

Well Name: MUSKIE 23-11 FED COM	Well Location: T26S / R34E / SEC 23 / SENW / 32.029792 / -103.443792	County or Parish/State: LEA / NM
Well Number: 9H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM100568	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002547419	Well Status: Approved Application for Permit to Drill	Operator: DEVON ENERGY PRODUCTION COMPANY LP

Notice of Intent

Sundry ID: 2749372

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 09/05/2023

Time Sundry Submitted: 08:40

Date proposed operation will begin: 09/05/2023

Procedure Description: Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD: BHL change from 20 FSL & 660 FWL to 20 FNL & 500 FWL, both 11-26S-34E. Pool Code change from 96776 JABALINA;WOLFCAMP, SOUTHWEST to 96661 HARDIN TANK;BONE SPRING TVD/MD change from 12,636'/25,863' to 10786'/23952' Casing program change: Intermediate and Production Casing size changes. Cement volume changes to accommodate casing change. Please see attached revised C-102 and drilling & directional plans.

NOI Attachments

Procedure Description

- 5.5_17lb_P110_BTC_20230905083052.pdf
- 13.375_48lb_H40_20230905082954.pdf
- MUSKIE_23_11_FED_COM_9H_C_102_BHL_NOI_20230905082955.pdf
- 9.625_40lb_J_55_20230905082954.pdf
- Muskie_23_11_Fed_Com_9H_Directional_Plan_08_22_23_20230905082955.pdf
- Muskie_23_11_Fed_Com_9H_20230905082954.pdf

Received by OCD: 9/15/2023 10:09:21 AM

Page 2 of 52

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Lease Number: NMNM100568	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002547419	Well Status: Approved Application for Permit to Drill	Operator: DEVON ENERGY PRODUCTION COMPANY LP

Conditions of Approval

Specialist Review

Muskie_23_11_Fed_Com_9H_Sundry_ID_2749372_20230914055648.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: REBECCA DEAL

Signed on: SEP 05, 2023 08:31 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Analyst

Street Address: 333 W SHERIDAN AVE

City: OKLAHOMA CITYState: OK

Phone: (303) 299-1406

Email address: REBECCA.DEAL@DVN.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: LONG VO

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752345972

BLM POC Email Address: LVO@BLM.GOV

Disposition: Approved

Disposition Date: 09/14/2023

Signature: Long Vo

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.
1. Type of Well ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator		7. If Unit of CA/Agreement, Name and/or No.
3a. Address	3b. Phone No. (include area code)	8. Well Name and No.
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)		9. API Well No.
		10. Field and Pool or Exploratory Area
		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	
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ 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 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 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 OFFICE USE

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

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Location of Well

0. SHL: SENW / 2316 FNL / 1662 FWL / TWSP: 26S / RANGE: 34E / SECTION: 23 / LAT: 32.029792 / LONG: -103.443792 (TVD: 0 feet, MD: 0 feet)

PPP: SWNW / 2539 FNL / 1200 FWL / TWSP: 26S / RANGE: 34E / SECTION: 23 / LAT: 32.029186 / LONG: -103.44538 (TVD: 12464 feet, MD: 12496 feet)

BHL: NWNW / 20 FNL / 660 FWL / TWSP: 26S / RANGE: 34E / SECTION: 11 / LAT: 32.050628 / LONG: -103.445383 (TVD: 12750 feet, MD: 20398 feet)

CONFIDENTIAL



U. S. Steel Tubular Products

5.500" 17.00lbs/ft (0.304" Wall) P110

2/21/2019 8:12:22 AM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	110,000	--	--	--	psi
Maximum Yield Strength	140,000	--	--	--	psi
Minimum Tensile Strength	125,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	5.500	6.050	6.050	--	in.
Wall Thickness	0.304	--	--	--	in.
Inside Diameter	4.892	4.892	4.892	--	in.
Standard Drift	4.767	4.767	4.767	--	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	17.00	--	--	--	lbs/ft
Plain End Weight	16.89	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	7,480	7,480	7,480	--	psi
Minimum Internal Yield Pressure	10,640	10,640	10,640	--	psi
Minimum Pipe Body Yield Strength	546	--	--	--	1,000 lbs
Joint Strength	--	568	445	--	1,000 lbs
Reference Length	--	22,271	17,449	--	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	4.13	3.50	--	in.
Minimum Make-Up Torque	--	--	3,470	--	ft-lbs
Maximum Make-Up Torque	--	--	5,780	--	ft-lbs

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U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com



U. S. Steel Tubular Products

13.375" 48.00lbs/ft (0.330" Wall) H40

1/8/2019 12:38:52 PM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	40,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	60,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	13.375	--	--	14.375	in.
Wall Thickness	0.330	--	--	--	in.
Inside Diameter	12.715	--	--	12.715	in.
Standard Drift	12.559	12.559	--	12.559	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	48.00	--	--	--	lbs/ft
Plain End Weight	46.02	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	740	740	--	740	psi
Minimum Internal Yield Pressure	1,730	1,730	--	1,730	psi
Minimum Pipe Body Yield Strength	541	--	--	--	1,000 lbs
Joint Strength	--	--	--	322	1,000 lbs
Reference Length	--	--	--	4,473	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	--	--	3.50	in.
Minimum Make-Up Torque	--	--	--	2,420	ft-lbs
Maximum Make-Up Torque	--	--	--	4,030	ft-lbs

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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) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-47419	Pool Code 96661	Pool Name HARDIN TANK;BONE SPRING
Property Code 328845	Property Name MUSKIE 23-11 FED COM	Well Number 9H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3208.9'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	23	26-S	34-E		2316	NORTH	1662	WEST	LEA

Bottom Hole Location If Different From Surface

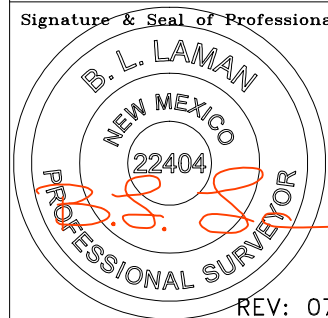
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	11	26-S	34-E		20	NORTH	500	WEST	LEA

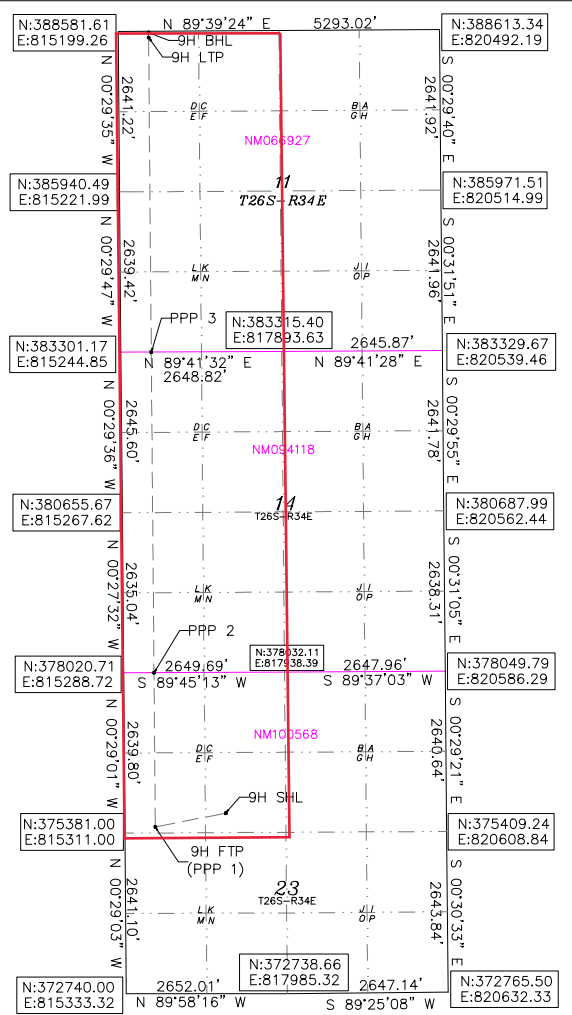
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
800			

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

MUSKIE 23-11 FED COM 9H
EL: 3208.9'
N:375711.92
E:816970.27
LAT:32.029793
LON:103.443889
KICK OFF POINT
CALLS 2558' FNL & 500' FWL - 23-26S-34E
N: 375465
E: **815810**
LAT: **32.0290**
LON: **-103.4477**
FIRST TAKE POINT (PPP 1)
2539' FNL 500' FWL SEC. 23
N:375483.66
E:815810.16
LAT:32.029192
LON:103.447638
LAST TAKE POINT
100' FNL 500' FWL SEC. 11
N:388484.61
E:815700.12
LAT:32.064929
LON:103.447649
BOTTOM OF HOLE
N:388564.61
E:815699.43
LAT:32.065149
LON:103.447649
(PPP 2)
0' FSL 500' FWL SEC. 14
N:378022.86
E:815788.66
LAT:32.036171
LON:103.447641
(PPP 3)
0' FSL 499' FWL SEC. 11
N:383303.85
E:815743.97
LAT:32.050688
LON:103.447645

OPERATOR CERTIFICATION
I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
Rebecca Deal 8/21/2023
Signature Date
Rebecca Deal, Regulatory Analyst
Printed Name
rebecca.deal@dvn.com
E-mail Address

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.
07/2023
Date of Survey
Signature & Seal of Professional Surveyor

REV: 07/19/23
Certificate No. 22404 B.L. LAMAN
DRAWN BY: CM



Intent ☒ As Drilled ☐

API # 30-025-47419		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, LP.	Property Name: MUSKIE 23-11 FED COM	Well Number 9H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	23	26S	34E		2558	FNL	500	FWL	LEA
Latitude 32.0290					Longitude -103.4477				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
E	23	26-S	34-E		2539	NORTH	500	WEST	LEA
Latitude 32.029192					Longitude 103.447638				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	11	26-S	34-E		100	NORTH	500	WEST	LEA
Latitude 32.064929					Longitude 103.447649				NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☒Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, LP.	Property Name: MUSKIE 23-11 FED COM	Well Number 12H

KZ 06/29/2018



U. S. Steel Tubular Products

9.625" 40.00lbs/ft (0.395" Wall) J55

1/24/2019 2:45:24 PM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	55,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	75,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	9.625	10.625	10.625	10.625	in.
Wall Thickness	0.395	--	--	--	in.
Inside Diameter	8.835	8.835	8.835	8.835	in.
Standard Drift	8.679	8.679	8.679	8.679	in.
Alternate Drift	8.750	8.750	8.750	8.750	in.
Nominal Linear Weight, T&C	40.00	--	--	--	lbs/ft
Plain End Weight	38.97	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	2,570	2,570	2,570	2,570	psi
Minimum Internal Yield Pressure	3,950	3,950	3,950	3,950	psi
Minimum Pipe Body Yield Strength	630	--	--	--	1,000 lbs
Joint Strength	--	714	520	452	1,000 lbs
Reference Length	--	11,898	8,665	7,529	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	4.81	4.75	3.38	in.
Minimum Make-Up Torque	--	--	3,900	3,390	ft-lbs
Maximum Make-Up Torque	--	--	6,500	5,650	ft-lbs

