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

Sundry Print Report

09/10/2024

Well Name: CHAOS 34-33 WXY FED COM

Well Location: T22S / R28E / SEC 34 / NENE / 32.3537605 / -104.0682827

County or Parish/State: EDDY / NM

Well Number: 3H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM19842B

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001553732

Operator: MARATHON OIL PERMIAN LLC

Notice of Intent

Sundry ID: 2791798

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 05/21/2024

Time Sundry Submitted: 01:04

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 3H To: Chaos WC Federal Com 702H SHL Change From: 987' FNL & 427' FEL Sec 34 22S 28E To: 881' FNL & 468' FEL Sec 34 22S 28E BHL Change From: 880' FNL & 330' FWL Sec 33 22S 28E To: 1649' FNL & 330' FWL Sec 32 22S 28E Change Approved location table as follows: SHL: NMNM19842B KOP/PP1: NMNM19842B PPP2: NMNM16102 PPP3: NMNM22631 PPP4: NMNM33278 PPP5: Fee PPP6: NMNM19842A Exit/BHL: State Casing Design Changes: Surface Set Depth From: 500' To: 293' Intermediate Set Depth From: 2850' To: 9002' Production Set Depth From: 19766' To: 24784' 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_WC_FEDERAL_COM_702H_C102_20240521130156.pdf

Chaos_3H_Approved_C102_20240521130155.pdf

Chaos_WC_Federal_Com_702H___Well_Plan_v2_20240521130155.pdf

Chaos_WC_FED_COM_702H_Drill_Plan_20240521130155.pdf

Well Name: CHAOS 34-33 WXY FED COM

Well Location: T22S / R28E / SEC 34 / NENE / 32.3537605 / -104.0682827

County or Parish/State: EDDY / NM

Well Number: 3H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM19842B

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001553732

Operator: MARATHON OIL PERMIAN LLC

Conditions of Approval

Additional

CHAOS_WC_FEDERAL_COM_702H___SUNDRY_COA_20240717160931.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: 09/10/2024

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.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*

11. Country or Parish, State

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

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

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

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

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFICE 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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Additional Remarks

From: 880' FNL & 330' FWL Sec 33 22S 28E

To: 1649' FNL & 330' FWL Sec 32 22S 28E

Change Approved location table as follows:

SHL: NMNM19842B

KOP/PP1: NMNM19842B

PPP2: NMNM16102

PPP3: NMNM22631

PPP4: NMNM33278

PPP5: Fee

PPP6: NMNM19842A

Exit/BHL: State

Casing Design Changes:

Surface Set Depth

From: 500'

To: 293'

Intermediate Set Depth

From: 2850'

To: 9002'

Production Set Depth

From: 19766'

To: 24784'

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 / 987 FNL / 427 FEL / TWSP: 22S / RANGE: 28E / SECTION: 34 / LAT: 32.3537605 / LONG: -104.0682827 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 880 FNL / 0 FEL / TWSP: 22S / RANGE: 28E / SECTION: 33 / LAT: 32.3540105 / LONG: -104.0840064 (TVD: 9578 feet, MD: 14899 feet)

PPP: NENE / 880 FNL / 330 FEL / TWSP: 22S / RANGE: 28E / SECTION: 34 / LAT: 32.3540547 / LONG: -104.067978 (TVD: 9682 feet, MD: 9949 feet)

BHL: NWNW / 880 FNL / 330 FWL / TWSP: 22S / RANGE: 28E / SECTION: 33 / LAT: 32.3540589 / LONG: -104.0997626 (TVD: 9476 feet, MD: 19766 feet)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MARATHON OIL COMPANY
WELL NAME & NO.:	CHAOS WC FEDERAL COM 702H
SURFACE HOLE FOOTAGE:	987'/N & 427'/E
BOTTOM HOLE FOOTAGE	880'/N & 330'/W
LOCATION:	Section 34, T.22 S., R.28 E.
COUNTY:	Eddy County, New Mexico

ALL PREVIOUS COAs STILL APPLY

COA

H2S	(•) Yes	( ) No	
Potash	(•) None	( ) Secretary	( ) R-111-P
Cave/Karst Potential	(•) Low	( ) Medium	( ) High
Cave/Karst Potential	( ) Critical		
Variance	( ) None	(•) Flex Hose	( ) Other
Wellhead	( ) Conventional	(•) Multibowl	( ) Both
Wellhead Variance	( ) Diverter		
Other	[ ] 4 String	[ ] Capitan Reef	[ ] WIPP
Other	[ ] Fluid Filled	[ ] Pilot Hole	[ ] Open Annulus
Cementing	[ ] Contingency Cement Squeeze	[ ] EchoMeter	[ ] Primary Cement Squeeze
Special Requirements	[ ] Water Disposal	[x] COM	[ ] Unit
Special Requirements	[ ] Batch Sundry		
Special Requirements Variance	[ ] Break Testing	[ ] Offline Cementing	[ ] 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 **9002** 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 **24,784** 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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing 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

Proposed

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-53732	98220	PUPRLE SAGE; WOLFCAMP (GAS)

[4] Property Code	[5] Property Name	[6] Well Number
333836	CHAOS WC FEDERAL COM	702H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372098	MARATHON OIL PERMAIN LLC	3073'

[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		881'	NORTH	468'	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
E	32	22S	28E		1649'	NORTH	330'	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
1,920.00			

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.

[16]

PPP-2
FNL 1650' FEL 1324', SECTION 34
NAD 83, SPCS NM EAST
X:622306.08' / Y:491862.53'
LAT:32.35192835 / LON:-104.07112822
NAD 27, SPCS NM EAST
X:581123.79' / Y:491802.79'
LAT:32.35180785 / LON:-104.07063161

KOP/FTP/PPP-1
FNL 1650' FEL 330', SECTION 34
NAD 83, SPCS NM EAST
X:623300.14' / Y:491868.62'
LAT:32.35193835 / LON:-104.06790909
NAD 27, SPCS NM EAST
X:582117.84' / Y:491808.86'
LAT:32.35181780 / LON:-104.06741260

SHL
FNL 881' FEL 468', SECTION 34
NAD 83, SPCS NM EAST
X:623138.46' / Y:492636.46'
LAT:32.35405012 / LON:-104.06842653
NAD 27, SPCS NM EAST
X:581956.17' / Y:492576.69'
LAT:32.35392959 / LON:-104.06792994

PPP-5
FNL 1662' FEL 1291', SECTION 33
NAD 83, SPCS NM EAST
X:617038.71' / Y:491830.28'
LAT:32.35187399 / LON:-104.08818594
NAD 27, SPCS NM EAST
X:575856.49' / Y:491770.59'
LAT:32.35175372 / LON:-104.08768873

PPP-4
FNL 1652' FEL 0', SECTION 33
NAD 83, SPCS NM EAST
X:618329.65' / Y:491838.18'
LAT:32.35188753 / LON:-104.08400540
NAD 27, SPCS NM EAST
X:577147.41' / Y:491778.48'
LAT:32.35176720 / LON:-104.08350833

PPP-3
FNL 1651' FEL 2648', SECTION 34
NAD 83, SPCS NM EAST
X:620981.95' / Y:491854.42'
LAT:32.35191490 / LON:-104.07541626
NAD 27, SPCS NM EAST
X:579799.67' / Y:491794.69'
LAT:32.35179446 / LON:-104.07491950

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'

LTP/BHL
FNL 1649' FWL 330', SECTION 32
NAD 83, SPCS NM EAST
X:608224.92' / Y:491776.30'
LAT:32.35177787 / LON:-104.11672829
NAD 27, SPCS NM EAST
X:567042.81' / Y:491716.72'
LAT:32.35165800 / LON:-104.11623005

PPP-6
FNL 1681' FWL 1297', SECTION 33
NAD 83, SPCS NM EAST
X:614451.07' / Y:491814.43'
LAT:32.35184644 / LON:-104.09656571
NAD 27, SPCS NM EAST
X:573268.88' / Y:491754.78'
LAT:32.35172629 / LON:-104.09606819

*FTP TO LTP LINE BEARINGS

PRODUCTION LINE	BEARING/LENGTH
L1	S 89°38'57" W ~ 15075.50'

