293** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **9-5/8** inch intermediate casing shall be set at approximately **8979** feet. **Review cement volumes for possible salt washout. Keep intermediate casing full for collapse SF.** The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2 (DV Tool):

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally and the **DV tool is placed below the salt interval**. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The **5-1/2** inch production casing shall be set at approximately **24,740** feet. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

GENERAL REQUIREMENTS

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

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

- If well located in Eddy County
EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
BLM_NM_CFO_DrillingNotifications@BLM.GOV
(575) 361-2822
 - If well located in Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981
1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.
- A. CASING
1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement

program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3.**

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR part 3170 Subpart 3172** must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

KPI 7/17/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-53642	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code 333879	⁵ Property Name CHAOS 34-33 WC FED COM	⁶ Well Number 10H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 3072'

¹⁰ Surface Location

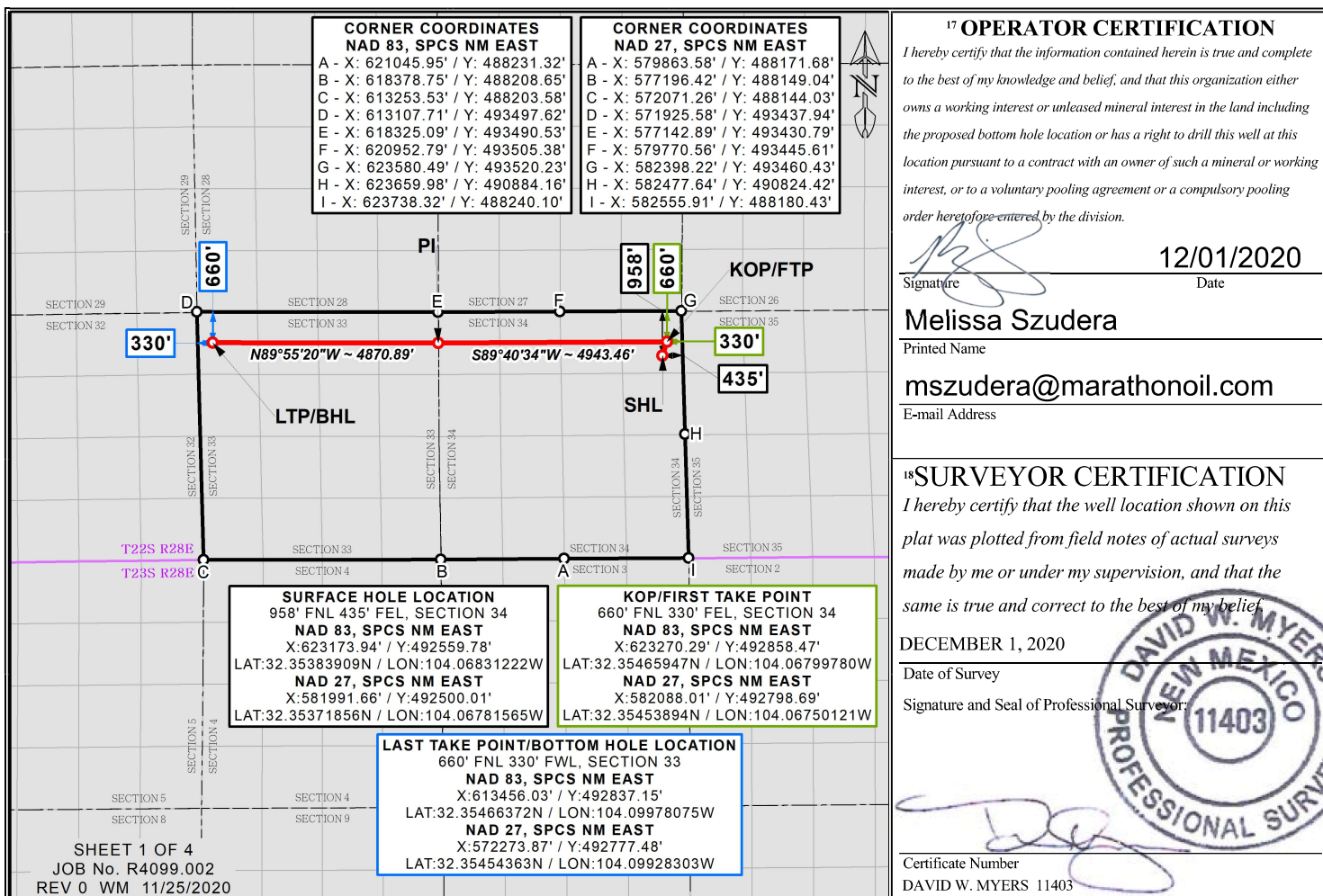
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	34	22S	28E		958	NORTH	435	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	33	22S	28E		660	NORTH	330	WEST	EDDY

¹² Dedicated Acres 1280.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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: 0.99977221 Convergence Angle: 00°07'02.700012"

MarathonOil

Corporation.

Company: Marathon Oil

Well: Chaos WC Federal Com 701H

County: Eddy County, New Mexico (NAD 27)

Rig: Precision 580

Wellbore: Wellbore #1

Design: Design #2

Date: 12:40, May 03 2024

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

WELL DETAILS: Chaos WC Federal Com 701H							DESIGN TARGET DETAILS							
		GL @ 3072.00	WELL @ 3095.50usft (Precision 580)				Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude									
0.00	0.00	492567.38	581927.65	32° 21' 14.055 N	104° 4' 4.881 W		KOP/FTP/PPP-1_Chaos 701H	9614.00	561.25	150.42	493128.63	582078.07	32° 21' 19.606 N	104° 4' 3.111 W
SECTION DETAILS							LTP/PBHL_Chaos 701H	9614.00	468.45	-14894.31	493035.83	567033.34	32° 21' 19.023 N	104° 6' 58.507 W
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation					
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00						
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.000	0.00	KOP, 2.00°/100' Build					
1851.11	7.02	43.18	1850.23	15.67	14.70	2.00	43.179	-14.80	Begin 7.02° Tangent					
6681.88	7.02	43.18	6644.77	446.33	418.83	0.00	0.000	-421.54	Begin 2.00°/100' Drop					
7032.99	0.00	0.00	6995.00	462.00	433.53	2.00	180.000	-436.34	Begin Vertical Hold					
9079.03	0.00	0.00	9041.04	462.00	433.53	0.00	0.000	-436.34	KOP, 10.00°/100' Build					
9979.03	90.00	277.20	9614.00	533.81	-134.91	10.00	277.200	131.65	Begin 90.00° Lateral, 2.00°/100' Turn					
10356.54	90.00	269.65	9614.00	556.35	-511.47	2.00	-90.000	508.06	Hold 90.00° Inc, 269.65° Azm					
24739.65	90.00	269.65	9614.00	468.45	-14894.31	0.00	0.000	14891.17	PBHL					

SURVEY PROGRAM			
Depth From	Depth To	Survey/Plan	Tool
0.00	24739.65	Design #2 (Wellbore #1)	MWD+IFR1+FDIR

The figure consists of several interconnected plots illustrating the wellbore path for Chaos WC Federal Com 701H and its relationship to nearby wells and lease boundaries.