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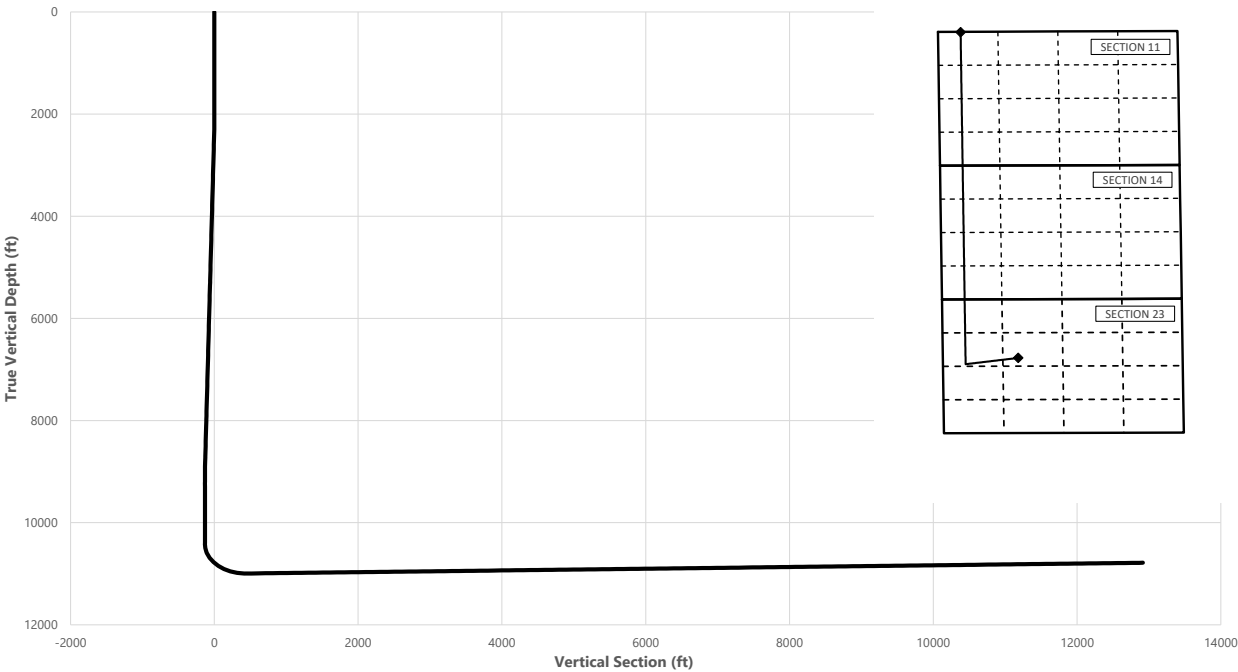
Muskie 23-11 Fed Com 9H



Well: Muskie 23-11 Fed Com 9H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	258.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	258.00	2497.47	-9.05	-42.57	-4.82	2.00	Hold Tangent
8827.87	10.00	258.00	8729.20	-237.51	-1117.38	-126.41	0.00	Drop to Vertical
9327.87	0.00	258.00	9226.67	-246.56	-1159.95	-131.23	2.00	Hold Vertical
10523.33	0.00	359.52	10422.12	-246.56	-1159.95	-131.23	0.00	KOP
11432.94	90.96	359.52	10995.00	335.99	-1164.89	448.98	10.00	Landing Point
23951.85	90.96	359.52	10785.00	12852.69	-1270.84	12915.37	0.00	BHL



Key Depths	MD	TVD
	(ft)	(ft)
Rustler	890.00	890.00
Salt	1250.00	1250.00
Base of Salt	5041.14	5000.00
Delaware	5345.77	5300.00
Cherry Canyon	6396.73	6335.00
Brushy Canyon	8062.03	7975.00
1st Bone Spring Lime	9506.20	9405.00
Bone Spring 1st / Point of Penetratic	10672.90	10570.00
exit	23871.85	10786.36

SHL
KOP
Point of Penetration
Exit
BHL

MD	TVD	Lat	Long	Section Footages
(ft)	(ft)	(°)	(°)	
0.00	0.00	32.0297	-103.4440	2316' FNL, 1662' FWL of Sec 23 in T26S, R34E
10523.33	10422.12	32.0290	-103.4477	2558' FNL, 500' FWL of Sec 23 in T26S, R34E
10672.90	10570.00	32.0292	-103.4476	2539' FNL, 500' FWL of Sec 23 in T26S, R34E
23871.85	10786.36	32.0649	-103.4476	100' FNL, 500' FWL of Sec 11 in T26S, R34E
23951.85	10785.00	32.0651	-103.4477	20' FNL, 500' FWL of Sec 11 in T26S, R34E

	Y	X	MD
KOP	375465	815810	10523.33

Muskie 23-11 Fed Com 9H



Well: Muskie 23-11 Fed Com 9H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	258.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	258.00	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	258.00	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	258.00	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	258.00	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	258.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	258.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	258.00	800.00	0.00	0.00	0.00	0.00	
890.00	0.00	258.00	890.00	0.00	0.00	0.00	0.00	Rustler
900.00	0.00	258.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	258.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	258.00	1100.00	0.00	0.00	0.00	0.00	
1200.00	0.00	258.00	1200.00	0.00	0.00	0.00	0.00	
1250.00	0.00	258.00	1250.00	0.00	0.00	0.00	0.00	Salt
1300.00	0.00	258.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	258.00	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	258.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	258.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	258.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	258.00	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	258.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	258.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	258.00	2099.98	-0.36	-1.71	-0.19	2.00	
2200.00	4.00	258.00	2199.84	-1.45	-6.83	-0.77	2.00	
2300.00	6.00	258.00	2299.45	-3.26	-15.35	-1.74	2.00	
2400.00	8.00	258.00	2398.70	-5.80	-27.27	-3.09	2.00	
2500.00	10.00	258.00	2497.47	-9.05	-42.57	-4.82	2.00	Hold Tangent
2600.00	10.00	258.00	2595.95	-12.66	-59.56	-6.74	0.00	
2700.00	10.00	258.00	2694.43	-16.27	-76.54	-8.66	0.00	
2800.00	10.00	258.00	2792.91	-19.88	-93.53	-10.58	0.00	
2900.00	10.00	258.00	2891.39	-23.49	-110.51	-12.50	0.00	
3000.00	10.00	258.00	2989.87	-27.10	-127.50	-14.42	0.00	
3100.00	10.00	258.00	3088.35	-30.71	-144.48	-16.35	0.00	
3200.00	10.00	258.00	3186.83	-34.32	-161.47	-18.27	0.00	
3300.00	10.00	258.00	3285.31	-37.93	-178.45	-20.19	0.00	
3400.00	10.00	258.00	3383.79	-41.54	-195.44	-22.11	0.00	
3500.00	10.00	258.00	3482.27	-45.15	-212.42	-24.03	0.00	
3600.00	10.00	258.00	3580.75	-48.76	-229.41	-25.95	0.00	
3700.00	10.00	258.00	3679.23	-52.37	-246.40	-27.87	0.00	
3800.00	10.00	258.00	3777.72	-55.98	-263.38	-29.80	0.00	
3900.00	10.00	258.00	3876.20	-59.59	-280.37	-31.72	0.00	
4000.00	10.00	258.00	3974.68	-63.21	-297.35	-33.64	0.00	
4100.00	10.00	258.00	4073.16	-66.82	-314.34	-35.56	0.00	
4200.00	10.00	258.00	4171.64	-70.43	-331.32	-37.48	0.00	
4300.00	10.00	258.00	4270.12	-74.04	-348.31	-39.40	0.00	
4400.00	10.00	258.00	4368.60	-77.65	-365.29	-41.33	0.00	
4500.00	10.00	258.00	4467.08	-81.26	-382.28	-43.25	0.00	
4600.00	10.00	258.00	4565.56	-84.87	-399.26	-45.17	0.00	
4700.00	10.00	258.00	4664.04	-88.48	-416.25	-47.09	0.00	
4800.00	10.00	258.00	4762.52	-92.09	-433.23	-49.01	0.00	
4900.00	10.00	258.00	4861.00	-95.70	-450.22	-50.93	0.00	
5000.00	10.00	258.00	4959.48	-99.31	-467.20	-52.85	0.00	
5041.14	10.00	258.00	5000.00	-100.79	-474.19	-53.65	0.00	Base of Salt
5100.00	10.00	258.00	5057.97	-102.92	-484.19	-54.78	0.00	
5200.00	10.00	258.00	5156.45	-106.53	-501.18	-56.70	0.00	
5300.00	10.00	258.00	5254.93	-110.14	-518.16	-58.62	0.00	
5345.77	10.00	258.00	5300.00	-111.79	-525.93	-59.50	0.00	Delaware
5400.00	10.00	258.00	5353.41	-113.75	-535.15	-60.54	0.00	
5500.00	10.00	258.00	5451.89	-117.36	-552.13	-62.46	0.00	
5600.00	10.00	258.00	5550.37	-120.97	-569.12	-64.38	0.00	
5700.00	10.00	258.00	5648.85	-124.58	-586.10	-66.31	0.00	
5800.00	10.00	258.00	5747.33	-128.19	-603.09	-68.23	0.00	
5900.00	10.00	258.00	5845.81	-131.80	-620.07	-70.15	0.00	
6000.00	10.00	258.00	5944.29	-135.41	-637.06	-72.07	0.00	
6100.00	10.00	258.00	6042.77	-139.02	-654.04	-73.99	0.00	
6200.00	10.00	258.00	6141.25	-142.63	-671.03	-75.91	0.00	
6300.00	10.00	258.00	6239.73	-146.24	-688.01	-77.84	0.00	
6396.73	10.00	258.00	6335.00	-149.74	-704.44	-79.69	0.00	Cherry Canyon
6400.00	10.00	258.00	6338.22	-149.85	-705.00	-79.76	0.00	