[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

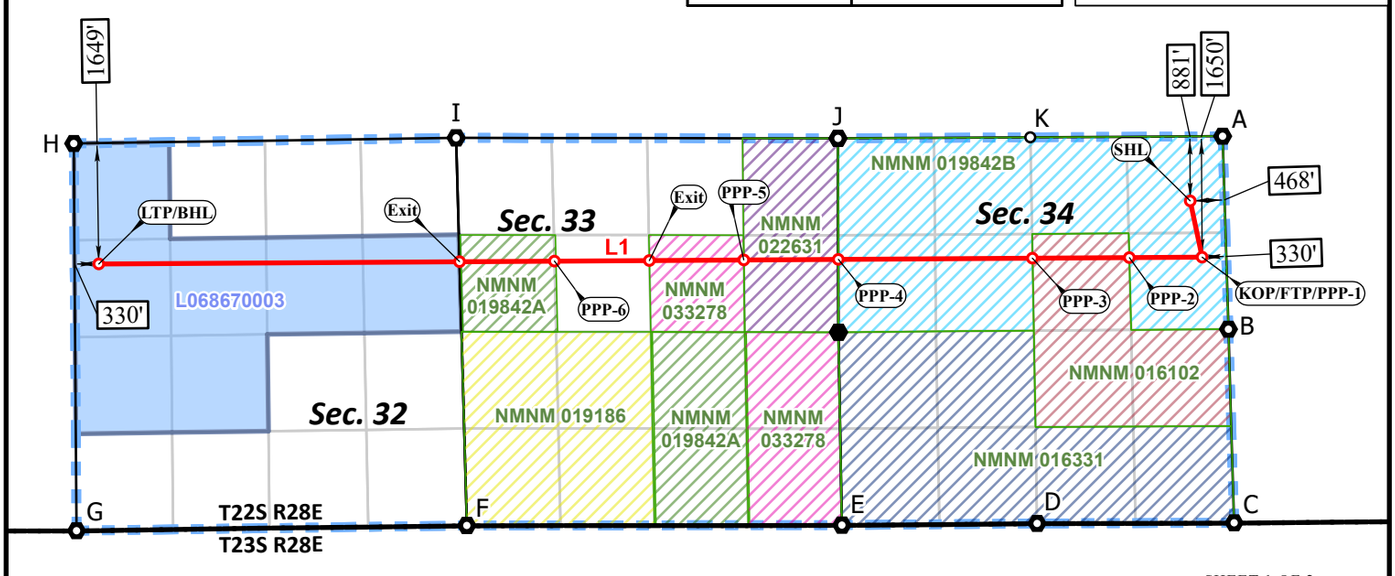
Adrian Covarrubias
Printed Name

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.

Date of Survey: APRIL 4, 2024
Signature and Seal of Professional Surveyor

LLOYD P. SHORT NEW MEXICO 21653 PROFESSIONAL SURVEYOR



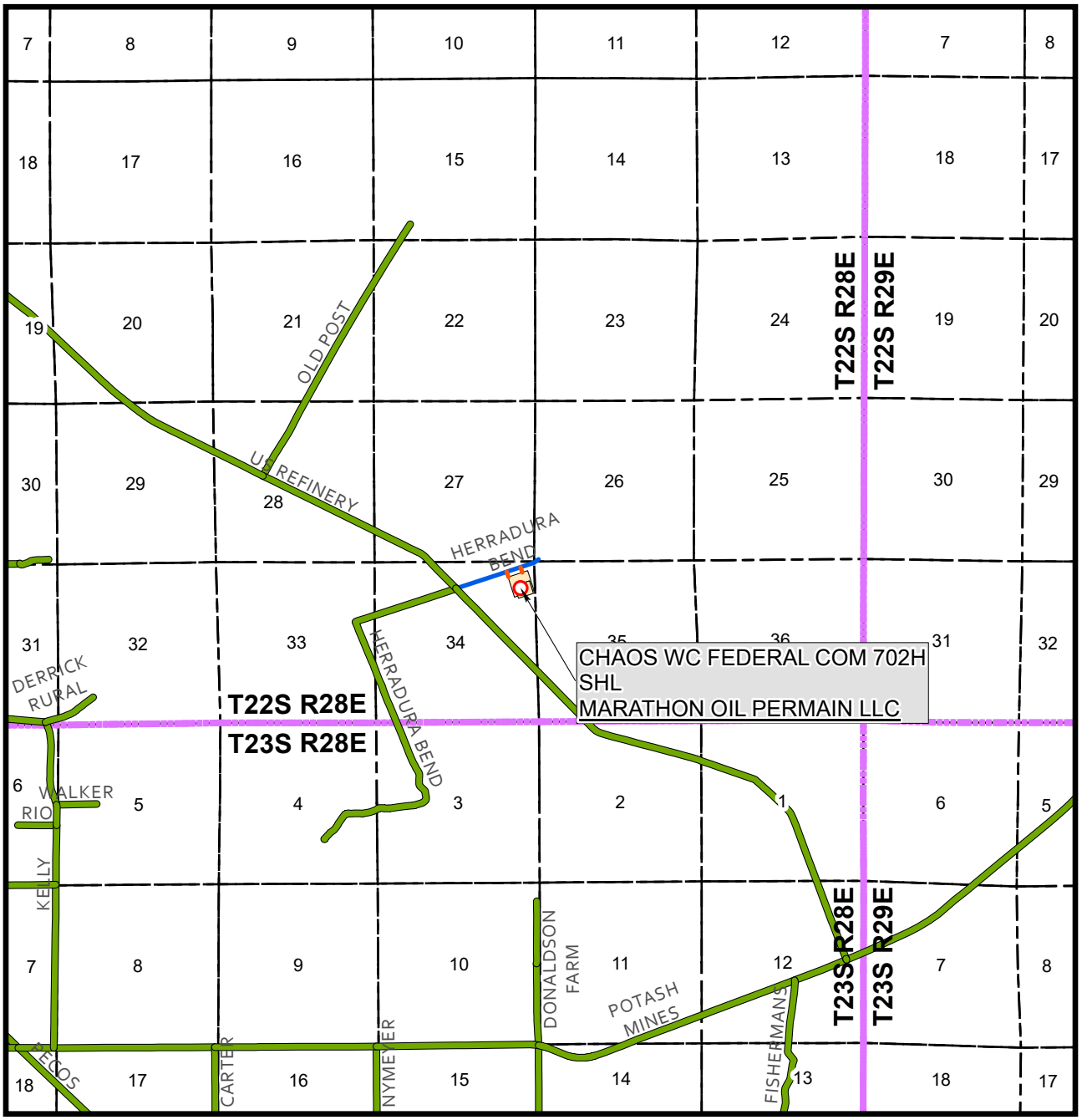
Drill Line Events ⬢ Section Corners ▬ Drill Line ◄► Dimension Lines ▱ Federal Leases ▭ NMSLO ▭ HSU ○ HSU Corners

All bearings and coordinates refer to New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet.

SHEET 1 OF 2
JOB No. R4099_002
REV 2 NDS 3/28/2024

Distances/areas relative to NAD 83 grid measurements. Combined Scale Factor: 0.99977431 and a Convergence Angle: 0.14739167°

VICINITY MAP



SEC. 34 TWP. 22S RGE. 28E
SURVEY: N.M.P.M.
COUNTY: EDDY
OPERATOR: MARATHON OIL PERMAIN LLC
DESCRIPTION: 881' FNL & 468' FEL
ELEVATION: 3073'
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.

