## Sundry Print Report

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

Well Name: TATER TOT 2-35 FED Well Location: T24S / R29E / SEC 2 / County or Parish/State:

COM SWSE /

Well Number: 712H Type of Well: OIL WELL Allottee or Tribe Name:

Lease Number: NMNM103604 Unit or CA Name: Unit or CA Number:

US Well Number: 3001549049 Well Status: Approved Application for Operator: DEVON ENERGY

Permit to Drill PRODUCTION COMPANY LP

#### **Notice of Intent**

**Sundry ID: 2765641** 

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 12/12/2023 Time Sundry Submitted: 02:27

Date proposed operation will begin: 12/12/2023

**Procedure Description:** Engineer Review only - DRILLING CHANGE: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the drilling plan with casing changes and cement loss plan. Please see attachments.

## **NOI Attachments**

## **Procedure Description**

Tater\_Tot\_2\_35\_\_Fed\_Com\_712H\_slim\_hole\_rev1\_20231213091513.pdf

9.625\_40\_J55\_\_\_SeAH\_20231212142706.pdf

5.50\_20\_\_VA\_EP\_P110\_VAroughneck\_6.051in\_20231212142707.pdf

CDS\_FXL\_7\_625\_29\_7\_BMP\_P110HSCY\_95\_RBW\_Sep20\_2023\_20231212142706.pdf

5.5\_20\_P110EC\_SPRINT\_SF\_\_\_VST\_20231212142705.pdf

Tater\_Tot\_2\_35\_\_Fed\_Com\_712H\_Directional\_Plan\_12\_12\_23\_20231212105018.pdf

eceived by OCD: 12/13/2023 12:36:38 PM Well Name: TATER TOT 2-35 FED

COM

Well Location: T24S / R29E / SEC 2 /

SWSE /

Well Number: 712H

Type of Well: OIL WELL

Allottee or Tribe Name:

County or Parish/State:

Page 2 of

Lease Number: NMNM103604

IMNM103604 Unit or CA Name:

**Conditions of Approval** 

**Unit or CA Number:** 

**US Well Number: 3001549049** 

**Well Status:** Approved Application for Permit to Drill

**Operator:** DEVON ENERGY PRODUCTION COMPANY LP

## Specialist Review

Tater Tot 2 35 Fed Com 712H Sundry ID 2765641 20231213122249.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: SHAYDA OMOUMI Signed on: DEC 13, 2023 09:15 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

**Title:** Regulatory Compliance Associate 3 **Street Address:** 333 W SHERIDAN AVE

City: OKLAHOMA CITY State: OK

Phone: (405) 235-3611

Email address: SHAYDA.OMOUMI@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: 5759885402 BLM POC Email Address: LVO@BLM.GOV

**Disposition:** Approved **Disposition Date:** 12/13/2023

Signature: Long Vo

Page 2 of 2

Issued on: 08 Jul. 2020 by Wesley Ott



**Connection Data Sheet** 

	1				
OD	Weight	Wall Th.	Grade	API Drift:	Connection
5 1/2 in.	20.00 lb/ft	0.361 in.	P110EC	4.653 in.	VAM® SPRINT-SF

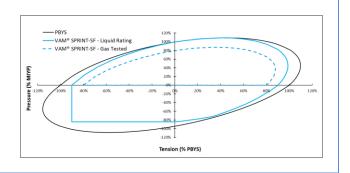
PIPE PROPERTIES		
Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Cross Section Area	5.828	sqin.
Grade Type	Hig	h Yield
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Ultimate Tensile Strength	135	ksi

CONNECTION P	ROPERTIES	
Connection Type	Semi-Premium Integral	Semi-Flush
Connection OD (nom):	5.783	in.
Connection ID (nom):	4.717	in.
Make-Up Loss	5.965	in.
Critical Cross Section	5.244	sqin.
Tension Efficiency	90.0	% of pipe
Compression Efficiency	90.0	% of pipe
Internal Pressure Efficiency	100	% of pipe
External Pressure Efficiency	100	% of pipe

CONNECTION PERFORMANCES					
Tensile Yield Strength	656	klb			
Compression Resistance	656	klb			
Internal Yield Pressure	14,360	psi			
Collapse Resistance	12,080	psi			
Max. Structural Bending	89	°/100ft			
Max. Bending with ISO/API Sealability	30	°/100ft			

TORQUE VALUES		
Min. Make-up torque	20,000	ft.lb
Opt. Make-up torque	22,500	ft.lb
Max. Make-up torque	25,000	ft.lb
Max. Torque with Sealability (MTS)	40,000	ft.lb

VAM® SPRINT-SF is a semi-flush connection innovatively designed for extreme shale applications. Its high tension rating and ultra high torque capacity make it ideal to run a fill string length as production casing in shale wells with extended horizontal sections and tight clearance requirements.



canada@vamfieldservice.com usa@vamfieldservice.com mexico@vamfieldservice.com

brazil@vamfieldservice.com

Do you need help on this product? - Remember no one knows  $\mathrm{VAM}^{\circledR}$  like  $\mathrm{VAM}^{\circledR}$ 

uk@vamfieldservice.com dubai@vamfieldservice.com nigeria@vamfieldservice.com angola@vamfieldservice.com china@vamfieldservice.com baku@vamfieldservice.com singapore@vamfieldservice.com australia@vamfieldservice.com

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance



<sup>\* 87.5%</sup> RBW

Metric

862 Mpa

965 Mpa

862 Mpa

## **TECHNICAL DATA SHEET**

Connection: VAroughneck

Size: 5 1/2 in X 20.00 lb/ft

Drift: standard
Bevel: standard

Grade: VA-EP-P110

Material:

Yield Strength Min. 125,000 psi
Yield Strength Max. 140,000 psi
Tensile Strength Min. 125,000 psi

**US Customary** 

Pipe:

	US Customary	Metric		US Customary	Metric
Nominal OD:	5.500 in	139.70 mm	Wall Thickness:	0.361 in	9.17 mm
Nominal ID:	4.778 in	121.36 mm	Standard Drift:	4.653 in	118.19 mm
Nominal Weight:	20.00 lb/ft	30.07 kg/m	Pipe Body Yield Strength:	729 klb	3,243 kN
Pipe Cross Section:	5.828 in <sup>2</sup>	3.759.99 mm <sup>2</sup>			

## **Connection:**

_	US Customary	Metric
OD:	6.051 in	153.70 mm
ID:	4.764 in	121.00 mm
Length:	8.976 in	228.00 mm

Threads per inch: 5 Threads

## **Connection Performance (Uniaxial Load):**

_	US Customary	Metric		US Customary	Metric
Joint Strength:	729 klb	3,243 kN	Tension Efficiency:	> 100.0 %	
Collapse Resistance:.	13,300 psi	91.70 Mpa	Displacement:	1.240 gal/ft	15.40 l/m
Internal Yield Pressure:	13,920 psi	96.00 Mpa	Production:	0.932 gal/ft	11.57 l/m
Load on Coupling Face:	411 klb	1.829 kN			

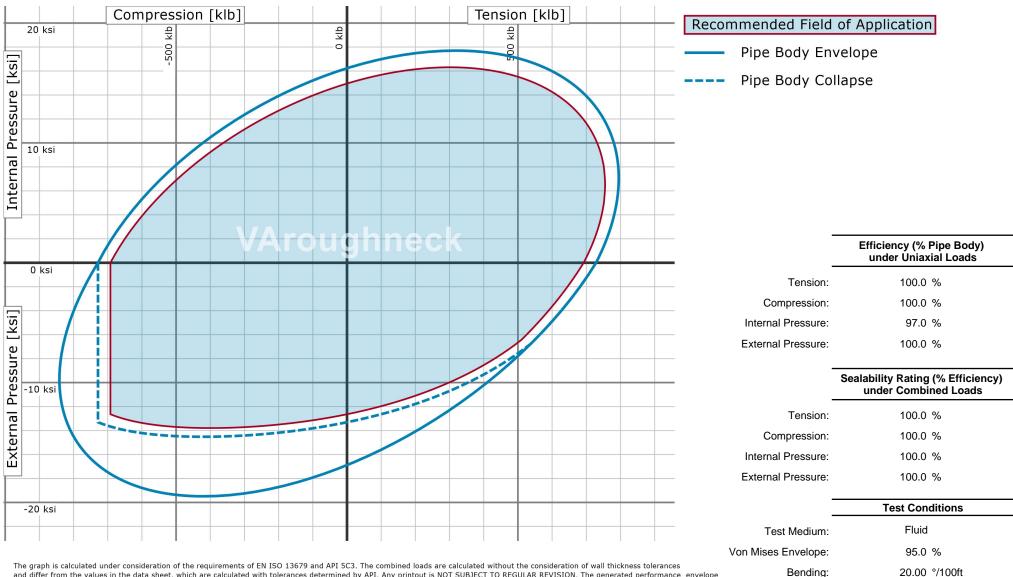
## **Field Make Up (Friction Factor = 1.0):**

	US Customary	Metric		US Customary	Metric
Minimum Torque:	15,822 ft.lb	21,451 Nm	Make-Up Loss:	4.370 in	111.00 mm
Optimum Torque:	17,580 ft.lb	23,835 Nm	Yield Torque:	22,000 ft.lb	29,800 Nm
Maximum Torque:	19,338 ft.lb	26,218 Nm			



Min. Torque on Shoulder:

## **LOAD ENVELOPE**



The graph is calculated under consideration of the requirements of EN ISO 13679 and API 5C3. The combined loads are calculated without the consideration of wall thickness tolerances and differ from the values in the data sheet, which are calculated with tolerances determined by API. Any printout is NOT SUBJECT TO REGULAR REVISION. The generated performance envelope shall solely be used as a tool to facilitate the comparison of performance properties under combined loads, of different grades, sizes and connections of voestalpine Tubulars products. Field-specific safety/design factors as well as other loads are not considered. Thus the results shall by no means be used to replace the own string design engineering or to justify any warranty/guaranty cases.





9.625" 40# .395" J-55

## **Dimensions (Nominal)**

LTC

**BTC** 

Outside Diameter	9.625	in.
Wall	0.395	in.
Inside Diameter	8.835	in.
Drift	8.750	in.
Weight, T&C	40.000	lbs./ft.
Weight, PE	38.970	lbs./ft.
Performance Properties		
Collapse, PE	2570	psi
Collapse, FE	2570	hai
Internal Yield Pressure at Minimum Yield		
PE	3950	psi
LTC	3950	psi
втс	3950	psi
Yield Strength, Pipe Body	630	1000 lbs.
Joint Strength		
STC	452	1000 lbs.

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

520

714

1000 lbs.

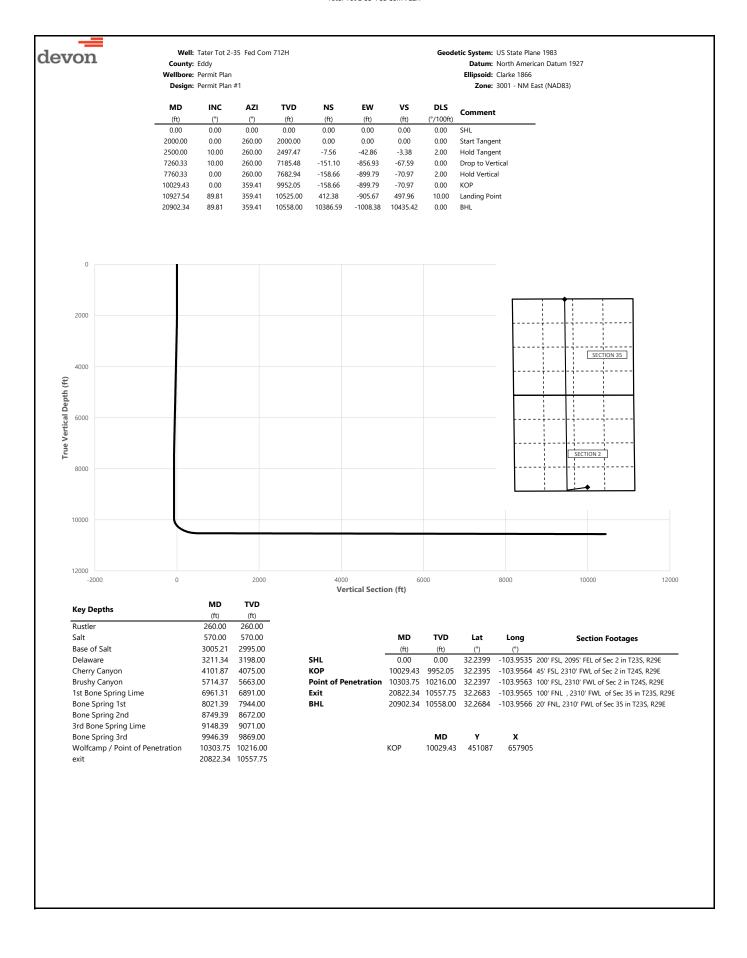
1000 lbs.