Muskie 23-11 Fed Com 9H



Well: Muskie 23-11 Fed Com 9H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
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Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
6500.00	10.00	258.00	6436.70	-153.47	-721.98	-81.68	0.00	
6600.00	10.00	258.00	6535.18	-157.08	-738.97	-83.60	0.00	
6700.00	10.00	258.00	6633.66	-160.69	-755.96	-85.52	0.00	
6800.00	10.00	258.00	6732.14	-164.30	-772.94	-87.44	0.00	
6900.00	10.00	258.00	6830.62	-167.91	-789.93	-89.36	0.00	
7000.00	10.00	258.00	6929.10	-171.52	-806.91	-91.29	0.00	
7100.00	10.00	258.00	7027.58	-175.13	-823.90	-93.21	0.00	
7200.00	10.00	258.00	7126.06	-178.74	-840.88	-95.13	0.00	
7300.00	10.00	258.00	7224.54	-182.35	-857.87	-97.05	0.00	
7400.00	10.00	258.00	7323.02	-185.96	-874.85	-98.97	0.00	
7500.00	10.00	258.00	7421.50	-189.57	-891.84	-100.89	0.00	
7600.00	10.00	258.00	7519.99	-193.18	-908.82	-102.82	0.00	
7700.00	10.00	258.00	7618.47	-196.79	-925.81	-104.74	0.00	
7800.00	10.00	258.00	7716.95	-200.40	-942.79	-106.66	0.00	
7900.00	10.00	258.00	7815.43	-204.01	-959.78	-108.58	0.00	
8000.00	10.00	258.00	7913.91	-207.62	-976.76	-110.50	0.00	
8062.03	10.00	258.00	7975.00	-209.86	-987.30	-111.69	0.00	Brushy Canyon
8100.00	10.00	258.00	8012.39	-211.23	-993.75	-112.42	0.00	
8200.00	10.00	258.00	8110.87	-214.84	-1010.74	-114.34	0.00	
8300.00	10.00	258.00	8209.35	-218.45	-1027.72	-116.27	0.00	
8400.00	10.00	258.00	8307.83	-222.06	-1044.71	-118.19	0.00	
8500.00	10.00	258.00	8406.31	-225.67	-1061.69	-120.11	0.00	
8600.00	10.00	258.00	8504.79	-229.28	-1078.68	-122.03	0.00	
8700.00	10.00	258.00	8603.27	-232.89	-1095.66	-123.95	0.00	
8800.00	10.00	258.00	8701.75	-236.50	-1112.65	-125.87	0.00	
8827.87	10.00	258.00	8729.20	-237.51	-1117.38	-126.41	0.00	Drop to Vertical
8900.00	8.56	258.00	8800.39	-239.93	-1128.76	-127.69	2.00	
9000.00	6.56	258.00	8899.51	-242.66	-1141.62	-129.15	2.00	
9100.00	4.56	258.00	8999.04	-244.67	-1151.09	-130.22	2.00	
9200.00	2.56	258.00	9098.84	-245.96	-1157.16	-130.91	2.00	
9300.00	0.56	258.00	9198.80	-246.53	-1159.82	-131.21	2.00	
9327.87	0.00	258.00	9226.67	-246.56	-1159.95	-131.23	2.00	Hold Vertical
9400.00	0.00	359.52	9298.80	-246.56	-1159.95	-131.22	0.00	
9500.00	0.00	359.52	9398.80	-246.56	-1159.95	-131.22	0.00	
9506.20	0.00	359.52	9405.00	-246.56	-1159.95	-131.22	0.00	1st Bone Spring Lime
9600.00	0.00	359.52	9498.80	-246.56	-1159.95	-131.22	0.00	
9700.00	0.00	359.52	9598.80	-246.56	-1159.95	-131.22	0.00	
9800.00	0.00	359.52	9698.80	-246.56	-1159.95	-131.22	0.00	
9900.00	0.00	359.52	9798.80	-246.56	-1159.95	-131.22	0.00	
10000.00	0.00	359.52	9898.80	-246.56	-1159.95	-131.22	0.00	
10100.00	0.00	359.52	9998.80	-246.56	-1159.95	-131.22	0.00	
10200.00	0.00	359.52	10098.80	-246.56	-1159.95	-131.22	0.00	
10300.00	0.00	359.52	10198.80	-246.56	-1159.95	-131.22	0.00	
10400.00	0.00	359.52	10298.80	-246.56	-1159.95	-131.22	0.00	
10500.00	0.00	359.52	10398.80	-246.56	-1159.95	-131.22	0.00	
10523.33	0.00	359.52	10422.12	-246.56	-1159.95	-131.23	0.00	KOP
10600.00	7.67	359.52	10498.57	-241.43	-1160.00	-126.12	10.00	
10672.90	14.96	359.52	10570.00	-227.14	-1160.12	-111.89	10.00	Bone Spring 1st / Point of Penetration
10700.00	17.67	359.52	10596.01	-219.53	-1160.18	-104.31	10.00	
10800.00	27.67	359.52	10688.17	-181.05	-1160.51	-65.97	10.00	
10900.00	37.67	359.52	10772.24	-127.14	-1160.97	-12.28	10.00	
11000.00	47.67	359.52	10845.68	-59.45	-1161.54	55.13	10.00	
11100.00	57.67	359.52	10906.25	19.96	-1162.21	134.22	10.00	
11200.00	67.67	359.52	10952.11	108.67	-1162.96	222.58	10.00	
11300.00	77.67	359.52	10981.86	204.01	-1163.77	317.53	10.00	
11400.00	87.67	359.52	10994.61	303.06	-1164.61	416.19	10.00	
11432.94	90.96	359.52	10995.00	335.99	-1164.89	448.98	10.00	Landing Point
11500.00	90.96	359.52	10993.88	403.04	-1165.45	515.77	0.00	
11600.00	90.96	359.52	10992.20	503.03	-1166.30	615.35	0.00	
11700.00	90.96	359.52	10990.52	603.01	-1167.15	714.93	0.00	
11800.00	90.96	359.52	10988.84	702.99	-1167.99	814.51	0.00	
11900.00	90.96	359.52	10987.17	802.97	-1168.84	914.09	0.00	
12000.00	90.96	359.52	10985.49	902.95	-1169.69	1013.67	0.00	
12100.00	90.96	359.52	10983.81	1002.94	-1170.53	1113.25	0.00	
12200.00	90.96	359.52	10982.13	1102.92	-1171.38	1212.83	0.00	
12300.00	90.96	359.52	10980.46	1202.90	-1172.23	1312.41	0.00	
12400.00	90.96	359.52	10978.78	1302.88	-1173.08	1411.99	0.00	
12500.00	90.96	359.52	10977.10	1402.87	-1173.92	1511.57	0.00	
12600.00	90.96	359.52	10975.42	1502.85	-1174.77	1611.15	0.00	
12700.00	90.96	359.52	10973.75	1602.83	-1175.62	1710.73	0.00	

Muskie 23-11 Fed Com 9H



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Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
12800.00	90.96	359.52	10972.07	1702.81	-1176.46	1810.31	0.00	
12900.00	90.96	359.52	10970.39	1802.80	-1177.31	1909.89	0.00	
13000.00	90.96	359.52	10968.72	1902.78	-1178.16	2009.47	0.00	
13100.00	90.96	359.52	10967.04	2002.76	-1179.00	2109.05	0.00	
13200.00	90.96	359.52	10965.36	2102.74	-1179.85	2208.63	0.00	
13300.00	90.96	359.52	10963.68	2202.72	-1180.70	2308.21	0.00	
13400.00	90.96	359.52	10962.01	2302.71	-1181.54	2407.79	0.00	
13500.00	90.96	359.52	10960.33	2402.69	-1182.39	2507.38	0.00	
13600.00	90.96	359.52	10958.65	2502.67	-1183.24	2606.96	0.00	
13700.00	90.96	359.52	10956.97	2602.65	-1184.08	2706.54	0.00	
13800.00	90.96	359.52	10955.30	2702.64	-1184.93	2806.12	0.00	
13900.00	90.96	359.52	10953.62	2802.62	-1185.78	2905.70	0.00	
14000.00	90.96	359.52	10951.94	2902.60	-1186.63	3005.28	0.00	
14100.00	90.96	359.52	10950.26	3002.58	-1187.47	3104.86	0.00	
14200.00	90.96	359.52	10948.59	3102.57	-1188.32	3204.44	0.00	
14300.00	90.96	359.52	10946.91	3202.55	-1189.17	3304.02	0.00	
14400.00	90.96	359.52	10945.23	3302.53	-1190.01	3403.60	0.00	
14500.00	90.96	359.52	10943.56	3402.51	-1190.86	3503.18	0.00	
14600.00	90.96	359.52	10941.88	3502.50	-1191.71	3602.76	0.00	
14700.00	90.96	359.52	10940.20	3602.48	-1192.55	3702.34	0.00	
14800.00	90.96	359.52	10938.52	3702.46	-1193.40	3801.92	0.00	
14900.00	90.96	359.52	10936.85	3802.44	-1194.25	3901.50	0.00	
15000.00	90.96	359.52	10935.17	3902.42	-1195.09	4001.08	0.00	
15100.00	90.96	359.52	10933.49	4002.41	-1195.94	4100.66	0.00	
15200.00	90.96	359.52	10931.81	4102.39	-1196.79	4200.24	0.00	
15300.00	90.96	359.52	10930.14	4202.37	-1197.64	4299.82	0.00	
15400.00	90.96	359.52	10928.46	4302.35	-1198.48	4399.40	0.00	
15500.00	90.96	359.52	10926.78	4402.34	-1199.33	4498.98	0.00	
15600.00	90.96	359.52	10925.10	4502.32	-1200.18	4598.57	0.00	
15700.00	90.96	359.52	10923.43	4602.30	-1201.02	4698.15	0.00	
15800.00	90.96	359.52	10921.75	4702.28	-1201.87	4797.73	0.00	
15900.00	90.96	359.52	10920.07	4802.27	-1202.72	4897.31	0.00	
16000.00	90.96	359.52	10918.40	4902.25	-1203.56	4996.89	0.00	
16100.00	90.96	359.52	10916.72	5002.23	-1204.41	5096.47	0.00	
16200.00	90.96	359.52	10915.04	5102.21	-1205.26	5196.05	0.00	
16300.00	90.96	359.52	10913.36	5202.20	-1206.10	5295.63	0.00	
16400.00	90.96	359.52	10911.69	5302.18	-1206.95	5395.21	0.00	
16500.00	90.96	359.52	10910.01	5402.16	-1207.80	5494.79	0.00	
16600.00	90.96	359.52	10908.33	5502.14	-1208.64	5594.37	0.00	
16700.00	90.96	359.52	10906.65	5602.12	-1209.49	5693.95	0.00	
16800.00	90.96	359.52	10904.98	5702.11	-1210.34	5793.53	0.00	
16900.00	90.96	359.52	10903.30	5802.09	-1211.19	5893.11	0.00	
17000.00	90.96	359.52	10901.62	5902.07	-1212.03	5992.69	0.00	
17100.00	90.96	359.52	10899.94	6002.05	-1212.88	6092.27	0.00	
17200.00	90.96	359.52	10898.27	6102.04	-1213.73	6191.85	0.00	
17300.00	90.96	359.52	10896.59	6202.02	-1214.57	6291.43	0.00	
17400.00	90.96	359.52	10894.91	6302.00	-1215.42	6391.01	0.00	
17500.00	90.96	359.52	10893.24	6401.98	-1216.27	6490.59	0.00	
17600.00	90.96	359.52	10891.56	6501.97	-1217.11	6590.17	0.00	
17700.00	90.96	359.52	10889.88	6601.95	-1217.96	6689.76	0.00	
17800.00	90.96	359.52	10888.20	6701.93	-1218.81	6789.34	0.00	
17900.00	90.96	359.52	10886.53	6801.91	-1219.65	6888.92	0.00	
18000.00	90.96	359.52	10884.85	6901.90	-1220.50	6988.50	0.00	
18100.00	90.96	359.52	10883.17	7001.88	-1221.35	7088.08	0.00	
18200.00	90.96	359.52	10881.49	7101.86	-1222.19	7187.66	0.00	
18300.00	90.96	359.52	10879.82	7201.84	-1223.04	7287.24	0.00	
18400.00	90.96	359.52	10878.14	7301.82	-1223.89	7386.82	0.00	
18500.00	90.96	359.52	10876.46	7401.81	-1224.74	7486.40	0.00	
18600.00	90.96	359.52	10874.78	7501.79	-1225.58	7585.98	0.00	
18700.00	90.96	359.52	10873.11	7601.77	-1226.43	7685.56	0.00	
18800.00	90.96	359.52	10871.43	7701.75	-1227.28	7785.14	0.00	
18900.00	90.96	359.52	10869.75	7801.74	-1228.12	7884.72	0.00	
19000.00	90.96	359.52	10868.08	7901.72	-1228.97	7984.30	0.00	
19100.00	90.96	359.52	10866.40	8001.70	-1229.82	8083.88	0.00	
19200.00	90.96	359.52	10864.72	8101.68	-1230.66	8183.46	0.00	
19300.00	90.96	359.52	10863.04	8201.67	-1231.51	8283.04	0.00	
19400.00	90.96	359.52	10861.37	8301.65	-1232.36	8382.62	0.00	
19500.00	90.96	359.52	10859.69	8401.63	-1233.20	8482.20	0.00	
19600.00	90.96	359.52	10858.01	8501.61	-1234.05	8581.78	0.00	
19700.00	90.96	359.52	10856.33	8601.60	-1234.90	8681.36	0.00	