DELTA FIELD SERVICES

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

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-53732	98220	PURPLE SAGE; WOLFCAMP (GAS)

[4] Property Code	[5] Property Name	[6] Well Number
333836	CHAOS 34-33 WXY FED COM	3H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372098	MARATHON OIL PERMIAN LLC	3072'

[10] Surface Location

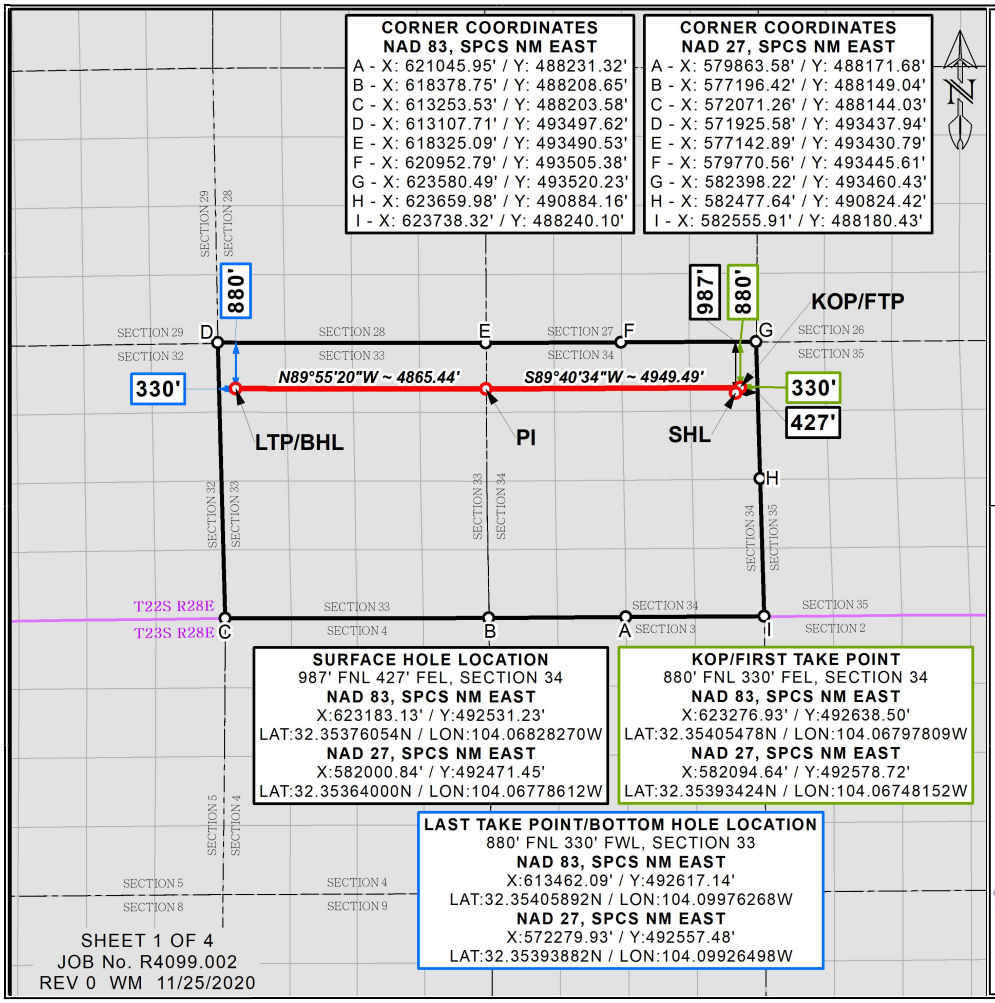
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	34	22S	28E		987	NORTH	427	EAST	EDDY

[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		880	NORTH	330	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
1280.0			

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



[17] OPERATOR CERTIFICATION

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

12/01/2020
Signature Date

Melissa Szudera
Printed Name

mszudera@marathonoil.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

DECEMBER 1, 2020
Date of Survey

Signature and Seal of Professional Surveyor:

DAVID W. MYERS NEW MEXICO 11403 PROFESSIONAL SURVEYOR

Certificate Number
DAVID W. MYERS 11403

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99977221 Convergence Angle: 00°07'02.700012"

Marathon Oil Corporation

Company: Marathon Oil
Well: Chaos WC Federal Com 702H
County: Eddy County, New Mexico (NAD 27)
Rig: Precision 580
Wellbore: Wellbore #1
Design: Design #2
Date: 11:54, 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 702H

GL @ 3073.00 WELL @ 3096.50usft (Precision 580)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	492576.69	581956.17	32° 21' 14.147 N	104° 4' 4.548 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	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
1899.81	8.00	150.03	1898.51	-24.13	13.91	2.00	150.033	-13.77	Begin 8.00° Tangent
7856.70	8.00	150.03	7797.49	-741.99	427.83	0.00	0.000	-423.29	Begin 2.00°/100' Drop
8256.51	0.00	0.00	8196.00	-766.12	441.74	2.00	180.000	-437.05	Begin Vertical Hold
9101.55	0.00	0.00	9041.04	-766.12	441.74	0.00	0.000	-437.05	KOP, 10.00°/100' Build
10001.55	90.00	269.65	9614.00	-769.62	-131.21	10.00	269.650	135.91	Begin 90.00° Lateral
24783.98	90.00	269.65	9614.00	-859.97	-14913.36	0.00	0.000	14918.33	PBHL