letal One Corp.	MO-FXL			MO-FXL 7-5/8 29.7		
1/ 10			CDS#	P110HSCY		
Metal <mark>O</mark> ne	*1 Pipe Body: BMP P110HSC		MinYS125ksi			
	Min95%WT	Date	Min95 <sup>o</sup> 20-Se			
	Connection Data	Connection Data Sheet				
	Geometry	lmnorio		S.I.		
		<u>Imperia</u>	<u>II</u>	<u>S.I.</u>		
	Pipe Body Grade *	P110HSCY		P110HSCY		
	Pipe OD ( D )	7 5/8	in	193.68	mm	
MO-FXL	Weight	29.70	lb/ft	44.25	kg/m	
	Actual weight	29.04	ID/IC	43.26	kg/m	
	Wall Thickness (t)	0.375	in	9.53	mm	
	Pipe ID ( d )	6.875	in	174.63	mm	
	Pipe body cross section	8.541	in <sup>2</sup>	5,510	mm <sup>2</sup>	
	•					
	Drift Dia.	6.750	in	171.45	mm	
<u> </u>	Connection					
$\uparrow$	Box OD (W)	7.625	in	193.68	mm	
	PIN ID	6.875	in	174.63	mm	
Вох	Make up Loss	4.219	in	107.16	mm	
critical	Box Critical Area	5.714	in <sup>2</sup>	3686	mm <sup>2</sup>	
Critical				70	%	
area	Joint load efficiency	70	%	70		
	Joint load efficiency Thread Taper	70 1	<mark>%</mark> / 10 ( 1.		70	
area d	Thread Taper Number of Threads		/ 10 ( 1.	2" per ft )	70	
area d d	Thread Taper Number of Threads  Performance	1	/ 10 ( 1.	.2" per ft )	70	
Make up oss D	Thread Taper Number of Threads  Performance Performance Properties	for Pipe Body	/ 10 ( 1. 5	2" per ft ) TPI		
Make up oss D	Thread Taper Number of Threads  Performance  Performance Properties 1 S.M.Y.S. *1	for Pipe Body	/ 10 ( 1, 5	2" per ft ) TPI  4,749	kN	
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The use of this information is at the reader/user's risk and no warranty is implied or expressed by Metal One Corporation or its parents, subsidiaries or affiliates (herein collectively referred to as "Metal One") with respect to the use of information contained herein. The information provided on this Connection Data Shee is for informational purposes only, and was prepared by reference to engineering information that is specific to the subject products, without regard to safetyrelated factors, all of which are the sole responsibility of the operators and users of the subject connectors. Metal One assumes no responsibility for any errors with respect to this information.

Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mtlo.co.jp/mo-con/ images/top/WebsiteTerms Active 20333287 1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.





County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983

Datum: North American Datum 1927 Ellipsoid: Clarke 1866

	Design:	Permit Plan	#1					<b>Zone:</b> 3001 - NM East (NAD83)
MD	INC	AZI	TVD	NS	EW	vs	DLS	Commant
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	260.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	260.00	200.00	0.00	0.00	0.00	0.00	D. other
260.00 300.00	0.00	260.00 260.00	260.00 300.00	0.00	0.00	0.00 0.00	0.00	Rustler
400.00	0.00	260.00	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	260.00	500.00	0.00	0.00	0.00	0.00	
570.00	0.00	260.00	570.00	0.00	0.00	0.00	0.00	Salt
600.00	0.00	260.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	260.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	260.00	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	260.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	260.00	1000.00	0.00	0.00	0.00	0.00	
1100.00 1200.00	0.00	260.00 260.00	1100.00 1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	260.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	260.00	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	260.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	260.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	260.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	260.00	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	260.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	260.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	260.00	2099.98	-0.30	-1.72	-0.14	2.00	
2200.00 2300.00	4.00 6.00	260.00 260.00	2199.84 2299.45	-1.21 -2.73	-6.87 -15.46	-0.54 -1.22	2.00 2.00	
2400.00	8.00	260.00	2398.70	-2.75 -4.84	-13.46	-1.22 -2.17	2.00	
2500.00	10.00	260.00	2497.47	-7.56	-42.86	-3.38	2.00	Hold Tangent
2600.00	10.00	260.00	2595.95	-10.57	-59.96	-4.73	0.00	<b>.</b>
2700.00	10.00	260.00	2694.43	-13.59	-77.06	-6.08	0.00	
2800.00	10.00	260.00	2792.91	-16.60	-94.16	-7.43	0.00	
2900.00	10.00	260.00	2891.39	-19.62	-111.27	-8.78	0.00	
3000.00	10.00	260.00	2989.87	-22.63	-128.37	-10.12	0.00	- (2)
3005.21	10.00	260.00	2995.00	-22.79	-129.26	-10.19	0.00	Base of Salt
3100.00 3200.00	10.00 10.00	260.00 260.00	3088.35 3186.83	-25.65 -28.67	-145.47 -162.57	-11.47 -12.82	0.00	
3211.34	10.00	260.00	3198.00	-29.01	-164.51	-12.98	0.00	Delaware
3300.00	10.00	260.00	3285.31	-31.68	-179.67	-14.17	0.00	Belavare
3400.00	10.00	260.00	3383.79	-34.70	-196.77	-15.52	0.00	
3500.00	10.00	260.00	3482.27	-37.71	-213.87	-16.87	0.00	
3600.00	10.00	260.00	3580.75	-40.73	-230.97	-18.22	0.00	
3700.00	10.00	260.00	3679.23	-43.74	-248.07	-19.57	0.00	
3800.00	10.00	260.00	3777.72	-46.76	-265.17	-20.92	0.00	
3900.00	10.00	260.00	3876.20	-49.77	-282.28	-22.26	0.00	
4000.00 4100.00	10.00 10.00	260.00 260.00	3974.68 4073.16	-52.79 -55.80	-299.38 -316.48	-23.61 -24.96	0.00	
4101.87	10.00	260.00	4075.00	-55.86	-316.80	-24.99	0.00	Cherry Canyon
4200.00	10.00	260.00	4171.64	-58.82	-333.58	-26.31	0.00	- · · · · · · · · · · · · · · · · · · ·
4300.00	10.00	260.00	4270.12	-61.84	-350.68	-27.66	0.00	
4400.00	10.00	260.00	4368.60	-64.85	-367.78	-29.01	0.00	
4500.00	10.00	260.00	4467.08	-67.87	-384.88	-30.36	0.00	
4600.00	10.00	260.00	4565.56	-70.88	-401.98	-31.71	0.00	
4700.00 4800.00	10.00	260.00	4664.04	-73.90 76.91	-419.08 426.18	-33.05	0.00	
4800.00 4900.00	10.00 10.00	260.00 260.00	4762.52 4861.00	-76.91 -79.93	-436.18 -453.28	-34.40 -35.75	0.00	
5000.00	10.00	260.00	4959.48	-82.94	-470.39	-35.75	0.00	
5100.00	10.00	260.00	5057.97	-85.96	-487.49	-38.45	0.00	
5200.00	10.00	260.00	5156.45	-88.97	-504.59	-39.80	0.00	
5300.00	10.00	260.00	5254.93	-91.99	-521.69	-41.15	0.00	
5400.00	10.00	260.00	5353.41	-95.01	-538.79	-42.50	0.00	
5500.00	10.00	260.00	5451.89	-98.02	-555.89	-43.85	0.00	
5600.00	10.00	260.00	5550.37	-101.04	-572.99	-45.19	0.00	
5700.00 5714.27	10.00	260.00	5648.85	-104.05	-590.09	-46.54 46.74	0.00	Bruchy Capyon
5714.37 5800.00	10.00 10.00	260.00 260.00	5663.00 5747.33	-104.48 -107.07	-592.55 -607.19	-46.74 -47.89	0.00	Brushy Canyon
5900.00	10.00	260.00	5845.81	-107.07	-624.29	-47.69	0.00	
6000.00	10.00	260.00	5944.29	-113.10	-641.40	-50.59	0.00	
6100.00	10.00	260.00	6042.77	-116.11	-658.50	-51.94	0.00	
6200.00	10.00	260.00	6141.25	-119.13	-675.60	-53.29	0.00	
6300.00	10.00	260.00	6239.73	-122.14	-692.70	-54.64	0.00	



County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

**Geodetic System:** US State Plane 1983 **Datum:** North American Datum 1927

Datum: North American Datum 192' Ellipsoid: Clarke 1866

	Design: Permit Plan #1 Zone: 3001 - NM East (NAD83)							Zone. 3001 - Mili East (MAD03)
MD	INC	AZI	TVD	NS	EW	vs	DLS	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	Comment
6400.00	10.00	260.00	6338.22	-125.16	-709.80	-55.98	0.00	
6500.00	10.00	260.00	6436.70	-128.17	-726.90	-57.33	0.00	
6600.00	10.00	260.00	6535.18	-131.19	-744.00	-58.68	0.00	
6700.00	10.00	260.00	6633.66	-134.21	-761.10	-60.03	0.00	
6800.00	10.00	260.00	6732.14	-137.22	-778.20	-61.38	0.00	
6900.00	10.00	260.00	6830.62	-140.24	-795.30	-62.73	0.00	
6961.31	10.00	260.00	6891.00	-142.09	-805.79	-63.56	0.00	1st Bone Spring Lime
7000.00	10.00	260.00	6929.10	-143.25	-812.41	-64.08	0.00	
7100.00	10.00	260.00	7027.58	-146.27	-829.51	-65.43	0.00	
7200.00	10.00	260.00	7126.06	-149.28	-846.61	-66.78	0.00	
7260.33	10.00	260.00	7185.48	-151.10	-856.93	-67.59	0.00	Drop to Vertical
7300.00	9.21	260.00	7224.59	-152.25	-863.44	-68.10	2.00	
7400.00	7.21	260.00	7323.56	-154.73	-877.50	-69.21	2.00	
7500.00	5.21	260.00	7422.97	-156.60	-888.15	-70.05	2.00	
7600.00	3.21	260.00	7522.69	-157.88	-895.37	-70.62	2.00	
7700.00 7760.33	1.21	260.00	7622.62	-158.55	-899.16	-70.92	2.00	Hald Vanian
	0.00	260.00	7682.94	-158.66	-899.79	-70.97 -70.97	2.00 0.00	Hold Vertical
7800.00 7900.00	0.00	359.41	7722.61	-158.66	-899.79		0.00	
8000.00	0.00	359.41 359.41	7822.61 7922.61	-158.66 -158.66	-899.79 -899.79	-70.97 -70.97	0.00	
8021.39	0.00	359.41	7944.00	-158.66	-899.79	-70.97	0.00	Bone Spring 1st
8100.00	0.00	359.41	8022.61	-158.66	-899.79	-70.97	0.00	Some Spring 1st
8200.00	0.00	359.41	8122.61	-158.66	-899.79	-70.97	0.00	
8300.00	0.00	359.41	8222.61	-158.66	-899.79	-70.97	0.00	
8400.00	0.00	359.41	8322.61	-158.66	-899.79	-70.97	0.00	
8500.00	0.00	359.41	8422.61	-158.66	-899.79	-70.97	0.00	
8600.00	0.00	359.41	8522.61	-158.66	-899.79	-70.97	0.00	
8700.00	0.00	359.41	8622.61	-158.66	-899.79	-70.97	0.00	
8749.39	0.00	359.41	8672.00	-158.66	-899.79	-70.97	0.00	Bone Spring 2nd
8800.00	0.00	359.41	8722.61	-158.66	-899.79	-70.97	0.00	
8900.00	0.00	359.41	8822.61	-158.66	-899.79	-70.97	0.00	
9000.00	0.00	359.41	8922.61	-158.66	-899.79	-70.97	0.00	
9100.00	0.00	359.41	9022.61	-158.66	-899.79	-70.97	0.00	
9148.39	0.00	359.41	9071.00	-158.66	-899.79	-70.97	0.00	3rd Bone Spring Lime
9200.00	0.00	359.41	9122.61	-158.66	-899.79	-70.97	0.00	
9300.00	0.00	359.41	9222.61	-158.66	-899.79	-70.97	0.00	
9400.00	0.00	359.41	9322.61	-158.66	-899.79	-70.97	0.00	
9500.00	0.00	359.41	9422.61	-158.66	-899.79	-70.97	0.00	
9600.00	0.00	359.41	9522.61	-158.66	-899.79	-70.97	0.00	
9700.00	0.00	359.41	9622.61	-158.66	-899.79	-70.97	0.00	
9800.00	0.00	359.41	9722.61	-158.66	-899.79	-70.97	0.00	
9900.00	0.00	359.41	9822.61	-158.66	-899.79	-70.97	0.00	
9946.39	0.00	359.41	9869.00	-158.66	-899.79	-70.97	0.00	Bone Spring 3rd
10000.00	0.00	359.41	9922.61	-158.66	-899.79	-70.97	0.00	
10029.43	0.00	359.41	9952.05	-158.66	-899.79	-70.97	0.00	KOP
10100.00	7.06	359.41	10022.43	-154.32	-899.83	-66.64	10.00	
10200.00	17.06	359.41	10120.10	-133.46	-900.05	-45.86	10.00	
10300.00	27.06	359.41	10212.67	-95.95	-900.43	-8.50 6.79	10.00	Walframs / Paint of Panetration
10303.75	27.43	359.41	10216.00	-94.24 42.95	-900.45	-6.78	10.00	Wolfcamp / Point of Penetration
10400.00 10500.00	37.06 47.06	359.41 359.41	10297.31	-42.95 23.95	-900.98 -901.67	44.32 110.97	10.00 10.00	
10600.00	47.06 57.06	359.41	10371.47 10432.88	23.95 102.71	-901.67 -902.48	189.43	10.00	
10700.00	67.06	359.41	10432.88	190.93	-902.48 -903.39	277.33	10.00	
10700.00	77.06	359.41	10479.66	285.94	-903.39 -904.37	371.99	10.00	
10900.00	87.06	359.41	10510.45	384.85	-904.37 -905.39	470.54	10.00	
10900.00	89.81	359.41	10525.00	412.38	-905.67	497.96	10.00	Landing Point
11000.00	89.81	359.41	10525.24	484.83	-906.41	570.15	0.00	g ·
11100.00	89.81	359.41	10525.57	584.83	-907.44	669.78	0.00	
11200.00	89.81	359.41	10525.90	684.82	-908.47	769.40	0.00	
11300.00	89.81	359.41	10526.23	784.81	-909.50	869.03	0.00	
11400.00	89.81	359.41	10526.56	884.81	-910.54	968.65	0.00	
11500.00	89.81	359.41	10526.89	984.80	-911.57	1068.28	0.00	
11600.00	89.81	359.41	10527.23	1084.80	-912.60	1167.91	0.00	
11700.00	89.81	359.41	10527.56	1184.79	-913.63	1267.53	0.00	
11800.00	89.81	359.41	10527.89	1284.79	-914.66	1367.16	0.00	
11900.00	89.81	359.41	10528.22	1384.78	-915.69	1466.78	0.00	
12000.00	89.81	359.41	10528.55	1484.77	-916.72	1566.41	0.00	
12100.00	89.81	359.41	10528.88	1584.77	-917.75	1666.03	0.00	
12200.00	89.81	359.41	10529.21	1684.76	-918.78	1765.66	0.00	
12300.00	89.81	359.41	10529.54	1784.76	-919.81	1865.29	0.00	