- Plan View (Top):** A large plot showing the wellbore path in the horizontal plane. The x-axis represents West(-)/East(+) in 500 usft/in, and the y-axis represents South(-)/North(+) in 500 usft/in. The path starts at the KOP (Kick-off Point) and follows a series of segments: a 2.00°/100' build, a 7.02° tangent, a 2.00°/100' drop, a vertical hold, and a 10.00°/100' build. The path ends at the PBHL (Pore Breakout Hole Limit). A red line indicates the Lease Line - Do Not Cross. Other wells shown include Chaos WC Federal Com 801H, 802H, 803H, 805H, and Trojan Horse BS Fed Com 801H.
- Vertical Section (Bottom Left):** A plot showing the wellbore path in the vertical plane. The x-axis represents West(-)/East(+) in 50 usft/in, and the y-axis represents True Vertical Depth (500 usft/in). The path starts at the KOP and follows a series of segments: a 2.00°/100' drop, a vertical hold, and a 10.00°/100' build. The path ends at the PBHL.
- Detail View (Bottom Right):** A small plot showing a detailed view of the wellbore path near the KOP. The x-axis represents West(-)/East(+) in 20 usft/in, and the y-axis represents True Vertical Depth (500 usft/in). The path starts at the KOP and follows a series of segments: a 2.00°/100' build, a 7.02° tangent, a 2.00°/100' drop, a vertical hold, and a 10.00°/100' build. The path ends at the PBHL.

Marathon Oil
Chaos WC Federal Com 701H
Precision 580

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Directional are at the sole risk and responsibility of the customer. MS Directional is not responsible for the accuracy of this schematic or the information contained herein.

Marathon Oil
Chaos WC Federal Com 701H
Precision 580



Marathon Oil

Eddy County, New Mexico (NAD 27)

Chaos WC Federal Com 701, 702, 801, 802, 803, 805

Chaos WC Federal Com 701H

Wellbore #1

Plan: Design #2

Standard Planning Report

03 May, 2024





MS Directional
Planning Report



Database:	EDM 5000.15 Conroe DB	Local Co-ordinate Reference:	Well Chaos WC Federal Com 701H
Company:	Marathon Oil	TVD Reference:	WELL @ 3095.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Project	Eddy County, New Mexico (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Chaos WC Federal Com 701, 702, 801, 802, 803, 805			
Site Position:		Northing:	492,567.38 usft	Latitude:	32° 21' 14.055 N
From:	Map	Easting:	581,927.65 usft	Longitude:	104° 4' 4.881 W
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	

Well	Chaos WC Federal Com 701H					
Well Position	+N/-S	0.00 usft	Northing:	492,567.38 usft	Latitude:	32° 21' 14.055 N
	+E/-W	0.00 usft	Easting:	581,927.65 usft	Longitude:	104° 4' 4.881 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,072.00 usft
Grid Convergence:		0.142 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2024	5/2/2024	6.700	59.933	47,360.90

Design	Design #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.65

Plan Survey Tool Program	Date	5/3/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	24,739.65	Design #2 (Wellbore #1)	MWD+IFR1+FDIR
				OWSG MWD + IFR1 + FDI



Database:	EDM 5000.15 Conroe DB	Local Co-ordinate Reference:	Well Chaos WC Federal Com 701H
Company:	Marathon Oil	TVD Reference:	WELL @ 3095.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,851.11	7.02	43.18	1,850.23	15.67	14.70	2.00	2.00	0.00	43.179	
6,681.89	7.02	43.18	6,644.77	446.33	418.83	0.00	0.00	0.00	0.000	
7,032.99	0.00	0.00	6,995.00	462.00	433.53	2.00	-2.00	0.00	180.000	
9,079.03	0.00	0.00	9,041.04	462.00	433.53	0.00	0.00	0.00	0.000	
9,979.03	90.00	277.20	9,614.00	533.81	-134.91	10.00	10.00	0.00	277.200	
10,356.54	90.00	269.65	9,614.00	556.35	-511.47	2.00	0.00	-2.00	-90.000	
24,739.65	90.00	269.65	9,614.00	468.45	-14,894.31	0.00	0.00	0.00	0.000	LTP/PBHL_Chaos i



MS Directional Planning Report



Database:	EDM 5000.15 Conroe DB	Local Co-ordinate Reference:	Well Chaos WC Federal Com 701H
Company:	Marathon Oil	TVD Reference:	WELL @ 3095.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 2.00°/100' Build									
1,600.00	2.00	43.18	1,599.98	1.27	1.19	-1.20	2.00	2.00	0.00
1,700.00	4.00	43.18	1,699.84	5.09	4.78	-4.81	2.00	2.00	0.00
1,800.00	6.00	43.18	1,799.45	11.44	10.74	-10.81	2.00	2.00	0.00
1,851.11	7.02	43.18	1,850.23	15.67	14.70	-14.80	2.00	2.00	0.00
Begin 7.02° Tangent									
1,900.00	7.02	43.18	1,898.75	20.03	18.79	-18.92	0.00	0.00	0.00
2,000.00	7.02	43.18	1,998.00	28.94	27.16	-27.34	0.00	0.00	0.00
2,100.00	7.02	43.18	2,097.25	37.86	35.53	-35.76	0.00	0.00	0.00
2,200.00	7.02	43.18	2,196.50	46.77	43.89	-44.18	0.00	0.00	0.00
2,300.00	7.02	43.18	2,295.75	55.69	52.26	-52.60	0.00	0.00	0.00
2,400.00	7.02	43.18	2,395.00	64.60	60.62	-61.02	0.00	0.00	0.00
2,500.00	7.02	43.18	2,494.25	73.52	68.99	-69.44	0.00	0.00	0.00
2,600.00	7.02	43.18	2,593.50	82.43	77.35	-77.86	0.00	0.00	0.00
2,700.00	7.02	43.18	2,692.75	91.35	85.72	-86.28	0.00	0.00	0.00
2,800.00	7.02	43.18	2,792.00	100.26	94.08	-94.70	0.00	0.00	0.00
2,900.00	7.02	43.18	2,891.25	109.18	102.45	-103.12	0.00	0.00	0.00
3,000.00	7.02	43.18	2,990.50	118.09	110.82	-111.53	0.00	0.00	0.00
3,100.00	7.02	43.18	3,089.75	127.01	119.18	-119.95	0.00	0.00	0.00
3,200.00	7.02	43.18	3,189.00	135.92	127.55	-128.37	0.00	0.00	0.00
3,300.00	7.02	43.18	3,288.25	144.84	135.91	-136.79	0.00	0.00	0.00
3,400.00	7.02	43.18	3,387.50	153.75	144.28	-145.21	0.00	0.00	0.00
3,500.00	7.02	43.18	3,486.75	162.67	152.64	-153.63	0.00	0.00	0.00
3,600.00	7.02	43.18	3,586.00	171.58	161.01	-162.05	0.00	0.00	0.00
3,700.00	7.02	43.18	3,685.25	180.50	169.37	-170.47	0.00	0.00	0.00
3,800.00	7.02	43.18	3,784.50	189.41	177.74	-178.89	0.00	0.00	0.00
3,900.00	7.02	43.18	3,883.75	198.33	186.11	-187.31	0.00	0.00	0.00
4,000.00	7.02	43.18	3,983.00	207.24	194.47	-195.73	0.00	0.00	0.00
4,100.00	7.02	43.18	4,082.25	216.16	202.84	-204.15	0.00	0.00	0.00
4,200.00	7.02	43.18	4,181.50	225.07	211.20	-212.57	0.00	0.00	0.00
4,300.00	7.02	43.18	4,280.75	233.99	219.57	-220.99	0.00	0.00	0.00
4,400.00	7.02	43.18	4,380.00	242.90	227.93	-229.41	0.00	0.00	0.00
4,500.00	7.02	43.18	4,479.25	251.82	236.30	-237.83	0.00	0.00	0.00
4,600.00	7.02	43.18	4,578.50	260.73	244.66	-246.25	0.00	0.00	0.00
4,700.00	7.02	43.18	4,677.75	269.65	253.03	-254.67	0.00	0.00	0.00
4,800.00	7.02	43.18	4,777.00	278.56	261.40	-263.09	0.00	0.00	0.00
4,900.00	7.02	43.18	4,876.25	287.48	269.76	-271.51	0.00	0.00	0.00