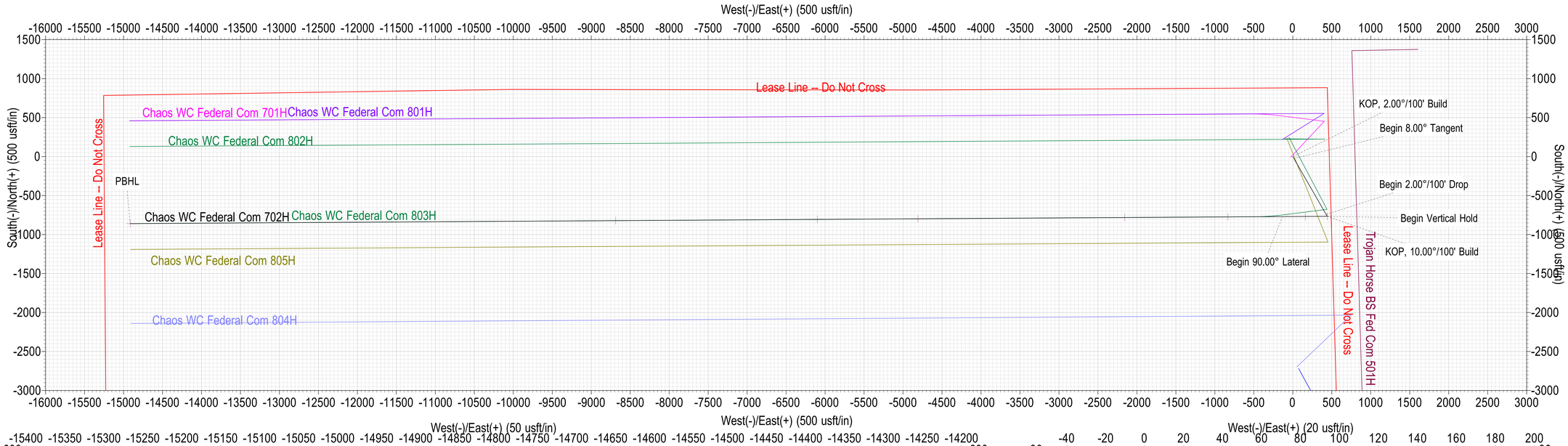
DESIGN TARGET DETAILS

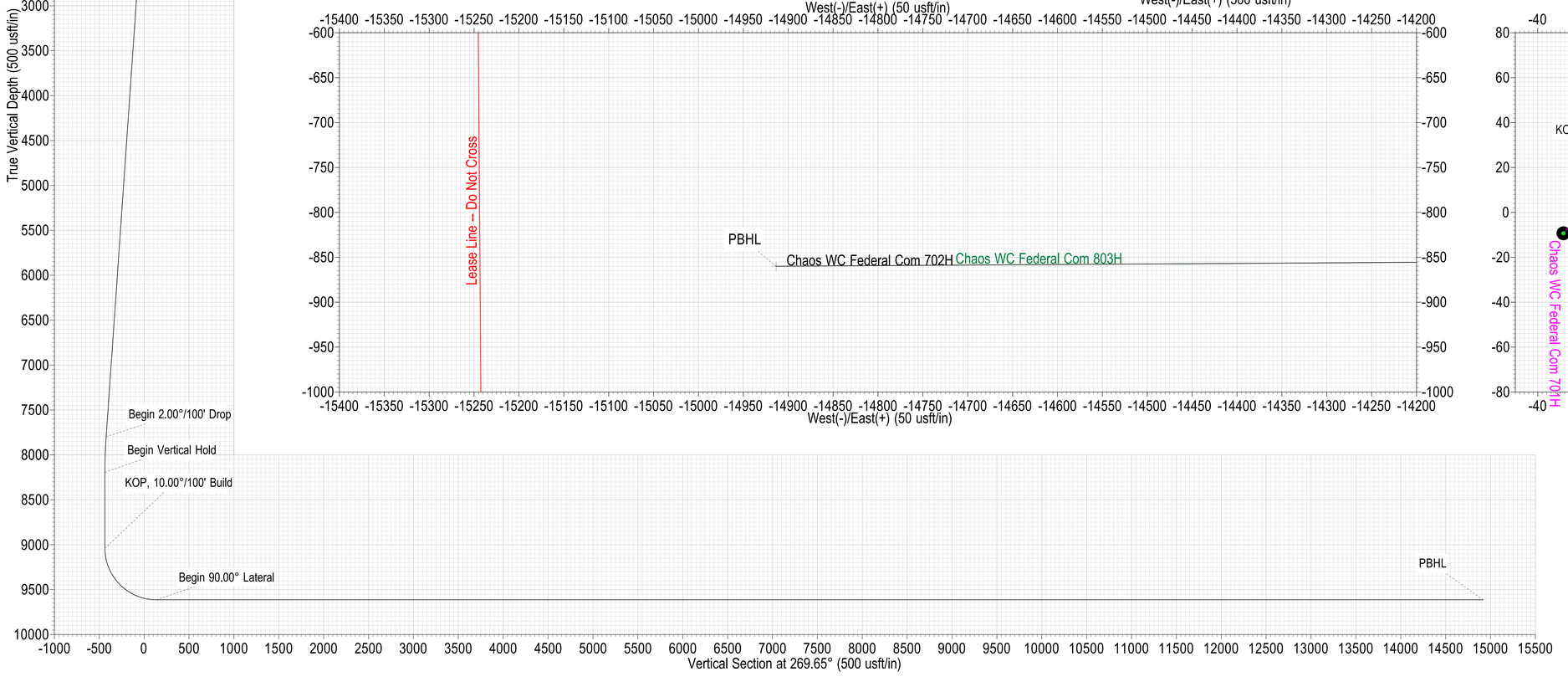
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP/FTP/PPP-1_Chaos 702H	9614.00	-767.83	161.67	491808.86	582117.84	32° 21' 6.544 N	104° 4' 2.685 W
LTP/PBHL_Chaos 702H	9614.00	-859.97	-14913.36	491716.72	567042.81	32° 21' 5.969 N	104° 6' 58.428 W
PPP-2_Chaos 702H	9614.00	-773.90	-832.38	491802.79	581123.79	32° 21' 6.508 N	104° 4' 14.274 W
PPP-3_Chaos 702H	9614.00	-782.00	-2156.50	491794.69	579799.67	32° 21' 6.460 N	104° 4' 29.710 W
PPP-4_Chaos 702H	9614.00	-798.21	-4808.76	491778.48	577147.41	32° 21' 6.362 N	104° 5' 0.630 W
PPP-5_Chaos 702H	9614.00	-806.10	-6099.68	491770.59	575856.49	32° 21' 6.313 N	104° 5' 15.679 W
PPP-6_Chaos 702H	9614.00	-821.91	-8687.29	491754.78	573268.88	32° 21' 6.215 N	104° 5' 45.845 W
VP_Chaos 702H	8196.00	-766.12	441.74	491810.57	582397.91	32° 21' 6.554 N	104° 3' 59.420 W

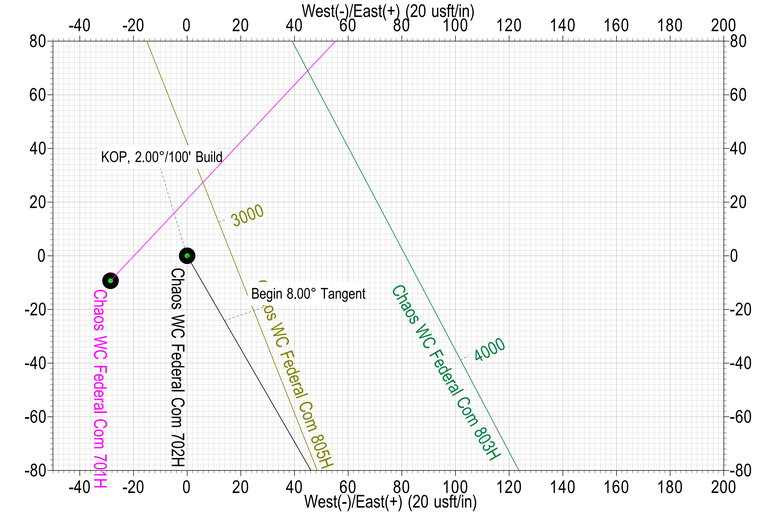
SURVEY PROGRAM

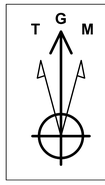
Depth From	Depth To	Survey/Plan	Tool
0.00	24783.98	Design #2 (Wellbore #1)	MWD+IFR1+FDIR

MS Directional









Azimuths to Grid North
True North: -0.14°
Magnetic North: 6.56°

Magnetic Field
Strength: 47361.2nT
Dip Angle: 59.93°
Date: 5/2/2024
Model: HDGM2024

To convert a Magnetic Direction to a Grid Direction, Add 6.558°
To convert a Magnetic Direction to a True Direction, Add 6.700° East
To convert a True Direction to a Grid Direction, Subtract 0.142°

Marathon Oil
Chaos WC Federal Com 702H
Precision 580

Marathon Oil

Eddy County, New Mexico (NAD 27)
Chaos WC Federal Com 701, 702, 801, 802, 803, 805
Chaos WC Federal Com 702H

Wellbore #1

Plan: Design #2

Standard Planning Report

03 May, 2024

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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 702H

Well Position	**+N/-S**	0.00 usft	**Northing:**	492,576.69 usft	**Latitude:**	32° 21' 14.147 N
	+E/-W	0.00 usft	**Easting:**	581,956.17 usft	**Longitude:**	104° 4' 4.548 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,073.00 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	47,361.20

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	24,783.98	Design #2 (Wellbore #1)	MWD+IFR1+FDIR	
				OWSG MWD + IFR1 + FDI	

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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	
1,899.81	8.00	150.03	1,898.51	-24.13	13.91	2.00	2.00	0.00	150.033	
7,856.70	8.00	150.03	7,797.49	-741.99	427.83	0.00	0.00	0.00	0.000	
8,256.51	0.00	0.00	8,196.00	-766.12	441.74	2.00	-2.00	0.00	180.000	VP_Chaos 702H
9,101.55	0.00	0.00	9,041.04	-766.12	441.74	0.00	0.00	0.00	0.000	
10,001.55	90.00	269.65	9,614.00	-769.62	-131.21	10.00	10.00	0.00	269.650	
24,783.98	90.00	269.65	9,614.00	-859.97	-14,913.36	0.00	0.00	0.00	0.000	LTP/PBHL_Chaos 7

