

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
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> <i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i>		5. Lease Serial No. NMNM122624
		6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. DOGIE DRAW E25 WC/21H
2. Name of Operator MARATHON OIL PERMIAN LLC		9. API Well No. 3002547017
3a. Address 990 TOWN & COUNTRY BLVD, HOUSTON, TX	3b. Phone No. (include area code) (713) 296-2113	10. Field and Pool or Exploratory Area PITCHFORK RANCH/WOLFCAMP; SOUTH
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) SEC 14/T25S/R34E/NMP		11. Country or Parish, State LEA/NM

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

Marathon Oil Permian is requesting a name change as follow.

From Dogie Draw E25 WC 21H to Dogie Draw E25 WC Fed Com 21H

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) NICOLE LEE / Ph: (713) 929-6600	Title Regulatory Compliance Representative
Signature (Electronic Submission)	Date 10/23/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by ZOTA M STEVENS / Ph: (575) 234-5998 / Approved	Title Petroleum Engineer	Date 11/15/2023
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office CARLSBAD	

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

(Instructions on page 2)

## GENERAL INSTRUCTIONS

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

## SPECIFIC INSTRUCTIONS

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

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

## NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

## Additional Information

### Location of Well

0. SHL: NESE / 2589 FSL / 1137 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1303367 / LONG: -103.435875 ( TVD: 0 feet, MD: 0 feet )

PPP: NENE / 0 FNL / 330 FEL / TWSP: 25S / RANGE: 34E / SECTION: 23 / LAT: 32.1232345 / LONG: -103.4332713 ( TVD: 12592 feet, MD: 14963 feet )

PPP: NESE / 2309 FSL / 330 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1295617 / LONG: -103.4332672 ( TVD: 12592 feet, MD: 12987 feet )

BHL: SESE / 100 FSL / 330 FEL / TWSP: 25S / RANGE: 34E / SECTION: 23 / LAT: 32.1096282 / LONG: -103.4332883 ( TVD: 12592 feet, MD: 19958 feet )

CONFIDENTIAL

<b>Well Name:</b> DOGIE DRAW E25 WC	<b>Well Location:</b> T25S / R34E / SEC 14 / NESE / 32.1303367 / -103.435875	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 21H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM122624	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002547017	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> MARATHON OIL PERMIAN LLC

### Notice of Intent

**Sundry ID:** 2757660

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 10/23/2023

**Time Sundry Submitted:** 01:31

**Date proposed operation will begin:** 10/24/2023

**Procedure Description:** Marathon Oil Permian is requesting a name change as follow. From Dogie Draw E25 WC 21H to Dogie Draw E25 WC Fed Com 21H

### NOI Attachments

#### Procedure Description

20230914\_R3755\_014\_DOGIE\_DRAW\_E25\_WC\_21H\_REV8\_CERTIFIED\_C102\_20231023133050.pdf

Well Name: DOGIE DRAW E25 WC

Well Location: T25S / R34E / SEC 14 /  
NESE / 32.1303367 / -103.435875County or Parish/State: LEA /  
NM

Well Number: 21H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM122624

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002547017

Well Status: Approved Application for  
Permit to DrillOperator: MARATHON OIL  
PERMIAN LLC**Operator**

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

Operator Electronic Signature: NICOLE LEE

Signed on: OCT 23, 2023 01:31 PM

Name: MARATHON OIL PERMIAN LLC

Title: Regulatory Compliance Representative

Street Address: 990 TOWN &amp; COUNTRY BLVD

City: HOUSTON

State: TX

Phone: (713) 929-6600

Email address: NJLEE@MARATHONOIL.COM

**Field**

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

**BLM Point of Contact**

BLM POC Name: ZOTA M STEVENS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752345998

BLM POC Email Address: ZSTEVENS@BLM.GOV

Disposition: Approved

Disposition Date: 11/15/2023

Signature: Zota Stevens

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-47017	<sup>2</sup> Pool Code 96994	<sup>3</sup> Pool Name PITCHFORK RANCH; WOLFCAMP (SOUTH)
<sup>4</sup> Property Code 327334	<sup>5</sup> Property Name DOGIE DRAW E25 WC FED COM	<sup>6</sup> Well Number 21H
<sup>7</sup> OGRID No. 372098	<sup>8</sup> Operator Name MARATHON OIL PERMIAN LLC	<sup>9</sup> Elevation 3356'

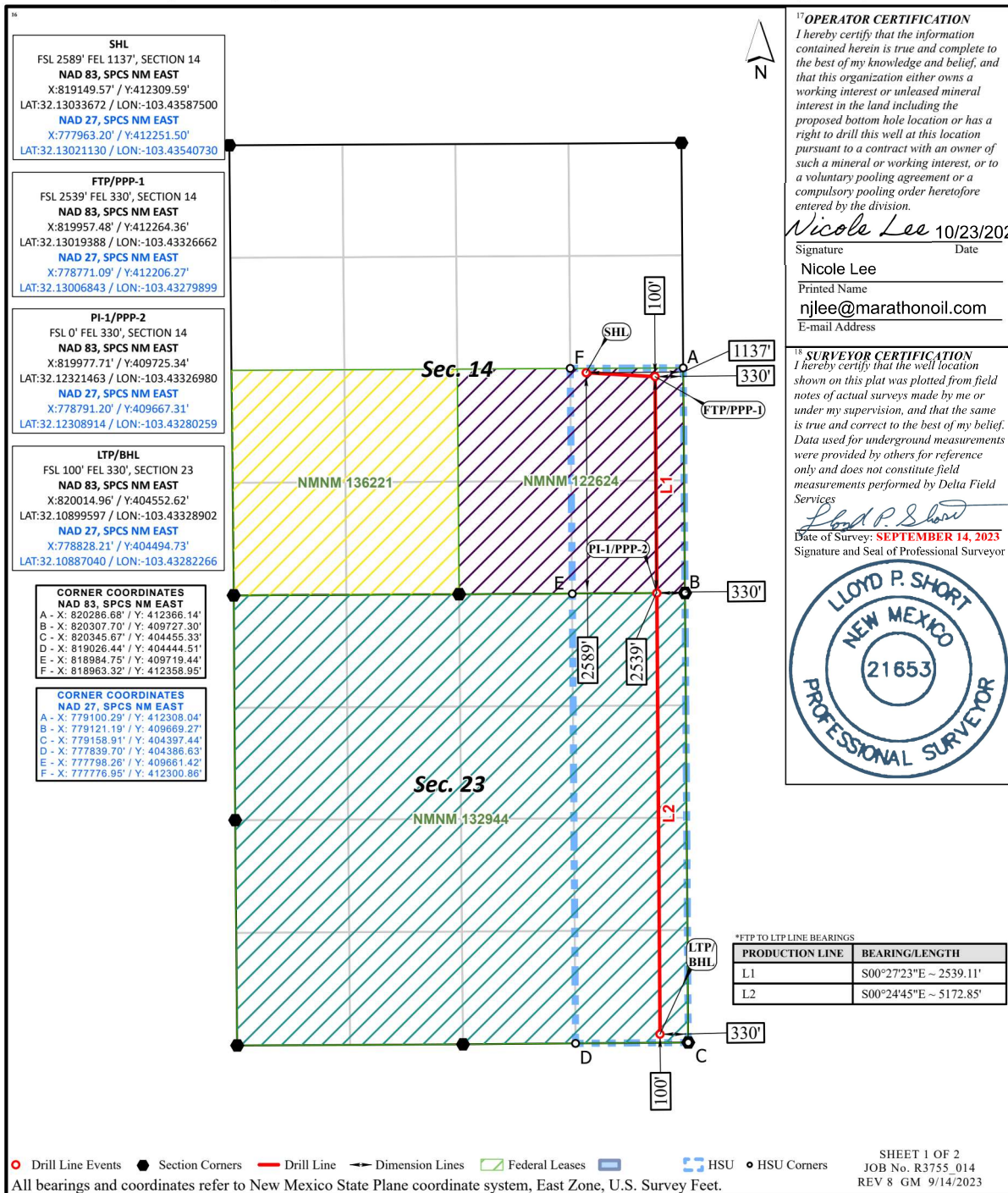
<sup>10</sup> Surface Location

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	14	25S	34E		2589'	SOUTH	1137'	EAST	LEA