MS Directional Planning Report



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Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,000.00	7.02	43.18	4,975.50	296.39	278.13	-279.93	0.00	0.00	0.00	
5,100.00	7.02	43.18	5,074.75	305.31	286.49	-288.35	0.00	0.00	0.00	
5,200.00	7.02	43.18	5,174.00	314.22	294.86	-296.77	0.00	0.00	0.00	
5,300.00	7.02	43.18	5,273.25	323.14	303.22	-305.19	0.00	0.00	0.00	
5,400.00	7.02	43.18	5,372.50	332.05	311.59	-313.61	0.00	0.00	0.00	
5,500.00	7.02	43.18	5,471.75	340.97	319.95	-322.03	0.00	0.00	0.00	
5,600.00	7.02	43.18	5,571.00	349.88	328.32	-330.45	0.00	0.00	0.00	
5,700.00	7.02	43.18	5,670.25	358.80	336.69	-338.87	0.00	0.00	0.00	
5,800.00	7.02	43.18	5,769.50	367.71	345.05	-347.29	0.00	0.00	0.00	
5,900.00	7.02	43.18	5,868.75	376.63	353.42	-355.71	0.00	0.00	0.00	
6,000.00	7.02	43.18	5,968.00	385.54	361.78	-364.13	0.00	0.00	0.00	
6,100.00	7.02	43.18	6,067.25	394.46	370.15	-372.55	0.00	0.00	0.00	
6,200.00	7.02	43.18	6,166.50	403.37	378.51	-380.97	0.00	0.00	0.00	
6,300.00	7.02	43.18	6,265.75	412.29	386.88	-389.39	0.00	0.00	0.00	
6,400.00	7.02	43.18	6,365.00	421.20	395.24	-397.81	0.00	0.00	0.00	
6,500.00	7.02	43.18	6,464.25	430.12	403.61	-406.23	0.00	0.00	0.00	
6,600.00	7.02	43.18	6,563.50	439.03	411.98	-414.65	0.00	0.00	0.00	
6,681.89	7.02	43.18	6,644.77	446.33	418.83	-421.54	0.00	0.00	0.00	
Begin 2.00°/100' Drop										
6,700.00	6.66	43.18	6,662.76	447.90	420.30	-423.03	2.00	-2.00	0.00	
6,800.00	4.66	43.18	6,762.26	455.09	427.05	-429.82	2.00	-2.00	0.00	
6,900.00	2.66	43.18	6,862.06	459.75	431.42	-434.22	2.00	-2.00	0.00	
7,000.00	0.66	43.18	6,962.01	461.86	433.40	-436.21	2.00	-2.00	0.00	
7,032.99	0.00	0.00	6,995.00	462.00	433.53	-436.34	2.00	-2.00	0.00	
Begin Vertical Hold										
7,100.00	0.00	0.00	7,062.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,162.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,262.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,362.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,462.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,562.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,662.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,762.01	462.00	433.53	-436.34	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,862.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,962.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,062.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,162.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,262.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,362.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,462.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,562.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,662.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,762.01	462.00	433.53	-436.34	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,862.01	462.00	433.53	-436.34	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,962.01	462.00	433.53	-436.34	0.00	0.00	0.00	
9,079.03	0.00	0.00	9,041.04	462.00	433.53	-436.34	0.00	0.00	0.00	
KOP, 10.00°/100' Build										
9,100.00	2.10	277.20	9,062.00	462.05	433.15	-435.96	10.00	10.00	0.00	
9,150.00	7.10	277.20	9,111.83	462.55	429.18	-431.99	10.00	10.00	0.00	
9,200.00	12.10	277.20	9,161.11	463.59	420.91	-423.73	10.00	10.00	0.00	
9,250.00	17.10	277.20	9,209.48	465.17	408.41	-411.24	10.00	10.00	0.00	
9,300.00	22.10	277.20	9,256.57	467.27	391.78	-394.63	10.00	10.00	0.00	
9,350.00	27.10	277.20	9,302.02	469.88	371.14	-374.00	10.00	10.00	0.00	



MS Directional Planning Report



Database:	EDM 5000.15 Conroe DB	Local Co-ordinate Reference:	Well Chaos WC Federal Com 701H
Company:	Marathon Oil	TVD Reference:	WELL @ 3095.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
9,400.00	32.10	277.20	9,345.48	472.98	346.65	-349.53	10.00	10.00	0.00
9,450.00	37.10	277.20	9,386.63	476.53	318.49	-321.39	10.00	10.00	0.00
9,500.00	42.10	277.20	9,425.14	480.53	286.88	-289.81	10.00	10.00	0.00
9,550.00	47.10	277.20	9,460.73	484.92	252.06	-255.02	10.00	10.00	0.00
9,600.00	52.10	277.20	9,493.13	489.70	214.30	-217.29	10.00	10.00	0.00
9,650.00	57.10	277.20	9,522.09	494.80	173.88	-176.90	10.00	10.00	0.00
9,700.00	62.10	277.20	9,547.39	500.20	131.11	-134.16	10.00	10.00	0.00
9,750.00	67.10	277.20	9,568.83	505.86	86.31	-89.40	10.00	10.00	0.00
9,800.00	72.10	277.20	9,586.25	511.74	39.83	-42.96	10.00	10.00	0.00
9,850.00	77.10	277.20	9,599.53	517.77	-7.97	4.81	10.00	10.00	0.00
9,900.00	82.10	277.20	9,608.56	523.94	-56.75	53.55	10.00	10.00	0.00
9,950.00	87.10	277.20	9,613.26	530.17	-106.12	102.88	10.00	10.00	0.00
9,979.03	90.00	277.20	9,614.00	533.81	-134.91	131.65	10.00	10.00	0.00
Begin 90.00° Lateral, 2.00°/100' Turn									
10,000.00	90.00	276.78	9,614.00	536.36	-155.72	152.44	2.00	0.00	-2.00
10,100.00	90.00	274.78	9,614.00	546.43	-255.21	251.87	2.00	0.00	-2.00
10,200.00	90.00	272.78	9,614.00	553.03	-354.99	351.60	2.00	0.00	-2.00
10,300.00	90.00	270.78	9,614.00	556.13	-454.93	451.53	2.00	0.00	-2.00
10,356.54	90.00	269.65	9,614.00	556.35	-511.47	508.06	2.00	0.00	-2.00
Hold 90.00° Inc, 269.65° Azm									
10,400.00	90.00	269.65	9,614.00	556.08	-554.93	551.52	0.00	0.00	0.00
10,500.00	90.00	269.65	9,614.00	555.47	-654.93	651.52	0.00	0.00	0.00
10,600.00	90.00	269.65	9,614.00	554.86	-754.93	751.52	0.00	0.00	0.00
10,700.00	90.00	269.65	9,614.00	554.25	-854.92	851.52	0.00	0.00	0.00
10,800.00	90.00	269.65	9,614.00	553.64	-954.92	951.52	0.00	0.00	0.00
10,900.00	90.00	269.65	9,614.00	553.03	-1,054.92	1,051.52	0.00	0.00	0.00
11,000.00	90.00	269.65	9,614.00	552.41	-1,154.92	1,151.52	0.00	0.00	0.00
11,100.00	90.00	269.65	9,614.00	551.80	-1,254.92	1,251.52	0.00	0.00	0.00
11,200.00	90.00	269.65	9,614.00	551.19	-1,354.91	1,351.52	0.00	0.00	0.00
11,300.00	90.00	269.65	9,614.00	550.58	-1,454.91	1,451.52	0.00	0.00	0.00
11,400.00	90.00	269.65	9,614.00	549.97	-1,554.91	1,551.52	0.00	0.00	0.00
11,500.00	90.00	269.65	9,614.00	549.36	-1,654.91	1,651.52	0.00	0.00	0.00
11,600.00	90.00	269.65	9,614.00	548.75	-1,754.91	1,751.52	0.00	0.00	0.00
11,700.00	90.00	269.65	9,614.00	548.14	-1,854.91	1,851.52	0.00	0.00	0.00
11,800.00	90.00	269.65	9,614.00	547.53	-1,954.90	1,951.52	0.00	0.00	0.00
11,900.00	90.00	269.65	9,614.00	546.91	-2,054.90	2,051.52	0.00	0.00	0.00
12,000.00	90.00	269.65	9,614.00	546.30	-2,154.90	2,151.52	0.00	0.00	0.00
12,100.00	90.00	269.65	9,614.00	545.69	-2,254.90	2,251.52	0.00	0.00	0.00
12,200.00	90.00	269.65	9,614.00	545.08	-2,354.90	2,351.52	0.00	0.00	0.00
12,300.00	90.00	269.65	9,614.00	544.47	-2,454.89	2,451.52	0.00	0.00	0.00
12,400.00	90.00	269.65	9,614.00	543.86	-2,554.89	2,551.52	0.00	0.00	0.00
12,500.00	90.00	269.65	9,614.00	543.25	-2,654.89	2,651.52	0.00	0.00	0.00
12,600.00	90.00	269.65	9,614.00	542.64	-2,754.89	2,751.52	0.00	0.00	0.00
12,700.00	90.00	269.65	9,614.00	542.03	-2,854.89	2,851.52	0.00	0.00	0.00
12,800.00	90.00	269.65	9,614.00	541.41	-2,954.88	2,951.52	0.00	0.00	0.00
12,900.00	90.00	269.65	9,614.00	540.80	-3,054.88	3,051.52	0.00	0.00	0.00
13,000.00	90.00	269.65	9,614.00	540.19	-3,154.88	3,151.52	0.00	0.00	0.00
13,100.00	90.00	269.65	9,614.00	539.58	-3,254.88	3,251.52	0.00	0.00	0.00
13,200.00	90.00	269.65	9,614.00	538.97	-3,354.88	3,351.52	0.00	0.00	0.00
13,300.00	90.00	269.65	9,614.00	538.36	-3,454.88	3,451.52	0.00	0.00	0.00
13,400.00	90.00	269.65	9,614.00	537.75	-3,554.87	3,551.52	0.00	0.00	0.00
13,500.00	90.00	269.65	9,614.00	537.14	-3,654.87	3,651.52	0.00	0.00	0.00
13,600.00	90.00	269.65	9,614.00	536.53	-3,754.87	3,751.52	0.00	0.00	0.00