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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	150.03	1,599.98	-1.51	0.87	-0.86	2.00	2.00	0.00
1,700.00	4.00	150.03	1,699.84	-6.05	3.49	-3.45	2.00	2.00	0.00
1,800.00	6.00	150.03	1,799.45	-13.60	7.84	-7.76	2.00	2.00	0.00
1,899.81	8.00	150.03	1,898.51	-24.13	13.91	-13.77	2.00	2.00	0.00
Begin 8.00° Tangent									
2,000.00	8.00	150.03	1,997.73	-36.20	20.87	-20.65	0.00	0.00	0.00
2,100.00	8.00	150.03	2,096.76	-48.25	27.82	-27.53	0.00	0.00	0.00
2,200.00	8.00	150.03	2,195.78	-60.31	34.77	-34.40	0.00	0.00	0.00
2,300.00	8.00	150.03	2,294.81	-72.36	41.72	-41.28	0.00	0.00	0.00
2,400.00	8.00	150.03	2,393.84	-84.41	48.67	-48.15	0.00	0.00	0.00
2,500.00	8.00	150.03	2,492.87	-96.46	55.62	-55.03	0.00	0.00	0.00
2,600.00	8.00	150.03	2,591.90	-108.51	62.57	-61.90	0.00	0.00	0.00
2,700.00	8.00	150.03	2,690.92	-120.56	69.51	-68.78	0.00	0.00	0.00
2,800.00	8.00	150.03	2,789.95	-132.61	76.46	-75.65	0.00	0.00	0.00
2,900.00	8.00	150.03	2,888.98	-144.66	83.41	-82.53	0.00	0.00	0.00
3,000.00	8.00	150.03	2,988.01	-156.71	90.36	-89.40	0.00	0.00	0.00
3,100.00	8.00	150.03	3,087.03	-168.76	97.31	-96.28	0.00	0.00	0.00
3,200.00	8.00	150.03	3,186.06	-180.81	104.26	-103.15	0.00	0.00	0.00
3,300.00	8.00	150.03	3,285.09	-192.87	111.21	-110.02	0.00	0.00	0.00
3,400.00	8.00	150.03	3,384.12	-204.92	118.15	-116.90	0.00	0.00	0.00
3,500.00	8.00	150.03	3,483.15	-216.97	125.10	-123.77	0.00	0.00	0.00
3,600.00	8.00	150.03	3,582.17	-229.02	132.05	-130.65	0.00	0.00	0.00
3,700.00	8.00	150.03	3,681.20	-241.07	139.00	-137.52	0.00	0.00	0.00
3,800.00	8.00	150.03	3,780.23	-253.12	145.95	-144.40	0.00	0.00	0.00
3,900.00	8.00	150.03	3,879.26	-265.17	152.90	-151.27	0.00	0.00	0.00
4,000.00	8.00	150.03	3,978.28	-277.22	159.84	-158.15	0.00	0.00	0.00
4,100.00	8.00	150.03	4,077.31	-289.27	166.79	-165.02	0.00	0.00	0.00
4,200.00	8.00	150.03	4,176.34	-301.32	173.74	-171.90	0.00	0.00	0.00
4,300.00	8.00	150.03	4,275.37	-313.37	180.69	-178.77	0.00	0.00	0.00
4,400.00	8.00	150.03	4,374.40	-325.43	187.64	-185.65	0.00	0.00	0.00
4,500.00	8.00	150.03	4,473.42	-337.48	194.59	-192.52	0.00	0.00	0.00
4,600.00	8.00	150.03	4,572.45	-349.53	201.54	-199.40	0.00	0.00	0.00
4,700.00	8.00	150.03	4,671.48	-361.58	208.48	-206.27	0.00	0.00	0.00
4,800.00	8.00	150.03	4,770.51	-373.63	215.43	-213.15	0.00	0.00	0.00
4,900.00	8.00	150.03	4,869.53	-385.68	222.38	-220.02	0.00	0.00	0.00
5,000.00	8.00	150.03	4,968.56	-397.73	229.33	-226.90	0.00	0.00	0.00

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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)
5,100.00	8.00	150.03	5,067.59	-409.78	236.28	-233.77	0.00	0.00	0.00
5,200.00	8.00	150.03	5,166.62	-421.83	243.23	-240.65	0.00	0.00	0.00
5,300.00	8.00	150.03	5,265.64	-433.88	250.17	-247.52	0.00	0.00	0.00
5,400.00	8.00	150.03	5,364.67	-445.94	257.12	-254.39	0.00	0.00	0.00
5,500.00	8.00	150.03	5,463.70	-457.99	264.07	-261.27	0.00	0.00	0.00
5,600.00	8.00	150.03	5,562.73	-470.04	271.02	-268.14	0.00	0.00	0.00
5,700.00	8.00	150.03	5,661.76	-482.09	277.97	-275.02	0.00	0.00	0.00
5,800.00	8.00	150.03	5,760.78	-494.14	284.92	-281.89	0.00	0.00	0.00
5,900.00	8.00	150.03	5,859.81	-506.19	291.87	-288.77	0.00	0.00	0.00
6,000.00	8.00	150.03	5,958.84	-518.24	298.81	-295.64	0.00	0.00	0.00
6,100.00	8.00	150.03	6,057.87	-530.29	305.76	-302.52	0.00	0.00	0.00
6,200.00	8.00	150.03	6,156.89	-542.34	312.71	-309.39	0.00	0.00	0.00
6,300.00	8.00	150.03	6,255.92	-554.39	319.66	-316.27	0.00	0.00	0.00
6,400.00	8.00	150.03	6,354.95	-566.44	326.61	-323.14	0.00	0.00	0.00
6,500.00	8.00	150.03	6,453.98	-578.50	333.56	-330.02	0.00	0.00	0.00
6,600.00	8.00	150.03	6,553.01	-590.55	340.51	-336.89	0.00	0.00	0.00
6,700.00	8.00	150.03	6,652.03	-602.60	347.45	-343.77	0.00	0.00	0.00
6,800.00	8.00	150.03	6,751.06	-614.65	354.40	-350.64	0.00	0.00	0.00
6,900.00	8.00	150.03	6,850.09	-626.70	361.35	-357.52	0.00	0.00	0.00
7,000.00	8.00	150.03	6,949.12	-638.75	368.30	-364.39	0.00	0.00	0.00
7,100.00	8.00	150.03	7,048.14	-650.80	375.25	-371.27	0.00	0.00	0.00
7,200.00	8.00	150.03	7,147.17	-662.85	382.20	-378.14	0.00	0.00	0.00
7,300.00	8.00	150.03	7,246.20	-674.90	389.14	-385.01	0.00	0.00	0.00
7,400.00	8.00	150.03	7,345.23	-686.95	396.09	-391.89	0.00	0.00	0.00
7,500.00	8.00	150.03	7,444.26	-699.00	403.04	-398.76	0.00	0.00	0.00
7,600.00	8.00	150.03	7,543.28	-711.06	409.99	-405.64	0.00	0.00	0.00
7,700.00	8.00	150.03	7,642.31	-723.11	416.94	-412.51	0.00	0.00	0.00
7,800.00	8.00	150.03	7,741.34	-735.16	423.89	-419.39	0.00	0.00	0.00
7,856.70	8.00	150.03	7,797.49	-741.99	427.83	-423.29	0.00	0.00	0.00
Begin 2.00°/100' Drop									
7,900.00	7.13	150.03	7,840.41	-746.93	430.67	-426.10	2.00	-2.00	0.00
8,000.00	5.13	150.03	7,939.83	-756.18	436.01	-431.38	2.00	-2.00	0.00
8,100.00	3.13	150.03	8,039.57	-762.42	439.61	-434.94	2.00	-2.00	0.00
8,200.00	1.13	150.03	8,139.49	-765.64	441.46	-436.78	2.00	-2.00	0.00
8,256.51	0.00	0.00	8,196.00	-766.12	441.74	-437.05	2.00	-2.00	0.00
Begin Vertical Hold									
8,300.00	0.00	0.00	8,239.49	-766.12	441.74	-437.05	0.00	0.00	0.00
8,400.00	0.00	0.00	8,339.49	-766.12	441.74	-437.05	0.00	0.00	0.00
8,500.00	0.00	0.00	8,439.49	-766.12	441.74	-437.05	0.00	0.00	0.00
8,600.00	0.00	0.00	8,539.49	-766.12	441.74	-437.05	0.00	0.00	0.00
8,700.00	0.00	0.00	8,639.49	-766.12	441.74	-437.05	0.00	0.00	0.00
8,800.00	0.00	0.00	8,739.49	-766.12	441.74	-437.05	0.00	0.00	0.00
8,900.00	0.00	0.00	8,839.49	-766.12	441.74	-437.05	0.00	0.00	0.00
9,000.00	0.00	0.00	8,939.49	-766.12	441.74	-437.05	0.00	0.00	0.00
9,101.55	0.00	0.00	9,041.04	-766.12	441.74	-437.05	0.00	0.00	0.00
KOP, 10.00°/100' Build									
9,150.00	4.84	269.65	9,089.43	-766.13	439.69	-435.00	10.00	10.00	0.00
9,200.00	9.84	269.65	9,139.01	-766.17	433.30	-428.61	10.00	10.00	0.00
9,250.00	14.84	269.65	9,187.84	-766.24	422.62	-417.93	10.00	10.00	0.00
9,300.00	19.84	269.65	9,235.55	-766.33	407.72	-403.03	10.00	10.00	0.00
9,350.00	24.84	269.65	9,281.78	-766.44	388.71	-384.02	10.00	10.00	0.00
9,400.00	29.84	269.65	9,326.18	-766.58	365.75	-361.06	10.00	10.00	0.00
9,450.00	34.84	269.65	9,368.41	-766.75	339.01	-334.32	10.00	10.00	0.00