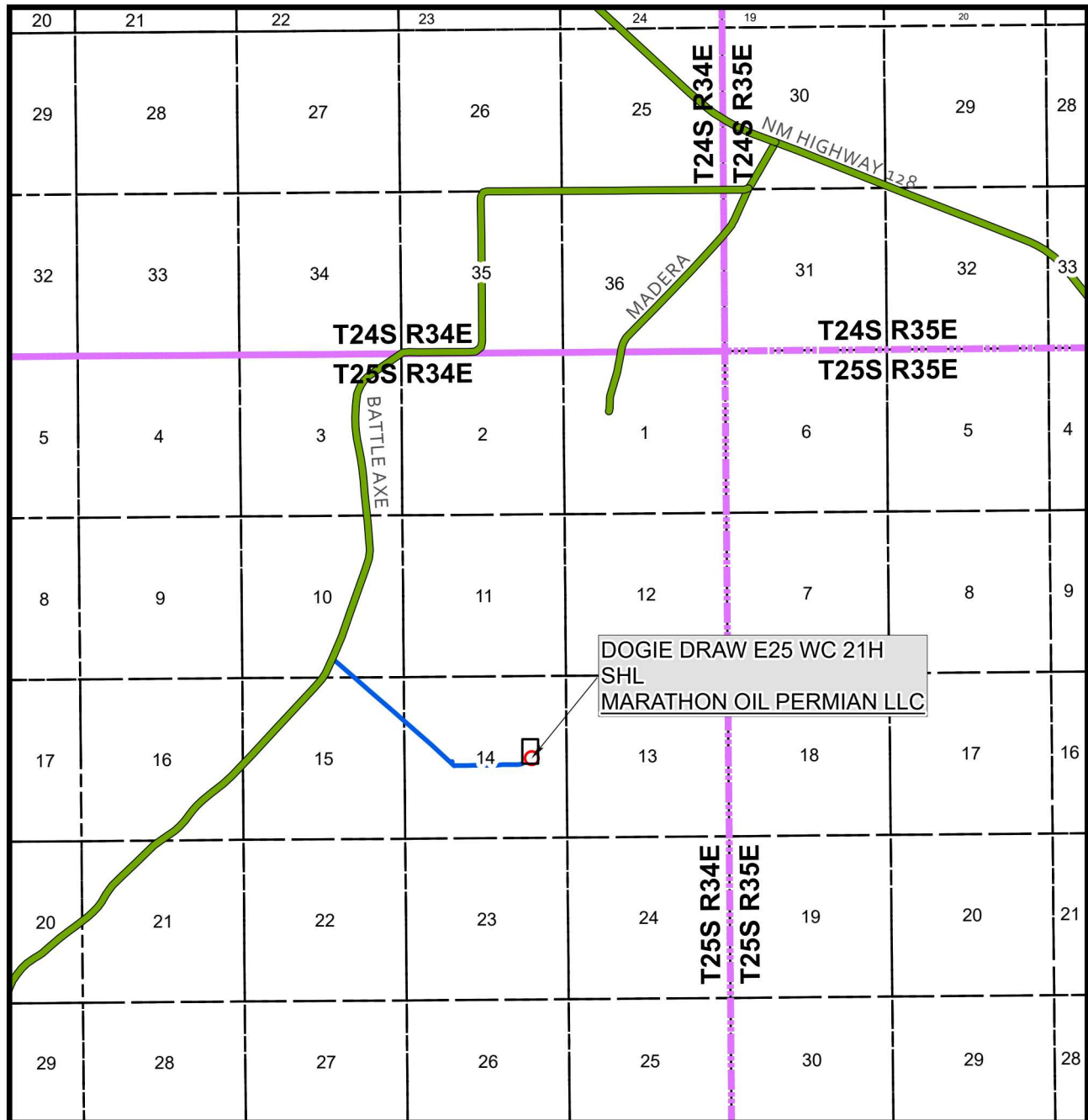
<sup>11</sup> Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	23	25S	34E		100'	SOUTH	330'	EAST	LEA
<sup>12</sup> Dedicated Acres 240.00	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.						

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.



## VICINITY MAP



SEC. 14 TWP. 25S RGE. 34E  
 SURVEY: N.M.P.M.  
 COUNTY: LEA  
 OPERATOR: MARATHON OIL PERMIAN LLC  
 DESCRIPTION: 2589' FSL & 1137' FEL  
 ELEVATION: 3356'  
 LEASE: DOGIE DRAW E25 WC  
 U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

1" = 1 MILE

FROM THE INTERSECTION OF NM HIGHWAY 31 AND NM HIGHWAY 128, HEAD SOUTH ON NM HIGHWAY 128 FOR 39 MILES TO BATTLE AXE ROAD (CR-2). TURN RIGHT ON BATTLE AXE ROAD, HEADING SOUTH FOR 5.5 MILES TO AN EXISTING LEASE ROAD, TURN LEFT ON THE EXISTING LEASE ROAD HEADING SOUTHEAST FOR 1.0 MILES TO THE PROPOSED LEASE ROAD FOR THE ENDER WIGGINS 14 FC/DOGIE DRAW 14 FED COM WELL PAD LOCATION. TURN LEFT, HEADING EAST FOR 0.4 MILES ENTERING THE SOUTHWEST CORNER OF THE DOGIE DRAW 14 FED COM & ENDER WIGGINS 14 FC LEASE LOCATION.



SHEET 2 OF 2

PREPARED BY:  
 DELTA FIELD SERVICES, LLC  
 510 TRENTON STREET, WEST MONROE, LA 71291  
 318-323-6900 OFFICE  
 JOB No. R3755\_014

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
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> <i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i>		5. Lease Serial No. NMNM122624
		6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. DOGIE DRAW FED COM 25 34 14V
2. Name of Operator MARATHON OIL PERMIAN LLC		9. API Well No. 3002547017
3a. Address 990 TOWN & COUNTRY BLVD, HOUSTON, TX	3b. Phone No. (include area code) (713) 296-2113	10. Field and Pool or Exploratory Area PITCHFORK RANCH/WOLFCAMP; SOUTH
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12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA					
TYPE OF SUBMISSION		TYPE OF ACTION			
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<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
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Marathon Oil Permian LLC Respectfully requests the below changes to the APD.

Name Change: DOGIE DRAW FED COM 25 34 14WXY 21H to Dogie Draw E25 WC 21H  
SHL: Stays The Same  
BHL: From 330' FSL and 330' FEL of Sec 23 to 100' FSL and 330' FEL Sec 23

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) NICOLE LEE / Ph: (713) 929-6600	Title Regulatory Compliance Representative
Signature (Electronic Submission)	Date 09/27/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by ZOTA M STEVENS / Ph: (575) 234-5998 / Approved	Title Petroleum Engineer	Date 09/27/2023
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office CARLSBAD	

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## Additional Information

### Location of Well

0. SHL: NESE / 2589 FSL / 1137 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1303367 / LONG: -103.435875 ( TVD: 0 feet, MD: 0 feet )

PPP: NENE / 0 FNL / 330 FEL / TWSP: 25S / RANGE: 34E / SECTION: 23 / LAT: 32.1232345 / LONG: -103.4332713 ( TVD: 12592 feet, MD: 14963 feet )

PPP: NESE / 2309 FSL / 330 FEL / TWSP: 25S / RANGE: 34E / SECTION: 14 / LAT: 32.1295617 / LONG: -103.4332672 ( TVD: 12592 feet, MD: 12987 feet )

BHL: SESE / 330 FSL / 330 FEL / TWSP: 25S / RANGE: 34E / SECTION: 23 / LAT: 32.1096282 / LONG: -103.4332883 ( TVD: 12592 feet, MD: 19958 feet )

CONFIDENTIAL

<b>Well Name:</b> DOGIE DRAW E25 WC	<b>Well Location:</b> T25S / R34E / SEC 14 / NESE / 32.1303367 / -103.435875	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 21H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM122624	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 3002547017	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> MARATHON OIL PERMIAN LLC

### Notice of Intent

**Sundry ID:** 2751470

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 09/27/2023

**Time Sundry Submitted:** 07:25

**Date proposed operation will begin:** 09/15/2023

**Procedure Description:** Marathon Oil Permian LLC Respectfully requests the below changes to the APD. Name Change: DOGIE DRAW FED COM 25 34 14WXY 21H to Dogie Draw E25 WC 21H SHL: Stays The Same BHL: From 330' FSL and 330' FEL of Sec 23 to 100' FSL and 330' FEL Sec 23

### NOI Attachments

**Procedure Description**

DOGIE\_DRAW\_E25\_WC\_21H\_Sundry\_Doc\_9.27.2023\_20230927072536.pdf

### Conditions of Approval

**Specialist Review**

Dogie\_Draw\_E25\_WC\_Batch\_Wells\_COA\_20230927141109.pdf

Well Name: DOGIE DRAW E25 WC

Well Location: T25S / R34E / SEC 14 /  
NESE / 32.1303367 / -103.435875County or Parish/State: LEA /  
NM

Well Number: 21H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM122624

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002547017

Well Status: Approved Application for  
Permit to DrillOperator: MARATHON OIL  
PERMIAN LLC**Operator**

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

Operator Electronic Signature: NICOLE LEE

Signed on: SEP 27, 2023 07:25 AM

Name: MARATHON OIL PERMIAN LLC

Title: Regulatory Compliance Representative

Street Address: 990 TOWN &amp; COUNTRY BLVD

City: HOUSTON

State: TX

Phone: (713) 929-6600

Email address: NJLEE@MARATHONOIL.COM

**Field**

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

**BLM Point of Contact**

BLM POC Name: ZOTA M STEVENS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752345998

BLM POC Email Address: ZSTEVENS@BLM.GOV

Disposition: Approved

Disposition Date: 09/27/2023

Signature: Zota Stevens

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-47017	<sup>2</sup> Pool Code 96994	<sup>3</sup> Pool Name PITCHFORK RANCH; WOLFCAMP (SOUTH)
<sup>4</sup> Property Code 327334	<sup>5</sup> Property Name DOGIE DRAW E25 WC	<sup>6</sup> Well Number 21H
<sup>7</sup> OGRID No. 372098	<sup>8</sup> Operator Name MARATHON OIL PERMIAN LLC	<sup>9</sup> Elevation 3356'