MS Directional Planning Report



Database:	EDM 5000.15 Conroe DB	Local Co-ordinate Reference:	Well Chaos WC Federal Com 701H
Company:	Marathon Oil	TVD Reference:	WELL @ 3095.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,700.00	90.00	269.65	9,614.00	535.91	-3,854.87	3,851.52	0.00	0.00	0.00
13,800.00	90.00	269.65	9,614.00	535.30	-3,954.87	3,951.52	0.00	0.00	0.00
13,900.00	90.00	269.65	9,614.00	534.69	-4,054.86	4,051.52	0.00	0.00	0.00
14,000.00	90.00	269.65	9,614.00	534.08	-4,154.86	4,151.52	0.00	0.00	0.00
14,100.00	90.00	269.65	9,614.00	533.47	-4,254.86	4,251.52	0.00	0.00	0.00
14,200.00	90.00	269.65	9,614.00	532.86	-4,354.86	4,351.52	0.00	0.00	0.00
14,300.00	90.00	269.65	9,614.00	532.25	-4,454.86	4,451.52	0.00	0.00	0.00
14,400.00	90.00	269.65	9,614.00	531.64	-4,554.86	4,551.52	0.00	0.00	0.00
14,500.00	90.00	269.65	9,614.00	531.03	-4,654.85	4,651.52	0.00	0.00	0.00
14,600.00	90.00	269.65	9,614.00	530.41	-4,754.85	4,751.52	0.00	0.00	0.00
14,700.00	90.00	269.65	9,614.00	529.80	-4,854.85	4,851.52	0.00	0.00	0.00
14,800.00	90.00	269.65	9,614.00	529.19	-4,954.85	4,951.52	0.00	0.00	0.00
14,900.00	90.00	269.65	9,614.00	528.58	-5,054.85	5,051.52	0.00	0.00	0.00
15,000.00	90.00	269.65	9,614.00	527.97	-5,154.84	5,151.52	0.00	0.00	0.00
15,100.00	90.00	269.65	9,614.00	527.36	-5,254.84	5,251.52	0.00	0.00	0.00
15,200.00	90.00	269.65	9,614.00	526.75	-5,354.84	5,351.52	0.00	0.00	0.00
15,300.00	90.00	269.65	9,614.00	526.14	-5,454.84	5,451.52	0.00	0.00	0.00
15,400.00	90.00	269.65	9,614.00	525.53	-5,554.84	5,551.52	0.00	0.00	0.00
15,500.00	90.00	269.65	9,614.00	524.91	-5,654.83	5,651.52	0.00	0.00	0.00
15,600.00	90.00	269.65	9,614.00	524.30	-5,754.83	5,751.52	0.00	0.00	0.00
15,700.00	90.00	269.65	9,614.00	523.69	-5,854.83	5,851.52	0.00	0.00	0.00
15,800.00	90.00	269.65	9,614.00	523.08	-5,954.83	5,951.52	0.00	0.00	0.00
15,900.00	90.00	269.65	9,614.00	522.47	-6,054.83	6,051.52	0.00	0.00	0.00
16,000.00	90.00	269.65	9,614.00	521.86	-6,154.83	6,151.52	0.00	0.00	0.00
16,100.00	90.00	269.65	9,614.00	521.25	-6,254.82	6,251.52	0.00	0.00	0.00
16,200.00	90.00	269.65	9,614.00	520.64	-6,354.82	6,351.52	0.00	0.00	0.00
16,300.00	90.00	269.65	9,614.00	520.03	-6,454.82	6,451.52	0.00	0.00	0.00
16,400.00	90.00	269.65	9,614.00	519.41	-6,554.82	6,551.52	0.00	0.00	0.00
16,500.00	90.00	269.65	9,614.00	518.80	-6,654.82	6,651.52	0.00	0.00	0.00
16,600.00	90.00	269.65	9,614.00	518.19	-6,754.81	6,751.52	0.00	0.00	0.00
16,700.00	90.00	269.65	9,614.00	517.58	-6,854.81	6,851.52	0.00	0.00	0.00
16,800.00	90.00	269.65	9,614.00	516.97	-6,954.81	6,951.52	0.00	0.00	0.00
16,900.00	90.00	269.65	9,614.00	516.36	-7,054.81	7,051.52	0.00	0.00	0.00
17,000.00	90.00	269.65	9,614.00	515.75	-7,154.81	7,151.52	0.00	0.00	0.00
17,100.00	90.00	269.65	9,614.00	515.14	-7,254.80	7,251.52	0.00	0.00	0.00
17,200.00	90.00	269.65	9,614.00	514.53	-7,354.80	7,351.52	0.00	0.00	0.00
17,300.00	90.00	269.65	9,614.00	513.91	-7,454.80	7,451.52	0.00	0.00	0.00
17,400.00	90.00	269.65	9,614.00	513.30	-7,554.80	7,551.52	0.00	0.00	0.00
17,500.00	90.00	269.65	9,614.00	512.69	-7,654.80	7,651.52	0.00	0.00	0.00
17,600.00	90.00	269.65	9,614.00	512.08	-7,754.80	7,751.52	0.00	0.00	0.00
17,700.00	90.00	269.65	9,614.00	511.47	-7,854.79	7,851.52	0.00	0.00	0.00
17,800.00	90.00	269.65	9,614.00	510.86	-7,954.79	7,951.52	0.00	0.00	0.00
17,900.00	90.00	269.65	9,614.00	510.25	-8,054.79	8,051.52	0.00	0.00	0.00
18,000.00	90.00	269.65	9,614.00	509.64	-8,154.79	8,151.52	0.00	0.00	0.00
18,100.00	90.00	269.65	9,614.00	509.03	-8,254.79	8,251.52	0.00	0.00	0.00
18,200.00	90.00	269.65	9,614.00	508.41	-8,354.78	8,351.52	0.00	0.00	0.00
18,300.00	90.00	269.65	9,614.00	507.80	-8,454.78	8,451.52	0.00	0.00	0.00
18,400.00	90.00	269.65	9,614.00	507.19	-8,554.78	8,551.52	0.00	0.00	0.00
18,500.00	90.00	269.65	9,614.00	506.58	-8,654.78	8,651.52	0.00	0.00	0.00
18,600.00	90.00	269.65	9,614.00	505.97	-8,754.78	8,751.52	0.00	0.00	0.00
18,700.00	90.00	269.65	9,614.00	505.36	-8,854.77	8,851.52	0.00	0.00	0.00
18,800.00	90.00	269.65	9,614.00	504.75	-8,954.77	8,951.52	0.00	0.00	0.00
18,900.00	90.00	269.65	9,614.00	504.14	-9,054.77	9,051.52	0.00	0.00	0.00