County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

Geodetic System: US State Plane 1983

Datum: North American Datum 1927 Ellipsoid: Clarke 1866

	Design: Permit Plan #1					Zone: 3001 - NM East (NAD83)		
MD	INC	AZI	TVD	NS	EW	vs	DLS	_
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	Comment
12400.00	89.81	359.41	10529.87	1884.75	-920.84	1964.91	0.00	
12500.00	89.81	359.41	10530.20	1984.74	-921.87	2064.54	0.00	
12600.00	89.81	359.41	10530.54	2084.74	-922.90	2164.16	0.00	
12700.00	89.81	359.41	10530.87	2184.73 2284.73	-923.93	2263.79	0.00	
12800.00 12900.00	89.81 89.81	359.41 359.41	10531.20 10531.53	2384.72	-924.96 -925.99	2363.42 2463.04	0.00	
13000.00	89.81	359.41	10531.86	2484.72	-927.02	2562.67	0.00	
13100.00	89.81	359.41	10531.00	2584.71	-928.05	2662.29	0.00	
13200.00	89.81	359.41	10532.52	2684.70	-929.08	2761.92	0.00	
13300.00	89.81	359.41	10532.85	2784.70	-930.11	2861.54	0.00	
13400.00	89.81	359.41	10533.18	2884.69	-931.14	2961.17	0.00	
13500.00	89.81	359.41	10533.51	2984.69	-932.17	3060.80	0.00	
13600.00	89.81	359.41	10533.84	3084.68	-933.20	3160.42	0.00	
13700.00 13800.00	89.81 89.81	359.41 359.41	10534.18 10534.51	3184.67 3284.67	-934.23 -935.26	3260.05 3359.67	0.00	
13900.00	89.81	359.41	10534.84	3384.66	-936.29	3459.30	0.00	
14000.00	89.81	359.41	10535.17	3484.66	-937.32	3558.92	0.00	
14100.00	89.81	359.41	10535.50	3584.65	-938.35	3658.55	0.00	
14200.00	89.81	359.41	10535.83	3684.64	-939.38	3758.18	0.00	
14300.00	89.81	359.41	10536.16	3784.64	-940.41	3857.80	0.00	
14400.00	89.81	359.41	10536.49	3884.63	-941.44	3957.43	0.00	
14500.00	89.81	359.41	10536.82	3984.63	-942.47	4057.05	0.00	
14600.00	89.81	359.41	10537.15	4084.62	-943.50	4156.68	0.00	
14700.00 14800.00	89.81 89.81	359.41 359.41	10537.49 10537.82	4184.62 4284.61	-944.53 -945.56	4256.30 4355.93	0.00	
14900.00	89.81	359.41	10537.02	4384.60	-946.59	4455.56	0.00	
15000.00	89.81	359.41	10538.48	4484.60	-947.62	4555.18	0.00	
15100.00	89.81	359.41	10538.81	4584.59	-948.65	4654.81	0.00	
15200.00	89.81	359.41	10539.14	4684.59	-949.68	4754.43	0.00	
15300.00	89.81	359.41	10539.47	4784.58	-950.71	4854.06	0.00	
15400.00	89.81	359.41	10539.80	4884.57	-951.75	4953.68	0.00	
15500.00	89.81 89.81	359.41 359.41	10540.13 10540.46	4984.57	-952.78	5053.31	0.00	
15600.00 15700.00	89.81	359.41	10540.46	5084.56 5184.56	-953.81 -954.84	5152.94 5252.56	0.00	
15800.00	89.81	359.41	10541.13	5284.55	-955.87	5352.19	0.00	
15900.00	89.81	359.41	10541.46	5384.55	-956.90	5451.81	0.00	
16000.00	89.81	359.41	10541.79	5484.54	-957.93	5551.44	0.00	
16100.00	89.81	359.41	10542.12	5584.53	-958.96	5651.06	0.00	
16200.00	89.81	359.41	10542.45	5684.53	-959.99	5750.69	0.00	
16300.00	89.81	359.41	10542.78	5784.52	-961.02	5850.32	0.00	
16400.00 16500.00	89.81 89.81	359.41 359.41	10543.11 10543.44	5884.52 5984.51	-962.05 -963.08	5949.94 6049.57	0.00	
16600.00	89.81	359.41	10543.44	6084.50	-964.11	6149.19	0.00	
16700.00	89.81	359.41	10544.10	6184.50	-965.14	6248.82	0.00	
16800.00	89.81	359.41	10544.44	6284.49	-966.17	6348.45	0.00	
16900.00	89.81	359.41	10544.77	6384.49	-967.20	6448.07	0.00	
17000.00	89.81	359.41	10545.10	6484.48	-968.23	6547.70	0.00	
17100.00	89.81	359.41	10545.43	6584.48	-969.26	6647.32	0.00	
17200.00	89.81	359.41	10545.76	6684.47	-970.29	6746.95	0.00	
17300.00 17400.00	89.81 89.81	359.41 359.41	10546.09 10546.42	6784.46 6884.46	-971.32 -972.35	6846.57 6946.20	0.00	
17400.00	89.81	359.41	10546.42	6984.45	-972.33 -973.38	7045.83	0.00	
17600.00	89.81	359.41	10547.08	7084.45	-974.41	7145.45	0.00	
17700.00	89.81	359.41	10547.41	7184.44	-975.44	7245.08	0.00	
17800.00	89.81	359.41	10547.75	7284.43	-976.47	7344.70	0.00	
17900.00	89.81	359.41	10548.08	7384.43	-977.50	7444.33	0.00	
18000.00	89.81	359.41	10548.41	7484.42	-978.53	7543.95	0.00	
18100.00	89.81	359.41	10548.74	7584.42	-979.56	7643.58	0.00	
18200.00 18300.00	89.81 89.81	359.41 359.41	10549.07 10549.40	7684.41 7784.40	-980.59 -981.62	7743.21 7842.83	0.00	
18400.00	89.81	359.41	10549.40	7784.40 7884.40	-981.62 -982.65	7942.46	0.00	
18500.00	89.81	359.41	10550.06	7984.39	-983.68	8042.08	0.00	
18600.00	89.81	359.41	10550.39	8084.39	-984.71	8141.71	0.00	
18700.00	89.81	359.41	10550.72	8184.38	-985.74	8241.33	0.00	
18800.00	89.81	359.41	10551.06	8284.38	-986.77	8340.96	0.00	
18900.00	89.81	359.41	10551.39	8384.37	-987.80	8440.59	0.00	
19000.00	89.81	359.41	10551.72	8484.36	-988.83	8540.21	0.00	
19100.00	89.81	359.41	10552.05	8584.36	-989.86	8639.84	0.00	
19200.00 19300.00	89.81 89.81	359.41 359.41	10552.38 10552.71	8684.35 8784.35	-990.89 -991.92	8739.46 8839.09	0.00	
15500.00	05.01	333.41	10332.11	3104.33	JJ 1.JL	0033.03	0.00	



County: Eddy
Wellbore: Permit Plan
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Geodetic System: US State Plane 1983

Datum: North American Datum 1927

Ellipsoid: Clarke 1866

MD	INC	AZI	TVD	NS	EW	vs	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
19400.00	89.81	359.41	10553.04	8884.34	-992.96	8938.71	0.00	
19500.00	89.81	359.41	10553.37	8984.33	-993.99	9038.34	0.00	
19600.00	89.81	359.41	10553.70	9084.33	-995.02	9137.97	0.00	
19700.00	89.81	359.41	10554.03	9184.32	-996.05	9237.59	0.00	
19800.00	89.81	359.41	10554.36	9284.32	-997.08	9337.22	0.00	
19900.00	89.81	359.41	10554.70	9384.31	-998.11	9436.84	0.00	
20000.00	89.81	359.41	10555.03	9484.31	-999.14	9536.47	0.00	
20100.00	89.81	359.41	10555.36	9584.30	-1000.17	9636.09	0.00	
20200.00	89.81	359.41	10555.69	9684.29	-1001.20	9735.72	0.00	
20300.00	89.81	359.41	10556.02	9784.29	-1002.23	9835.35	0.00	
20400.00	89.81	359.41	10556.35	9884.28	-1003.26	9934.97	0.00	
20500.00	89.81	359.41	10556.68	9984.28	-1004.29	10034.60	0.00	
20600.00	89.81	359.41	10557.01	10084.27	-1005.32	10134.22	0.00	
20700.00	89.81	359.41	10557.34	10184.26	-1006.35	10233.85	0.00	
20800.00	89.81	359.41	10557.67	10284.26	-1007.38	10333.48	0.00	
20822.34	89.81	359.41	10557.75	10306.59	-1007.61	10355.73	0.00	exit
20900.00	89.81	359.41	10558.01	10384.25	-1008.41	10433.10	0.00	
20902.34	89.81	359.41	10558.00	10386.59	-1008.38	10435.42	0.00	BHL

#### Tater Tot 2-35 Fed Com 712H

## 1. Geologic Formations

TVD of target	10558	Pilot hole depth	N/A
MD at TD:	20902	Deepest expected fresh water	

#### Basin

Dasin	Depth	Water/Mineral	
E4*			TT 4 - \psi
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	260		
Salt	570		
Base of Salt	2995		
Delaware	3198		
Cherry Canyon	4075		
Brushy Canyon	5663		
1st Bone Spring Lime	6891		
Bone Spring 1st	7944		
Bone Spring 2nd	8672		
3rd Bone Spring Lime	9071		
Bone Spring 3rd	9869		
Wolfcamp	10216		

<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program (Primary Design)

		Wt			Casing	Interval	Casing Interval	
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
13 1/2	9 5/8	40	J-55	ВТС	0	340	0	340
8 3/4	7 5/8	29.7	P-110HSCY	MOFXL	0	9979	0	9979
6 3/4	5 1/2	20	P-110EC	Sprint FJ &Varn	0	20902	0	10558

<sup>•</sup> All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

Variance Approval -

o 5-1/2" Production Casing will include Sprint Flush Joint connection (5.783") from base of curve and 500ft into 7-5/8"casing shoe o All other 5-1/2" Production Casing will run Varn (6.05")

#### 3. Cementing Program (Primary Design)

Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. The final cement top will be verified by Echo-meter. Devon will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program. Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures

Casing	# Sks	тос	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	192	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	321	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
III. I	394	5714	13.2	1.44	Tail: Class H / C + additives
Production	62	8029	9	3.27	Lead: Class H /C + additives
Froduction	694	10029	13.2	1.44	Tail: Class H / C + additives

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Prod	10%

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		✓	Tested to:	
			Anı	Annular		50% of rated working pressure	
Int 1	13-5/8"	5M	Bline	d Ram	X		
IIIt 1	13-3/6	3101	Pipe	Ram		5M	
			Doub	le Ram	X	JIVI	
			Other*				
			Δnnul	ar (5M)	X	50% of rated working	
	13-5/8"	5M	Annular (5M)		71	pressure	
Production			Blind Ram		X	5M	
Troduction		3141	Pipe Ram				
			Double Ram		X		
			Other*				
			Annul	ar (5M)			
			Blind Ram Pipe Ram				
			Doub	le Ram			
			Other*				
N A variance is requested for	the use of a	a diverter on the s	urface casin	g. See attache	ed for schema	atic.	
	A variance is requested to run a 5 M annular on a 10M system						

**5.** Mud Program (Three String Design)

Section	Туре	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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							
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the						
X	Completion Report and shumitted 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.						