Muskie 23-11 Fed Com 9H



Well: Muskie 23-11 Fed Com 9H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
19800.00	90.96	359.52	10854.66	8701.58	-1235.74	8780.94	0.00	
19900.00	90.96	359.52	10852.98	8801.56	-1236.59	8880.53	0.00	
20000.00	90.96	359.52	10851.30	8901.54	-1237.44	8980.11	0.00	
20100.00	90.96	359.52	10849.62	9001.52	-1238.29	9079.69	0.00	
20200.00	90.96	359.52	10847.95	9101.51	-1239.13	9179.27	0.00	
20300.00	90.96	359.52	10846.27	9201.49	-1239.98	9278.85	0.00	
20400.00	90.96	359.52	10844.59	9301.47	-1240.83	9378.43	0.00	
20500.00	90.96	359.52	10842.92	9401.45	-1241.67	9478.01	0.00	
20600.00	90.96	359.52	10841.24	9501.44	-1242.52	9577.59	0.00	
20700.00	90.96	359.52	10839.56	9601.42	-1243.37	9677.17	0.00	
20800.00	90.96	359.52	10837.88	9701.40	-1244.21	9776.75	0.00	
20900.00	90.96	359.52	10836.21	9801.38	-1245.06	9876.33	0.00	
21000.00	90.96	359.52	10834.53	9901.37	-1245.91	9975.91	0.00	
21100.00	90.96	359.52	10832.85	10001.35	-1246.75	10075.49	0.00	
21200.00	90.96	359.52	10831.17	10101.33	-1247.60	10175.07	0.00	
21300.00	90.96	359.52	10829.50	10201.31	-1248.45	10274.65	0.00	
21400.00	90.96	359.52	10827.82	10301.29	-1249.30	10374.23	0.00	
21500.00	90.96	359.52	10826.14	10401.28	-1250.14	10473.81	0.00	
21600.00	90.96	359.52	10824.46	10501.26	-1250.99	10573.39	0.00	
21700.00	90.96	359.52	10822.79	10601.24	-1251.84	10672.97	0.00	
21800.00	90.96	359.52	10821.11	10701.22	-1252.68	10772.55	0.00	
21900.00	90.96	359.52	10819.43	10801.21	-1253.53	10872.13	0.00	
22000.00	90.96	359.52	10817.76	10901.19	-1254.38	10971.72	0.00	
22100.00	90.96	359.52	10816.08	11001.17	-1255.22	11071.30	0.00	
22200.00	90.96	359.52	10814.40	11101.15	-1256.07	11170.88	0.00	
22300.00	90.96	359.52	10812.72	11201.14	-1256.92	11270.46	0.00	
22400.00	90.96	359.52	10811.05	11301.12	-1257.76	11370.04	0.00	
22500.00	90.96	359.52	10809.37	11401.10	-1258.61	11469.62	0.00	
22600.00	90.96	359.52	10807.69	11501.08	-1259.46	11569.20	0.00	
22700.00	90.96	359.52	10806.01	11601.07	-1260.30	11668.78	0.00	
22800.00	90.96	359.52	10804.34	11701.05	-1261.15	11768.36	0.00	
22900.00	90.96	359.52	10802.66	11801.03	-1262.00	11867.94	0.00	
23000.00	90.96	359.52	10800.98	11901.01	-1262.85	11967.52	0.00	
23100.00	90.96	359.52	10799.30	12000.99	-1263.69	12067.10	0.00	
23200.00	90.96	359.52	10797.63	12100.98	-1264.54	12166.68	0.00	
23300.00	90.96	359.52	10795.95	12200.96	-1265.39	12266.26	0.00	
23400.00	90.96	359.52	10794.27	12300.94	-1266.23	12365.84	0.00	
23500.00	90.96	359.52	10792.60	12400.92	-1267.08	12465.42	0.00	
23600.00	90.96	359.52	10790.92	12500.91	-1267.93	12565.00	0.00	
23700.00	90.96	359.52	10789.24	12600.89	-1268.77	12664.58	0.00	
23800.00	90.96	359.52	10787.56	12700.87	-1269.62	12764.16	0.00	
23871.85	90.96	359.52	10786.36	12772.70	-1270.23	12835.71	0.00	exit
23900.00	90.96	359.52	10785.89	12800.85	-1270.47	12863.74	0.00	
23951.85	90.96	359.52	10785.00	12852.69	-1270.84	12915.37	0.00	BHL

Muskie 23-11 Fed Com 9H

1. Geologic Formations

TVD of target	10786	Pilot hole depth	N/A
MD at TD:	23952	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	890		
Salt	1250		
Base of Salt	5000		
Delaware	5300		
Cherry Canyon	6335		
Brushy Canyon	7975		
1st Bone Spring Lime	9405		
Bone Spring 1st	10570		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Muskie 23-11 Fed Com 9H

2. Casing Program

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
17 1/2	13 3/8	48	H40	BTC	0	915	0	915
12 1/4	9 5/8	40	J-55	BTC	0	5100	0	5100
8 3/4	5 1/2	17	P110	BTC	0	23952	0	10786

•All casing strings will be tested in accordance with 43 CFR 3172. Must have table for contingency casing.

3. Cementing Program (3-String Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	701	Surf	13.2	1.4	Lead: Class C Cement + additives
Int 1	564	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	4600	13.2	1.4	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	733	Surf	9.0	3.3	Squeeze Lead: Class C Cement + additives
	564	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	4600	13.2	1.4	Tail: Class H / C + additives
Production	505	4600	9.0	3.3	Lead: Class H / C + additives
	2591	10523	13.2	1.4	Tail: Class H / C + additives

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	50%
Intermediate	30%
Production	10%

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4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-58"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
Production	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
			Annular (5M)		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

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5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	Brine	10-10.5
Production	WBM	8.5-9

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

Additional logs planned		Interval
	Resistivity	
	Density	
X	CBL	Production casing
X	Mud log	KOP to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	5048
Abnormal temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR 3176. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

N	H ₂ S is present
Y	H ₂ S plan attached.

Muskie 23-11 Fed Com 9H

8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
 - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (43 CFR 3172, all COAs and NMOCD regulations).
- 3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pad.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan
 Other, describe

Well Name: MUSKIE 23-11 FED COM	Well Location: T26S / R34E / SEC 23 / SENW / 32.029792 / -103.443792	County or Parish/State: LEA / NM
Well Number: 9H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM100568	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002547419	Well Status: Approved Application for Permit to Drill	Operator: DEVON ENERGY PRODUCTION COMPANY LP

Notice of Intent

Sundry ID: 2749372

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 09/05/2023	Time Sundry Submitted: 08:40
Date proposed operation will begin: 09/05/2023	

Procedure Description: Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD: BHL change from 20 FSL & 660 FWL to 20 FNL & 500 FWL, both 11-26S-34E. Pool Code change from 96776 JABALINA;WOLFCAMP, SOUTHWEST to 96661 HARDIN TANK;BONE SPRING TVD/MD change from 12,636'/25,863' to 10786'/23952' Casing program change: Intermediate and Production Casing size changes. Cement volume changes to accommodate casing change. Please see attached revised C-102 and drilling & directional plans.