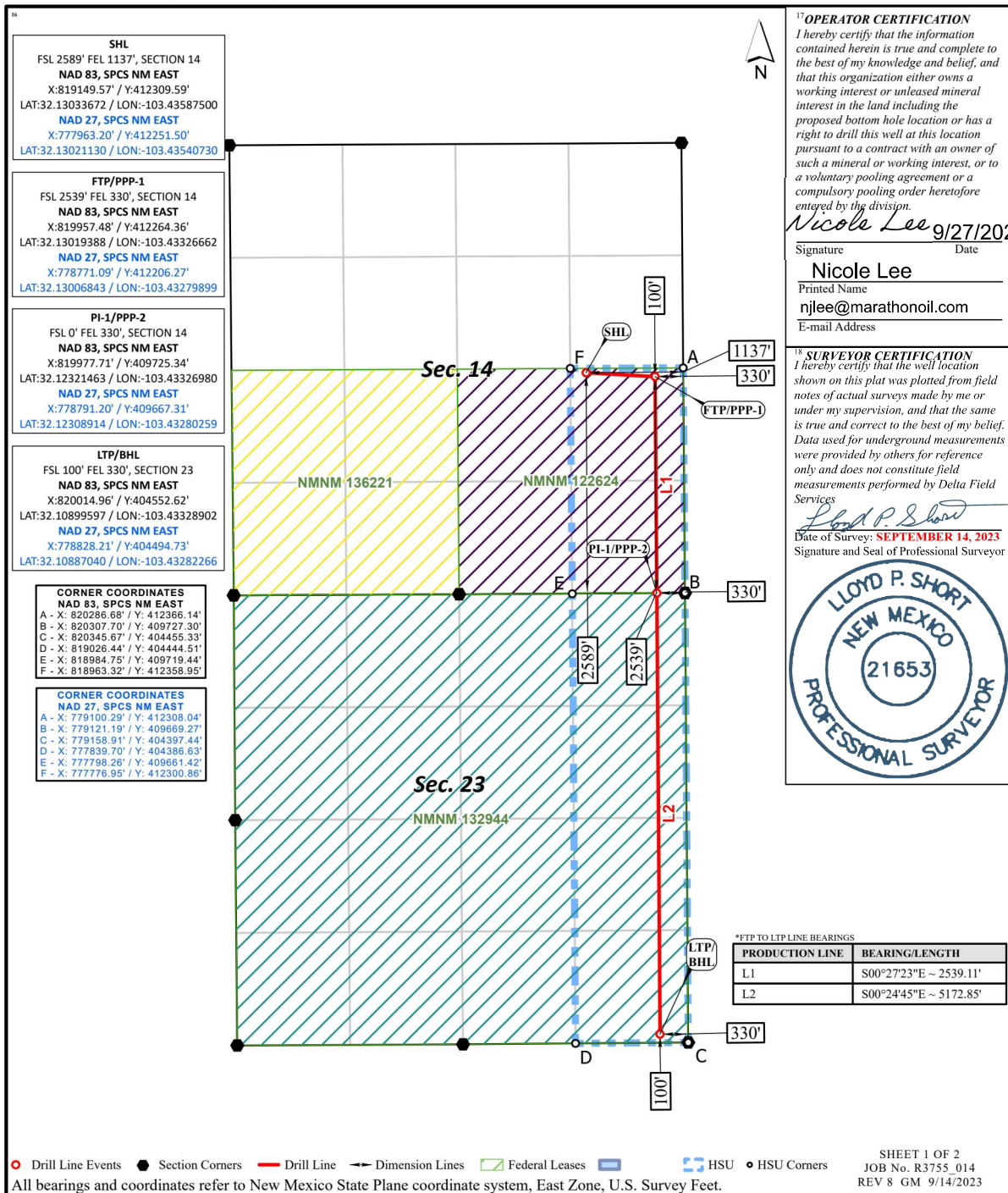
<sup>10</sup> Surface Location

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	14	25S	34E		2589'	SOUTH	1137'	EAST	LEA

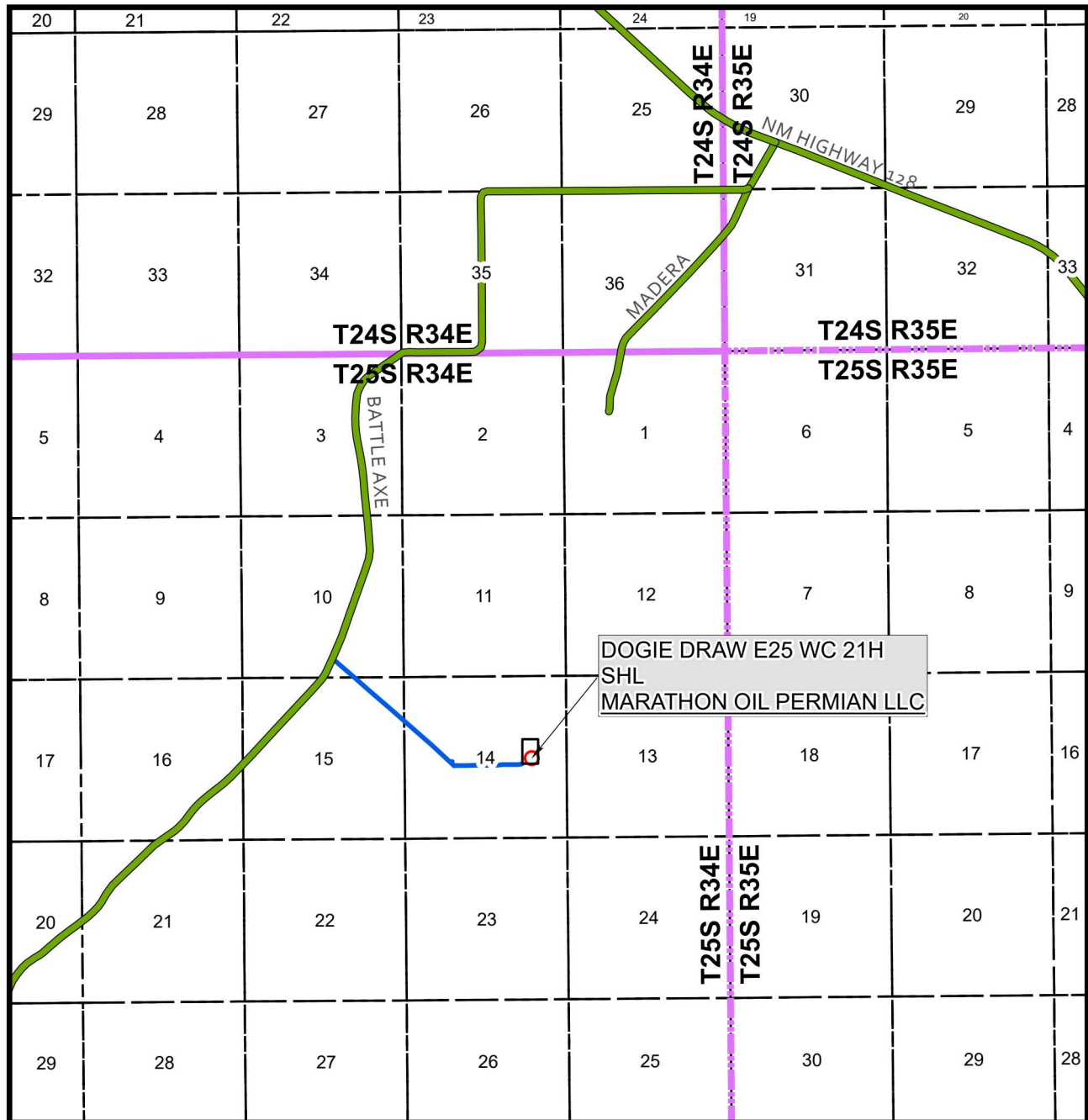
<sup>11</sup> Bottom Hole Location If Different From Surface

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	23	25S	34E		100'	SOUTH	330'	EAST	LEA
<sup>12</sup> Dedicated Acres 240.00	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.						

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.



## VICINITY MAP



SEC. 14 TWP. 25S RGE. 34E  
 SURVEY: N.M.P.M.  
 COUNTY: LEA  
 OPERATOR: MARATHON OIL PERMIAN LLC  
 DESCRIPTION: 2589' FSL & 1137' FEL  
 ELEVATION: 3356'  
 LEASE: DOGIE DRAW E25 WC  
 U.S.G.S. TOPOGRAPHIC MAP: WOODLEY FLAT, NM.

1" = 1 MILE

FROM THE INTERSECTION OF NM HIGHWAY 31 AND NM HIGHWAY 128, HEAD SOUTH ON NM HIGHWAY 128 FOR 39 MILES TO BATTLE AXE ROAD (CR-2). TURN RIGHT ON BATTLE AXE ROAD, HEADING SOUTH FOR 5.5 MILES TO AN EXISTING LEASE ROAD, TURN LEFT ON THE EXISTING LEASE ROAD HEADING SOUTHEAST FOR 1.0 MILES TO THE PROPOSED LEASE ROAD FOR THE ENDER WIGGINS 14 FC/DOGIE DRAW 14 FED COM WELL PAD LOCATION. TURN LEFT, HEADING EAST FOR 0.4 MILES ENTERING THE SOUTHWEST CORNER OF THE DOGIE DRAW 14 FED COM & ENDER WIGGINS 14 FC LEASE LOCATION.



SHEET 2 OF 2

PREPARED BY:  
 DELTA FIELD SERVICES, LLC  
 510 TRENTON STREET, WEST MONROE, LA 71291  
 318-323-6900 OFFICE  
 JOB No. R3755\_014

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



WELL NAME & NUMBER: **DOGIE DRAW E25 WC 21H**  
LOCATION: SECTION **14** TOWNSHIP **25S** RANGE **34E**  
LEA COUNTY, NEW MEXICO

**Section 1: GEOLOGICAL FORMATIONS**

Name of Surface Formation: Permian  
Elevation: 3356 feet

Estimated Tops of Important Geological Markers:

Formation	TVD (ft)	MD (ft)	Elevation (ft SS)	Lithologies	Mineral Resources	Producing Formation?
Rustler	857	857	2499	Anhydrite	Brine	No
Salado	1363	1363	1993	Salt/Anhydrite	Brine	No
Castile	3562	3562	-206	Salt/Anhydrite	Brine	No
Base of Salt (BX)	5370	5370	-2014	Salt/Anhydrite	Brine	No
Lamar	5370	5370	-2014	Sandstone/Shale	None	No
Bell Canyon	5402	5402	-2046	Sandstone	Oil	No
Cherry Canyon	6710	6710	-3354	Sandstone	Oil	No
Brushy Canyon	8013	8013	-4657	Sandstone	Oil	No
Bone Spring Lime	9296	9296	-5940	Limestone	None	No
Upper Avalon Shale	9296	9296	-5940	Shale	Oil	Yes
1st Bone Spring Sand	10346	10346	-6990	Sandstone	Oil	Yes
2nd Bone Spring Carbonate	10346	10346	-6990	Limestone/Shale	None	No
2nd Bone Spring Sand	10925	10925	-7569	Sandstone	Oil	Yes
3rd Bone Spring Carbonate	11966	11966	-8610	Limestone	Oil	No
3rd Bone Spring Sand	11966	11966	-8610	Sandstone	Oil	Yes
Wolfcamp	12422	12422	-9066	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp A	12565	12565	-9209	Sandstone/Shale/Carbonates	Natural Gas / Oil	Yes
Wolfcamp B	12918	12918	-9562	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp C	13020	13020	-9664	Sandstone/Shale/Carbonates	Natural Gas / Oil	No
Wolfcamp D	13352	13352	-9996	Sandstone/Shale/Carbonates	Natural Gas / Oil	No

**Section 2: BLOWOUT PREVENTER TESTING PROCEDURE**

Pressure Rating (PSI): 10M  
Rating Depth: 10000  
Equipment: 13 5/8 BOP Annular (5,000 psi WP) and BOP Stack (10,000 psi WP) will be installed and tested before drilling all holes.  
  