MS Directional Planning Report



Database:	EDM 5000.15 Conroe DB	Local Co-ordinate Reference:	Well Chaos WC Federal Com 701H
Company:	Marathon Oil	TVD Reference:	WELL @ 3095.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
19,000.00	90.00	269.65	9,614.00	503.53	-9,154.77	9,151.52	0.00	0.00	0.00
19,100.00	90.00	269.65	9,614.00	502.91	-9,254.77	9,251.52	0.00	0.00	0.00
19,200.00	90.00	269.65	9,614.00	502.30	-9,354.77	9,351.52	0.00	0.00	0.00
19,300.00	90.00	269.65	9,614.00	501.69	-9,454.76	9,451.52	0.00	0.00	0.00
19,400.00	90.00	269.65	9,614.00	501.08	-9,554.76	9,551.52	0.00	0.00	0.00
19,500.00	90.00	269.65	9,614.00	500.47	-9,654.76	9,651.52	0.00	0.00	0.00
19,600.00	90.00	269.65	9,614.00	499.86	-9,754.76	9,751.52	0.00	0.00	0.00
19,700.00	90.00	269.65	9,614.00	499.25	-9,854.76	9,851.52	0.00	0.00	0.00
19,800.00	90.00	269.65	9,614.00	498.64	-9,954.75	9,951.52	0.00	0.00	0.00
19,900.00	90.00	269.65	9,614.00	498.03	-10,054.75	10,051.52	0.00	0.00	0.00
20,000.00	90.00	269.65	9,614.00	497.41	-10,154.75	10,151.52	0.00	0.00	0.00
20,100.00	90.00	269.65	9,614.00	496.80	-10,254.75	10,251.52	0.00	0.00	0.00
20,200.00	90.00	269.65	9,614.00	496.19	-10,354.75	10,351.52	0.00	0.00	0.00
20,300.00	90.00	269.65	9,614.00	495.58	-10,454.75	10,451.52	0.00	0.00	0.00
20,400.00	90.00	269.65	9,614.00	494.97	-10,554.74	10,551.52	0.00	0.00	0.00
20,500.00	90.00	269.65	9,614.00	494.36	-10,654.74	10,651.52	0.00	0.00	0.00
20,600.00	90.00	269.65	9,614.00	493.75	-10,754.74	10,751.52	0.00	0.00	0.00
20,700.00	90.00	269.65	9,614.00	493.14	-10,854.74	10,851.52	0.00	0.00	0.00
20,800.00	90.00	269.65	9,614.00	492.53	-10,954.74	10,951.52	0.00	0.00	0.00
20,900.00	90.00	269.65	9,614.00	491.91	-11,054.73	11,051.52	0.00	0.00	0.00
21,000.00	90.00	269.65	9,614.00	491.30	-11,154.73	11,151.52	0.00	0.00	0.00
21,100.00	90.00	269.65	9,614.00	490.69	-11,254.73	11,251.52	0.00	0.00	0.00
21,200.00	90.00	269.65	9,614.00	490.08	-11,354.73	11,351.52	0.00	0.00	0.00
21,300.00	90.00	269.65	9,614.00	489.47	-11,454.73	11,451.52	0.00	0.00	0.00
21,400.00	90.00	269.65	9,614.00	488.86	-11,554.72	11,551.52	0.00	0.00	0.00
21,500.00	90.00	269.65	9,614.00	488.25	-11,654.72	11,651.52	0.00	0.00	0.00
21,600.00	90.00	269.65	9,614.00	487.64	-11,754.72	11,751.52	0.00	0.00	0.00
21,700.00	90.00	269.65	9,614.00	487.03	-11,854.72	11,851.52	0.00	0.00	0.00
21,800.00	90.00	269.65	9,614.00	486.41	-11,954.72	11,951.52	0.00	0.00	0.00
21,900.00	90.00	269.65	9,614.00	485.80	-12,054.72	12,051.52	0.00	0.00	0.00
22,000.00	90.00	269.65	9,614.00	485.19	-12,154.71	12,151.52	0.00	0.00	0.00
22,100.00	90.00	269.65	9,614.00	484.58	-12,254.71	12,251.52	0.00	0.00	0.00
22,200.00	90.00	269.65	9,614.00	483.97	-12,354.71	12,351.52	0.00	0.00	0.00
22,300.00	90.00	269.65	9,614.00	483.36	-12,454.71	12,451.52	0.00	0.00	0.00
22,400.00	90.00	269.65	9,614.00	482.75	-12,554.71	12,551.52	0.00	0.00	0.00
22,500.00	90.00	269.65	9,614.00	482.14	-12,654.70	12,651.52	0.00	0.00	0.00
22,600.00	90.00	269.65	9,614.00	481.53	-12,754.70	12,751.52	0.00	0.00	0.00
22,700.00	90.00	269.65	9,614.00	480.91	-12,854.70	12,851.52	0.00	0.00	0.00
22,800.00	90.00	269.65	9,614.00	480.30	-12,954.70	12,951.52	0.00	0.00	0.00
22,900.00	90.00	269.65	9,614.00	479.69	-13,054.70	13,051.52	0.00	0.00	0.00
23,000.00	90.00	269.65	9,614.00	479.08	-13,154.69	13,151.52	0.00	0.00	0.00
23,100.00	90.00	269.65	9,614.00	478.47	-13,254.69	13,251.52	0.00	0.00	0.00
23,200.00	90.00	269.65	9,614.00	477.86	-13,354.69	13,351.52	0.00	0.00	0.00
23,300.00	90.00	269.65	9,614.00	477.25	-13,454.69	13,451.52	0.00	0.00	0.00
23,400.00	90.00	269.65	9,614.00	476.64	-13,554.69	13,551.52	0.00	0.00	0.00
23,500.00	90.00	269.65	9,614.00	476.03	-13,654.69	13,651.52	0.00	0.00	0.00
23,600.00	90.00	269.65	9,614.00	475.41	-13,754.68	13,751.52	0.00	0.00	0.00
23,700.00	90.00	269.65	9,614.00	474.80	-13,854.68	13,851.52	0.00	0.00	0.00
23,800.00	90.00	269.65	9,614.00	474.19	-13,954.68	13,951.52	0.00	0.00	0.00
23,900.00	90.00	269.65	9,614.00	473.58	-14,054.68	14,051.52	0.00	0.00	0.00
24,000.00	90.00	269.65	9,614.00	472.97	-14,154.68	14,151.52	0.00	0.00	0.00
24,100.00	90.00	269.65	9,614.00	472.36	-14,254.67	14,251.52	0.00	0.00	0.00
24,200.00	90.00	269.65	9,614.00	471.75	-14,354.67	14,351.52	0.00	0.00	0.00