NOI Attachments

Procedure Description

- 5.5_17lb_P110_BTC_20230905083052.pdf
- 13.375_48lb_H40_20230905082954.pdf
- MUSKIE_23_11_FED_COM_9H_C_102_BHL_NOI_20230905082955.pdf
- 9.625_40lb_J_55_20230905082954.pdf
- Muskie_23_11_Fed_Com_9H_Directional_Plan_08_22_23_20230905082955.pdf
- Muskie_23_11_Fed_Com_9H_20230905082954.pdf

Well Name: MUSKIE 23-11 FED COM	Well Location: T26S / R34E / SEC 23 / SENW / 32.029792 / -103.443792	County or Parish/State: LEA / NM
Well Number: 9H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM100568	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002547419	Well Status: Approved Application for Permit to Drill	Operator: DEVON ENERGY PRODUCTION COMPANY LP

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: REBECCA DEAL

Signed on: SEP 05, 2023 08:31 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Analyst

Street Address: 333 W SHERIDAN AVE

City: OKLAHOMA CITYState: OK

Phone: (303) 299-1406

Email address: REBECCA.DEAL@DVN.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Devon Energy Production Company LP
LEASE NO.:	NMNM100568
LOCATION:	Section 23, T.26 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Muskie 23-11 Fed Com 9H
SURFACE HOLE FOOTAGE:	2316'/N & 1662'/W
BOTTOM HOLE FOOTAGE	20'/N & 500'/W
ATS/API ID:	3002547419
APD ID:	
Sundry ID:	2749372

COA

H2S	No		
Potash	None		
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	☒ None	☒ Flex Hose	☒ Other
Wellhead	Conventional and Multibowl		
Other	☐ 4 String	Capitan Reef None	☐ WIPP
Other	Pilot Hole None	☐ Open Annulus	
Cementing	Contingency Squeeze Int 1	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	☐ Water Disposal/Injection	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet **43 CFR part 3170 Subpart 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 **1100 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. The surface hole shall be **17 1/2** inch in diameter.
 - 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:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. 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, contact the appropriate BLM office.

Operator has proposed to pump down 13-3/8" X 9-5/8" annulus after primary cementing stage. Operator must run a CBL from TD of the 9-5/8" casing to surface. Submit results to the BLM.

If cement does not tie-back into the previous casing shoe, a third stage remediation BH may be performed. The appropriate BLM office shall be notified.

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.
Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

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.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

☒ Eddy County

EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

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 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a

digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after

installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead 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.

LVO 9/14/2023

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

5. Lease Serial No. NMNM100568

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator DEVON ENERGY PRODUCTION COMPANY LP

3a. Address 333 WEST SHERIDAN AVE, OKLAHOMA CITY, 3b. Phone No. (include area code)
(405) 235-36114. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC 23/T26S/R34E/NMP

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

8. Well Name and No. MUSKIE 23-11 FED COM/9H

9. API Well No. 3002547419

10. Field and Pool or Exploratory Area
WC-025 G-09 S243310P/UPPER WOLFCAMP11. Country or Parish, State
LEA/NM

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

TYPE OF SUBMISSION	TYPE OF ACTION				
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ 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 recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD:

BHL change from 20 FSL & 660 FWL to 20 FNL & 500 FWL, both 11-26S-34E.

Pool Code change from 96776 JABALINA;WOLFCAMP, SOUTHWEST to 96661 HARDIN TANK;BONE SPRING

TVD/MD change from 12,636'/25,863' to 10786/23952

Casing program change: Intermediate and Production Casing size changes. Cement volume changes to accommodate casing change.

Please see attached revised C-102 and drilling & directional plans.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
REBECCA DEAL / Ph: (303) 299-1406Regulatory Analyst
Title

Signature

Date 09/05/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

Office

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Location of Well

0. SHL: SENW / 2316 FNL / 1662 FWL / TWSP: 26S / RANGE: 34E / SECTION: 23 / LAT: 32.029792 / LONG: -103.443792 (TVD: 0 feet, MD: 0 feet)

PPP: SWNW / 2539 FNL / 1200 FWL / TWSP: 26S / RANGE: 34E / SECTION: 23 / LAT: 32.029186 / LONG: -103.44538 (TVD: 12464 feet, MD: 12496 feet)

BHL: NWNW / 20 FNL / 660 FWL / TWSP: 26S / RANGE: 34E / SECTION: 11 / LAT: 32.050628 / LONG: -103.445383 (TVD: 12750 feet, MD: 20398 feet)

CONFIDENTIAL



U. S. Steel Tubular Products

5.500" 17.00lbs/ft (0.304" Wall) P110

2/21/2019 8:12:22 AM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	110,000	--	--	--	psi
Maximum Yield Strength	140,000	--	--	--	psi
Minimum Tensile Strength	125,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	5.500	6.050	6.050	--	in.
Wall Thickness	0.304	--	--	--	in.
Inside Diameter	4.892	4.892	4.892	--	in.
Standard Drift	4.767	4.767	4.767	--	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	17.00	--	--	--	lbs/ft
Plain End Weight	16.89	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	7,480	7,480	7,480	--	psi
Minimum Internal Yield Pressure	10,640	10,640	10,640	--	psi
Minimum Pipe Body Yield Strength	546	--	--	--	1,000 lbs
Joint Strength	--	568	445	--	1,000 lbs
Reference Length	--	22,271	17,449	--	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	4.13	3.50	--	in.
Minimum Make-Up Torque	--	--	3,470	--	ft-lbs
Maximum Make-Up Torque	--	--	5,780	--	ft-lbs

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460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com



U. S. Steel Tubular Products

13.375" 48.00lbs/ft (0.330" Wall) H40

1/8/2019 12:38:52 PM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	40,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	60,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	13.375	--	--	14.375	in.
Wall Thickness	0.330	--	--	--	in.
Inside Diameter	12.715	--	--	12.715	in.
Standard Drift	12.559	12.559	--	12.559	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	48.00	--	--	--	lbs/ft
Plain End Weight	46.02	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	740	740	--	740	psi
Minimum Internal Yield Pressure	1,730	1,730	--	1,730	psi
Minimum Pipe Body Yield Strength	541	--	--	--	1,000 lbs
Joint Strength	--	--	--	322	1,000 lbs
Reference Length	--	--	--	4,473	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	--	--	3.50	in.
Minimum Make-Up Torque	--	--	--	2,420	ft-lbs
Maximum Make-Up Torque	--	--	--	4,030	ft-lbs

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U. S. Steel Tubular Products
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DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1283 Fax: (505) 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) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-47419	Pool Code 96661	Pool Name HARDIN TANK;BONE SPRING
Property Code 328845	Property Name MUSKIE 23-11 FED COM	Well Number 9H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3208.9'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	23	26-S	34-E		2316	NORTH	1662	WEST	LEA

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	11	26-S	34-E		20	NORTH	500	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
800			

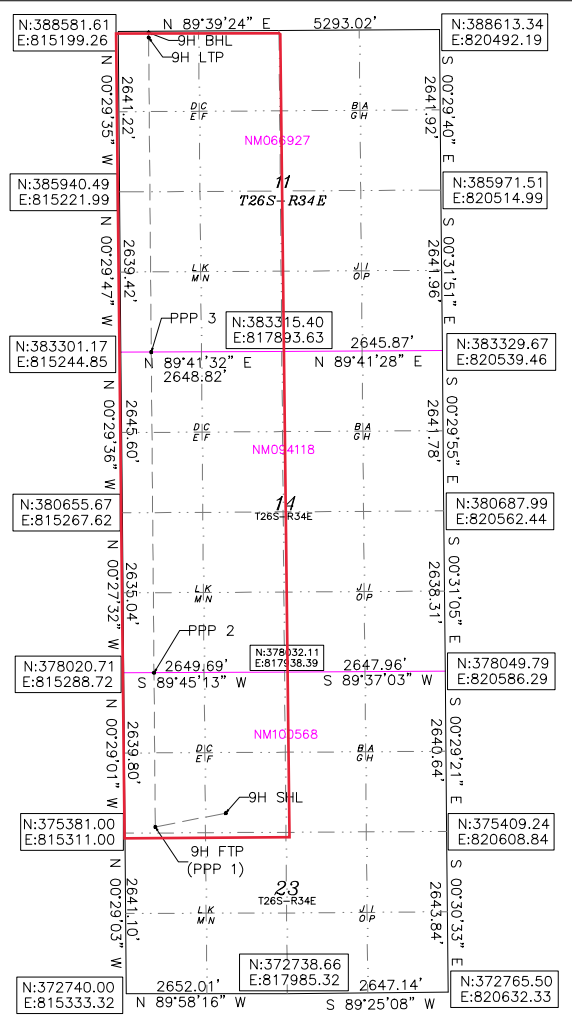
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

MUSKIE 23-11 FED COM 9H
EL: 3208.9'
N:375711.92
E:816970.27
LAT:32.029793
LON:103.443889
KICK OFF POINT
CALLS 2558' FNL & 500' FWL - 23-26S-34E
N: 375465
E: **815810**
LAT: **32.0290**
LON: **-103.4477**
FIRST TAKE POINT (PPP 1)
2539' FNL 500' FWL SEC. 23
N:375483.66
E:815810.16
LAT:32.029192
LON:103.447638
LAST TAKE POINT
100' FNL 500' FWL SEC. 11
N:388484.61
E:815700.12
LAT:32.064929
LON:103.447649
BOTTOM OF HOLE
N:388564.61
E:815699.43
LAT:32.065149
LON:103.447649
(PPP 2)
0' FSL 500' FWL SEC. 14
N:378022.86
E:815788.66
LAT:32.036171
LON:103.447641
(PPP 3)
0' FSL 499' FWL SEC. 11
N:383303.85
E:815743.97
LAT:32.050688
LON:103.447645

OPERATOR CERTIFICATION
I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
Signature *Rebecca Deal* **Date** **8/21/2023**
Printed Name **Rebecca Deal, Regulatory Analyst**
E-mail Address **rebecca.deal@dvn.com**

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 **07/2023**
Signature & Seal of Professional Surveyor

REV: 07/19/23
Certificate No. 22404 **B.L. LAMAN**
DRAWN BY: CM



Intent ☒ As Drilled ☐

API # 30-025-47419		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, LP.	Property Name: MUSKIE 23-11 FED COM	Well Number 9H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	23	26S	34E		2558	FNL	500	FWL	LEA
Latitude 32.0290					Longitude -103.4477				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
E	23	26-S	34-E		2539	NORTH	500	WEST	LEA
Latitude 32.029192					Longitude 103.447638				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	11	26-S	34-E		100	NORTH	500	WEST	LEA
Latitude 32.064929					Longitude 103.447649				NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☒Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, LP.	Property Name: MUSKIE 23-11 FED COM	Well Number 12H

KZ 06/29/2018



U. S. Steel Tubular Products

9.625" 40.00lbs/ft (0.395" Wall) J55

1/24/2019 2:45:24 PM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	55,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	75,000	--	--	--	psi
DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	9.625	10.625	10.625	10.625	in.
Wall Thickness	0.395	--	--	--	in.
Inside Diameter	8.835	8.835	8.835	8.835	in.
Standard Drift	8.679	8.679	8.679	8.679	in.
Alternate Drift	8.750	8.750	8.750	8.750	in.
Nominal Linear Weight, T&C	40.00	--	--	--	lbs/ft
Plain End Weight	38.97	--	--	--	lbs/ft
PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	2,570	2,570	2,570	2,570	psi
Minimum Internal Yield Pressure	3,950	3,950	3,950	3,950	psi
Minimum Pipe Body Yield Strength	630	--	--	--	1,000 lbs
Joint Strength	--	714	520	452	1,000 lbs
Reference Length	--	11,898	8,665	7,529	ft
MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	4.81	4.75	3.38	in.
Minimum Make-Up Torque	--	--	3,900	3,390	ft-lbs
Maximum Make-Up Torque	--	--	6,500	5,650	ft-lbs