<b>Additional</b>	logs planned	Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	5765
Abnormal temperature	No

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

Hydrogren 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 Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

N H2S is present
Y H2S plan attached.

#### 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.
- 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 (OnShore Order 2, 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 pa.
- 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. A that time an approved BOP stack will be nippled 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.

Attach	ments
X	Directional Plan
	Other, describe

Sundry Print Report

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

Well Name: TATER TOT 2-35 FED

COM

Well Location: T24S / R29E / SEC 2 /

SWSE /

Well Number: 712H Type of Well: OIL WELL

County or Parish/State:

Allottee or Tribe Name:

Lease Number: NMNM103604

**Unit or CA Name:** 

Unit or CA Number:

**US Well Number:** 3001549049

Well Status: Approved Application for

Permit to Drill

**Operator:** DEVON ENERGY PRODUCTION COMPANY LP

#### **Notice of Intent**

Sundry ID: 2765641

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 12/12/2023

Time Sundry Submitted: 02:27

Date proposed operation will begin: 12/12/2023

**Procedure Description:** Engineer Review only - DRILLING CHANGE: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the drilling plan with casing changes and cement loss plan. Please see attachments.

#### **NOI Attachments**

#### **Procedure Description**

Tater\_Tot\_2\_35\_\_Fed\_Com\_712H\_slim\_hole\_rev1\_20231213091513.pdf

9.625\_40\_J55\_\_\_SeAH\_20231212142706.pdf

5.50\_20\_\_VA\_EP\_P110\_VAroughneck\_6.051in\_20231212142707.pdf

CDS\_FXL\_7\_625\_29\_7\_BMP\_P110HSCY\_95\_RBW\_Sep20\_2023\_20231212142706.pdf

5.5\_20\_P110EC\_SPRINT\_SF\_\_\_VST\_20231212142705.pdf

Tater\_Tot\_2\_35\_\_Fed\_Com\_712H\_Directional\_Plan\_12\_12\_23\_20231212105018.pdf

Received by OCD: Well Walle 37 1.2 EF6 TEST P.M. FED

Well Location: T24S / R29E / SEC 2 /

County or Parish/State:

Page 19 of 49

SWSE /

Well Number: 712H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM103604

MNM103604 Unit or CA Name:

**Unit or CA Number:** 

Zip:

**US Well Number: 3001549049** 

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: SHAYDA OMOUMI Signed on: DEC 13, 2023 09:15 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

**Title:** Regulatory Compliance Associate 3 **Street Address:** 333 W SHERIDAN AVE

City: OKLAHOMA CITY State: OK

Phone: (405) 235-3611

Email address: SHAYDA.OMOUMI@DVN.COM

#### **Field**

Representative Name:

Street Address:

City: State:

Phone:

Email address:

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

**OPERATOR'S NAME:** Devon Energy Production Company LP

LEASE NO.: NMNM103604

**LOCATION:** | Section 2, T.24 S., R.29 E., NMPM

**COUNTY:** Eddy County, New Mexico

WELL NAME & NO.: Tater Tot 2-35 Fed Com 712H

**SURFACE HOLE FOOTAGE:** 200'/S & 2095'/E **BOTTOM HOLE FOOTAGE** 20'/N & 2310'/E

ATS/API ID: 3001549049 APD ID: 10400073920 Sundry ID: 2765641

#### COA

H2S	No 🔻		
Potash	Secretary -		
Cave/Karst Potential	Medium 🔽		
Cave/Karst	☐ Critical		
Potential			
Variance	None None	Flex Hose	C Other
Wellhead	Conventional and Multibov	vI 🔻	
Other	□4 String	Capitan Reef	□WIPP
		None	
Other	Pilot Hole	☐ Open Annulus	
	None 🔻		
Cementing	Contingency Squeeze	Echo-Meter	Primary Cement
	None	Int 1	Squeeze
			None -
Special	☐ Water	<b>☑</b> COM	□ Unit
Requirements	Disposal/Injection		
Special	☐ Batch Sundry		
Requirements			
Special	▼ Break Testing	□ Offline	▼ Casing
Requirements		Cementing	Clearance
Variance			

#### 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 9-5/8 inch surface casing shall be set at approximately 285 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be 13 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 **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

#### **Option 1 (Single Stage):**

• Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

### **Option 2:**

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

a. First stage: Operator will cement with intent to reach the top of the **Brushy** Canyon at 5663' (394 sxs Class H/C+ additives).

## b. Second stage:

Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified. (Squeeze 321 sxs Class C)
 Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down 9-5/8" X 7-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 7-5/8" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- ❖ In <u>Secretary Potash Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least 500 feet into previous casing string.
     Operator shall provide method of verification.
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

#### 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. Annular which shall be tested to 3500 (70% Working Pressure) psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7-5/8 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 9-5/8 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 43 CFR 3172.6(b)(9) 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.

## **BOPE Break Testing Variance (Approved)**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per 43 CFR part 3170 Subpart 3172.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

## **Casing Clearance:**

Operator casing variance is approved for the utilization of 5-1/2 inch Sprint Flush Joint **from** base of curve and a minimum of 500 feet or the minimum tie-back back requirement above whichever is greater into the previous casing shoe. **All** other 5-1/2 inch casing will run Varn.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are less than 0.5 micron before cementing.

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

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

#### A. CASING

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

- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.
- B. PRESSURE CONTROL
- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) 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 12/13/2023

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

DEI	dittible of the hitelion			•		
BURI	EAU OF LAND MANAGEMENT	5. Lease Serial No.	5. Lease Serial No. NMNM103604			
Do not use this f	OTICES AND REPORTS ON Worm for proposals to drill or to Use Form 3160-3 (APD) for su	o re-enter an	6. If Indian, Allottee or Tribe Name			
SUBMIT IN 1	<b>TRIPLICATE</b> - Other instructions on pag	ne 2	7. If Unit of CA/Agre	eement, Name and/or No.		
1. Type of Well  Oil Well  Gas W	/ell Other		8. Well Name and No	TATER TOT 2-35 FED COM/712H		
2. Name of Operator DEVON ENERG	SY PRODUCTION COMPANY LP		9. API Well No. 3001	1549049		
3a. Address 333 WEST SHERIDAN	AVE, OKLAHOMA CITY, 3b. Phone No.	(include area code)				
A Iti	(405) 235-36	11	PIERCE CROSSII 11. Country or Parish	PIERCE CROSSING/WOLFCAMP		
4. Location of Well (Footage, Sec., T.,R SEC 2/T24S/R29E/NMP	.,M., or survey Description)		EDDY/NM	, state		
12. CHE	CK THE APPROPRIATE BOX(ES) TO IN	DICATE NATURE OF NOT	TICE, REPORT OR OT	HER DATA		
TYPE OF SUBMISSION		TYPE OF AC	CTION			
Notice of Intent	Acidize Deep Alter Casing Hyde	=	duction (Start/Resume)	Water Shut-Off Well Integrity		
Subsequent Report			omplete nporarily Abandon	Other		
Final Abandonment Notice	Convert to Injection Plug	Back Wat	ter Disposal			
is ready for final inspection.)  Engineer Review only - DRILL respectfully requests to change	ices must be filed only after all requirement	on Co., L.P. (Devon)		the operator has determined that the site		
14. I hereby certify that the foregoing is SHAYDA OMOUMI / Ph: (405) 235	** /	Regulatory Compli	ance Associate 3			
Signature (Electronic Submission	n)	Date 12/13/2023				
	THE SPACE FOR FED	ERAL OR STATE OF	FICE USE			
Approved by						
		Title		Date		
	ned. Approval of this notice does not warrar quitable title to those rights in the subject led duct operations thereon.					
	B U.S.C Section 1212, make it a crime for a ents or representations as to any matter with		llfully to make to any d	epartment or agency of the United States		

(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

(Form 3160-5, page 2)

#### **Additional Information**

#### **Location of Well**

0. SHL: SWSE / 200 FSL / 2095 FEL / TWSP: 24S / RANGE: 29E / SECTION: 2 / LAT: 32.2399804 / LONG: -103.9533032 ( TVD: 0 feet, MD: 0 feet )

PPP: SWSE / 100 FSL / 1650 FEL / TWSP: 24S / RANGE: 29E / SECTION: 2 / LAT: 32.239709 / LONG: -103.9519587 ( TVD: 10216 feet, MD: 10257 feet )

BHL: NENW / 20 FNL / 2310 FWL / TWSP: 23S / RANGE: 29E / SECTION: 35 / LAT: 32.2611736 / LONG: -103.9520898 ( TVD: 10558 feet, MD: 18168 feet )



## Tater Tot 2-35 Fed Com 712H

## 1. Geologic Formations

TVD of target	10558	Pilot hole depth	N/A
MD at TD:	20902	Deepest expected fresh water	

#### Basin

Dasin	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
1 of mation	from KB	Zone?	I I I I I I I I I I I I I I I I I I I
Rustler	260	Zone.	
Salt	570		
Base of Salt	2995		
Delaware	3198		
Cherry Canyon	4075		
Brushy Canyon	5663		
1st Bone Spring Lime	6891		
Bone Spring 1st	7944		
Bone Spring 2nd	8672		
3rd Bone Spring Lime	9071		
Bone Spring 3rd	9869		
Wolfcamp	10216		
		·	

<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program (Primary Design)

		Wt		Casing		Interval	Casing	Interval
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
13 1/2	9 5/8	40	J-55	BTC	0	340	0	340
8 3/4	7 5/8	29.7	P-110HSCY	MOFXL	0	9979	0	9979
6 3/4	5 1/2	20	P-110EC	Sprint FJ &Varn	0	20902	0	10558

<sup>•</sup> All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

Variance Approval -

o 5-1/2" Production Casing will include Sprint Flush Joint connection (5.783") from base of curve and 500ft into 7-5/8"casing shoe o All other 5-1/2" Production Casing will run Varn (6.05")

#### 3. Cementing Program (Primary Design)

Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. The final cement top will be verified by Echo-meter. Devon will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program. Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures

Casing	# Sks	TOC	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	192	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	321	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
IIIt I	394	5714	13.2	1.44	Tail: Class H / C + additives
Draduation	62	8029	9	3.27	Lead: Class H /C + additives
Production	694	10029	13.2	1.44	Tail: Class H / C + additives

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Prod	10%

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		✓	Tested to:	
			Annular		X	50% of rated working pressure	
Int 1	13-5/8"	5M	Bline	d Ram	X		
IIIt I	13-3/6	3171	Pipe	Ram		5M	
			Doub	le Ram	X	3171	
			Other*				
			Annular (5M)		X	50% of rated working pressure	
Production	13-5/8"	5M	Blind Ram		X	51/1	
Production		5M	Pipe Ram				
			Doub	le Ram	X	5M	
			Other*				
			Annular (5M)				
			Blind Ram				
			Pipe Ram				
			Double Ram				
			Other*				
N A variance is requested for	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.						
Y A variance is requested to 1	A variance is requested to run a 5 M annular on a 10M system						

5. Mud Program (Three String Design)

Section	Туре	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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				
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the			
X	Completion Report and shumitted 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	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	5765
Abnormal temperature	No

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

Hydrogren 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 Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

N H2S is present
Y H2S plan attached.

## 8. Other facets of operation

2

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.
  - 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 (OnShore Order 2, 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 pa.
- 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. A that time an approved BOP stack will be nippled 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



9.625" 40# .395" J-55

## **Dimensions (Nominal)**

**BTC** 

Outside Diameter	9.625	in.
Wall	0.395	in.
Inside Diameter	8.835	in.
Drift	8.750	in.
W. L. T00	40.000	11. /6:
Weight, T&C	40.000	lbs./ft.
Weight, PE	38.970	lbs./ft.
Douformones Droporties		
Performance Properties		
Collapse, PE	2570	psi
Internal Yield Pressure at Minimum Yield		
PE	3950	psi
LTC	3950	psi
ВТС	3950	psi
Yield Strength, Pipe Body	630	1000 lbs.
laint Strangth		
Joint Strength	453	1000 lk-
STC	452	1000 lbs.
LTC	520	1000 lbs.

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

714

1000 lbs.