MS Directional
Planning Report



Database:	EDM 5000.15 Conroe DB	Local Co-ordinate Reference:	Well Chaos WC Federal Com 701H
Company:	Marathon Oil	TVD Reference:	WELL @ 3095.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3095.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	North Reference:	Grid
Well:	Chaos WC Federal Com 701H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
24,300.00	90.00	269.65	9,614.00	471.14	-14,454.67	14,451.52	0.00	0.00	0.00
24,400.00	90.00	269.65	9,614.00	470.53	-14,554.67	14,551.52	0.00	0.00	0.00
24,500.00	90.00	269.65	9,614.00	469.91	-14,654.67	14,651.52	0.00	0.00	0.00
24,600.00	90.00	269.65	9,614.00	469.30	-14,754.66	14,751.52	0.00	0.00	0.00
24,700.00	90.00	269.65	9,614.00	468.69	-14,854.66	14,851.52	0.00	0.00	0.00
24,739.65	90.00	269.65	9,614.00	468.45	-14,894.31	14,891.17	0.00	0.00	0.00
PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
LTP/PBHL_Chaos 701	0.00	0.00	9,614.00	468.45	-14,894.31	493,035.83	567,033.34	32° 21' 19.023 N	104° 6' 58.507 W
- plan hits target center									
- Point									
VP_Chaos 701H	0.00	0.00	9,614.00	562.98	430.49	493,130.36	582,358.14	32° 21' 19.616 N	104° 3' 59.846 W
- plan misses target center by 247.41usft at 9541.71usft MD (9455.05 TVD, 484.17 N, 258.04 E)									
- Point									
KOP/FTP/PPP-1 Cha	0.00	0.00	9,614.00	561.25	150.42	493,128.63	582,078.07	32° 21' 19.606 N	104° 4' 3.111 W
- plan misses target center by 90.23usft at 9718.19usft MD (9555.64 TVD, 502.24 N, 115.03 E)									
- Point									
PPP-2_Chaos 701H	0.00	0.00	9,614.00	530.81	-4,783.85	493,098.19	577,143.80	32° 21' 19.422 N	104° 5' 0.636 W
- plan misses target center by 0.57usft at 14629.00usft MD (9614.00 TVD, 530.24 N, -4783.85 E)									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,500.00	1,500.00	0.00	0.00	KOP, 2.00°/100' Build
1,851.11	1,850.23	15.67	14.70	Begin 7.02° Tangent
6,681.89	6,644.77	446.33	418.83	Begin 2.00°/100' Drop
7,032.99	6,995.00	462.00	433.53	Begin Vertical Hold
9,079.03	9,041.04	462.00	433.53	KOP, 10.00°/100' Build
9,979.03	9,614.00	533.81	-134.91	Begin 90.00° Lateral, 2.00°/100' Turn
10,356.54	9,614.00	556.35	-511.47	Hold 90.00° Inc, 269.65° Azm
24,739.65	9,614.00	468.45	-14,894.31	PBHL

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Proposed

¹ API Number 30-015-53642		² Pool Code 98220		³ Pool Name PUPRLE SAGE; WOLFCAMP (GAS)	
⁴ Property Code 333879		⁵ Property Name CHAOS WC FEDERAL COM			⁶ Well Number 701H
⁷ OGRID No. 372098		⁸ Operator Name MARATHON OIL PERMAIN LLC			⁹ Elevation 3072'

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	34	22S	28E		890'	NORTH	497'	EAST	EDDY

UL or lot no. D	Section 32	Township 22S	Range 28E	Lot Idn	Feet from the 330'	North/South line NORTH	Feet from the 330'	East/West line WEST	County EDDY
¹² Dedicated Acres 1,920.00		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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**CORNER COORDINATES
NAD 83, SPCS NM EAST**

A - X: 623580.49' / Y: 493520.23'
B - X: 623659.98' / Y: 490884.16'
C - X: 623738.32' / Y: 488240.10'
D - X: 621045.95' / Y: 488231.32'
E - X: 618378.75' / Y: 488208.65'
F - X: 613253.53' / Y: 488203.58'
G - X: 607921.17' / Y: 488131.88'
H - X: 607883.07' / Y: 493420.58'
I - X: 613107.71' / Y: 493497.62'
J - X: 618325.09' / Y: 493490.53'
K - X: 620952.79' / Y: 493505.38'

**CORNER COORDINATES
NAD 27, SPCS NM EAST**

A - X: 582398.22' / Y: 493460.43'
B - X: 582477.64' / Y: 490824.42'
C - X: 582555.91' / Y: 488180.43'
D - X: 579863.58' / Y: 488171.68'
E - X: 577196.42' / Y: 488149.04'
F - X: 572071.26' / Y: 488144.03'
G - X: 566738.97' / Y: 488072.40'
H - X: 566701.00' / Y: 493360.96'
I - X: 571925.58' / Y: 493437.94'
J - X: 577142.89' / Y: 493430.79'
K - X: 579770.56' / Y: 493445.61'

PPP-2

FNL 333' FEL 0', SECTION 33
NAD 83, SPCS NM EAST

X:618326.01' / Y:493157.92'
LAT:32.35551529 / LON:-104.08400725
NAD 27, SPCS NM EAST
X:577143.80' / Y:493098.19'
LAT:32.35539499 / LON:-104.08351005

SHL

FNL 890' FEL 497', SECTION 34
NAD 83, SPCS NM EAST

X:623109.94' / Y:492627.15'
LAT:32.35402472 / LON:-104.06851895
NAD 27, SPCS NM EAST
X:581927.65' / Y:492567.38'
LAT:32.35390419 / LON:-104.06802237

LTP/BHL

FNL 330' FWL 330', SECTION 32
NAD 83, SPCS NM EAST

X:608215.42' / Y:493095.44'
LAT:32.35540402 / LON:-104.11675042
NAD 27, SPCS NM EAST
X:567033.34' / Y:493035.83'
LAT:32.35528417 / LON:-104.11625206

KOP/FTP/PPP-1

FNL 330' FEL 330', SECTION 34
NAD 83, SPCS NM EAST

X:623260.35' / Y:493188.42'
LAT:32.35556651 / LON:-104.06802737
NAD 27, SPCS NM EAST
X:582078.07' / Y:493128.63'
LAT:32.35544599 / LON:-104.06753075

*FTP TO LTP LINE BEARINGS

PRODUCTION LINE	BEARING/LENGTH
L1	S 89°38'45" W ~ 15045.21'