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U. S. Steel Tubular Products
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www.usstubular.com

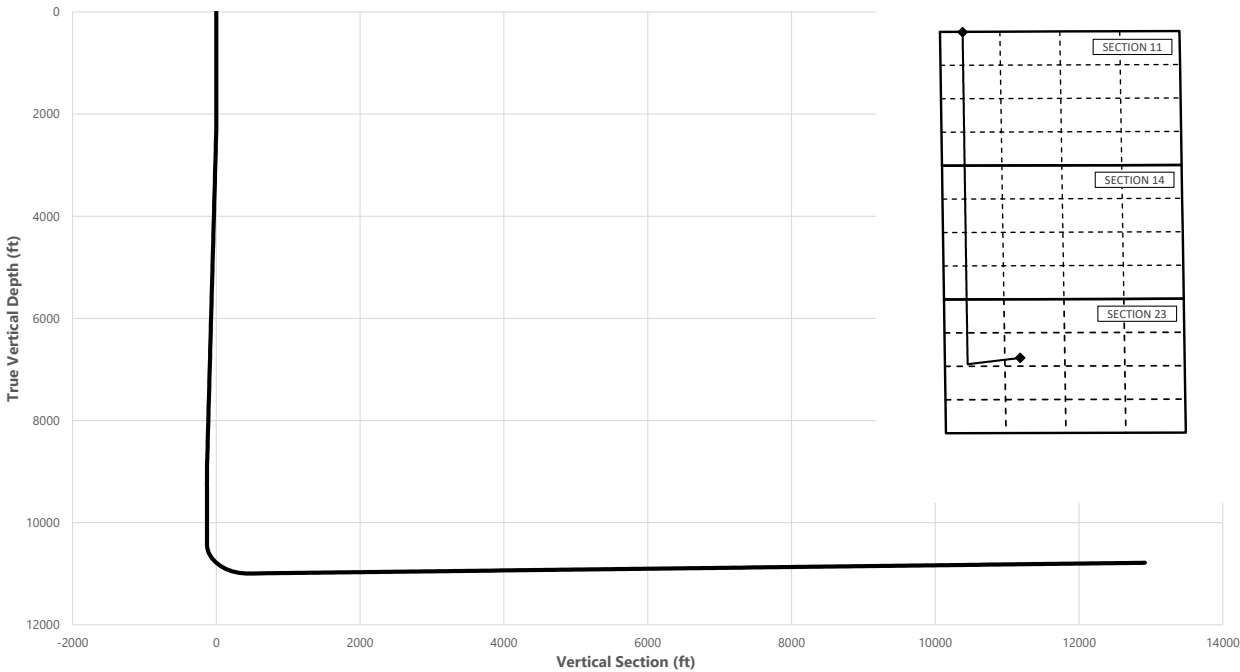
Muskie 23-11 Fed Com 9H



Well: Muskie 23-11 Fed Com 9H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	258.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	258.00	2497.47	-9.05	-42.57	-4.82	2.00	Hold Tangent
8827.87	10.00	258.00	8729.20	-237.51	-1117.38	-126.41	0.00	Drop to Vertical
9327.87	0.00	258.00	9226.67	-246.56	-1159.95	-131.23	2.00	Hold Vertical
10523.33	0.00	359.52	10422.12	-246.56	-1159.95	-131.23	0.00	KOP
11432.94	90.96	359.52	10995.00	335.99	-1164.89	448.98	10.00	Landing Point
23951.85	90.96	359.52	10785.00	12852.69	-1270.84	12915.37	0.00	BHL



Key Depths	MD	TVD
	(ft)	(ft)
Rustler	890.00	890.00
Salt	1250.00	1250.00
Base of Salt	5041.14	5000.00
Delaware	5345.77	5300.00
Cherry Canyon	6396.73	6335.00
Brushy Canyon	8062.03	7975.00
1st Bone Spring Lime	9506.20	9405.00
Bone Spring 1st / Point of Penetratic	10672.90	10570.00
exit	23871.85	10786.36

SHL
KOP
Point of Penetration
Exit
BHL

MD	TVD	Lat	Long	Section Footages
(ft)	(ft)	(°)	(°)	
0.00	0.00	32.0297	-103.4440	2316' FNL, 1662' FWL of Sec 23 in T26S, R34E
10523.33	10422.12	32.0290	-103.4477	2558' FNL, 500' FWL of Sec 23 in T26S, R34E
10672.90	10570.00	32.0292	-103.4476	2539' FNL, 500' FWL of Sec 23 in T26S, R34E
23871.85	10786.36	32.0649	-103.4476	100' FNL, 500' FWL of Sec 11 in T26S, R34E
23951.85	10785.00	32.0651	-103.4477	20' FNL, 500' FWL of Sec 11 in T26S, R34E

	Y	X	MD
KOP	375465	815810	10523.33

Muskie 23-11 Fed Com 9H



Well: Muskie 23-11 Fed Com 9H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	258.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	258.00	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	258.00	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	258.00	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	258.00	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	258.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	258.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	258.00	800.00	0.00	0.00	0.00	0.00	
890.00	0.00	258.00	890.00	0.00	0.00	0.00	0.00	Rustler
900.00	0.00	258.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	258.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	258.00	1100.00	0.00	0.00	0.00	0.00	
1200.00	0.00	258.00	1200.00	0.00	0.00	0.00	0.00	
1250.00	0.00	258.00	1250.00	0.00	0.00	0.00	0.00	Salt
1300.00	0.00	258.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	258.00	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	258.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	258.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	258.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	258.00	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	258.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	258.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	258.00	2099.98	-0.36	-1.71	-0.19	2.00	
2200.00	4.00	258.00	2199.84	-1.45	-6.83	-0.77	2.00	
2300.00	6.00	258.00	2299.45	-3.26	-15.35	-1.74	2.00	
2400.00	8.00	258.00	2398.70	-5.80	-27.27	-3.09	2.00	
2500.00	10.00	258.00	2497.47	-9.05	-42.57	-4.82	2.00	Hold Tangent
2600.00	10.00	258.00	2595.95	-12.66	-59.56	-6.74	0.00	
2700.00	10.00	258.00	2694.43	-16.27	-76.54	-8.66	0.00	
2800.00	10.00	258.00	2792.91	-19.88	-93.53	-10.58	0.00	
2900.00	10.00	258.00	2891.39	-23.49	-110.51	-12.50	0.00	
3000.00	10.00	258.00	2989.87	-27.10	-127.50	-14.42	0.00	
3100.00	10.00	258.00	3088.35	-30.71	-144.48	-16.35	0.00	
3200.00	10.00	258.00	3186.83	-34.32	-161.47	-18.27	0.00	
3300.00	10.00	258.00	3285.31	-37.93	-178.45	-20.19	0.00	
3400.00	10.00	258.00	3383.79	-41.54	-195.44	-22.11	0.00	
3500.00	10.00	258.00	3482.27	-45.15	-212.42	-24.03	0.00	
3600.00	10.00	258.00	3580.75	-48.76	-229.41	-25.95	0.00	
3700.00	10.00	258.00	3679.23	-52.37	-246.40	-27.87	0.00	
3800.00	10.00	258.00	3777.72	-55.98	-263.38	-29.80	0.00	
3900.00	10.00	258.00	3876.20	-59.59	-280.37	-31.72	0.00	
4000.00	10.00	258.00	3974.68	-63.21	-297.35	-33.64	0.00	
4100.00	10.00	258.00	4073.16	-66.82	-314.34	-35.56	0.00	
4200.00	10.00	258.00	4171.64	-70.43	-331.32	-37.48	0.00	
4300.00	10.00	258.00	4270.12	-74.04	-348.31	-39.40	0.00	
4400.00	10.00	258.00	4368.60	-77.65	-365.29	-41.33	0.00	
4500.00	10.00	258.00	4467.08	-81.26	-382.28	-43.25	0.00	
4600.00	10.00	258.00	4565.56	-84.87	-399.26	-45.17	0.00	
4700.00	10.00	258.00	4664.04	-88.48	-416.25	-47.09	0.00	
4800.00	10.00	258.00	4762.52	-92.09	-433.23	-49.01	0.00	
4900.00	10.00	258.00	4861.00	-95.70	-450.22	-50.93	0.00	
5000.00	10.00	258.00	4959.48	-99.31	-467.20	-52.85	0.00	
5041.14	10.00	258.00	5000.00	-100.79	-474.19	-53.65	0.00	Base of Salt
5100.00	10.00	258.00	5057.97	-102.92	-484.19	-54.78	0.00	
5200.00	10.00	258.00	5156.45	-106.53	-501.18	-56.70	0.00	
5300.00	10.00	258.00	5254.93	-110.14	-518.16	-58.62	0.00	
5345.77	10.00	258.00	5300.00	-111.79	-525.93	-59.50	0.00	Delaware
5400.00	10.00	258.00	5353.41	-113.75	-535.15	-60.54	0.00	
5500.00	10.00	258.00	5451.89	-117.36	-552.13	-62.46	0.00	
5600.00	10.00	258.00	5550.37	-120.97	-569.12	-64.38	0.00	
5700.00	10.00	258.00	5648.85	-124.58	-586.10	-66.31	0.00	
5800.00	10.00	258.00	5747.33	-128.19	-603.09	-68.23	0.00	
5900.00	10.00	258.00	5845.81	-131.80	-620.07	-70.15	0.00	
6000.00	10.00	258.00	5944.29	-135.41	-637.06	-72.07	0.00	
6100.00	10.00	258.00	6042.77	-139.02	-654.04	-73.99	0.00	
6200.00	10.00	258.00	6141.25	-142.63	-671.03	-75.91	0.00	
6300.00	10.00	258.00	6239.73	-146.24	-688.01	-77.84	0.00	
6396.73	10.00	258.00	6335.00	-149.74	-704.44	-79.69	0.00	Cherry Canyon
6400.00	10.00	258.00	6338.22	-149.85	-705.00	-79.76	0.00	