Created on 01.12.2021

Page 39 of 49

# **TECHNICAL DATA SHEET**

voestalpine Tubulars GmbH & Co KG

965 Mpa 862 Mpa 9.17 mm 118.19 mm 862 Mpa 3,243 kN Metric Metric 5 Threads 140,000 psi 125,000 psi 729 klb 125,000 psi **US Customary** 0.361 in 4.653 in **US Customary** Standard Drift: Pipe Body Yield Strength: Threads per inch: Wall Thickness: Yield Strength Min. Yield Strength Max. Tensile Strength Min. Grade: VA-EP-P110 Material: 30.07 kg/m 3,759.99 mm<sup>2</sup> 121.36 mm 121.00 mm 139.70 mm 153.70 mm 228.00 mm Metric Metric 20.00 lb/ft 5.828 in<sup>2</sup> **US Customary** 5.500 in 4.778 in **US Customary** 6.051 in 4.764 in 8.976 in Connection: VAroughneck Size: 5 1/2 in X 20.00 lb/ft Nominal Weight: . OD: ≘ Length: Nominal ID: Pipe Cross Section: Nominal OD: Drift: standard Bevel: standard Connection Pipe:

Field Make Up (Friction Factor = 1.0):	stor = 1.0):				
	US Customary	Metric		US Customary	Metric
Minimum Torque:	15,822 ft.lb	21,451 Nm	Make-Up Loss:	4.370 in	111.00 mm
Optimum Torque:	17,580 ft.lb	23,835 Nm	Yield Torque:	22,000 ft.lb	29,800 Nm
Maximum Torque:	19,338 ft.lb	26,218 Nm			
Min. Torque on Shoulder:	%				

15.40 l/m 11.57 l/m

1.240 gal/ft 0.932 gal/ft

Metric

**US Customary** 

> 100.0 %

Tension Efficiency:

Production:

Displacement:

91.70 Mpa 96.00 Mpa

3,243 kN Metric

Connection Performance (Uniaxial Load):

1,829 kN

13,920 psi 411 klb

Load on Coupling Face:

Internal Yield Pressure:

Collapse Resistance:.

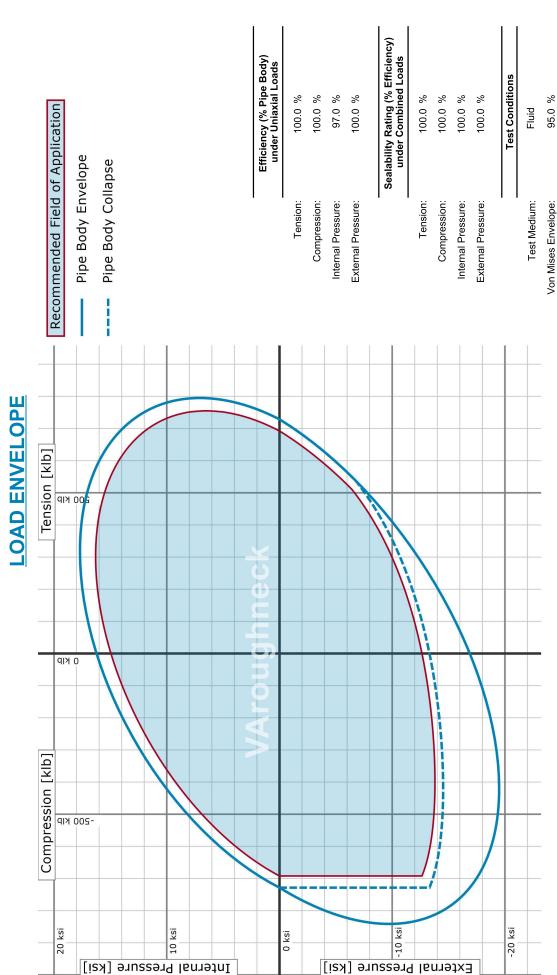
13,300 psi

**US Customary** 729 klb

Joint Strength:

ONE STEP AHEAD. voestalpine





The graph is calculated under consideration of the requirements of EN ISO 13679 and API 5C3. The combined loads are calculated without the consideration of wall thickness tolerances advantage and different grades. TO REGULAR REVISION. The generated performance envelope and differ from the values in the data sheet, which are calculated with tolerances determined by API. Any princulus is NOT SUBJECT TO REGULAR REVISION. The generated performance envelope shall soll by the use as a tool to facilitate the comparison of performance properties under combined loads, of different grades, sizes and connections of voestalpine Tubulars products. Field-specific safety/design factors as well as other loads are not considered. Thus the results shall by no means be used to replace the own string design engineering or to justify any warranty/guaranty cases.

Voestalpine

20.00 °/100ft

Bending:

etal One Corp.	MO-FXL		MO-FXL 7-5/8 29. P110HSCY					
Metal <mark>O</mark> ne	*1 Pipe Body: BMP P110HSC	CDS#	MinYS125ksi					
Meiai One	Min95%WT		Min95%WT					
	Connection Data	Date	20-Sep-23					
		a Onect	Date	20 00	p 20			
	•	Geometry						
	Pipe Body							
	Grade *	P110HSCY		P110HSCY				
	Pipe OD ( D )	7 5/8	in	193.68	mm			
MO-FXL	Weight	29.70	lb/ft	44.25	kg/m			
	Actual weight	29.04		43.26	kg/m			
	Wall Thickness (t)	0.375	in	9.53	mm			
	Pipe ID ( d )	6.875	in	174.63	mm			
	Pipe body cross section	8.541	in <sup>2</sup>	5,510	mm <sup>2</sup>			
	Drift Dia.	6.750	in	171.45	mm			
	Connection							
$\uparrow$	Box OD (W)	7.625	in	193.68	mm			
	PIN ID	6.875	in	174.63	mm			
Box	Make up Loss	4.219	in	107.16	mm			
critical	Box Critical Area	5.714	in <sup>2</sup>	3686	mm <sup>2</sup>			
area	Joint load efficiency	70	%	70	%			
	Thread Taper				/0			
		1 / 10 ( 1.2" per ft ) 5 TPI						
p	Number of Threads							
/lake	Number of Threads  Performance							
Make p D	Number of Threads  Performance  Performance Properties		5	TPI	kN			
Make p	Number of Threads  Performance	for Pipe Body 1,068			kN MPa			
Make p D	Performance Performance Properties 1 S.M.Y.S. *1	for Pipe Body	5 kips	TPI 4,749				
Aake p D Pin critical	Performance Performance Properties 1 S.M.Y.S. *1 M.I.Y.P. *1	for Pipe Body 1,068 11,680 7,200	kips psi psi	4,749 80.55 49.66	MPa MPa			
Aake p D Pin critical	Performance Performance Properties 1 S.M.Y.S. *1 M.I.Y.P. *1 Collapse Strength *1	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE	kips psi psi psi	4,749 80.55 49.66 ngth of Pipe boo	MPa MPa			
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Pin critical	Performance  Performance Properties for S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Speciformance Mily.P. = Minim  *BMP P110HSCY: MinYS125ks Performance Data Sheet: 7.625	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Co	kips psi psi ELD Street Pressurates Street	4,749 80.55 49.66 Ingth of Pipe bodyength 7,200psi	MPa MPa dy			
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Aake p D Pin critical	Performance  Performance Properties 1  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif  M.I.Y.P. = Minim  * BMP P110HSCY: MinYS125ks  Performance Data Sheet: 7.626  Performance Properties  Tensile Yield load	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col " 29.7lb/ft P110H3 for Connectio 747 kips	kips psi psi ELD Stred Pressullapse Stre SCY Rev3 n 70%	4,749 80.55 49.66 Ingth of Pipe body ength 7,200psi 3, dated 9/19/202 of S.M.Y.S.)	MPa MPa dy			
Aake IP D Pin critical	Performance  Performance Properties 1  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif  M.I.Y.P. = Minim  * BMP P110HSCY: MinYS125ks Performance Data Sheet: 7.626  Performance Properties  Tensile Yield load  Min. Compression Yield	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col 5" 29.7lb/ft P110H3 for Connectio 747 kips 747 kips	kips psi psi ELD Stre d Pressul lapse Stre SCY Rev3 n ( 70% ( 70%	4,749 80.55 49.66 Ingth of Pipe body ength 7,200psi 3, dated 9/19/202 of S.M.Y.S.)	MPa MPa dy			
Aake p D Pin critical	Performance  Performance Properties 1  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif  M.I.Y.P. = Minim  * BMP P110HSCY: MinYS125ks Performance Data Sheet: 7.625  Performance Properties  Tensile Yield load  Min. Compression Yield Internal Pressure	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col 5" 29.7lb/ft P110H3 for Connectio 747 kips 747 kips	kips psi psi ELD Streid Pressuillapse Stre SCY Rev3 n (70% (70% 80% 100% c	4,749 80.55 49.66 Ingth of Pipe body ength 7,200psi 3, dated 9/19/202 of S.M.Y.S. ) of M.I.Y.P. )	MPa MPa dy			
Aake p D Pin critical	Performance  Performance Properties 1  S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specif  M.I.Y.P. = Minim  * BMP P110HSCY: MinYS125ks Performance Data Sheet: 7.625  Performance Properties  Tensile Yield load  Min. Compression Yield Internal Pressure  External Pressure	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col 5" 29.7lb/ft P110H3 for Connectio 747 kips 747 kips	kips psi psi ELD Streid Pressuillapse Stre SCY Rev3 n (70% (70% 80% 100% c	4,749 80.55 49.66 Ingh of Pipe body ength 7,200psi 3, dated 9/19/202 of S.M.Y.S.) of S.M.Y.S.) of M.I.Y.P.) of Collapse St	MPa MPa dy			
Make up D Pin critical	Performance  Performance Properties of S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specifing M.I.Y.P. = Miniming *BMP P110HSCY: MinyS125ks Performance Data Sheet: 7.625  Performance Properties  Tensile Yield load  Min. Compression Yield Internal Pressure  External Pressure  Max. DLS ( deg. /100ft)  Recommended Torque	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col 5" 29.7lb/ft P110H3 for Connectio 747 kips 747 kips 9,340 psi	kips psi psi ELD Streid Pressullapse Stre SCY Rev3 n (70% 70% 100% c	4,749 80.55 49.66 Ingh of Pipe body ength 7,200psi 3, dated 9/19/202 of S.M.Y.S.) of S.M.Y.S.) of M.I.Y.P.) of Collapse St	MPa MPa dy 3			
Aake p D Pin critical	Performance  Performance Properties for S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specific M.I.Y.P. = Miniming *1 Miniming *2 Miniming *2 Miniming *3 Miniming *4 Min	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col " 29.7lb/ft P110Hs for Connectio 747 kips 747 kips 9,340 psi	kips psi psi stressurate Arressurate ( 70% ( 70% ( 70% ( 30% ) 100% ( 3	4,749 80.55 49.66 Ingth of Pipe body ength 7,200psi 3, dated 9/19/202 of S.M.Y.S.) of S.M.Y.S.) of M.I.Y.P.) of Collapse St 0	MPa MPa ddy			
Aake p D Pin critical	Performance  Performance Properties for S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specific M.I.Y.P. = Miniming *1 Min	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Co " 29.7lb/ft P110Hs for Connectio 747 kips 9,340 psi 15,500 17,200	kips psi psi ELD Streid Pressullapse Stre SCY Rev3 n (70% 70% 100% c	4,749 80.55 49.66 Ingth of Pipe bodyength 7,200psi 3, dated 9/19/202 of S.M.Y.S.) of S.M.Y.S.) of Collapse St 0 21,000 23,300	MPa MPa dy 3			
Make up D Pin critical	Performance Performance Properties for S.M.Y.S. *1 M.I.Y.P. *1 Collapse Strength *1 Note S.M.Y.S.= Specific M.I.Y.P. = Miniming *BMP P110HSCY: MinYS125ks Performance Data Sheet: 7.626 Performance Properties Tensile Yield load Min. Compression Yield Internal Pressure External Pressure External Pressure Max. DLS ( deg. /100ft)  Recommended Torque Min. Opti. Max.	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col 5" 29.7lb/ft P110Hs for Connectio 747 kips 747 kips 9,340 psi	kips psi psi psi lapse Stre SCY Rev3 n 70% 80% 100% c 3	4,749 80.55 49.66 Ingth of Pipe bodyength 7,200psi 3, dated 9/19/202 of S.M.Y.S.) of S.M.Y.S.) of M.I.Y.P.) of Collapse St 0 21,000 23,300 25,600	MPa MPa dy 3  rength  N-m N-m N-m			
Aake IP D Pin critical	Performance  Performance Properties for S.M.Y.S. *1  M.I.Y.P. *1  Collapse Strength *1  Note S.M.Y.S.= Specific M.I.Y.P. = Miniming *1 Min	for Pipe Body 1,068 11,680 7,200 ied Minimum YIE um Internal Yield i, Min95%WT, Col 5" 29.7lb/ft P110H5 for Connectio 747 kips 747 kips 9,340 psi 15,500 17,200 18,900 23,600	kips psi psi psi lapse Stree SCY Rev3 n ( 70% 80% 100% c 3	4,749 80.55 49.66 Ingth of Pipe bodyength 7,200psi 3, dated 9/19/202 of S.M.Y.S.) of S.M.Y.S.) of M.I.Y.P.) of Collapse St 0 21,000 23,300 25,600 32,000	MPa MPa ddy  3 rength  N-m N-m N-m N-m			

## Legal Notice

The use of this information is at the reader/user's risk and no warranty is implied or expressed by Metal One Corporation or its parents, subsidiaries or affiliates (herein collectively referred to as "Metal One") with respect to the use of information contained herein. The information provided on this Connection Data Sheet is for informational purposes only, and was prepared by reference to engineering information that is specific to the subject products, without regard to safety-related factors, all of which are the sole responsibility of the operators and users of the subject connectors. Metal One assumes no responsibility for any errors with respect to this information.

Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to <a href="http://www.mtlo.co.jp/mo-con/">http://www.mtlo.co.jp/mo-con/</a> images/top/WebsiteTerms Active 20333287 1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.

Issued on: 08 Jul. 2020 by Wesley Ott



**Connection Data Sheet** 

				•	
OD	Weight	Wall Th.	Grade	API Drift:	Connection
5 1/2 in.	20.00 lb/ft	0.361 in.	P110EC	4.653 in.	VAM® SPRINT-SF
5 1, 2		0.000	1		VAIVI SI MINT SI

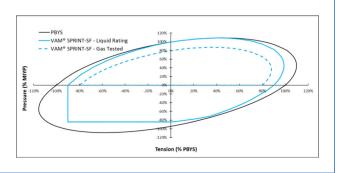
PIPE PROPERTIES										
Nominal OD	5.500	in.								
Nominal ID	4.778	in.								
Nominal Cross Section Area	5.828	sqin.								
Grade Type	Hig	ıh Yield								
Min. Yield Strength	125	ksi								
Max. Yield Strength	140	ksi								
Min. Ultimate Tensile Strength	135	ksi								

CONNECTION P	ROPERTIES	
Connection Type	Semi-Premium Integral	Semi-Flush
Connection OD (nom):	5.783	in.
Connection ID (nom):	4.717	in.
Make-Up Loss	5.965	in.
Critical Cross Section	5.244	sqin.
Tension Efficiency	90.0	% of pipe
Compression Efficiency	90.0	% of pipe
Internal Pressure Efficiency	100	% of pipe
External Pressure Efficiency	100	% of pipe

CONNECTION PERFORMANCES								
Tensile Yield Strength	656	klb						
Compression Resistance	656	klb						
Internal Yield Pressure	14,360	psi						
Collapse Resistance	12,080	psi						
Max. Structural Bending	89	°/100ft						
Max. Bending with ISO/API Sealability	30	°/100ft						

TORQUE VALUES	5	
Min. Make-up torque	20,000	ft.lb
Opt. Make-up torque	22,500	ft.lb
Max. Make-up torque	25,000	ft.lb
Max. Torque with Sealability (MTS)	40,000	ft.lb

VAM® SPRINT-SF is a semi-flush connection innovatively designed for extreme shale applications. Its high tension rating and ultra high torque capacity make it ideal to run a fill string length as production casing in shale wells with extended horizontal sections and tight clearance requirements.



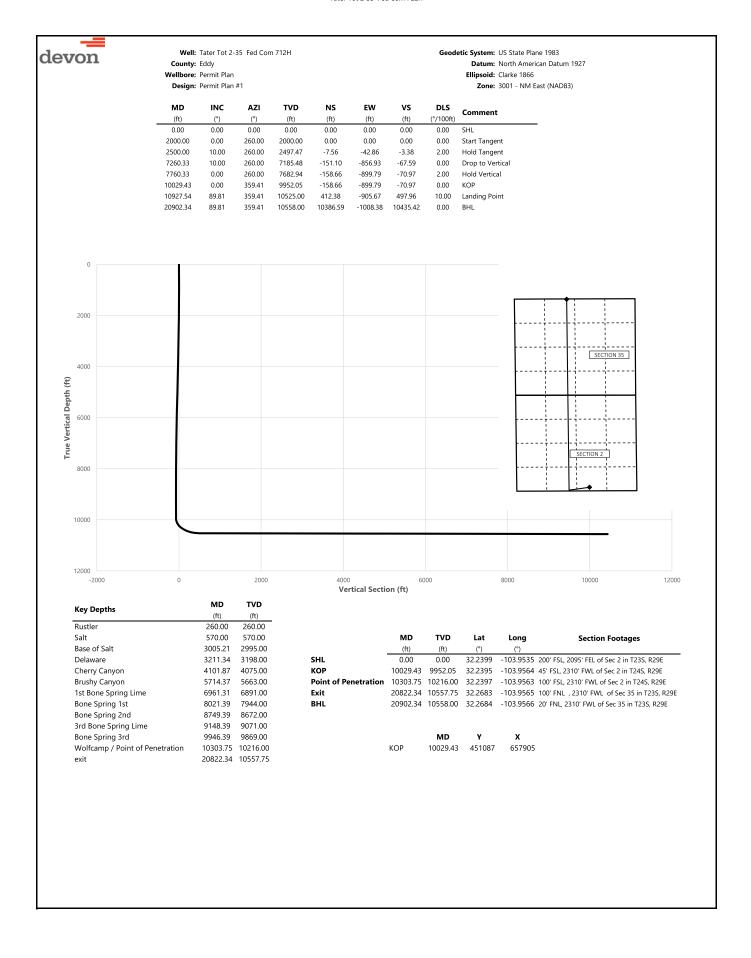
Do you need help on this product? - Remember no one knows  $VAM^{\circledR}$  like  $VAM^{\circledR}$ 

canada@vamfieldservice.com usa@vamfieldservice.com mexico@vamfieldservice.com brazil@vamfieldservice.com uk@vamfieldservice.com dubai@vamfieldservice.com nigeria@vamfieldservice.com angola@vamfieldservice.com china@vamfieldservice.com baku@vamfieldservice.com singapore@vamfieldservice.com australia@vamfieldservice.com

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance



<sup>\* 87.5%</sup> RBW





County: Eddy
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)

		r emilit i iai						
MD	INC	AZI	TVD	NS	EW	vs	DLS	_
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	260.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	260.00	200.00	0.00	0.00	0.00	0.00	
260.00	0.00	260.00	260.00	0.00	0.00	0.00	0.00	Rustler
300.00	0.00	260.00	300.00	0.00	0.00	0.00	0.00	Nustrei
400.00	0.00	260.00	400.00	0.00	0.00		0.00	
						0.00		
500.00	0.00	260.00	500.00	0.00	0.00	0.00	0.00	C II
570.00	0.00	260.00	570.00	0.00	0.00	0.00	0.00	Salt
600.00	0.00	260.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	260.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	260.00	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	260.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	260.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	260.00	1100.00	0.00	0.00	0.00	0.00	
1200.00	0.00	260.00	1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	260.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	260.00	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	260.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	260.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	260.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	260.00	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	260.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	260.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	260.00	2099.98	-0.30	-1.72	-0.14	2.00	Start rangent
	4.00		2199.84		-6.87		2.00	
2200.00 2300.00		260.00		-1.21		-0.54		
	6.00	260.00	2299.45	-2.73	-15.46	-1.22	2.00	
2400.00	8.00	260.00	2398.70	-4.84	-27.46	-2.17	2.00	11.11 <del></del>
2500.00	10.00	260.00	2497.47	-7.56	-42.86	-3.38	2.00	Hold Tangent
2600.00	10.00	260.00	2595.95	-10.57	-59.96	-4.73	0.00	
2700.00	10.00	260.00	2694.43	-13.59	-77.06	-6.08	0.00	
2800.00	10.00	260.00	2792.91	-16.60	-94.16	-7.43	0.00	
2900.00	10.00	260.00	2891.39	-19.62	-111.27	-8.78	0.00	
3000.00	10.00	260.00	2989.87	-22.63	-128.37	-10.12	0.00	
3005.21	10.00	260.00	2995.00	-22.79	-129.26	-10.19	0.00	Base of Salt
3100.00	10.00	260.00	3088.35	-25.65	-145.47	-11.47	0.00	
3200.00	10.00	260.00	3186.83	-28.67	-162.57	-12.82	0.00	
3211.34	10.00	260.00	3198.00	-29.01	-164.51	-12.98	0.00	Delaware
3300.00	10.00	260.00	3285.31	-31.68	-179.67	-14.17	0.00	
3400.00	10.00	260.00	3383.79	-34.70	-196.77	-15.52	0.00	
3500.00	10.00	260.00	3482.27	-37.71	-213.87	-16.87	0.00	
3600.00	10.00	260.00	3580.75	-40.73	-230.97	-18.22	0.00	
3700.00	10.00	260.00	3679.23	-43.74	-248.07	-19.57	0.00	
3800.00	10.00	260.00	3777.72	-46.76	-265.17	-20.92	0.00	
3900.00	10.00	260.00	3876.20	-49.77	-282.28	-22.26	0.00	
4000.00		260.00	3974.68		-202.20	-23.61	0.00	
	10.00			-52.79				
4100.00	10.00	260.00	4073.16	-55.80	-316.48	-24.96	0.00	Charm Canus
4101.87	10.00	260.00	4075.00	-55.86	-316.80	-24.99	0.00	Cherry Canyon
4200.00	10.00	260.00	4171.64	-58.82	-333.58	-26.31	0.00	
4300.00	10.00	260.00	4270.12	-61.84	-350.68	-27.66	0.00	
4400.00	10.00	260.00	4368.60	-64.85	-367.78	-29.01	0.00	
4500.00	10.00	260.00	4467.08	-67.87	-384.88	-30.36	0.00	
4600.00	10.00	260.00	4565.56	-70.88	-401.98	-31.71	0.00	
4700.00	10.00	260.00	4664.04	-73.90	-419.08	-33.05	0.00	
4800.00	10.00	260.00	4762.52	-76.91	-436.18	-34.40	0.00	
4900.00	10.00	260.00	4861.00	-79.93	-453.28	-35.75	0.00	
5000.00	10.00	260.00	4959.48	-82.94	-470.39	-37.10	0.00	
5100.00	10.00	260.00	5057.97	-85.96	-487.49	-38.45	0.00	
5200.00	10.00	260.00	5156.45	-88.97	-504.59	-39.80	0.00	
5300.00	10.00	260.00	5254.93	-91.99	-521.69	-41.15	0.00	
5400.00	10.00	260.00	5353.41	-95.01	-538.79	-42.50	0.00	
5500.00	10.00	260.00	5451.89	-98.02	-555.89	-43.85	0.00	
5600.00	10.00	260.00	5550.37	-101.04	-572.99	-45.19	0.00	
5700.00	10.00	260.00	5648.85	-101.04	-590.09	-45.19 -46.54	0.00	
								Pruchy Canyon
5714.37	10.00	260.00	5663.00	-104.48	-592.55	-46.74	0.00	Brushy Canyon
5800.00	10.00	260.00	5747.33	-107.07	-607.19	-47.89	0.00	
5900.00	10.00	260.00	5845.81	-110.08	-624.29	-49.24	0.00	
6000.00	10.00	260.00	5944.29	-113.10	-641.40	-50.59	0.00	
	10.00	260.00	6042.77	-116.11	-658.50	-51.94	0.00	
6100.00	10.00							
	10.00 10.00 10.00	260.00 260.00	6141.25 6239.73	-119.13 -122.14	-675.60 -692.70	-53.29 -54.64	0.00	



County: Eddy
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)