Requesting Variance? Yes  
Variance Request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

Testing Procedure: BOP/BOPE will be tested to 250 psi low and a high of 100% WP for the Annular and 5,000psi for the BOP Stack before drilling the intermediate hole, 10,000psi for the BOP Stacking before drilling the production hole. Testing will be conducted by an independent service company per 43 CFR 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the Equipment Description above. If the system is upgraded all the components installed will be functional and tested.  
Pipe rams and Blind rams will be operationally checked on each trip out of the hole, but not to exceed more than once per day. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.  
Formation integrity test will be performed per 43 CFR 3172. 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 43 CFR 3172. A multibowl wellhead is being used. The BOP will be tested per 43 CFR 3172 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.

Marathon Oil Permian LLC.

Drilling & Operations Plan - Page 2 of 4

Section 3: CASING PROGRAM

String Type	Hole Size	Casing Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Weight (lbs/ft)	Grade	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	882	0	882	3356	2474	54.5	J55	BTC	5.22	1.81	BUOY	4.52	BUOY	4.52
Intermediate	12.25	9.625	0	12002	0	11922	3356	-8566	40	P110HC	BTC	1.20	1.42	BUOY	2.44	BUOY	2.44
Production	8.75	5.5	0	20561	0	12500	3356	-9144	23	P110HC	TLW	2.53	1.26	BUOY	2.22	BUOY	2.22
All casing strings will be tested in accordance with 43 CFR 3172.												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 43 CFR 3171.	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	732	323	2.12	12.5	684	25	Class C	Extender,Accelerator,LCM
Surface	Tail	732	882	99	1.32	14.8	130	25	Class C	Accelerator
Intermediate	Lead	0	11502	2091	2.18	12.4	4557	25	Class C	Extender,Accelerator,LCM
Intermediate	Tail	11502	12002	147	1.33	14.8	196	25	Class C	Retarder
Production	Tail	11702	20561	1706	1.68	13	2865	25	Class H	Retarder, Extender, Fluid Loss, Suspension Agent

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

Pilot Hole? No  
Pilot Hole Depth: N/A  
KOP Depth: N/A  
Plugging Procedure for Pilot Hole: N/A

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

Section 5: CIRCULATING MEDIUM

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

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

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

Circulating Medium Table:

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max Weight (ppg)
0	882	Water Based Mud	8.4	8.8
882	12002	Brine or Oil Based Mud	9.2	10.2
12002	20561	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: 8125 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 43 CFR 3176. 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.

## DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
TP1PPPP4_D.D. E25 WC 11H	12500.00	-45.23	807.89	41206.27	778771.09	32° 7' 42.246 N	103° 25' 58.076 W
TP1PPPHL_D.D. E25 WC 11H	12500.00	-77.56	865.01	40494.78	778828.21	32° 6' 19.933 N	103° 25' 55.162 W
PPP2_D.D. E25 WC 11H	12500.00	-2594.19	828.00	409667.31	778791.		

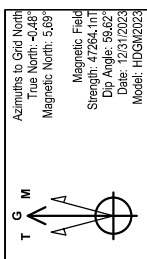


SECTION DETAILS									
+N-S		+E-W		GL @ 3356.00		WELL @ 3379.50uflr (TBD)		Longitude	
MD	Inc	Azi	TVD	+N-S	+E-W	Easting	Northing	Latitude	Longitude
0.00				0.00		412251.50	777963.20	32° 7' 48.761" N	103° 26' 7.466" W

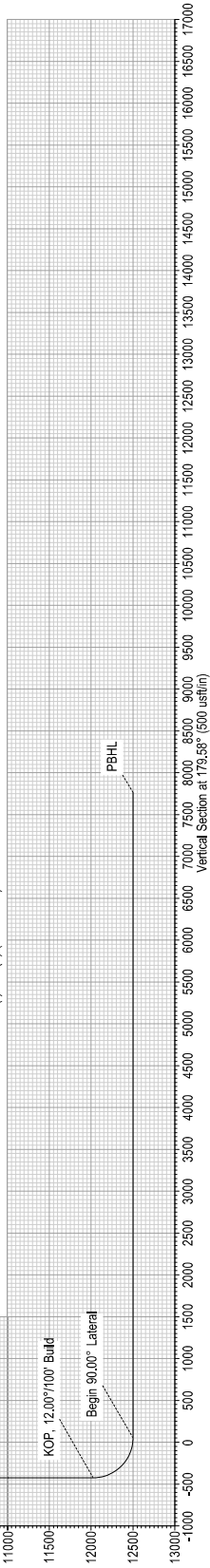
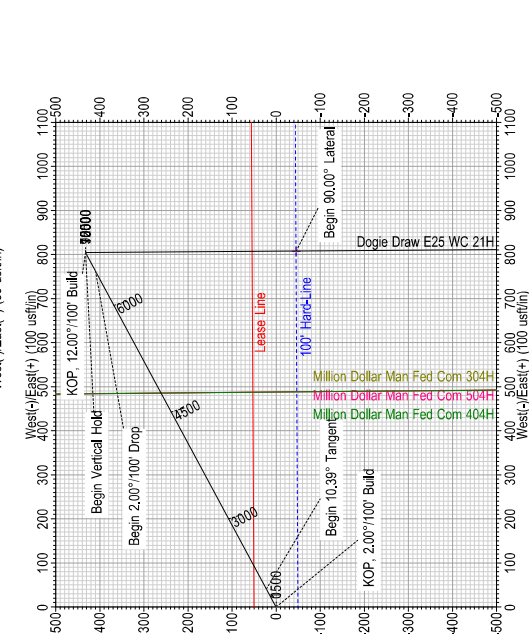
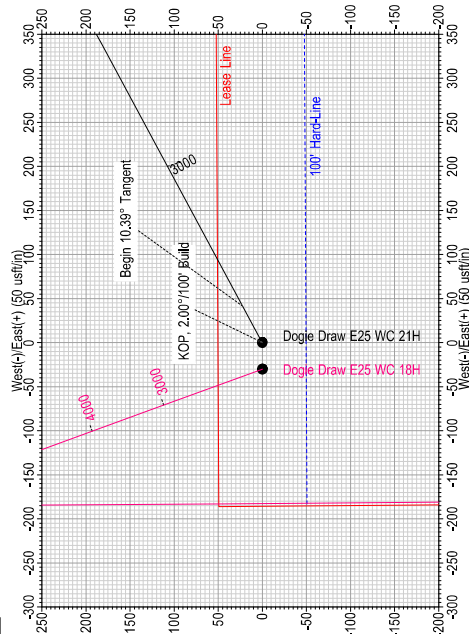
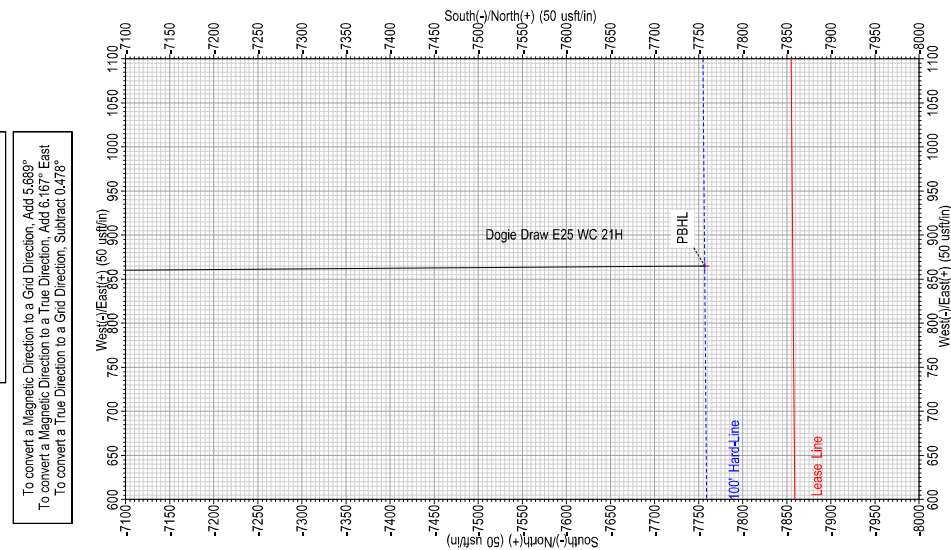
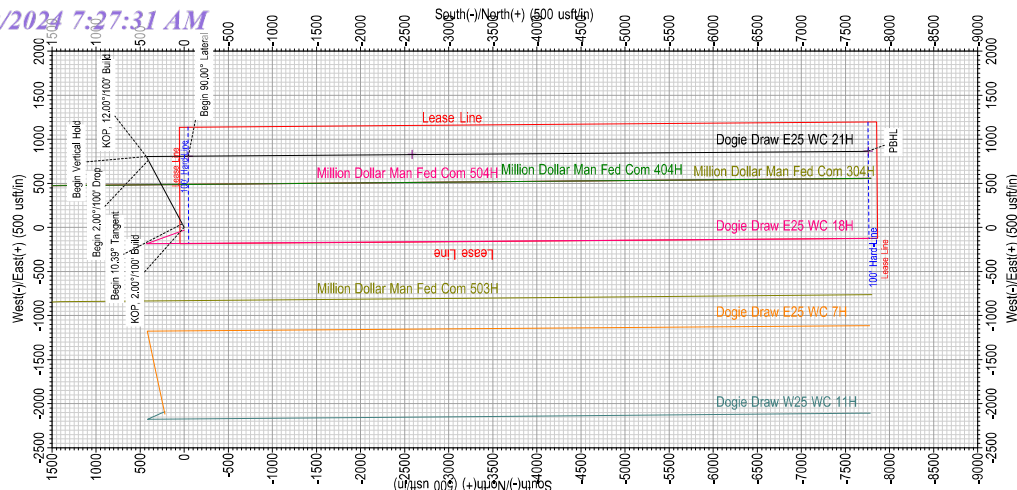
## SECTION DETAILS