Muskie 23-11 Fed Com 9H



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Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
6500.00	10.00	258.00	6436.70	-153.47	-721.98	-81.68	0.00	
6600.00	10.00	258.00	6535.18	-157.08	-738.97	-83.60	0.00	
6700.00	10.00	258.00	6633.66	-160.69	-755.96	-85.52	0.00	
6800.00	10.00	258.00	6732.14	-164.30	-772.94	-87.44	0.00	
6900.00	10.00	258.00	6830.62	-167.91	-789.93	-89.36	0.00	
7000.00	10.00	258.00	6929.10	-171.52	-806.91	-91.29	0.00	
7100.00	10.00	258.00	7027.58	-175.13	-823.90	-93.21	0.00	
7200.00	10.00	258.00	7126.06	-178.74	-840.88	-95.13	0.00	
7300.00	10.00	258.00	7224.54	-182.35	-857.87	-97.05	0.00	
7400.00	10.00	258.00	7323.02	-185.96	-874.85	-98.97	0.00	
7500.00	10.00	258.00	7421.50	-189.57	-891.84	-100.89	0.00	
7600.00	10.00	258.00	7519.99	-193.18	-908.82	-102.82	0.00	
7700.00	10.00	258.00	7618.47	-196.79	-925.81	-104.74	0.00	
7800.00	10.00	258.00	7716.95	-200.40	-942.79	-106.66	0.00	
7900.00	10.00	258.00	7815.43	-204.01	-959.78	-108.58	0.00	
8000.00	10.00	258.00	7913.91	-207.62	-976.76	-110.50	0.00	
8062.03	10.00	258.00	7975.00	-209.86	-987.30	-111.69	0.00	Brushy Canyon
8100.00	10.00	258.00	8012.39	-211.23	-993.75	-112.42	0.00	
8200.00	10.00	258.00	8110.87	-214.84	-1010.74	-114.34	0.00	
8300.00	10.00	258.00	8209.35	-218.45	-1027.72	-116.27	0.00	
8400.00	10.00	258.00	8307.83	-222.06	-1044.71	-118.19	0.00	
8500.00	10.00	258.00	8406.31	-225.67	-1061.69	-120.11	0.00	
8600.00	10.00	258.00	8504.79	-229.28	-1078.68	-122.03	0.00	
8700.00	10.00	258.00	8603.27	-232.89	-1095.66	-123.95	0.00	
8800.00	10.00	258.00	8701.75	-236.50	-1112.65	-125.87	0.00	
8827.87	10.00	258.00	8729.20	-237.51	-1117.38	-126.41	0.00	Drop to Vertical
8900.00	8.56	258.00	8800.39	-239.93	-1128.76	-127.69	2.00	
9000.00	6.56	258.00	8899.51	-242.66	-1141.62	-129.15	2.00	
9100.00	4.56	258.00	8999.04	-244.67	-1151.09	-130.22	2.00	
9200.00	2.56	258.00	9098.84	-245.96	-1157.16	-130.91	2.00	
9300.00	0.56	258.00	9198.80	-246.53	-1159.82	-131.21	2.00	
9327.87	0.00	258.00	9226.67	-246.56	-1159.95	-131.23	2.00	Hold Vertical
9400.00	0.00	359.52	9298.80	-246.56	-1159.95	-131.22	0.00	
9500.00	0.00	359.52	9398.80	-246.56	-1159.95	-131.22	0.00	
9506.20	0.00	359.52	9405.00	-246.56	-1159.95	-131.22	0.00	1st Bone Spring Lime
9600.00	0.00	359.52	9498.80	-246.56	-1159.95	-131.22	0.00	
9700.00	0.00	359.52	9598.80	-246.56	-1159.95	-131.22	0.00	
9800.00	0.00	359.52	9698.80	-246.56	-1159.95	-131.22	0.00	
9900.00	0.00	359.52	9798.80	-246.56	-1159.95	-131.22	0.00	
10000.00	0.00	359.52	9898.80	-246.56	-1159.95	-131.22	0.00	
10100.00	0.00	359.52	9998.80	-246.56	-1159.95	-131.22	0.00	
10200.00	0.00	359.52	10098.80	-246.56	-1159.95	-131.22	0.00	
10300.00	0.00	359.52	10198.80	-246.56	-1159.95	-131.22	0.00	
10400.00	0.00	359.52	10298.80	-246.56	-1159.95	-131.22	0.00	
10500.00	0.00	359.52	10398.80	-246.56	-1159.95	-131.22	0.00	
10523.33	0.00	359.52	10422.12	-246.56	-1159.95	-131.23	0.00	KOP
10600.00	7.67	359.52	10498.57	-241.43	-1160.00	-126.12	10.00	
10672.90	14.96	359.52	10570.00	-227.14	-1160.12	-111.89	10.00	Bone Spring 1st / Point of Penetration
10700.00	17.67	359.52	10596.01	-219.53	-1160.18	-104.31	10.00	
10800.00	27.67	359.52	10688.17	-181.05	-1160.51	-65.97	10.00	
10900.00	37.67	359.52	10772.24	-127.14	-1160.97	-12.28	10.00	
11000.00	47.67	359.52	10845.68	-59.45	-1161.54	55.13	10.00	
11100.00	57.67	359.52	10906.25	19.96	-1162.21	134.22	10.00	
11200.00	67.67	359.52	10952.11	108.67	-1162.96	222.58	10.00	
11300.00	77.67	359.52	10981.86	204.01	-1163.77	317.53	10.00	
11400.00	87.67	359.52	10994.61	303.06	-1164.61	416.19	10.00	
11432.94	90.96	359.52	10995.00	335.99	-1164.89	448.98	10.00	Landing Point
11500.00	90.96	359.52	10993.88	403.04	-1165.45	515.77	0.00	
11600.00	90.96	359.52	10992.20	503.03	-1166.30	615.35	0.00	
11700.00	90.96	359.52	10990.52	603.01	-1167.15	714.93	0.00	
11800.00	90.96	359.52	10988.84	702.99	-1167.99	814.51	0.00	
11900.00	90.96	359.52	10987.17	802.97	-1168.84	914.09	0.00	
12000.00	90.96	359.52	10985.49	902.95	-1169.69	1013.67	0.00	
12100.00	90.96	359.52	10983.81	1002.94	-1170.53	1113.25	0.00	
12200.00	90.96	359.52	10982.13	1102.92	-1171.38	1212.83	0.00	
12300.00	90.96	359.52	10980.46	1202.90	-1172.23	1312.41	0.00	
12400.00	90.96	359.52	10978.78	1302.88	-1173.08	1411.99	0.00	
12500.00	90.96	359.52	10977.10	1402.87	-1173.92	1511.57	0.00	
12600.00	90.96	359.52	10975.42	1502.85	-1174.77	1611.15	0.00	
12700.00	90.96	359.52	10973.75	1602.83	-1175.62	1710.73	0.00	

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(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
12800.00	90.96	359.52	10972.07	1702.81	-1176.46	1810.31	0.00	
12900.00	90.96	359.52	10970.39	1802.80	-1177.31	1909.89	0.00	
13000.00	90.96	359.52	10968.72	1902.78	-1178.16	2009.47	0.00	
13100.00	90.96	359.52	10967.04	2002.76	-1179.00	2109.05	0.00	
13200.00	90.96	359.52	10965.36	2102.74	-1179.85	2208.63	0.00	
13300.00	90.96	359.52	10963.68	2202.72	-1180.70	2308.21	0.00	
13400.00	90.96	359.52	10962.01	2302.71	-1181.54	2407.79	0.00	
13500.00	90.96	359.52	10960.33	2402.69	-1182.39	2507.38	0.00	
13600.00	90.96	359.52	10958.65	2502.67	-1183.24	2606.96	0.00	
13700.00	90.96	359.52	10956.97	2602.65	-1184.08	2706.54	0.00	
13800.00	90.96	359.52	10955.30	2702.64	-1184.93	2806.12	0.00	
13900.00	90.96	359.52	10953.62	2802.62	-1185.78	2905.70	0.00	
14000.00	90.96	359.52	10951.94	2902.60	-1186.63	3005.28	0.00	
14100.00	90.96	359.52	10950.26	3002.58	-1187.47	3104.86	0.00	
14200.00	90.96	359.52	10948.59	3102.57	-1188.32	3204.44	0.00	
14300.00	90.96	359.52	10946.91	3202.55	-1189.17	3304.02	0.00	
14400.00	90.96	359.52	10945.23	3302.53	-1190.01	3403.60	0.00	
14500.00	90.96	359.52	10943.56	3402.51	-1190.86	3503.18	0.00	
14600.00	90.96	359.52	10941.88	3502.50	-1191.71	3602.76	0.00	
14700.00	90.96	359.52	10940.20	3602.48	-1192.55	3702.34	0.00	
14800.00	90.96	359.52	10938.52	3702.46	-1193.40	3801.92	0.00	
14900.00	90.96	359.52	10936.85	3802.44	-1194.25	3901.50	0.00	
15000.00	90.96	359.52	10935.17	3902.42	-1195.09	4001.08	0.00	
15100.00	90.96	359.52	10933.49	4002.41	-1195.94	4100.66	0.00	
15200.00	90.96	359.52	10931.81	4102.39	-1196.79	4200.24	0.00	
15300.00	90.96	359.52	10930.14	4202.37	-1197.64	4299.82	0.00	
15400.00	90.96	359.52	10928.46	4302.35	-1198.48	4399.40	0.00	
15500.00	90.96	359.52	10926.78	4402.34	-1199.33	4498.98	0.00	
15600.00	90.96	359.52	10925.10	4502.32	-1200.18	4598.57	0.00	
15700.00	90.96	359.52	10923.43	4602.30	-1201.02	4698.15	0.00	
15800.00	90.96	359.52	10921.75	4702.28	-1201.87	4797.73	0.00	
15900.00	90.96	359.52	10920.07	4802.27	-1202.72	4897.31	0.00	
16000.00	90.96	359.52	10918.40	4902.25	-1203.56	4996.89	0.00	
16100.00	90.96	359.52	10916.72	5002.23	-1204.41	5096.47	0.00	
16200.00	90.96	359.52	10915.04	5102.21	-1205.26	5196.05	0.00	
16300.00	90.96	359.52	10913.36	5202.20	-1206.10	5295.63	0.00	
16400.00	90.96	359.52	10911.69	5302.18	-1206.95	5395.21	0.00	
16500.00	90.96	359.52	10910.01	5402.16	-1207.80	5494.79	0.00	
16600.00	90.96	359.52	10908.33	5502.14	-1208.64	5594.37	0.00	
16700.00	90.96	359.52	10906.65	5602.12	-1209.49	5693.95	0.00	
16800.00	90.96	359.52	10904.98	5702.11	-1210.34	5793.53	0.00	
16900.00	90.96	359.52	10903.30	5802.09	-1211.19	5893.11	0.00	
17000.00	90.96	359.52	10901.62	5902.07	-1212.03	5992.69	0.00	
17100.00	90.96	359.52	10899.94	6002.05	-1212.88	6092.27	0.00	
17200.00	90.96	359.52	10898.27	6102.04	-1213.73	6191.85	0.00	
17300.00	90.96	359.52	10896.59	6202.02	-1214.57	6291.43	0.00	
17400.00	90.96	359.52	10894.91	6302.00	-1215.42	6391.01	0.00	
17500.00	90.96	359.52	10893.24	6401.98	-1216.27	6490.59	0.00	
17600.00	90.96	359.52	10891.56	6501.97	-1217.11	6590.17	0.00	
17700.00	90.96	359.52	10889.88	6601.95	-1217.96	6689.76	0.00	
17800.00	90.96	359.52	10888.20	6701.93	-1218.81	6789.34	0.00	
17900.00	90.96	359.52	10886.53	6801.91	-1219.65	6888.92	0.00	
18000.00	90.96	359.52	10884.85	6901.90	-1220.50	6988.50	0.00	
18100.00	90.96	359.52	10883.17	7001.88	-1221.35	7088.08	0.00	
18200.00	90.96	359.52	10881.49	7101.86	-1222.19	7187.66	0.00	
18300.00	90.96	359.52	10879.82	7201.84	-1223.04	7287.24	0.00	
18400.00	90.96	359.52	10878.14	7301.82	-1223.89	7386.82	0.00	
18500.00	90.96	359.52	10876.46	7401.81	-1224.74	7486.40	0.00	
18600.00	90.96	359.52	10874.78	7501.79	-1225.58	7585.98	0.00	
18700.00	90.96	359.52	10873.11	7601.77	-1226.43	7685.56	0.00	
18800.00	90.96	359.52	10871.43	7701.75	-1227.28	7785.14	0.00	
18900.00	90.96	359.52	10869.75	7801.74	-1228.12	7884.72	0.00	
19000.00	90.96	359.52	10868.08	7901.72	-1228.97	7984.30	0.00	
19100.00	90.96	359.52	10866.40	8001.70	-1229.82	8083.88	0.00	
19200.00	90.96	359.52	10864.72	8101.68	-1230.66	8183.46	0.00	
19300.00	90.96	359.52	10863.04	8201.67	-1231.51	8283.04	0.00	
19400.00	90.96	359.52	10861.37	8301.65	-1232.36	8382.62	0.00	
19500.00	90.96	359.52	10859.69	8401.63	-1233.20	8482.20	0.00	
19600.00	90.96	359.52	10858.01	8501.61	-1234.05	8581.78	0.00	
19700.00	90.96	359.52	10856.33	8601.60	-1234.90	8681.36	0.00	