	Design:	Permit Plar	1#1					<b>Zone:</b> 3001 - NM East (NAD83)
MD	INC	AZI	TVD	NS	EW	vs	DLS	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	Comment
6400.00	10.00	260.00	6338.22	-125.16	-709.80	-55.98	0.00	
6500.00	10.00	260.00	6436.70	-128.17	-726.90	-57.33	0.00	
6600.00	10.00	260.00	6535.18	-131.19	-744.00	-58.68	0.00	
6700.00	10.00	260.00	6633.66	-134.21	-761.10	-60.03	0.00	
6800.00	10.00	260.00	6732.14	-137.22	-778.20	-61.38	0.00	
6900.00	10.00	260.00	6830.62	-140.24	-795.30	-62.73	0.00	
6961.31	10.00	260.00	6891.00	-142.09	-805.79	-63.56	0.00	1st Bone Spring Lime
7000.00	10.00	260.00	6929.10	-143.25	-812.41	-64.08	0.00	
7100.00	10.00	260.00	7027.58	-146.27	-829.51	-65.43	0.00	
7200.00	10.00	260.00	7126.06	-149.28	-846.61	-66.78	0.00	
7260.33	10.00	260.00	7185.48	-151.10	-856.93	-67.59	0.00	Drop to Vertical
7300.00	9.21	260.00	7224.59	-152.25	-863.44	-68.10	2.00	
7400.00	7.21	260.00	7323.56	-154.73	-877.50	-69.21	2.00	
7500.00	5.21	260.00	7422.97	-156.60	-888.15	-70.05	2.00	
7600.00	3.21	260.00	7522.69	-157.88	-895.37	-70.62	2.00	
7700.00	1.21	260.00	7622.62	-158.55	-899.16	-70.92	2.00	
7760.33	0.00	260.00	7682.94	-158.66	-899.79	-70.97	2.00	Hold Vertical
7800.00	0.00	359.41	7722.61	-158.66	-899.79	-70.97	0.00	
7900.00	0.00	359.41	7822.61	-158.66	-899.79	-70.97	0.00	
8000.00	0.00	359.41	7922.61	-158.66	-899.79	-70.97	0.00	David Carina 1st
8021.39	0.00	359.41	7944.00	-158.66	-899.79	-70.97	0.00	Bone Spring 1st
8100.00	0.00	359.41	8022.61	-158.66	-899.79	-70.97	0.00	
8200.00 8300.00	0.00	359.41	8122.61 8222.61	-158.66	-899.79 -899.79	-70.97 -70.97	0.00	
8400.00	0.00	359.41		-158.66	-899.79 -899.79	-70.97 -70.97	0.00	
8500.00	0.00	359.41 359.41	8322.61 8422.61	-158.66 -158.66	-899.79	-70.97 -70.97	0.00	
8600.00	0.00	359.41	8522.61	-158.66	-899.79	-70.97	0.00	
8700.00	0.00	359.41	8622.61	-158.66	-899.79	-70.97	0.00	
8749.39	0.00	359.41	8672.00	-158.66	-899.79	-70.97	0.00	Bone Spring 2nd
8800.00	0.00	359.41	8722.61	-158.66	-899.79	-70.97	0.00	bone Spring End
8900.00	0.00	359.41	8822.61	-158.66	-899.79	-70.97	0.00	
9000.00	0.00	359.41	8922.61	-158.66	-899.79	-70.97	0.00	
9100.00	0.00	359.41	9022.61	-158.66	-899.79	-70.97	0.00	
9148.39	0.00	359.41	9071.00	-158.66	-899.79	-70.97	0.00	3rd Bone Spring Lime
9200.00	0.00	359.41	9122.61	-158.66	-899.79	-70.97	0.00	
9300.00	0.00	359.41	9222.61	-158.66	-899.79	-70.97	0.00	
9400.00	0.00	359.41	9322.61	-158.66	-899.79	-70.97	0.00	
9500.00	0.00	359.41	9422.61	-158.66	-899.79	-70.97	0.00	
9600.00	0.00	359.41	9522.61	-158.66	-899.79	-70.97	0.00	
9700.00	0.00	359.41	9622.61	-158.66	-899.79	-70.97	0.00	
9800.00	0.00	359.41	9722.61	-158.66	-899.79	-70.97	0.00	
9900.00	0.00	359.41	9822.61	-158.66	-899.79	-70.97	0.00	
9946.39	0.00	359.41	9869.00	-158.66	-899.79	-70.97	0.00	Bone Spring 3rd
10000.00	0.00	359.41	9922.61	-158.66	-899.79	-70.97	0.00	
10029.43	0.00	359.41	9952.05	-158.66	-899.79	-70.97	0.00	KOP
10100.00	7.06	359.41	10022.43	-154.32	-899.83	-66.64	10.00	
10200.00	17.06	359.41	10120.10	-133.46	-900.05	-45.86	10.00	
10300.00	27.06	359.41	10212.67	-95.95	-900.43	-8.50	10.00	
10303.75	27.43	359.41	10216.00	-94.24	-900.45	-6.78	10.00	Wolfcamp / Point of Penetration
10400.00	37.06	359.41	10297.31	-42.95	-900.98	44.32	10.00	
10500.00	47.06	359.41	10371.47	23.95	-901.67	110.97	10.00	
10600.00	57.06	359.41	10432.88	102.71	-902.48	189.43	10.00	
10700.00	67.06	359.41	10479.68	190.93	-903.39	277.33	10.00	
10800.00	77.06	359.41	10510.45	285.94	-904.37	371.99	10.00	
10900.00	87.06	359.41	10524.25	384.85	-905.39	470.54	10.00	
10927.54	89.81	359.41	10525.00	412.38	-905.67	497.96	10.00	Landing Point
11000.00	89.81	359.41	10525.24	484.83	-906.41	570.15	0.00	
11100.00	89.81	359.41	10525.57	584.83	-907.44	669.78	0.00	
11200.00	89.81	359.41	10525.90	684.82	-908.47	769.40	0.00	
11300.00	89.81	359.41	10526.23	784.81	-909.50	869.03	0.00	
11400.00	89.81	359.41	10526.56 10526.89	884.81	-910.54 -911.57	968.65	0.00	
11500.00 11600.00	89.81 89.81	359.41 359.41	10526.89	984.80 1084.80	-911.57 -912.60	1068.28 1167.91	0.00	
11700.00	89.81	359.41	10527.23	1084.80	-912.60 -913.63	1267.53	0.00	
11800.00	89.81	359.41	10527.56	1284.79	-913.63 -914.66	1367.16	0.00	
11900.00	89.81	359.41	10527.69	1384.78	-914.66 -915.69	1466.78	0.00	
12000.00	89.81	359.41	10528.22	1484.77	-915.09	1566.41	0.00	
12100.00	89.81	359.41	10528.88	1584.77	-917.75	1666.03	0.00	
12200.00	89.81	359.41	10529.21	1684.76	-918.78	1765.66	0.00	
12300.00	89.81	359.41	10529.54	1784.76	-919.81	1865.29	0.00	



County: Eddy
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)

	Design.	Permit Plar	1 11 1					Zone: 3001 - NM East (NAD83)
MD	INC	AZI	TVD	NS	EW	vs	DLS	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	Comment
12400.00	89.81	359.41	10529.87	1884.75	-920.84	1964.91	0.00	
12500.00	89.81	359.41	10530.20	1984.74	-921.87	2064.54	0.00	
12600.00	89.81	359.41	10530.54	2084.74	-922.90	2164.16	0.00	
12700.00	89.81	359.41	10530.87	2184.73	-923.93	2263.79	0.00	
12800.00	89.81	359.41	10531.20	2284.73	-924.96	2363.42	0.00	
12900.00	89.81	359.41	10531.53	2384.72	-925.99	2463.04	0.00	
13000.00	89.81	359.41	10531.86	2484.72	-927.02	2562.67	0.00	
13100.00	89.81	359.41	10532.19	2584.71	-928.05	2662.29	0.00	
13200.00	89.81	359.41	10532.52	2684.70	-929.08	2761.92	0.00	
13300.00	89.81	359.41	10532.85	2784.70	-930.11	2861.54	0.00	
13400.00	89.81	359.41	10533.18	2884.69	-931.14	2961.17	0.00	
13500.00	89.81	359.41	10533.51	2984.69	-932.17	3060.80	0.00	
13600.00	89.81	359.41	10533.84	3084.68	-933.20	3160.42	0.00	
13700.00	89.81	359.41	10534.18	3184.67	-934.23	3260.05	0.00	
13800.00	89.81	359.41	10534.51	3284.67	-935.26	3359.67	0.00	
13900.00	89.81	359.41	10534.84	3384.66	-936.29	3459.30	0.00	
14000.00	89.81	359.41	10535.17	3484.66	-937.32	3558.92	0.00	
14100.00	89.81	359.41	10535.50	3584.65	-938.35	3658.55	0.00	
14200.00	89.81	359.41	10535.83	3684.64	-939.38	3758.18	0.00	
14300.00	89.81	359.41	10536.16	3784.64	-940.41	3857.80	0.00	
14400.00	89.81	359.41	10536.49	3884.63	-941.44	3957.43	0.00	
14500.00	89.81	359.41	10536.82	3984.63	-942.47	4057.05	0.00	
14600.00	89.81	359.41	10537.15	4084.62	-943.50	4156.68	0.00	
14700.00	89.81	359.41	10537.49	4184.62	-944.53	4256.30	0.00	
14800.00	89.81	359.41	10537.82	4284.61	-945.56	4355.93	0.00	
14900.00	89.81	359.41	10538.15	4384.60	-946.59	4455.56	0.00	
15000.00	89.81	359.41	10538.48	4484.60	-947.62	4555.18	0.00	
15100.00	89.81	359.41	10538.81	4584.59	-948.65	4654.81	0.00	
15200.00 15300.00	89.81	359.41	10539.14	4684.59	-949.68	4754.43	0.00	
15400.00	89.81 89.81	359.41 359.41	10539.47	4784.58 4884.57	-950.71	4854.06	0.00	
15500.00	89.81	359.41	10539.80 10540.13	4984.57	-951.75 -952.78	4953.68 5053.31	0.00	
15600.00	89.81	359.41	10540.15	5084.56	-953.81	5152.94	0.00	
15700.00	89.81	359.41	10540.40	5184.56	-954.84	5252.56	0.00	
15800.00	89.81	359.41	10541.13	5284.55	-955.87	5352.19	0.00	
15900.00	89.81	359.41	10541.15	5384.55	-956.90	5451.81	0.00	
16000.00	89.81	359.41	10541.79	5484.54	-957.93	5551.44	0.00	
16100.00	89.81	359.41	10542.12	5584.53	-958.96	5651.06	0.00	
16200.00	89.81	359.41	10542.45	5684.53	-959.99	5750.69	0.00	
16300.00	89.81	359.41	10542.78	5784.52	-961.02	5850.32	0.00	
16400.00	89.81	359.41	10543.11	5884.52	-962.05	5949.94	0.00	
16500.00	89.81	359.41	10543.44	5984.51	-963.08	6049.57	0.00	
16600.00	89.81	359.41	10543.77	6084.50	-964.11	6149.19	0.00	
16700.00	89.81	359.41	10544.10	6184.50	-965.14	6248.82	0.00	
16800.00	89.81	359.41	10544.44	6284.49	-966.17	6348.45	0.00	
16900.00	89.81	359.41	10544.77	6384.49	-967.20	6448.07	0.00	
17000.00	89.81	359.41	10545.10	6484.48	-968.23	6547.70	0.00	
17100.00	89.81	359.41	10545.43	6584.48	-969.26	6647.32	0.00	
17200.00	89.81	359.41	10545.76	6684.47	-970.29	6746.95	0.00	
17300.00	89.81	359.41	10546.09	6784.46	-971.32	6846.57	0.00	
17400.00	89.81	359.41	10546.42	6884.46	-972.35	6946.20	0.00	
17500.00	89.81	359.41	10546.75	6984.45	-973.38	7045.83	0.00	
17600.00	89.81	359.41	10547.08	7084.45	-974.41	7145.45	0.00	
17700.00	89.81	359.41	10547.41	7184.44	-975.44	7245.08	0.00	
17800.00	89.81	359.41	10547.75	7284.43	-976.47	7344.70	0.00	
17900.00	89.81	359.41	10548.08	7384.43	-977.50	7444.33	0.00	
18000.00	89.81	359.41	10548.41	7484.42	-978.53	7543.95	0.00	
18100.00	89.81	359.41	10548.74	7584.42	-979.56	7643.58	0.00	
18200.00	89.81	359.41	10549.07	7684.41	-980.59	7743.21	0.00	
18300.00	89.81	359.41	10549.40	7784.40	-981.62	7842.83	0.00	
18400.00	89.81	359.41	10549.73	7884.40	-982.65	7942.46	0.00	
18500.00	89.81	359.41	10550.06	7984.39	-983.68	8042.08	0.00	
18600.00	89.81	359.41	10550.39	8084.39	-984.71	8141.71	0.00	
18700.00	89.81	359.41	10550.72	8184.38	-985.74	8241.33	0.00	
18800.00	89.81	359.41	10551.06	8284.38	-986.77	8340.96	0.00	
18900.00	89.81	359.41	10551.39	8384.37	-987.80	8440.59	0.00	
19000.00	89.81	359.41	10551.72	8484.36	-988.83	8540.21	0.00	
19100.00	89.81	359.41	10552.05	8584.36	-989.86	8639.84	0.00	
		359.41	10552.38	8684.35	-990.89	8739.46	0.00	
19200.00 19300.00	89.81 89.81	359.41	10552.71	8784.35	-991.92	8839.09	0.00	



County: Eddy
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)	Comment
19400.00	89.81	359.41	10553.04	8884.34	-992.96	8938.71	0.00	
19500.00	89.81	359.41	10553.37	8984.33	-993.99	9038.34	0.00	
19600.00	89.81	359.41	10553.70	9084.33	-995.02	9137.97	0.00	
19700.00	89.81	359.41	10554.03	9184.32	-996.05	9237.59	0.00	
19800.00	89.81	359.41	10554.36	9284.32	-997.08	9337.22	0.00	
19900.00	89.81	359.41	10554.70	9384.31	-998.11	9436.84	0.00	
20000.00	89.81	359.41	10555.03	9484.31	-999.14	9536.47	0.00	
20100.00	89.81	359.41	10555.36	9584.30	-1000.17	9636.09	0.00	
20200.00	89.81	359.41	10555.69	9684.29	-1001.20	9735.72	0.00	
20300.00	89.81	359.41	10556.02	9784.29	-1002.23	9835.35	0.00	
20400.00	89.81	359.41	10556.35	9884.28	-1003.26	9934.97	0.00	
20500.00	89.81	359.41	10556.68	9984.28	-1004.29	10034.60	0.00	
20600.00	89.81	359.41	10557.01	10084.27	-1005.32	10134.22	0.00	
20700.00	89.81	359.41	10557.34	10184.26	-1006.35	10233.85	0.00	
20800.00	89.81	359.41	10557.67	10284.26	-1007.38	10333.48	0.00	
20822.34	89.81	359.41	10557.75	10306.59	-1007.61	10355.73	0.00	exit
20900.00	89.81	359.41	10558.01	10384.25	-1008.41	10433.10	0.00	
20902.34	89.81	359.41	10558.00	10386.59	-1008.38	10435.42	0.00	BHL