MD	Inc	Azi	TVD	+N+S	+E+W	Dleg	TFace	V/Sect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP, 230°/100' Build
1500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Begin 10.33° Tangent
2019.62	10.39	61.75	2016.73	22.98	41.40	2.00	61.748	-21.94	Begin 10.33° Drop
6580.56	10.39	61.75	6483.23	405.98	762.95	2.00	61.748	-404.37	Begin Vertical Hold
7080.18	0.00	0.00	7000.00	432.22	804.35	2.00	180.000	-426.31	KOP, 12.00°/100' Build
12102.72	0.00	0.00	12022.54	432.22	804.35	2.00	180.000	-426.31	Begin 12.00°/100' Build
12852.72	90.00	179.58	12500.00	-46.23	807.89	12.00	179.576	51.15	Begin 90.00° Lateral
20564.47	90.00	179.58	12500.00	-2756.77	865.01	0.00	0.00	7762.90	PBHL

Depth From	Depth To	Survey/Plan	Tool
0.00	20564.47	Design #1 (Wellbore #1)	MWD+IFR1+FDIR



To convert a Magnetic Direction to a Grid Direction, Add 5.689°  
To convert a Magnetic Direction to a True Direction, Add 6.167° East  
To convert a True Direction to a Grid Direction, Subtract 0.478°



COMPANY: Marathon Oil  
 PROJECT: Lea County, New Mexico (NAD 27)  
 SITE: Dogie Draw W25 WC 11H / WC (7H, 18H, 21H)  
 WELL: Dogie Draw E25 WC 21H  
 MAP SYSTE US State Plane 1927 (Exact solution)  
 MAP ZONE New Mexico East 3001  
 NORTH REF Grid  
 KB-MSL: 3379.5  
 GLE: 3356

WELLBORE Wellbore #1  
 DESIGN: Design #1  
 VS AZI: 179.58

SURVEY TOOL PROGRAM:  
 H 0.00 - 20564.47 DESIGN #1 : MWD+IFR1+FDIR

MD	INC	AZI	Course Length	TVD	Subsea Depth	Local N/S	Local E/W	Map Northing
0	0	0	0	0	3379.5	0	0	412251.5
100	0	0	100	100	3279.5	0	0	412251.5
200	0	0	100	200	3179.5	0	0	412251.5
300	0	0	100	300	3079.5	0	0	412251.5
400	0	0	100	400	2979.5	0	0	412251.5
500	0	0	100	500	2879.5	0	0	412251.5
600	0	0	100	600	2779.5	0	0	412251.5
700	0	0	100	700	2679.5	0	0	412251.5
800	0	0	100	800	2579.5	0	0	412251.5
900	0	0	100	900	2479.5	0	0	412251.5
1000	0	0	100	1000	2379.5	0	0	412251.5
1100	0	0	100	1100	2279.5	0	0	412251.5
1200	0	0	100	1200	2179.5	0	0	412251.5
1300	0	0	100	1300	2079.5	0	0	412251.5
1400	0	0	100	1400	1979.5	0	0	412251.5
1500	0	0	100	1500	1879.5	0	0	412251.5
1600	2	61.7485	100	1599.98	1779.52	0.8261	1.5373	412252.3
1700	4	61.7485	100	1699.838	1679.662	3.3032	6.1472	412254.8
1800	6	61.7485	100	1799.452	1580.048	7.4285	13.8242	412258.9
1900	8	61.7485	100	1898.702	1480.798	13.1968	24.5588	412264.7
2000	10	61.7485	100	1997.465	1382.035	20.6011	38.3381	412272.1
2019.618	10.3924	61.7485	19.6181	2016.774	1362.726	22.2449	41.3972	412273.7
2100	10.3924	61.7485	80.3819	2095.837	1283.663	29.1083	54.1699	412280.6
2200	10.3924	61.7485	100	2194.197	1185.304	37.6469	70.0599	412289.1
2300	10.3924	61.7485	100	2292.556	1086.944	46.1854	85.9498	412297.7
2400	10.3924	61.7485	100	2390.916	988.5844	54.724	101.8398	412306.2
2500	10.3924	61.7485	100	2489.275	890.2249	63.2625	117.7298	412314.8

2600	10.3924	61.7485	100	2587.635	791.8653	71.801	133.6198	412323.3
2700	10.3924	61.7485	100	2685.994	693.5058	80.3396	149.5098	412331.8
2800	10.3924	61.7485	100	2784.354	595.1462	88.8781	165.3998	412340.4
2900	10.3924	61.7485	100	2882.713	496.7867	97.4166	181.2898	412348.9
3000	10.3924	61.7485	100	2981.073	398.4271	105.9552	197.1798	412357.5
3100	10.3924	61.7485	100	3079.432	300.0676	114.4937	213.0698	412366
3200	10.3924	61.7485	100	3177.792	201.708	123.0322	228.9598	412374.5
3300	10.3924	61.7485	100	3276.152	103.3485	131.5708	244.8497	412383.1
3400	10.3924	61.7485	100	3374.511	4.9889	140.1093	260.7397	412391.6
3500	10.3924	61.7485	100	3472.871	-93.3706	148.6478	276.6297	412400.1
3600	10.3924	61.7485	100	3571.23	-191.73	157.1864	292.5197	412408.7
3700	10.3924	61.7485	100	3669.59	-290.09	165.7249	308.4097	412417.2
3800	10.3924	61.7485	100	3767.949	-388.449	174.2635	324.2997	412425.8
3900	10.3924	61.7485	100	3866.309	-486.809	182.802	340.1897	412434.3
4000	10.3924	61.7485	100	3964.668	-585.168	191.3405	356.0797	412442.8
4100	10.3924	61.7485	100	4063.028	-683.528	199.8791	371.9697	412451.4
4200	10.3924	61.7485	100	4161.388	-781.888	208.4176	387.8596	412459.9
4300	10.3924	61.7485	100	4259.747	-880.247	216.9561	403.7496	412468.5
4400	10.3924	61.7485	100	4358.107	-978.607	225.4947	419.6396	412477
4500	10.3924	61.7485	100	4456.466	-1076.97	234.0332	435.5296	412485.5
4600	10.3924	61.7485	100	4554.826	-1175.33	242.5717	451.4196	412494.1
4700	10.3924	61.7485	100	4653.185	-1273.69	251.1103	467.3096	412502.6
4800	10.3924	61.7485	100	4751.545	-1372.04	259.6488	483.1996	412511.1
4900	10.3924	61.7485	100	4849.904	-1470.4	268.1874	499.0896	412519.7
5000	10.3924	61.7485	100	4948.264	-1568.76	276.7259	514.9796	412528.2
5100	10.3924	61.7485	100	5046.624	-1667.12	285.2644	530.8696	412536.8
5200	10.3924	61.7485	100	5144.983	-1765.48	293.803	546.7595	412545.3
5300	10.3924	61.7485	100	5243.343	-1863.84	302.3415	562.6495	412553.8
5400	10.3924	61.7485	100	5341.702	-1962.2	310.88	578.5395	412562.4
5500	10.3924	61.7485	100	5440.062	-2060.56	319.4186	594.4295	412570.9
5600	10.3924	61.7485	100	5538.421	-2158.92	327.9571	610.3195	412579.5
5700	10.3924	61.7485	100	5636.781	-2257.28	336.4956	626.2095	412588
5800	10.3924	61.7485	100	5735.14	-2355.64	345.0342	642.0995	412596.5
5900	10.3924	61.7485	100	5833.5	-2454	353.5727	657.9895	412605.1
6000	10.3924	61.7485	100	5931.86	-2552.36	362.1112	673.8795	412613.6
6100	10.3924	61.7485	100	6030.219	-2650.72	370.6498	689.7695	412622.1
6200	10.3924	61.7485	100	6128.579	-2749.08	379.1883	705.6594	412630.7
6300	10.3924	61.7485	100	6226.938	-2847.44	387.7269	721.5494	412639.2
6400	10.3924	61.7485	100	6325.298	-2945.8	396.2654	737.4394	412647.8
6500	10.3924	61.7485	100	6423.657	-3044.16	404.8039	753.3294	412656.3
6560.563	10.3924	61.7485	60.5627	6483.226	-3103.73	409.9751	762.9528	412661.5
6600	9.6036	61.7485	39.4373	6522.065	-3142.56	413.216	768.984	412664.7
6700	7.6036	61.7485	100	6620.934	-3241.43	420.2967	782.1611	412671.8
6800	5.6036	61.7485	100	6720.266	-3340.77	425.7399	792.2907	412677.2
6900	3.6036	61.7485	100	6819.938	-3440.44	429.5388	799.3604	412681
7000	1.6036	61.7485	100	6919.83	-3540.33	431.6889	803.3617	412683.2
7080.181	0	0	80.1807	7000	-3620.5	432.22	804.35	412683.7