17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

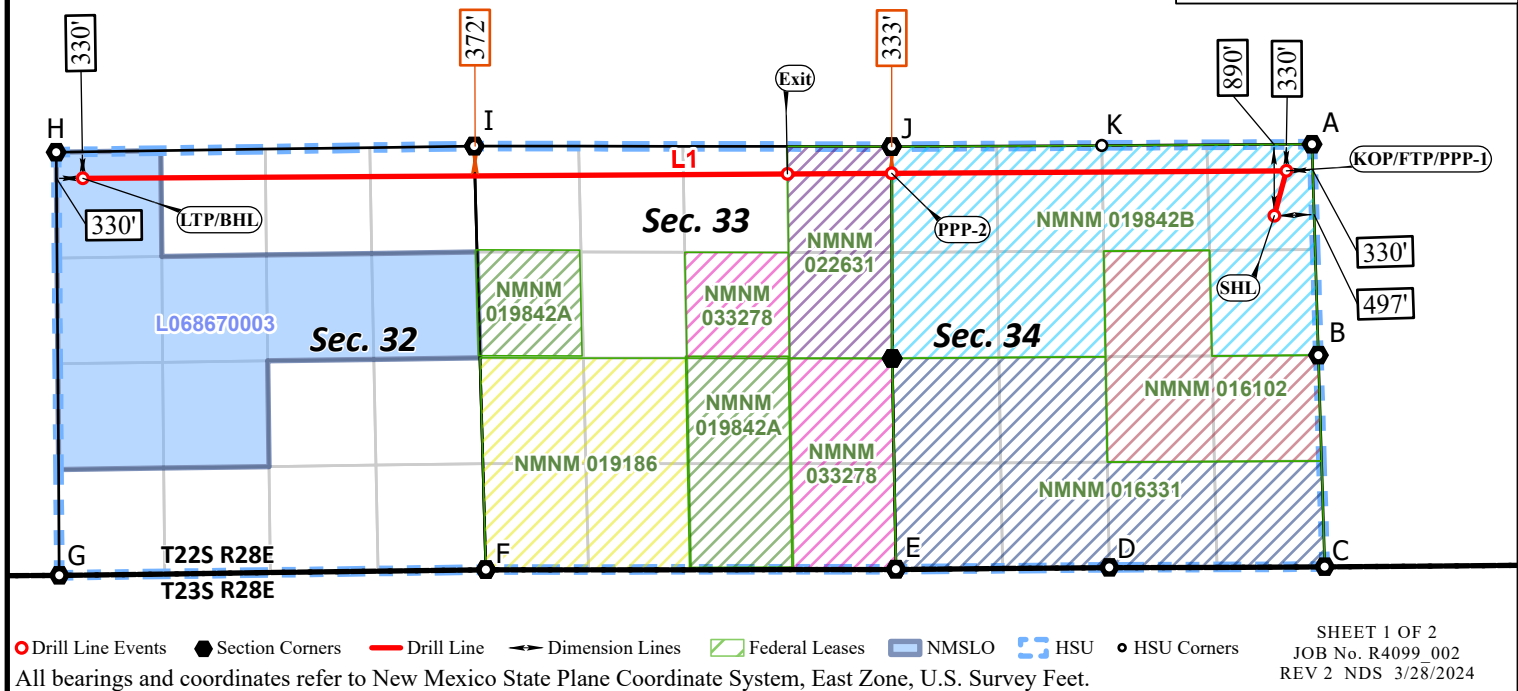
Adrian Covarrubias 5/21/2024
Signature Date

Adrian Covarrubias
Printed Name

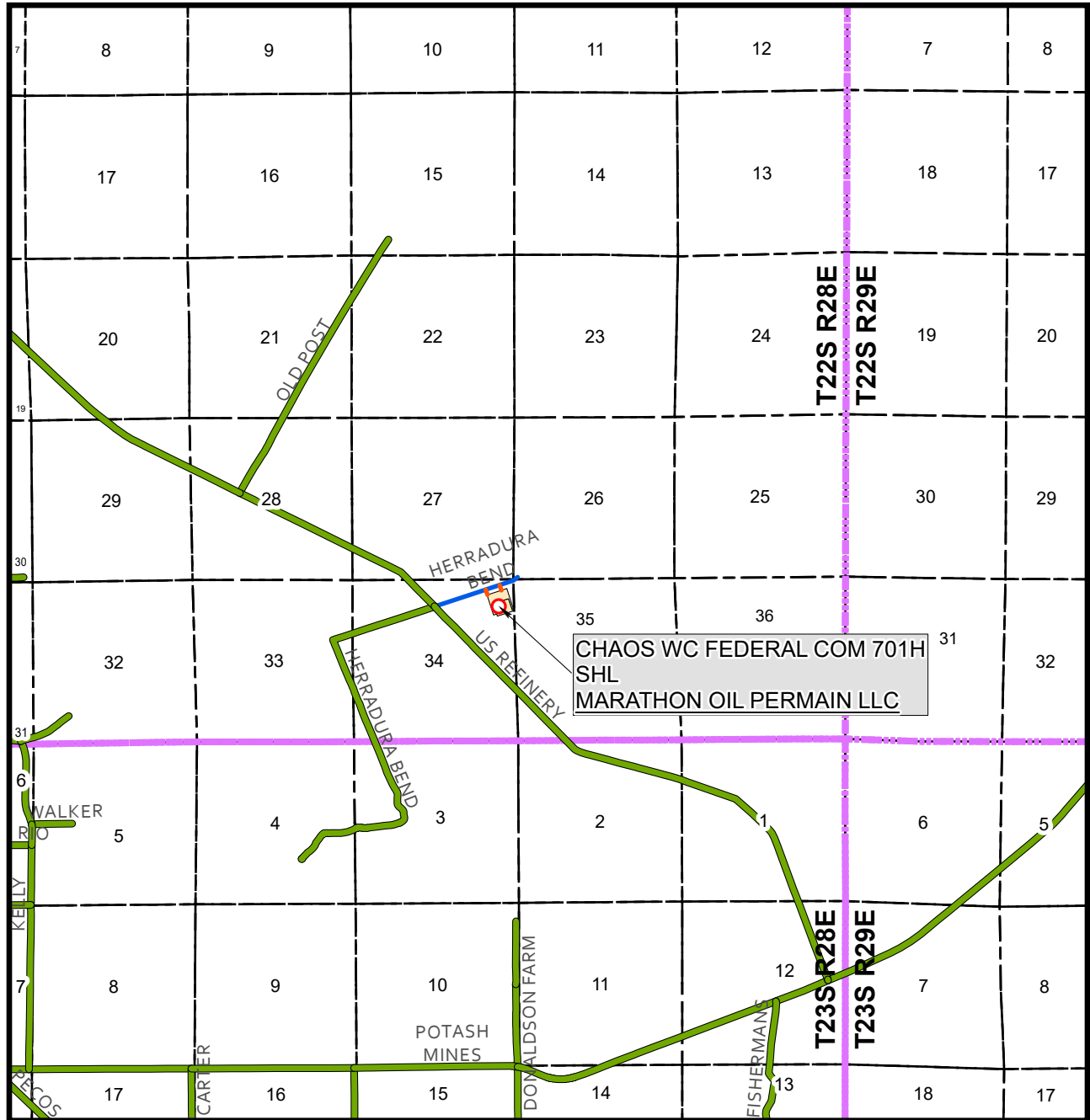
E-mail Address _____

18 SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
Lloyd P. Short
Date of Survey: **APRIL 4, 2024**
Signature and Seal of Professional Surveyor

PRODUCTION LINE	BEARING/LENGTH
L1	S 89°38'45" W ~ 15045.21'



VICINITY MAP



SEC. 34 TWP. 22S RGE. 28E

SURVEY: N.M.P.M.