## Tater Tot 2-35 Fed Com 712H

9 5/8		surface csg in a	13 1/2	inch hole.		Design	Factors			Surface		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00		j 55	btc sc	55.26	19.29	0.73	285	31	1.22	36.43	11,400
"B"				btc sc				0				0
	\	v/8.4#/g mud, 30min Sfc Csg Te	st psig: 1,500	Tail Cm	t does not	circ to sfc.	Totals:	285				11,400
Comparison o	f Proposed	to Minimum Required Cer	ment 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-Cpl
13 1/2	0.4887	192	276	139	98	9.00	3248	5M				1.94
Burst Frac Grac	dient(s) for S	egment(s) A, B = , b All >	0.70, OK.									
7 5/8		casing inside the	9 5/8			Design I	Factors			Int 1		
Segment	#/ft	Grade	73/0	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	29.70	Orauc	p 110	MO-FXL	2.22	1.3	1.32	9,979	1	2.21	2.17	
"B"	20.70		P 110	MO-I AL		1.0	1.52	0	'	1	2.17	0
	,	v/8.4#/g mud, 30min Sfc Csg Te	st nsig: 952				Totals:	9,979				296,376
	,	-		ded to achieve a top of	f 0	ft from su		285				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Reg'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cpl
8 3/4	0.1005	394	567	1005	-44	10.50	3436	5M				0.56
D V Tool(s):	0.1000	004	5663	1000		10.00	sum of sx	Σ CuFt				Σ%exces
D V 1001(3).			3003									2700X000
hy stage % :		31	84				715	1617				61
, ,	it yld > 1.35	31	84				715	1617				61
Class 'C' tail cm	at yld > 1.35					Design Fa		1617		Prod 1		61
Tail cmt 5 1/2		casing inside the	7 5/8	Coupling	loint	Design Fa	ctors		B∕Øs	Prod 1	a.C	
Tail cmt 5 1/2 Segment	#/ft		7 5/8	Coupling	Joint 3 45	Collapse	ctors Burst	Length	B@s	а-В	a-C	Weight
Tail cmt 5 1/2 Segment "A"	#/ft 20.00	casing inside the	<b>75/8</b> p 110	Varn	3.45	Collapse 2.57	ctors Burst 2.42	<b>Length</b> 9,479	2	<b>a-B</b> 4.05	4.31	Weight 189,580
Tail cmt 5 1/2 Segment "A" "B"	#/ft 20.00 <b>20.00</b>	casing inside the	75/8 p 110 p 110	Varn vam sprint sf	3.45 29.71	2.57 2.10	ctors Burst 2.42 2.49	Length 9,479 1,079	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52	Weight 189,580 21,580
Tail cmt 5 1/2 Segment "A" "B" "C"	#/ft 20.00	casing inside the	<b>75/8</b> p 110	Varn vam sprint sf Varn	3.45	Collapse 2.57	ctors Burst 2.42	Length 9,479 1,079 10,344	2	<b>a-B</b> 4.05	4.31	Weight 189,580 <b>21,580</b> 206,880
Tail cmt 5 1/2 Segment "A" "B"	#/ft 20.00 <b>20.00</b> 20.00	casing inside the Grade	75/8 p 110 p 110 p 110	Varn vam sprint sf	3.45 29.71	2.57 2.10	Ctors Burst 2.42 2.49 2.42	Length 9,479 1,079 10,344 0	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52	Weight 189,580 <b>21,580</b> 206,880
Tail cmt 5 1/2 Segment "A" "B" "C"	#/ft 20.00 <b>20.00</b> 20.00	casing inside the Grade v/8.4#/g mud, 30min Sfc Csg Te	7 5/8  p 110 p 110 p 110 st psig: 2,085	Varn vam sprint sf Varn 0	3.45 29.71 ∞	2.57 2.10 2.31	Ctors Burst 2.42 2.49 2.42 Totals:	Length 9,479 1,079 10,344 0 20,902	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040
Tail cmt 5 1/2 Segment "A" "B" "C" "D"	#/ft 20.00 <b>20.00</b> 20.00	casing inside the Grade w/8.4#/g mud, 30min Sfc Csg Te The cement	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten	Varn vam sprint sf Varn 0 ded to achieve a top of	3.45 29.71 ∞	2.57 2.10 2.31	Ctors Burst 2.42 2.49 2.42 Totals:	Length 9,479 1,079 10,344 0 20,902 500	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040 overlap.
Tail cmt 5 1/2 Segment "A" "B" "C" "D"	#/ft 20.00 20.00 20.00	casing inside the Grade w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage	Varn vam sprint sf Varn 0  ded to achieve a top of	3.45 29.71 ~ o f 9479 1 Stage	2.57 2.10 2.31  ft from su Drilling	Ctors Burst 2.42 2.49 2.42 Totals: rface or a Calc	Length 9,479 1,079 10,344 0 20,902 500 Req'd	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040 overlap.
Tail cmt 5 1/2 Segment "A" "B" "C" "D"	#/ft 20.00 20.00 20.00 Annular Volume	casing inside the Grade  w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft	3.45 29.71 ∞ f 9479 1 Stage % Excess	2.57 2.10 2.31  ft from su Drilling Mud Wt	Ctors Burst 2.42 2.49 2.42 Totals:	Length 9,479 1,079 10,344 0 20,902 500	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52 3.87	Weight 189,586 21,580 206,886 0 418,04( overlap. Min Dist Hole-Cpl
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4	#/ft 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage	Varn vam sprint sf Varn 0  ded to achieve a top of	3.45 29.71 ~ o f 9479 1 Stage	2.57 2.10 2.31  ft from su Drilling	Ctors Burst 2.42 2.49 2.42 Totals: rface or a Calc	Length 9,479 1,079 10,344 0 20,902 500 Req'd	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040 overlap.
5 1/2 Segment "A" "B" "C" "D"	#/ft 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade  w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft	3.45 29.71 ∞ f 9479 1 Stage % Excess	2.57 2.10 2.31  ft from su Drilling Mud Wt	Ctors Burst 2.42 2.49 2.42 Totals: rface or a Calc	Length 9,479 1,079 10,344 0 20,902 500 Req'd	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040 overlap. Min Dist
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4	#/ft 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade  w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft	3.45 29.71 ∞ f 9479 1 Stage % Excess	2.57 2.10 2.31  ft from su Drilling Mud Wt	Ctors Burst 2.42 2.49 2.42 Totals: rface or a Calc	Length 9,479 1,079 10,344 0 20,902 500 Req'd	2 <b>2</b>	<b>a-B</b> 4.05 <b>4.18</b>	4.31 3.52 3.87	Weight 189,586 21,580 206,886 0 418,04( overlap. Min Dist Hole-Cpl
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm	#/ft 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade  w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx	7 5/8  p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt 1202	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft	3.45 29.71 ∞ f 9479 1 Stage % Excess	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50	Ectors Burst 2.42 2.49 2.42 Totals: rface or a Calc MASP	Length 9,479 1,079 10,344 0 20,902 500 Req'd	2 2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weight 189,586 21,580 206,886 0 418,04( overlap. Min Dist Hole-Cpl
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm	#/ft 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade  w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft 959	3.45 29.71 ∞ f 9479 1 Stage % Excess	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50	Ectors Burst 2.42 2.49 2.42 Totals: rface or a Calc MASP	Length 9,479 1,079 10,344 0 20,902 500 Req'd BOPE	2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040 overlap. Min Dist Hole-Cpl
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm	#/ft 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade  W/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx 756	7 5/8  p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt 1202	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft	3.45 29.71	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50	Ectors  Burst 2.42 2.49 2.42  Totals: rface or a Calc MASP	Length 9,479 1,079 10,344 0 20,902 500 Req'd	2 2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weigh 189,580 21,580 206,880 0 418,040 overlap. Min Dis Hole-Cpl
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm #N/A 0 Segment	#/ft 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade  W/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx 756	7 5/8  p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt 1202	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft 959  Coupling	3.45 29.71	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50	Ectors  Burst 2.42 2.49 2.42  Totals: rface or a Calc MASP	Length 9,479 1,079 10,344 0 20,902 500 Req'd BOPE	2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weigh 189,580 21,580 0 418,040 overlap. Min Dis Hole-Cpl
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm	#/ft 20.00 20.00 20.00 20.00 Annular Volume 0.0835 it yld > 1.35	casing inside the Grade  W/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx 756	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt 1202	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft 959  Coupling 0.00	3.45 29.71	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50	Ectors  Burst 2.42 2.49 2.42  Totals: rface or a Calc MASP	Length 9,479 1,079 10,344 0 20,902 500 Req'd BOPE	2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weigh 189,580 21,580 0 418,040 overlap. Min Dis Hole-Cpl 0.35
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm	#/ft 20.00 20.00 20.00 20.00 Annular Volume 0.0835 it yld > 1.35	casing inside the Grade  v/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx 756  Grade	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage Cuft Cmt 1202  5 1/2	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft 959  Coupling 0.00	3.45 29.71 <sup>∞</sup> f 9479 1 Stage % Excess 25  #N/A	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50	Ctors Burst 2.42 2.49 2.42 Totals: rface or a Calc MASP  Factors Burst  Totals:	Length 9,479 1,079 10,344 0 20,902 500 Req'd BOPE	2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040 overlap. Min Disi Hole-Cpl 0.35
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm	#/ft 20.00 20.00 20.00 20.00 Annular Volume 0.0835 it yld > 1.35	casing inside the Grade  v/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx 756  Grade  v/8.4#/g mud, 30min Sfc Csg Te Cmt vol	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt 1202  5 1/2  st psig: calc below includes	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft 959  Coupling 0.00 0.00	3.45 29.71	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50  Design Collapse	Ctors Burst 2.42 2.49 2.42 Totals: rface or a Calc MASP  Factors Burst  Totals:	Length 9,479 1,079 10,344 0 20,902 500 Req'd BOPE Length 0 0 0 #N/A	2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,044 overlap. Min Dist Hole-Cpl 0.35  Weight 0 0 overlap.
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm #N/A 0 Segment "A" "B"	#/ft 20.00 20.00 20.00 20.00 Annular Volume 0.0835 styld > 1.35	casing inside the Grade  w/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx 756  Grade  w/8.4#/g mud, 30min Sfc Csg Te Cmt vol 1 Stage	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt 1202  5 1/2  st psig: calc below includes i 1 Stage	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft 959  Coupling 0.00 0.00 this csg, TOC intended Min	3.45 29.71    f 9479 1 Stage % Excess 25  #N/A  #N/A 1 Stage	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50  Design I Collapse  ft from su Drilling	Ctors Burst 2.42 2.49 2.42 Totals: rface or a Calc MASP  Factors Burst  Totals:	Length 9,479 1,079 10,344 0 20,902 500 Req'd BOPE Length 0 0 #N/A Req'd	2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,040 overlap. Min Dist Hole-Cpl 0.35  Weight 0 0 overlap. Min Dist
Tail cmt 5 1/2 Segment "A" "B" "C" "D"  Hole Size 6 3/4 Class 'C' tail cm #N/A 0 Segment "A" "B"	#/ft 20.00 20.00 20.00 20.00 Annular Volume 0.0835	casing inside the Grade  v/8.4#/g mud, 30min Sfc Csg Te The cement 1 Stage Cmt Sx 756  Grade  v/8.4#/g mud, 30min Sfc Csg Te Cmt vol	7 5/8  p 110 p 110 p 110 p 110 st psig: 2,085 t volume(s) are inten 1 Stage CuFt Cmt 1202  5 1/2  st psig: calc below includes	Varn vam sprint sf Varn 0  ded to achieve a top of Min Cu Ft 959  Coupling 0.00 0.00 this csg, TOC intended	3.45 29.71	Collapse 2.57 2.10 2.31  ft from su Drilling Mud Wt 10.50  Design Collapse	Totals: Totals: Totals: Totals: Tactors Burst  Totals: Totals:	Length 9,479 1,079 10,344 0 20,902 500 Req'd BOPE Length 0 0 0 #N/A	2 2 2	<b>a-B</b> 4.05 <b>4.18</b> 4.05	4.31 3.52 3.87	Weight 189,580 21,580 206,880 0 418,044 overlap. Min Dist Hole-Cpl 0.35  Weight 0 0 overlap.

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

CONDITIONS

Action 294215

## **CONDITIONS**

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	294215
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

## CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply.	12/13/2023