7100	0	0	19.8193	7019.819	-3640.32	432.22	804.35	412683.7
7200	0	0	100	7119.819	-3740.32	432.22	804.35	412683.7
7300	0	0	100	7219.819	-3840.32	432.22	804.35	412683.7
7400	0	0	100	7319.819	-3940.32	432.22	804.35	412683.7
7500	0	0	100	7419.819	-4040.32	432.22	804.35	412683.7
7600	0	0	100	7519.819	-4140.32	432.22	804.35	412683.7
7700	0	0	100	7619.819	-4240.32	432.22	804.35	412683.7
7800	0	0	100	7719.819	-4340.32	432.22	804.35	412683.7
7900	0	0	100	7819.819	-4440.32	432.22	804.35	412683.7
8000	0	0	100	7919.819	-4540.32	432.22	804.35	412683.7
8100	0	0	100	8019.819	-4640.32	432.22	804.35	412683.7
8200	0	0	100	8119.819	-4740.32	432.22	804.35	412683.7
8300	0	0	100	8219.819	-4840.32	432.22	804.35	412683.7
8400	0	0	100	8319.819	-4940.32	432.22	804.35	412683.7
8500	0	0	100	8419.819	-5040.32	432.22	804.35	412683.7
8600	0	0	100	8519.819	-5140.32	432.22	804.35	412683.7
8700	0	0	100	8619.819	-5240.32	432.22	804.35	412683.7
8800	0	0	100	8719.819	-5340.32	432.22	804.35	412683.7
8900	0	0	100	8819.819	-5440.32	432.22	804.35	412683.7
9000	0	0	100	8919.819	-5540.32	432.22	804.35	412683.7
9100	0	0	100	9019.819	-5640.32	432.22	804.35	412683.7
9200	0	0	100	9119.819	-5740.32	432.22	804.35	412683.7
9300	0	0	100	9219.819	-5840.32	432.22	804.35	412683.7
9400	0	0	100	9319.819	-5940.32	432.22	804.35	412683.7
9500	0	0	100	9419.819	-6040.32	432.22	804.35	412683.7
9600	0	0	100	9519.819	-6140.32	432.22	804.35	412683.7
9700	0	0	100	9619.819	-6240.32	432.22	804.35	412683.7
9800	0	0	100	9719.819	-6340.32	432.22	804.35	412683.7
9900	0	0	100	9819.819	-6440.32	432.22	804.35	412683.7
10000	0	0	100	9919.819	-6540.32	432.22	804.35	412683.7
10100	0	0	100	10019.82	-6640.32	432.22	804.35	412683.7
10200	0	0	100	10119.82	-6740.32	432.22	804.35	412683.7
10300	0	0	100	10219.82	-6840.32	432.22	804.35	412683.7
10400	0	0	100	10319.82	-6940.32	432.22	804.35	412683.7
10500	0	0	100	10419.82	-7040.32	432.22	804.35	412683.7
10600	0	0	100	10519.82	-7140.32	432.22	804.35	412683.7
10700	0	0	100	10619.82	-7240.32	432.22	804.35	412683.7
10800	0	0	100	10719.82	-7340.32	432.22	804.35	412683.7
10900	0	0	100	10819.82	-7440.32	432.22	804.35	412683.7
11000	0	0	100	10919.82	-7540.32	432.22	804.35	412683.7
11100	0	0	100	11019.82	-7640.32	432.22	804.35	412683.7
11200	0	0	100	11119.82	-7740.32	432.22	804.35	412683.7
11300	0	0	100	11219.82	-7840.32	432.22	804.35	412683.7
11400	0	0	100	11319.82	-7940.32	432.22	804.35	412683.7
11500	0	0	100	11419.82	-8040.32	432.22	804.35	412683.7
11600	0	0	100	11519.82	-8140.32	432.22	804.35	412683.7
11700	0	0	100	11619.82	-8240.32	432.22	804.35	412683.7

11800	0	0	100	11719.82	-8340.32	432.22	804.35	412683.7
11900	0	0	100	11819.82	-8440.32	432.22	804.35	412683.7
12000	0	0	100	11919.82	-8540.32	432.22	804.35	412683.7
12102.72	0	0	102.7159	12022.54	-8643.04	432.22	804.35	412683.7
12125	2.6741	179.5756	22.2841	12044.81	-8665.31	431.7001	804.3539	412683.2
12150	5.6741	179.5756	25	12069.74	-8690.24	429.8807	804.3673	412681.4
12175	8.6741	179.5756	25	12094.54	-8715.04	426.759	804.3905	412678.3
12200	11.6741	179.5756	25	12119.15	-8739.65	422.3436	804.4232	412673.8
12225	14.6741	179.5756	25	12143.49	-8763.99	416.6467	804.4654	412668.1
12250	17.6741	179.5756	25	12167.49	-8787.99	409.6837	804.5169	412661.2
12275	20.6741	179.5756	25	12191.11	-8811.61	401.4739	804.5778	412653
12300	23.6741	179.5756	25	12214.25	-8834.75	392.0397	804.6476	412643.5
12325	26.6741	179.5756	25	12236.88	-8857.38	381.407	804.7264	412632.9
12350	29.6741	179.5756	25	12258.91	-8879.41	369.6048	804.8138	412621.1
12375	32.6741	179.5756	25	12280.3	-8900.8	356.6656	804.9097	412608.2
12400	35.6741	179.5756	25	12300.98	-8921.48	342.6249	805.0137	412594.1
12425	38.6741	179.5756	25	12320.9	-8941.4	327.5211	805.1256	412579
12450	41.6741	179.5756	25	12340	-8960.5	311.3956	805.245	412562.9
12475	44.6741	179.5756	25	12358.23	-8978.73	294.2925	805.3717	412545.8
12500	47.6741	179.5756	25	12375.54	-8996.04	276.2589	805.5053	412527.8
12525	50.6741	179.5756	25	12391.88	-9012.38	257.3441	805.6454	412508.8
12550	53.6741	179.5756	25	12407.21	-9027.71	237.6	805.7916	412489.1
12575	56.6741	179.5756	25	12421.49	-9041.99	217.0806	805.9436	412468.6
12600	59.6741	179.5756	25	12434.67	-9055.17	195.8422	806.101	412447.3
12625	62.6741	179.5756	25	12446.72	-9067.22	173.9431	806.2632	412425.4
12650	65.6741	179.5756	25	12457.61	-9078.11	151.4433	806.4299	412402.9
12675	68.6741	179.5756	25	12467.31	-9087.81	128.4043	806.6005	412379.9
12700	71.6741	179.5756	25	12475.78	-9096.28	104.8895	806.7747	412356.4
12725	74.6741	179.5756	25	12483.02	-9103.52	80.9632	806.9519	412332.5
12750	77.6741	179.5756	25	12488.99	-9109.49	56.6909	807.1317	412308.2
12775	80.6741	179.5756	25	12493.69	-9114.19	32.1394	807.3136	412283.6
12800	83.6741	179.5756	25	12497.09	-9117.59	7.3757	807.497	412258.9
12825	86.6741	179.5756	25	12499.2	-9119.7	-17.5321	807.6815	412234
12850	89.6741	179.5756	25	12499.99	-9120.49	-42.5159	807.8666	412209
12852.72	90	179.5756	2.7159	12500	-9120.5	-45.2317	807.8867	412206.3
12900	90	179.5756	47.2841	12500	-9120.5	-92.5145	808.237	412159
13000	90	179.5756	100	12500	-9120.5	-192.512	808.9777	412059
13100	90	179.5756	100	12500	-9120.5	-292.509	809.7184	411959
13200	90	179.5756	100	12500	-9120.5	-392.506	810.4592	411859
13300	90	179.5756	100	12500	-9120.5	-492.504	811.1999	411759
13400	90	179.5756	100	12500	-9120.5	-592.501	811.9406	411659
13500	90	179.5756	100	12500	-9120.5	-692.498	812.6814	411559
13600	90	179.5756	100	12500	-9120.5	-792.495	813.4221	411459
13700	90	179.5756	100	12500	-9120.5	-892.493	814.1628	411359
13800	90	179.5756	100	12500	-9120.5	-992.49	814.9035	411259
13900	90	179.5756	100	12500	-9120.5	-1092.49	815.6443	411159
14000	90	179.5756	100	12500	-9120.5	-1192.48	816.385	411059

14100	90	179.5756	100	12500	-9120.5	-1292.48	817.1257	410959
14200	90	179.5756	100	12500	-9120.5	-1392.48	817.8665	410859
14300	90	179.5756	100	12500	-9120.5	-1492.48	818.6072	410759
14400	90	179.5756	100	12500	-9120.5	-1592.47	819.3479	410659
14500	90	179.5756	100	12500	-9120.5	-1692.47	820.0887	410559
14600	90	179.5756	100	12500	-9120.5	-1792.47	820.8294	410459
14700	90	179.5756	100	12500	-9120.5	-1892.47	821.5701	410359
14800	90	179.5756	100	12500	-9120.5	-1992.46	822.3109	410259
14900	90	179.5756	100	12500	-9120.5	-2092.46	823.0516	410159
15000	90	179.5756	100	12500	-9120.5	-2192.46	823.7923	410059
15100	90	179.5756	100	12500	-9120.5	-2292.45	824.533	409959
15200	90	179.5756	100	12500	-9120.5	-2392.45	825.2738	409859
15300	90	179.5756	100	12500	-9120.5	-2492.45	826.0145	409759.1
15400	90	179.5756	100	12500	-9120.5	-2592.45	826.7552	409659.1
15500	90	179.5756	100	12500	-9120.5	-2692.44	827.496	409559.1
15600	90	179.5756	100	12500	-9120.5	-2792.44	828.2367	409459.1
15700	90	179.5756	100	12500	-9120.5	-2892.44	828.9774	409359.1
15800	90	179.5756	100	12500	-9120.5	-2992.44	829.7182	409259.1
15900	90	179.5756	100	12500	-9120.5	-3092.43	830.4589	409159.1
16000	90	179.5756	100	12500	-9120.5	-3192.43	831.1996	409059.1
16100	90	179.5756	100	12500	-9120.5	-3292.43	831.9403	408959.1
16200	90	179.5756	100	12500	-9120.5	-3392.42	832.6811	408859.1
16300	90	179.5756	100	12500	-9120.5	-3492.42	833.4218	408759.1
16400	90	179.5756	100	12500	-9120.5	-3592.42	834.1625	408659.1
16500	90	179.5756	100	12500	-9120.5	-3692.42	834.9033	408559.1
16600	90	179.5756	100	12500	-9120.5	-3792.41	835.644	408459.1
16700	90	179.5756	100	12500	-9120.5	-3892.41	836.3847	408359.1
16800	90	179.5756	100	12500	-9120.5	-3992.41	837.1255	408259.1
16900	90	179.5756	100	12500	-9120.5	-4092.4	837.8662	408159.1
17000	90	179.5756	100	12500	-9120.5	-4192.4	838.6069	408059.1
17100	90	179.5756	100	12500	-9120.5	-4292.4	839.3477	407959.1
17200	90	179.5756	100	12500	-9120.5	-4392.4	840.0884	407859.1
17300	90	179.5756	100	12500	-9120.5	-4492.39	840.8291	407759.1
17400	90	179.5756	100	12500	-9120.5	-4592.39	841.5698	407659.1
17500	90	179.5756	100	12500	-9120.5	-4692.39	842.3106	407559.1
17600	90	179.5756	100	12500	-9120.5	-4792.39	843.0513	407459.1
17700	90	179.5756	100	12500	-9120.5	-4892.38	843.792	407359.1
17800	90	179.5756	100	12500	-9120.5	-4992.38	844.5328	407259.1
17900	90	179.5756	100	12500	-9120.5	-5092.38	845.2735	407159.1
18000	90	179.5756	100	12500	-9120.5	-5192.37	846.0142	407059.1
18100	90	179.5756	100	12500	-9120.5	-5292.37	846.755	406959.1
18200	90	179.5756	100	12500	-9120.5	-5392.37	847.4957	406859.1
18300	90	179.5756	100	12500	-9120.5	-5492.37	848.2364	406759.1
18400	90	179.5756	100	12500	-9120.5	-5592.36	848.9771	406659.1
18500	90	179.5756	100	12500	-9120.5	-5692.36	849.7179	406559.1
18600	90	179.5756	100	12500	-9120.5	-5792.36	850.4586	406459.1
18700	90	179.5756	100	12500	-9120.5	-5892.36	851.1993	406359.1