COUNTY: EDDY

OPERATOR: MARATHON OIL PERMAIN LLC

DESCRIPTION: 890' FNL & 497' FEL

ELEVATION: 3072'

LEASE: CHAOS FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP: LOVING, NM.

1" = 1 MILE

FROM THE INTERSECTION OF US HWY 285 & NM HWY 31, HEAD EAST ON NM HWY 31 FOR 5.3 MILES TO THE INTERSECTION WITH REFINERY RD. TURN LEFT ON TO REFINERY RD., HEADING NORTHWEST FOR 3.6 MILES TO HERRADURA BEND RD. TURN RIGHT ONTO HERRADURA BEND RD., HEADING NORTHEAST FOR 0.33 MILES TO THE PROPOSED LEASE RD. FOR THE CHAOS FEDERAL COM WELL LOCATION PAD. TURN RIGHT ONTO SAID PROPOSED LEASE RD. HEADING SOUTH FOR 180 FEET AND ENTERING THE NORTHWEST CORNER OF SAID WELL LOCATION PAD.



SHEET 2 OF 2

PREPARED BY:
DELTA FIELD SERVICES, LLC
510 TRENTON STREET, WEST MONROE, LA 71291
318-323-6900 OFFICE
JOB No. R4099_002

MARATHON OIL PERMIAN, LLC.
DRILLING AND OPERATIONS PLAN



WELL NAME & NUMBER:

CHAOS WC FEDERAL COM 701H

LOCATION:

SECTION **34** TOWNSHIP **22S** RANGE **28E**
EDDY COUNTY, **NEW MEXICO**

Section 1:**GEOLOGICAL FORMATIONS**

Name of Surface Formation: Permian
 Elevation: 3072 feet

Estimated Tops of Important Geological Markers:

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	196	223	2876	Anhydrite	Brine	No
Salado	404	431	2668	Salt/Anhydrite	Brine	No
Castile	1195	1222	1877	Salt/Anhydrite	Brine	No
Base of Salt (BX)	2386	2413	686	Salt/Anhydrite	Brine	No
Lamar	2622	2649	450	Sandstone/Shale	None	No
Bell Canyon	2667	2694	405	Sandstone	Oil	No
Cherry Canyon	3501	3528	-429	Sandstone	Oil	No
Brushy Canyon	4726	4753	-1654	Sandstone	Oil	No
Bone Spring Lime	6159	6186	-3087	Limestone	None	No
Upper Avalon Shale	6208	6235	-3136	Shale	Oil	Yes
1st Bone Spring Sand	7200	7227	-4128	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	7446	7473	-4374	Limestone/Shale	None	No
2nd Bone Spring Sand	7933	7960	-4861	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	8299	8326	-5227	Limestone	Oil	No
3rd Bone Spring Sand	9173	9200	-6101	Sandstone	Oil	Yes
Wolfcamp	9478	9505	-6406	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	9634	9661	-6562	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	9887	9914	-6815	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	10180	10207	-7108	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp D	10393	10420	-7321	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Strawn	11214	11241	-8142	Carbonates/Sands/Clays	Natural Gas	Possible

Section 2:**BLOWOUT PREVENTER TESTING PROCEDURE**

Pressure Rating (PSI): 10M
 Rating Depth: 10000
 Equipment: 13 5/8 BOP Annular (5,000 psi WP) and BOP Stack (10,000 psi WP) will be installed and tested before drilling all holes.

Requesting Variance? Yes
 Variance Request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

Testing Procedure: BOP/BOPE will be tested to 250 psi low and a high of 100% WP for the Annular and 5,000psi for the BOP Stacking before drilling the intermediate hole, 10,000psi for the BOP Stacking before drilling the production hole. Testing will be conducted by an independent service company per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the Equipment Description above. If the system is upgraded all the components installed will be functional and tested.

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

Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

Section 3:

CASING PROGRAM

String Type	Hole Size	Casing Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Weight (lbs/ft)	Grade	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	293	0	266	3072	2806	54.5	J55	BTC	5.22	1.81	BUOY	4.52	BUOY	4.52
Intermediate	12.25	9.625	0	8979	0	8941	3072	-5869	40	P110HC	BTC	1.20	1.42	BUOY	2.44	BUOY	2.44
Production	8.75	5.5	0	24740	0	9614	3072	-6542	23	P110HC	TLW	2.53	1.26	BUOY	2.22	BUOY	2.22
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h												Safety Factors will Meet or Exceed					

Casing Condition:New

Casing Standard:API

Tapered String?No

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

Section 4:

CEMENT PROGRAM

String Type	Lead/Tail	Top MD	Bottom MD	Quantity (sks)	Yield (ft³/sks)	Density (ppg)	Slurry Volume (ft³)	Excess (%)	Cement Type	Additives
Surface	Lead	0	143	82	2.12	12.5	173	25	Class C	Extender,Accelerator,LCM
Surface	Tail	143	293	99	1.32	14.8	130	25	Class C	Accelerator
Intermediate	Lead	0	8479	1531	2.18	12.4	3338	25	Class C	Extender,Accelerator,LCM
Intermediate	Tail	8479	8979	147	1.33	14.8	196	25	Class C	Retarder
Production	Tail	8679	24740	3059	1.68	13	5139	25	Class H	Retarder, Extender, Fluid Loss, Suspension Agent

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

Pilot Hole?No

Pilot Hole Depth:N/A

KOP Depth:N/A

Plugging Procedure for Pilot Hole:N/A

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

Section 5: CIRCULATING MEDIUM

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

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

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

Circulating Medium Table:

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max Weight (ppg)
0	293	Water Based Mud	8.4	8.8
293	8979	Brine or Oil Based Mud	9.2	10.2
8979	24740	Oil Based Mud	10.5	12.5

Section 6: TESTING, LOGGING, CORING

List of production tests including testing procedures, equipment and safety measures:
GR from TD to surface (horizontal well - vertical portion of hole)

List of open and cased hole logs run in the well:
GR while drilling from Intermediate casing shoe to TD.

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

Section 7: ANTICIPATED PRESSURE

Anticipated Bottom Hole Pressure: 6249 PSI
Anticipated Bottom Hole Temperature: 195 °F
Anticipated Abnormal Pressure? No
Anticipated Abnormal Temperature? No

Potential Hazards:
H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. See attached H2S Contingency Plan.

Section 8: OTHER INFORMATION

Auxiliary Well Control and Monitoring Equipment:
A Kelly cock will be in the drill string at all times. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. If Hydrogen Sulfide is encountered, measured amounts and formations will be reported to the BLM.

Anticipated Starting Date and Duration of Operations:
Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.

Marathon Oil Permian LLC.

Drilling & Operations Plan - Page 4 of 4

DRILL PLAN CHANGE REGISTER

CHAOS WC FEDERAL COM 701H
SECTION 34, TOWNSHIP 22S, RANGE 28E
EDDY COUNTY, NEW MEXICO

Original Document Date: Tuesday, December 19, 2023
Prepared By: Anthony Monaco
Submitted By: Adrian Covarrubias

Revised Date:	Monday, October 18, 2021	Submittal Date:	Monday, November 1, 2021
Revised By:	Court Nelson (Drilling Engineer)	Submittal Type:	NOI Change to AAPD Sundry Notice
	Matt Baker (Geologist)	Submitted By:	Melissa Szudera

Summary of Revisions:	
Section	Description
2 - Casing	Removed second intermediate string
4 - Cement	Removed second intermediate string
5 - Mud	Removed second intermediate string

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

Summary of Revisions:	
Section	Description

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

Summary of Revisions:	
Section	Description

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

Summary of Revisions:	
Section	Description

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 365167

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 365167
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	4/24/2025