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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)
9,500.00	39.84	269.65	9,408.14	-766.93	308.69	-304.00	10.00	10.00	0.00
9,550.00	44.84	269.65	9,445.09	-767.14	275.02	-270.33	10.00	10.00	0.00
9,600.00	49.84	269.65	9,478.95	-767.36	238.26	-233.57	10.00	10.00	0.00
9,650.00	54.84	269.65	9,509.49	-767.61	198.69	-194.00	10.00	10.00	0.00
9,700.00	59.84	269.65	9,536.46	-767.86	156.61	-151.92	10.00	10.00	0.00
9,750.00	64.84	269.65	9,559.66	-768.13	112.34	-107.64	10.00	10.00	0.00
9,800.00	69.84	269.65	9,578.91	-768.42	66.21	-61.51	10.00	10.00	0.00
9,850.00	74.84	269.65	9,594.07	-768.71	18.58	-13.88	10.00	10.00	0.00
9,900.00	79.84	269.65	9,605.02	-769.00	-30.19	34.89	10.00	10.00	0.00
9,950.00	84.84	269.65	9,611.68	-769.31	-79.73	84.42	10.00	10.00	0.00
10,001.55	90.00	269.65	9,614.00	-769.62	-131.21	135.91	10.00	10.00	0.00
Begin 90.00° Lateral									
10,100.00	90.00	269.65	9,614.00	-770.22	-229.65	234.35	0.00	0.00	0.00
10,200.00	90.00	269.65	9,614.00	-770.83	-329.65	334.35	0.00	0.00	0.00
10,300.00	90.00	269.65	9,614.00	-771.45	-429.65	434.35	0.00	0.00	0.00
10,400.00	90.00	269.65	9,614.00	-772.06	-529.65	534.35	0.00	0.00	0.00
10,500.00	90.00	269.65	9,614.00	-772.67	-629.65	634.35	0.00	0.00	0.00
10,600.00	90.00	269.65	9,614.00	-773.28	-729.64	734.35	0.00	0.00	0.00
10,700.00	90.00	269.65	9,614.00	-773.89	-829.64	834.35	0.00	0.00	0.00
10,800.00	90.00	269.65	9,614.00	-774.50	-929.64	934.35	0.00	0.00	0.00
10,900.00	90.00	269.65	9,614.00	-775.11	-1,029.64	1,034.35	0.00	0.00	0.00
11,000.00	90.00	269.65	9,614.00	-775.72	-1,129.64	1,134.35	0.00	0.00	0.00
11,100.00	90.00	269.65	9,614.00	-776.34	-1,229.63	1,234.35	0.00	0.00	0.00
11,200.00	90.00	269.65	9,614.00	-776.95	-1,329.63	1,334.35	0.00	0.00	0.00
11,300.00	90.00	269.65	9,614.00	-777.56	-1,429.63	1,434.35	0.00	0.00	0.00
11,400.00	90.00	269.65	9,614.00	-778.17	-1,529.63	1,534.35	0.00	0.00	0.00
11,500.00	90.00	269.65	9,614.00	-778.78	-1,629.63	1,634.35	0.00	0.00	0.00
11,600.00	90.00	269.65	9,614.00	-779.39	-1,729.63	1,734.35	0.00	0.00	0.00
11,700.00	90.00	269.65	9,614.00	-780.00	-1,829.62	1,834.35	0.00	0.00	0.00
11,800.00	90.00	269.65	9,614.00	-780.61	-1,929.62	1,934.35	0.00	0.00	0.00
11,900.00	90.00	269.65	9,614.00	-781.22	-2,029.62	2,034.35	0.00	0.00	0.00
12,000.00	90.00	269.65	9,614.00	-781.84	-2,129.62	2,134.35	0.00	0.00	0.00
12,100.00	90.00	269.65	9,614.00	-782.45	-2,229.62	2,234.35	0.00	0.00	0.00
12,200.00	90.00	269.65	9,614.00	-783.06	-2,329.61	2,334.35	0.00	0.00	0.00
12,300.00	90.00	269.65	9,614.00	-783.67	-2,429.61	2,434.35	0.00	0.00	0.00
12,400.00	90.00	269.65	9,614.00	-784.28	-2,529.61	2,534.35	0.00	0.00	0.00
12,500.00	90.00	269.65	9,614.00	-784.89	-2,629.61	2,634.35	0.00	0.00	0.00
12,600.00	90.00	269.65	9,614.00	-785.50	-2,729.61	2,734.35	0.00	0.00	0.00
12,700.00	90.00	269.65	9,614.00	-786.11	-2,829.61	2,834.35	0.00	0.00	0.00
12,800.00	90.00	269.65	9,614.00	-786.73	-2,929.60	2,934.35	0.00	0.00	0.00
12,900.00	90.00	269.65	9,614.00	-787.34	-3,029.60	3,034.35	0.00	0.00	0.00
13,000.00	90.00	269.65	9,614.00	-787.95	-3,129.60	3,134.35	0.00	0.00	0.00
13,100.00	90.00	269.65	9,614.00	-788.56	-3,229.60	3,234.35	0.00	0.00	0.00
13,200.00	90.00	269.65	9,614.00	-789.17	-3,329.60	3,334.35	0.00	0.00	0.00
13,300.00	90.00	269.65	9,614.00	-789.78	-3,429.59	3,434.35	0.00	0.00	0.00
13,400.00	90.00	269.65	9,614.00	-790.39	-3,529.59	3,534.35	0.00	0.00	0.00
13,500.00	90.00	269.65	9,614.00	-791.00	-3,629.59	3,634.35	0.00	0.00	0.00
13,600.00	90.00	269.65	9,614.00	-791.62	-3,729.59	3,734.35	0.00	0.00	0.00
13,700.00	90.00	269.65	9,614.00	-792.23	-3,829.59	3,834.35	0.00	0.00	0.00
13,800.00	90.00	269.65	9,614.00	-792.84	-3,929.58	3,934.35	0.00	0.00	0.00
13,900.00	90.00	269.65	9,614.00	-793.45	-4,029.58	4,034.35	0.00	0.00	0.00
14,000.00	90.00	269.65	9,614.00	-794.06	-4,129.58	4,134.35	0.00	0.00	0.00
14,100.00	90.00	269.65	9,614.00	-794.67	-4,229.58	4,234.35	0.00	0.00	0.00