18800	90	179.5756	100	12500	-9120.5	-5992.35	851.9401	406259.1
18900	90	179.5756	100	12500	-9120.5	-6092.35	852.6808	406159.2
19000	90	179.5756	100	12500	-9120.5	-6192.35	853.4215	406059.2
19100	90	179.5756	100	12500	-9120.5	-6292.34	854.1623	405959.2
19200	90	179.5756	100	12500	-9120.5	-6392.34	854.903	405859.2
19300	90	179.5756	100	12500	-9120.5	-6492.34	855.6437	405759.2
19400	90	179.5756	100	12500	-9120.5	-6592.34	856.3844	405659.2
19500	90	179.5756	100	12500	-9120.5	-6692.33	857.1252	405559.2
19600	90	179.5756	100	12500	-9120.5	-6792.33	857.8659	405459.2
19700	90	179.5756	100	12500	-9120.5	-6892.33	858.6066	405359.2
19800	90	179.5756	100	12500	-9120.5	-6992.33	859.3474	405259.2
19900	90	179.5756	100	12500	-9120.5	-7092.32	860.0881	405159.2
20000	90	179.5756	100	12500	-9120.5	-7192.32	860.8288	405059.2
20100	90	179.5756	100	12500	-9120.5	-7292.32	861.5696	404959.2
20200	90	179.5756	100	12500	-9120.5	-7392.31	862.3103	404859.2
20300	90	179.5756	100	12500	-9120.5	-7492.31	863.051	404759.2
20400	90	179.5756	100	12500	-9120.5	-7592.31	863.7918	404659.2
20500	90	179.5756	100	12500	-9120.5	-7692.31	864.5325	404559.2
20564.47	90	179.5756	64.4658	12500	-9120.5	-7756.77	865.01	404494.7

Map			Dogleg			
Easting	Lat	Long	Severity	T.Face	Vert Sec	Annotation
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	
777963.2	32° 7' 48.7"	103° 26' 7.4"	0	0	0	0 KOP, 2.00°/100' Build
777964.7	32° 7' 48.7"	103° 26' 7.4"	2	61.7485	-0.81	
777969.3	32° 7' 48.7"	103° 26' 7.3"	2	0	-3.26	
777977	32° 7' 48.8"	103° 26' 7.3"	2	0	-7.33	
777987.8	32° 7' 48.8"	103° 26' 7.3"	2	0	-13.02	
778001.5	32° 7' 48.9"	103° 26' 7.0"	2	0	-20.32	
778004.6	32° 7' 48.9"	103° 26' 6.9"	2	0	-21.94	Begin 10.39° Tangent
778017.4	32° 7' 49.0"	103° 26' 6.8"	0	0	-28.71	
778033.3	32° 7' 49.1"	103° 26' 6.6"	0	0	-37.13	
778049.1	32° 7' 49.2"	103° 26' 6.4"	0	0	-45.55	
778065	32° 7' 49.2"	103° 26' 6.3"	0	0	-53.98	
778080.9	32° 7' 49.3"	103° 26' 6.0"	0	0	-62.4	

778096.8	32° 7' 49.4"	103° 26' 5.9"	0	0	-70.82
778112.7	32° 7' 49.5"	103° 26' 5.7"	0	0	-79.24
778128.6	32° 7' 49.6"	103° 26' 5.5"	0	0	-87.66
778144.5	32° 7' 49.7"	103° 26' 5.3"	0	0	-96.09
778160.4	32° 7' 49.7"	103° 26' 5.1"	0	0	-104.51
778176.3	32° 7' 49.8"	103° 26' 4.9"	0	0	-112.93
778192.2	32° 7' 49.9"	103° 26' 4.7"	0	0	-121.35
778208	32° 7' 50.0"	103° 26' 4.6"	0	0	-129.77
778223.9	32° 7' 50.1"	103° 26' 4.4"	0	0	-138.19
778239.8	32° 7' 50.2"	103° 26' 4.2"	0	0	-146.62
778255.7	32° 7' 50.2"	103° 26' 4.0"	0	0	-155.04
778271.6	32° 7' 50.3"	103° 26' 3.8"	0	0	-163.46
778287.5	32° 7' 50.4"	103° 26' 3.6"	0	0	-171.88
778303.4	32° 7' 50.5"	103° 26' 3.4"	0	0	-180.3
778319.3	32° 7' 50.6"	103° 26' 3.2"	0	0	-188.73
778335.2	32° 7' 50.7"	103° 26' 3.0"	0	0	-197.15
778351.1	32° 7' 50.7"	103° 26' 2.9"	0	0	-205.57
778366.9	32° 7' 50.8"	103° 26' 2.7"	0	0	-213.99
778382.8	32° 7' 50.9"	103° 26' 2.5"	0	0	-222.41
778398.7	32° 7' 51.0"	103° 26' 2.3"	0	0	-230.83
778414.6	32° 7' 51.1"	103° 26' 2.1"	0	0	-239.26
778430.5	32° 7' 51.2"	103° 26' 2.0"	0	0	-247.68
778446.4	32° 7' 51.2"	103° 26' 1.8"	0	0	-256.1
778462.3	32° 7' 51.3"	103° 26' 1.6"	0	0	-264.52
778478.2	32° 7' 51.4"	103° 26' 1.4"	0	0	-272.94
778494.1	32° 7' 51.5"	103° 26' 1.2"	0	0	-281.37
778510	32° 7' 51.6"	103° 26' 1.0"	0	0	-289.79
778525.8	32° 7' 51.7"	103° 26' 0.8"	0	0	-298.21
778541.7	32° 7' 51.7"	103° 26' 0.7"	0	0	-306.63
778557.6	32° 7' 51.8"	103° 26' 0.5"	0	0	-315.05
778573.5	32° 7' 51.9"	103° 26' 0.3"	0	0	-323.47
778589.4	32° 7' 52.0"	103° 26' 0.1"	0	0	-331.9
778605.3	32° 7' 52.1"	103° 25' 59"	0	0	-340.32
778621.2	32° 7' 52.2"	103° 25' 59"	0	0	-348.74
778637.1	32° 7' 52.2"	103° 25' 59"	0	0	-357.16
778653	32° 7' 52.3"	103° 25' 59"	0	0	-365.58
778668.9	32° 7' 52.4"	103° 25' 59"	0	0	-374.01
778684.7	32° 7' 52.5"	103° 25' 59"	0	0	-382.43
778700.6	32° 7' 52.6"	103° 25' 58"	0	0	-390.85
778716.5	32° 7' 52.7"	103° 25' 58"	0	0	-399.27
778726.2	32° 7' 52.7"	103° 25' 58"	0	0	-404.37 Begin 2.00°/100' Drop
778732.2	32° 7' 52.7"	103° 25' 58"	2	180	-407.57
778745.4	32° 7' 52.8"	103° 25' 58"	2	180	-414.55
778755.5	32° 7' 52.9"	103° 25' 58"	2	180	-419.92
778762.6	32° 7' 52.9"	103° 25' 58"	2	180	-423.67
778766.6	32° 7' 52.9"	103° 25' 58"	2	180	-425.79
778767.6	32° 7' 52.9"	103° 25' 58"	2	180	-426.31 Begin Vertical Hold

[illegible]

778767.6 32° 7' 52.9" 103° 25' 58"	0	0	-426.31
778767.6 32° 7' 52.9" 103° 25' 58"	0	0	-426.31
778767.6 32° 7' 52.9" 103° 25' 58"	0	0	-426.31
778767.6 32° 7' 52.9" 103° 25' 58"	0	0	-426.31 KOP, 12.00°/100' Build
778767.6 32° 7' 52.9" 103° 25' 58"	12	179.5756	-425.79
778767.6 32° 7' 52.9" 103° 25' 58"	12	0	-423.97
778767.6 32° 7' 52.9" 103° 25' 58"	12	0	-420.85
778767.6 32° 7' 52.8" 103° 25' 58"	12	0	-416.44
778767.7 32° 7' 52.8" 103° 25' 58"	12	0	-410.74
778767.7 32° 7' 52.7" 103° 25' 58"	12	0	-403.78
778767.8 32° 7' 52.6" 103° 25' 58"	12	0	-395.57
778767.8 32° 7' 52.5" 103° 25' 58"	12	0	-386.13
778767.9 32° 7' 52.4" 103° 25' 58"	12	0	-375.5
778768 32° 7' 52.3" 103° 25' 58"	12	0	-363.7
778768.1 32° 7' 52.2" 103° 25' 58"	12	0	-350.76
778768.2 32° 7' 52.0" 103° 25' 58"	12	0	-336.71
778768.3 32° 7' 51.9" 103° 25' 58"	12	0	-321.61
778768.4 32° 7' 51.7" 103° 25' 58"	12	0	-305.48
778768.6 32° 7' 51.6" 103° 25' 58"	12	0	-288.38
778768.7 32° 7' 51.4" 103° 25' 58"	12	0	-270.35
778768.8 32° 7' 51.2" 103° 25' 58"	12	0	-251.43
778769 32° 7' 51.0" 103° 25' 58"	12	0	-231.69
778769.1 32° 7' 50.8" 103° 25' 58"	12	0	-211.17
778769.3 32° 7' 50.6" 103° 25' 58"	12	0	-189.93
778769.5 32° 7' 50.4" 103° 25' 58"	12	0	-168.03
778769.6 32° 7' 50.1" 103° 25' 58"	12	0	-145.53
778769.8 32° 7' 49.9" 103° 25' 58"	12	0	-122.49
778770 32° 7' 49.7" 103° 25' 58"	12	0	-98.97
778770.2 32° 7' 49.4" 103° 25' 58"	12	0	-75.05
778770.3 32° 7' 49.2" 103° 25' 58"	12	0	-50.77
778770.5 32° 7' 49.0" 103° 25' 58"	12	0	-26.22
778770.7 32° 7' 48.7" 103° 25' 58"	12	0	-1.46
778770.9 32° 7' 48.5" 103° 25' 58"	12	0	23.45
778771.1 32° 7' 48.2" 103° 25' 58"	12	0	48.44
778771.1 32° 7' 48.2" 103° 25' 58"	12	0	51.15 Begin 90.00° Lateral
778771.4 32° 7' 47.7" 103° 25' 58"	0	0	98.44
778772.2 32° 7' 46.7" 103° 25' 58"	0	0	198.44
778772.9 32° 7' 45.7" 103° 25' 58"	0	0	298.44
778773.7 32° 7' 44.8" 103° 25' 58"	0	0	398.44
778774.4 32° 7' 43.8" 103° 25' 58"	0	0	498.44
778775.1 32° 7' 42.8" 103° 25' 58"	0	0	598.44
778775.9 32° 7' 41.8" 103° 25' 58"	0	0	698.44
778776.6 32° 7' 40.8" 103° 25' 58"	0	0	798.44
778777.4 32° 7' 39.8" 103° 25' 58"	0	0	898.44
778778.1 32° 7' 38.8" 103° 25' 58"	0	0	998.44
778778.8 32° 7' 37.8" 103° 25' 58"	0	0	1098.44
778779.6 32° 7' 36.8" 103° 25' 58"	0	0	1198.44