Muskie 23-11 Fed Com 9H



Well: Muskie 23-11 Fed Com 9H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983
Datum: North American Datum 1927
Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
19800.00	90.96	359.52	10854.66	8701.58	-1235.74	8780.94	0.00	
19900.00	90.96	359.52	10852.98	8801.56	-1236.59	8880.53	0.00	
20000.00	90.96	359.52	10851.30	8901.54	-1237.44	8980.11	0.00	
20100.00	90.96	359.52	10849.62	9001.52	-1238.29	9079.69	0.00	
20200.00	90.96	359.52	10847.95	9101.51	-1239.13	9179.27	0.00	
20300.00	90.96	359.52	10846.27	9201.49	-1239.98	9278.85	0.00	
20400.00	90.96	359.52	10844.59	9301.47	-1240.83	9378.43	0.00	
20500.00	90.96	359.52	10842.92	9401.45	-1241.67	9478.01	0.00	
20600.00	90.96	359.52	10841.24	9501.44	-1242.52	9577.59	0.00	
20700.00	90.96	359.52	10839.56	9601.42	-1243.37	9677.17	0.00	
20800.00	90.96	359.52	10837.88	9701.40	-1244.21	9776.75	0.00	
20900.00	90.96	359.52	10836.21	9801.38	-1245.06	9876.33	0.00	
21000.00	90.96	359.52	10834.53	9901.37	-1245.91	9975.91	0.00	
21100.00	90.96	359.52	10832.85	10001.35	-1246.75	10075.49	0.00	
21200.00	90.96	359.52	10831.17	10101.33	-1247.60	10175.07	0.00	
21300.00	90.96	359.52	10829.50	10201.31	-1248.45	10274.65	0.00	
21400.00	90.96	359.52	10827.82	10301.29	-1249.30	10374.23	0.00	
21500.00	90.96	359.52	10826.14	10401.28	-1250.14	10473.81	0.00	
21600.00	90.96	359.52	10824.46	10501.26	-1250.99	10573.39	0.00	
21700.00	90.96	359.52	10822.79	10601.24	-1251.84	10672.97	0.00	
21800.00	90.96	359.52	10821.11	10701.22	-1252.68	10772.55	0.00	
21900.00	90.96	359.52	10819.43	10801.21	-1253.53	10872.13	0.00	
22000.00	90.96	359.52	10817.76	10901.19	-1254.38	10971.72	0.00	
22100.00	90.96	359.52	10816.08	11001.17	-1255.22	11071.30	0.00	
22200.00	90.96	359.52	10814.40	11101.15	-1256.07	11170.88	0.00	
22300.00	90.96	359.52	10812.72	11201.14	-1256.92	11270.46	0.00	
22400.00	90.96	359.52	10811.05	11301.12	-1257.76	11370.04	0.00	
22500.00	90.96	359.52	10809.37	11401.10	-1258.61	11469.62	0.00	
22600.00	90.96	359.52	10807.69	11501.08	-1259.46	11569.20	0.00	
22700.00	90.96	359.52	10806.01	11601.07	-1260.30	11668.78	0.00	
22800.00	90.96	359.52	10804.34	11701.05	-1261.15	11768.36	0.00	
22900.00	90.96	359.52	10802.66	11801.03	-1262.00	11867.94	0.00	
23000.00	90.96	359.52	10800.98	11901.01	-1262.85	11967.52	0.00	
23100.00	90.96	359.52	10799.30	12000.99	-1263.69	12067.10	0.00	
23200.00	90.96	359.52	10797.63	12100.98	-1264.54	12166.68	0.00	
23300.00	90.96	359.52	10795.95	12200.96	-1265.39	12266.26	0.00	
23400.00	90.96	359.52	10794.27	12300.94	-1266.23	12365.84	0.00	
23500.00	90.96	359.52	10792.60	12400.92	-1267.08	12465.42	0.00	
23600.00	90.96	359.52	10790.92	12500.91	-1267.93	12565.00	0.00	
23700.00	90.96	359.52	10789.24	12600.89	-1268.77	12664.58	0.00	
23800.00	90.96	359.52	10787.56	12700.87	-1269.62	12764.16	0.00	
23871.85	90.96	359.52	10786.36	12772.70	-1270.23	12835.71	0.00	exit
23900.00	90.96	359.52	10785.89	12800.85	-1270.47	12863.74	0.00	
23951.85	90.96	359.52	10785.00	12852.69	-1270.84	12915.37	0.00	BHL

Muskie 23-11 Fed Com 9H

1. Geologic Formations

TVD of target	10786	Pilot hole depth	N/A
MD at TD:	23952	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	890		
Salt	1250		
Base of Salt	5000		
Delaware	5300		
Cherry Canyon	6335		
Brushy Canyon	7975		
1st Bone Spring Lime	9405		
Bone Spring 1st	10570		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Muskie 23-11 Fed Com 9H

2. Casing Program

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
17 1/2	13 3/8	48	H40	BTC	0	915	0	915
12 1/4	9 5/8	40	J-55	BTC	0	5100	0	5100
8 3/4	5 1/2	17	P110	BTC	0	23952	0	10786

•All casing strings will be tested in accordance with 43 CFR 3172. Must have table for contingency casing.

3. Cementing Program (3-String Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	701	Surf	13.2	1.4	Lead: Class C Cement + additives
Int 1	564	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	4600	13.2	1.4	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	733	Surf	9.0	3.3	Squeeze Lead: Class C Cement + additives
	564	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	4600	13.2	1.4	Tail: Class H / C + additives
Production	505	4600	9.0	3.3	Lead: Class H / C + additives
	2591	10523	13.2	1.4	Tail: Class H / C + additives

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	50%
Intermediate	30%
Production	10%

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4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-58"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
Production	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
			Annular (5M)		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

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5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	Brine	10-10.5
Production	WBM	8.5-9

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

Additional logs planned		Interval
	Resistivity	
	Density	
X	CBL	Production casing
X	Mud log	KOP to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	5048
Abnormal temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR 3176. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

N	H ₂ S is present
Y	H ₂ S plan attached.

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8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
 - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (43 CFR 3172, all COAs and NMOCD regulations).
- 3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pad.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan
 Other, describe

23-26-34-F Sundry ID 2749372 Muskie 23-14 Fed Com 9H.xlsm

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13 3/8	surface csg in a	17 1/2	inch hole.	Design Factors					Surface			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	48.00	h 40	btc	10.25	1.5	0.62	1,100	4	1.04	2.83	52,800	
"B"			btc				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 731				Tail Cmt	does not	circ to sfc.	Totals:	1,100			52,800	
Comparison of Proposed to Minimum Required Cement Volumes												
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			Min Dist	
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Hole-Cplg	
17 1/2	0.6946	701	1009	764	32	9.00	1660	2M			1.56	
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.												
Site plat (pipe racks 5 or E) as per O.O.I.III.D.4.I: not found.												

9 5/8	casing inside the	13 3/8		Design Factors					Int 1			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	40.00	j 55	btc	3.09	0.92	0.78	5,100	1	1.48	1.55	204,000	
"B"							0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	5,100			204,000	
The cement volume(s) are intended to achieve a top of				0		ft from surface or a	1100				overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			Min Dist	
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Hole-Cplg	
12 1/4	0.3132	718	2066	1667	24	10.50	2670	3M			0.81	
Class 'C' tail cmt yld > 1.35												
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.77, b, c, d All > 0.70, OK.												

5 1/2	casing inside the	9 5/8		Design Factors					Prod 1			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	17.00	p 110	btc	2.98	1.48	2.11	23,952	2	3.99	2.80	407,184	
"B"							0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,373							Totals:	23,952			407,184	
The cement volume(s) are intended to achieve a top of				4900		ft from surface or a	200				overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			Min Dist	
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Hole-Cplg	
8 3/4	0.2526	3096	5294	4814	10	9.00					1.35	
Class 'C' tail cmt yld > 1.35												

0		5 1/2		Design Factors					<Choose Casing>			
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"			0.00				0				0	
"B"			0.00				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	0			0	
Cmt vol calc below includes this csg, TOC intended				#N/A		ft from surface or a	#N/A				overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			Min Dist	
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Hole-Cplg	
0		#N/A	#N/A	0	#N/A							
#N/A Capitan Reef est top XXXX.												

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1625 N. French Dr., Hobbs, NM 88240
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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 265709

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 265709
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	10/26/2023