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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)
14,200.00	90.00	269.65	9,614.00	-795.28	-4,329.58	4,334.35	0.00	0.00	0.00
14,300.00	90.00	269.65	9,614.00	-795.89	-4,429.58	4,434.35	0.00	0.00	0.00
14,400.00	90.00	269.65	9,614.00	-796.50	-4,529.57	4,534.35	0.00	0.00	0.00
14,500.00	90.00	269.65	9,614.00	-797.12	-4,629.57	4,634.35	0.00	0.00	0.00
14,600.00	90.00	269.65	9,614.00	-797.73	-4,729.57	4,734.35	0.00	0.00	0.00
14,700.00	90.00	269.65	9,614.00	-798.34	-4,829.57	4,834.35	0.00	0.00	0.00
14,800.00	90.00	269.65	9,614.00	-798.95	-4,929.57	4,934.35	0.00	0.00	0.00
14,900.00	90.00	269.65	9,614.00	-799.56	-5,029.56	5,034.35	0.00	0.00	0.00
15,000.00	90.00	269.65	9,614.00	-800.17	-5,129.56	5,134.35	0.00	0.00	0.00
15,100.00	90.00	269.65	9,614.00	-800.78	-5,229.56	5,234.35	0.00	0.00	0.00
15,200.00	90.00	269.65	9,614.00	-801.39	-5,329.56	5,334.35	0.00	0.00	0.00
15,300.00	90.00	269.65	9,614.00	-802.01	-5,429.56	5,434.35	0.00	0.00	0.00
15,400.00	90.00	269.65	9,614.00	-802.62	-5,529.55	5,534.35	0.00	0.00	0.00
15,500.00	90.00	269.65	9,614.00	-803.23	-5,629.55	5,634.35	0.00	0.00	0.00
15,600.00	90.00	269.65	9,614.00	-803.84	-5,729.55	5,734.35	0.00	0.00	0.00
15,700.00	90.00	269.65	9,614.00	-804.45	-5,829.55	5,834.35	0.00	0.00	0.00
15,800.00	90.00	269.65	9,614.00	-805.06	-5,929.55	5,934.35	0.00	0.00	0.00
15,900.00	90.00	269.65	9,614.00	-805.67	-6,029.55	6,034.35	0.00	0.00	0.00
16,000.00	90.00	269.65	9,614.00	-806.28	-6,129.54	6,134.35	0.00	0.00	0.00
16,100.00	90.00	269.65	9,614.00	-806.89	-6,229.54	6,234.35	0.00	0.00	0.00
16,200.00	90.00	269.65	9,614.00	-807.51	-6,329.54	6,334.35	0.00	0.00	0.00
16,300.00	90.00	269.65	9,614.00	-808.12	-6,429.54	6,434.35	0.00	0.00	0.00
16,400.00	90.00	269.65	9,614.00	-808.73	-6,529.54	6,534.35	0.00	0.00	0.00
16,500.00	90.00	269.65	9,614.00	-809.34	-6,629.53	6,634.35	0.00	0.00	0.00
16,600.00	90.00	269.65	9,614.00	-809.95	-6,729.53	6,734.35	0.00	0.00	0.00
16,700.00	90.00	269.65	9,614.00	-810.56	-6,829.53	6,834.35	0.00	0.00	0.00
16,800.00	90.00	269.65	9,614.00	-811.17	-6,929.53	6,934.35	0.00	0.00	0.00
16,900.00	90.00	269.65	9,614.00	-811.78	-7,029.53	7,034.35	0.00	0.00	0.00
17,000.00	90.00	269.65	9,614.00	-812.40	-7,129.52	7,134.35	0.00	0.00	0.00
17,100.00	90.00	269.65	9,614.00	-813.01	-7,229.52	7,234.35	0.00	0.00	0.00
17,200.00	90.00	269.65	9,614.00	-813.62	-7,329.52	7,334.35	0.00	0.00	0.00
17,300.00	90.00	269.65	9,614.00	-814.23	-7,429.52	7,434.35	0.00	0.00	0.00
17,400.00	90.00	269.65	9,614.00	-814.84	-7,529.52	7,534.35	0.00	0.00	0.00
17,500.00	90.00	269.65	9,614.00	-815.45	-7,629.52	7,634.35	0.00	0.00	0.00
17,600.00	90.00	269.65	9,614.00	-816.06	-7,729.51	7,734.35	0.00	0.00	0.00
17,700.00	90.00	269.65	9,614.00	-816.67	-7,829.51	7,834.35	0.00	0.00	0.00
17,800.00	90.00	269.65	9,614.00	-817.28	-7,929.51	7,934.35	0.00	0.00	0.00
17,900.00	90.00	269.65	9,614.00	-817.90	-8,029.51	8,034.35	0.00	0.00	0.00
18,000.00	90.00	269.65	9,614.00	-818.51	-8,129.51	8,134.35	0.00	0.00	0.00
18,100.00	90.00	269.65	9,614.00	-819.12	-8,229.50	8,234.35	0.00	0.00	0.00
18,200.00	90.00	269.65	9,614.00	-819.73	-8,329.50	8,334.35	0.00	0.00	0.00
18,300.00	90.00	269.65	9,614.00	-820.34	-8,429.50	8,434.35	0.00	0.00	0.00
18,400.00	90.00	269.65	9,614.00	-820.95	-8,529.50	8,534.35	0.00	0.00	0.00
18,500.00	90.00	269.65	9,614.00	-821.56	-8,629.50	8,634.35	0.00	0.00	0.00
18,600.00	90.00	269.65	9,614.00	-822.17	-8,729.49	8,734.35	0.00	0.00	0.00
18,700.00	90.00	269.65	9,614.00	-822.79	-8,829.49	8,834.35	0.00	0.00	0.00
18,800.00	90.00	269.65	9,614.00	-823.40	-8,929.49	8,934.35	0.00	0.00	0.00
18,900.00	90.00	269.65	9,614.00	-824.01	-9,029.49	9,034.35	0.00	0.00	0.00
19,000.00	90.00	269.65	9,614.00	-824.62	-9,129.49	9,134.35	0.00	0.00	0.00
19,100.00	90.00	269.65	9,614.00	-825.23	-9,229.49	9,234.35	0.00	0.00	0.00
19,200.00	90.00	269.65	9,614.00	-825.84	-9,329.48	9,334.35	0.00	0.00	0.00
19,300.00	90.00	269.65	9,614.00	-826.45	-9,429.48	9,434.35	0.00	0.00	0.00
19,400.00	90.00	269.65	9,614.00	-827.06	-9,529.48	9,534.35	0.00	0.00	0.00

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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)
19,500.00	90.00	269.65	9,614.00	-827.68	-9,629.48	9,634.35	0.00	0.00	0.00
19,600.00	90.00	269.65	9,614.00	-828.29	-9,729.48	9,734.35	0.00	0.00	0.00
19,700.00	90.00	269.65	9,614.00	-828.90	-9,829.47	9,834.35	0.00	0.00	0.00
19,800.00	90.00	269.65	9,614.00	-829.51	-9,929.47	9,934.35	0.00	0.00	0.00
19,900.00	90.00	269.65	9,614.00	-830.12	-10,029.47	10,034.35	0.00	0.00	0.00
20,000.00	90.00	269.65	9,614.00	-830.73	-10,129.47	10,134.35	0.00	0.00	0.00
20,100.00	90.00	269.65	9,614.00	-831.34	-10,229.47	10,234.35	0.00	0.00	0.00
20,200.00	90.00	269.65	9,614.00	-831.95	-10,329.47	10,334.35	0.00	0.00	0.00
20,300.00	90.00	269.65	9,614.00	-832.56	-10,429.46	10,434.35	0.00	0.00	0.00
20,400.00	90.00	269.65	9,614.00	-833.18	-10,529.46	10,534.35	0.00	0.00	0.00
20,500.00	90.00	269.65	9,614.00	-833.79	-10,629.46	10,634.35	0.00	0.00	0.00
20,600.00	90.00	269.65	9,614.00	-834.40	-10,729.46	10,734.35	0.00	0.00	0.00
20,700.00	90.00	269.65	9,614.00	-835.01	-10,829.46	10,834.35	0.00	0.00	0.00
20,800.00	90.00	269.65	9,614.00	-835.62	-10,929.45	10,934.35	0.00	0.00	0.00
20,900.00	90.00	269.65	9,614.00	-836.23	-11,029.45	11,034.35	0.00	0.00	0.00
21,000.00	90.00	269.65	9,614.00	-836.84	-11,129.45	11,134.35	0.00	0.00	0.00
21,100.00	90.00	269.65	9,614.00	-837.45	-11,229.45	11,234.35	0.00	0.00	0.00
21,200.00	90.00	269.65	9,614.00	-838.07	-11,329.45	11,334.35	0.00	0.00	0.00
21,300.00	90.00	269.65	9,614.00	-838.68	-11,429.44	11,434.35	0.00	0.00	0.00
21,400.00	90.00	269.65	9,614.00	-839.29	-11,529.44	11,534.35	0.00	0.00	0.00
21,500.00	90.00	269.65	9,614.00	-839.90	-11,629.44	11,634.35	0.00	0.00	0.00
21,600.00	90.00	269.65	9,614.00	-840.51	-11,729.44	11,734.35	0.00	0.00	0.00
21,700.00	90.00	269.65	9,614.00	-841.12	-11,829.44	11,834.35	0.00	0.00	0.00
21,800.00	90.00	269.65	9,614.00	-841.73	-11,929.44	11,934.35	0.00	0.00	0.00
21,900.00	90.00	269.65	9,614.00	-842.34	-12,029.43	12,034.35	0.00	0.00	0.00
22,000.00	90.00	269.65	9,614.00	-842.95	-12,129.43	12,134.35	0.00	0.00	0.00
22,100.00	90.00	269.65	9,614.00	-843.57	-12,229.43	12,234.35	0.00	0.00	0.00
22,200.00	90.00	269.65	9,614.00	-844.18	-12,329.43	12,334.35	0.00	0.00	0.00
22,300.00	90.00	269.65	9,614.00	-844.79	-12,429.43	12,434.35	0.00	0.00	0.00
22,400.00	90.00	269.65	9,614.00	-845.40	-12,529.42	12,534.35	0.00	0.00	0.00
22,500.00	90.00	269.65	9,614.00	-846.01	-12,629.42	12,634.35	0.00	0.00	0.00
22,600.00	90.00	269.65	9,614.00	-846.62	-12,729.42	12,734.35	0.00	0.00	0.00
22,700.00	90.00	269.65	9,614.00	-847.23	-12,829.42	12,834.35	0.00	0.00	0.00
22,800.00	90.00	269.65	9,614.00	-847.84	-12,929.42	12,934.35	0.00	0.00	0.00
22,900.00	90.00	269.65	9,614.00	-848.46	-13,029.41	13,034.35	0.00	0.00	0.00
23,000.00	90.00	269.65	9,614.00	-849.07	-13,129.41	13,134.35	0.00	0.00	0.00
23,100.00	90.00	269.65	9,614.00	-849.68	-13,229.41	13,234.35	0.00	0.00	0.00
23,200.00	90.00	269.65	9,614.00	-850.29	-13,329.41	13,334.35	0.00	0.00	0.00
23,300.00	90.00	269.65	9,614.00	-850.90	-13,429.41	13,434.35	0.00	0.00	0.00
23,400.00	90.00	269.65	9,614.00	-851.51	-13,529.41	13,534.35	0.00	0.00	0.00
23,500.00	90.00	269.65	9,614.00	-852.12	-13,629.40	13,634.35	0.00	0.00	0.00
23,600.00	90.00	269.65	9,614.00	-852.73	-13,729.40	13,734.35	0.00	0.00	0.00
23,700.00	90.00	269.65	9,614.00	-853.34	-13,829.40	13,834.35	0.00	0.00	0.00
23,800.00	90.00	269.65	9,614.00	-853.96	-13,929.40	13,934.35	0.00	0.00	0.00
23,900.00	90.00	269.65	9,614.00	-854.57	-14,029.40	14,034.35	0.00	0.00	0.00
24,000.00	90.00	269.65	9,614.00	-855.18	-14,129.39	14,134.35	0.00	0.00	0.00
24,100.00	90.00	269.65	9,614.00	-855.79	-14,229.39	14,234.35	0.00	0.00	0.00
24,200.00	90.00	269.65	9,614.00	-856.40	-14,329.39	14,334.35	0.00	0.00	0.00
24,300.00	90.00	269.65	9,614.00	-857.01	-14,429.39	14,434.35	0.00	0.00	0.00
24,400.00	90.00	269.65	9,614.00	-857.62	-14,529.39	14,534.35	0.00	0.00	0.00
24,500.00	90.00	269.65	9,614.00	-858.23	-14,629.38	14,634.35	0.00	0.00	0.00
24,600.00	90.00	269.65	9,614.00	-858.85	-14,729.38	14,734.35	0.00	0.00	0.00
24,700.00	90.00	269.65	9,614.00	-859.46	-14,829.38	14,834.35	0.00	0.00	0.00