778780.3 32° 7' 35.9" 103° 25' 58	0	0	1298.44
778781.1 32° 7' 34.9" 103° 25' 58	0	0	1398.44
778781.8 32° 7' 33.9" 103° 25' 58	0	0	1498.44
778782.5 32° 7' 32.9" 103° 25' 58	0	0	1598.44
778783.3 32° 7' 31.9" 103° 25' 58	0	0	1698.44
778784 32° 7' 30.9" 103° 25' 58	0	0	1798.44
778784.8 32° 7' 29.9" 103° 25' 58	0	0	1898.44
778785.5 32° 7' 28.9" 103° 25' 58	0	0	1998.44
778786.3 32° 7' 27.9" 103° 25' 58	0	0	2098.44
778787 32° 7' 26.9" 103° 25' 58	0	0	2198.44
778787.7 32° 7' 26.0" 103° 25' 58	0	0	2298.44
778788.5 32° 7' 25.0" 103° 25' 58	0	0	2398.44
778789.2 32° 7' 24.0" 103° 25' 58	0	0	2498.44
778790 32° 7' 23.0" 103° 25' 58	0	0	2598.44
778790.7 32° 7' 22.0" 103° 25' 58	0	0	2698.44
778791.4 32° 7' 21.0" 103° 25' 58	0	0	2798.44
778792.2 32° 7' 20.0" 103° 25' 58	0	0	2898.44
778792.9 32° 7' 19.0" 103° 25' 58	0	0	2998.44
778793.7 32° 7' 18.0" 103° 25' 58	0	0	3098.44
778794.4 32° 7' 17.1" 103° 25' 58	0	0	3198.44
778795.1 32° 7' 16.1" 103° 25' 58	0	0	3298.44
778795.9 32° 7' 15.1" 103° 25' 58	0	0	3398.44
778796.6 32° 7' 14.1" 103° 25' 58	0	0	3498.44
778797.4 32° 7' 13.1" 103° 25' 58	0	0	3598.44
778798.1 32° 7' 12.1" 103° 25' 58	0	0	3698.44
778798.8 32° 7' 11.1" 103° 25' 58	0	0	3798.44
778799.6 32° 7' 10.1" 103° 25' 58	0	0	3898.44
778800.3 32° 7' 9.18" 103° 25' 58	0	0	3998.44
778801.1 32° 7' 8.19" 103° 25' 58	0	0	4098.44
778801.8 32° 7' 7.20" 103° 25' 58	0	0	4198.44
778802.5 32° 7' 6.21" 103° 25' 58	0	0	4298.44
778803.3 32° 7' 5.22" 103° 25' 58	0	0	4398.44
778804 32° 7' 4.23" 103° 25' 58	0	0	4498.44
778804.8 32° 7' 3.24" 103° 25' 58	0	0	4598.44
778805.5 32° 7' 2.25" 103° 25' 58	0	0	4698.44
778806.3 32° 7' 1.26" 103° 25' 58	0	0	4798.44
778807 32° 7' 0.27" 103° 25' 58	0	0	4898.44
778807.7 32° 6' 59.2" 103° 25' 58	0	0	4998.44
778808.5 32° 6' 58.3" 103° 25' 58	0	0	5098.44
778809.2 32° 6' 57.3" 103° 25' 58	0	0	5198.44
778810 32° 6' 56.3" 103° 25' 58	0	0	5298.44
778810.7 32° 6' 55.3" 103° 25' 58	0	0	5398.44
778811.4 32° 6' 54.3" 103° 25' 58	0	0	5498.44
778812.2 32° 6' 53.3" 103° 25' 58	0	0	5598.44
778812.9 32° 6' 52.3" 103° 25' 58	0	0	5698.44
778813.7 32° 6' 51.3" 103° 25' 58	0	0	5798.44
778814.4 32° 6' 50.3" 103° 25' 58	0	0	5898.44

778815.1 32° 6' 49.3' 103° 25' 58	0	0	5998.44
778815.9 32° 6' 48.4' 103° 25' 58	0	0	6098.44
778816.6 32° 6' 47.4' 103° 25' 58	0	0	6198.44
778817.4 32° 6' 46.4' 103° 25' 58	0	0	6298.44
778818.1 32° 6' 45.4' 103° 25' 58	0	0	6398.44
778818.8 32° 6' 44.4' 103° 25' 58	0	0	6498.44
778819.6 32° 6' 43.4' 103° 25' 58	0	0	6598.44
778820.3 32° 6' 42.4' 103° 25' 58	0	0	6698.44
778821.1 32° 6' 41.4' 103° 25' 58	0	0	6798.44
778821.8 32° 6' 40.4' 103° 25' 58	0	0	6898.44
778822.5 32° 6' 39.4' 103° 25' 58	0	0	6998.44
778823.3 32° 6' 38.5' 103° 25' 58	0	0	7098.44
778824 32° 6' 37.5' 103° 25' 58	0	0	7198.44
778824.8 32° 6' 36.5' 103° 25' 58	0	0	7298.44
778825.5 32° 6' 35.5' 103° 25' 58	0	0	7398.44
778826.3 32° 6' 34.5' 103° 25' 58	0	0	7498.44
778827 32° 6' 33.5' 103° 25' 58	0	0	7598.44
778827.7 32° 6' 32.5' 103° 25' 58	0	0	7698.44
778828.2 32° 6' 31.9' 103° 25' 58	0	0	7762.9 PBHL

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Marathon
<b>LEASE NO.:</b>	NMNM136221
<b>LOCATION:</b>	Section 14, T.25 S, R.34 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico
<b>WELL NAME &amp; NO.:</b>	Dogie Draw E25 WC 11H
<b>SURFACE HOLE FOOTAGE:</b>	2457'/N & 2065'/W
<b>BOTTOM HOLE FOOTAGE:</b>	100'/S & 1984'/W

<b>WELL NAME &amp; NO.:</b>	Dogie Draw E25 WC 7H
<b>SURFACE HOLE FOOTAGE:</b>	2457'/N & 2035'/W
<b>BOTTOM HOLE FOOTAGE:</b>	100'/S & 2310'/E

<b>WELL NAME &amp; NO.:</b>	Dogie Draw E25 WC 21H
<b>SURFACE HOLE FOOTAGE:</b>	2589'/S & 1137'/E
<b>BOTTOM HOLE FOOTAGE:</b>	100'/S & 330'/E

<b>WELL NAME &amp; NO.:</b>	Dogie Draw E25 WC 18H
<b>SURFACE HOLE FOOTAGE:</b>	2589'/S & 1168'/E
<b>BOTTOM HOLE FOOTAGE:</b>	100'/S & 1320'/E

COA

<b>H<sub>2</sub>S</b>	<input type="radio"/> Yes	<input checked="" type="radio"/> No		
<b>Potash / WIPP</b>	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P	<input type="checkbox"/> WIPP
<b>Cave / Karst</b>	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High	<input type="radio"/> Critical
<b>Wellhead</b>	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
<b>Cementing</b>	<input type="checkbox"/> Primary Squeeze	<input type="checkbox"/> Cont. Squeeze	<input type="checkbox"/> EchoMeter	<input type="checkbox"/> DV Tool
<b>Special Req</b>	<input type="checkbox"/> Break Testing	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input type="checkbox"/> Unit
<b>Variance</b>	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Capitan Reef
<b>Variance</b>	<input type="checkbox"/> Four-String	<input type="checkbox"/> Offline Cementing	<input checked="" type="checkbox"/> Fluid-Filled	<input type="checkbox"/> Open Annulus
<input type="checkbox"/> <b>Batch APD / Sundry</b>				

### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area must meet all requirements from **43 CFR 3176**, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

**B. CASING**

1. The **13-3/8** inch surface casing shall be set at approximately **950** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. **Excess calculates to 23%. Additional cement maybe required.**
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.**Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

**C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the casing shoe shall be **10,000 (10M) psi**. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

## GENERAL REQUIREMENTS

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

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

☒ Eddy County

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, [BLM\\_NM\\_CFO\\_DrillingNotifications@BLM.GOV](mailto:BLM_NM_CFO_DrillingNotifications@BLM.GOV) (575) 361-2822

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. 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 2<sup>nd</sup> 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.

**ZS 9/27/2023**

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 315363

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 315363
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	2/19/2024