Marathon Oil Corporation

MS Directional
Planning Report

MS Directional

Database:	EDM 5000.15 Conroe DB	**Local Co-ordinate Reference:**	Well Chaos WC Federal Com 702H
Company:	Marathon Oil	**TVD Reference:**	WELL @ 3096.50usft (Precision 580)
Project:	Eddy County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 3096.50usft (Precision 580)
Site:	Chaos WC Federal Com 701, 702, 801, 802, 803, 805	**North Reference:**	Grid
Well:	Chaos WC Federal Com 702H	**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)
24,783.98	90.00	269.65	9,614.00	-859.97	-14,913.36	14,918.34	0.00	0.00	0.00
PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VP_Chaos 702H - plan hits target center - Point	0.00	0.00	8,196.00	-766.12	441.74	491,810.57	582,397.91	32° 21' 6.554 N	104° 3' 59.420 W
PPP-4_Chaos 702H - plan hits target center - Point	0.00	0.00	9,614.00	-798.21	-4,808.76	491,778.48	577,147.41	32° 21' 6.362 N	104° 5' 0.630 W
KOP/FTP/PPP-1_Cha - plan misses target center by 70.52usft at 9731.52usft MD (9551.54 TVD, -768.03 N, 128.94 E) - Point	0.00	0.00	9,614.00	-767.83	161.67	491,808.86	582,117.84	32° 21' 6.544 N	104° 4' 2.685 W
LTP/PBHL_Chaos 70 - plan hits target center - Point	0.00	0.00	9,614.00	-859.97	-14,913.36	491,716.72	567,042.81	32° 21' 5.969 N	104° 6' 58.428 W
PPP-6_Chaos 702H - plan misses target center by 0.01usft at 18557.79usft MD (9614.00 TVD, -821.92 N, -8687.29 E) - Point	0.00	0.00	9,614.00	-821.91	-8,687.29	491,754.78	573,268.88	32° 21' 6.215 N	104° 5' 45.845 W
PPP-5_Chaos 702H - plan hits target center - Point	0.00	0.00	9,614.00	-806.10	-6,099.68	491,770.59	575,856.49	32° 21' 6.313 N	104° 5' 15.679 W
PPP-2_Chaos 702H - plan misses target center by 0.01usft at 10702.74usft MD (9614.00 TVD, -773.91 N, -832.38 E) - Point	0.00	0.00	9,614.00	-773.90	-832.38	491,802.79	581,123.79	32° 21' 6.508 N	104° 4' 14.274 W
PPP-3_Chaos 702H - plan hits target center - Point	0.00	0.00	9,614.00	-782.00	-2,156.50	491,794.69	579,799.67	32° 21' 6.460 N	104° 4' 29.710 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,500.00	1,500.00	0.00	0.00	KOP, 2.00°/100' Build
1,899.81	1,898.51	-24.13	13.91	Begin 8.00° Tangent
7,856.70	7,797.49	-741.99	427.83	Begin 2.00°/100' Drop
8,256.51	8,196.00	-766.12	441.74	Begin Vertical Hold
9,101.55	9,041.04	-766.12	441.74	KOP, 10.00°/100' Build
10,001.55	9,614.00	-769.62	-131.21	Begin 90.00° Lateral
24,783.98	9,614.00	-859.97	-14,913.36	PBHL

MARATHON OIL PERMIAN, LLC.

DRILLING AND OPERATIONS PLAN

WELL NAME & NUMBER: **CHAOS WC FEDERAL COM 702H**

LOCATION: SECTION **34** TOWNSHIP **22S** RANGE **28E**

EDDY COUNTY, **NEW MEXICO**

Section 1: GEOLOGICAL FORMATIONS

Name of Surface Formation: Permian

Elevation: 3073 *feet*

Estimated Tops of Important Geological Markers:

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	196	223	2877	Anhydrite	Brine	No
Salado	404	431	2669	Salt/Anhydrite	Brine	No
Castile	1195	1222	1878	Salt/Anhydrite	Brine	No
Base of Salt (BX)	2386	2413	687	Salt/Anhydrite	Brine	No
Lamar	2622	2649	451	Sandstone/Shale	None	No
Bell Canyon	2667	2694	406	Sandstone	Oil	No
Cherry Canyon	3501	3528	-428	Sandstone	Oil	No
Brushy Canyon	4726	4753	-1653	Sandstone	Oil	No
Bone Spring Lime	6159	6186	-3086	Limestone	None	No
Upper Avalon Shale	6208	6235	-3135	Shale	Oil	Yes
1st Bone Spring Sand	7200	7227	-4127	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	7446	7473	-4373	Limestone/Shale	None	No
2nd Bone Spring Sand	7933	7960	-4860	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	8299	8326	-5226	Limestone	Oil	No
3rd Bone Spring Sand	9173	9200	-6100	Sandstone	Oil	Yes
Wolfcamp	9478	9505	-6405	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	9634	9661	-6561	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	9887	9914	-6814	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	10180	10207	-7107	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp D	10393	10420	-7320	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Strawn	11214	11241	-8141	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	3073	2807	54.5	J55	BTC	5.22	1.81	BUOY	4.52	BUOY	4.52
Intermediate	12.25	9.625	0	9002	0	8941	3073	-5868	40	P110HC	BTC	1.20	1.42	BUOY	2.44	BUOY	2.44
Production	8.75	5.5	0	24784	0	9614	3073	-6541	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	8502	1535	2.18	12.4	3347	25	Class C	Extender,Accelerator,LCM
Intermediate	Tail	8502	9002	147	1.33	14.8	196	25	Class C	Retarder
Production	Tail	8702	24784	3063	1.68	13	5146	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	9002	Brine or Oil Based Mud	9.2	10.2
9002	24784	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.

DRILL PLAN CHANGE REGISTER

CHAOS WC FEDERAL COM 702H
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 365168

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 365168
	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