

Well Name: PAINT 4-33 FED COM	Well Location: T25S / R32E / SEC 4 / SESW /	County or Parish/State:
Well Number: 822H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMLC061863A	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002551956	Well Status: Approved Application for Permit to Drill	Operator: DEVON ENERGY PRODUCTION COMPANY LP

Notice of Intent

Sundry ID: 2752633

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 09/21/2023

Time Sundry Submitted: 01:21

Date proposed operation will begin: 09/21/2023

Procedure Description: ENGINEERING ONLY Devon Energy Production Company, L.P. respectfully requests a change in casing of the pilot hole to the subject well. Please see attach revised drill plan and casing spec sheets. Please see attached documentation. API: 30-025-51956

NOI Attachments

Procedure Description

- RE__EXTERNAL__Paint_822H_Sundry__4_String_Pilot_Hole_20230921131527.pdf
- PAINT_4_33_FED_COM_822H_pilot_hole_sundry_complete_rev2_20230921131524.pdf
- 13.375_54.50_J55_20230921131524.pdf
- 9.625_40lb_J55_SeAH_20230921131523.pdf
- 5.5in_x_20.00lb_P110EC_DWC_C_IS_PLUS__5_23_2023_20230921131522.pdf
- 7_625_29_7_BMP_P110HC_CDS_FXL__slim_hole_alternate_for_timing__20230921131523.pdf

Well Name: PAINT 4-33 FED COM

Well Location: T25S / R32E / SEC 4 / SESW /

County or Parish/State:

Well Number: 822H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMLC061863A

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002551956

Well Status: Approved Application for Permit to Drill

Operator: DEVON ENERGY PRODUCTION COMPANY LP

Conditions of Approval

Specialist Review

Paint_4_33_Fed_Com_822H_Sundry_ID_2752633_20230929121329.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: SEP 21, 2023 01:21 PM

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: 5752345972

BLM POC Email Address: LVO@BLM.GOV

Disposition: Approved

Disposition Date: 09/29/2023

Signature: Long Vo



13-3/8" 54.50# .380 J-55

Dimensions (Nominal)

Outside Diameter	13.375	in.
Wall	0.380	in.
Inside Diameter	12.615	in.
Drift	12.459	in.
Weight, T&C	54.500	lbs/ft
Weight, PE	52.790	lbs/ft

Performance Ratings, Minimum

Collapse, PE	1130	psi
Internal Yields Pressure		
PE	2730	psi
STC	2730	PSI
BTC	2730	psi
Yield Strength, Pipe Body	853	1000 lbs
Joint Strength, STC	514	1000 lbs
Joint Strength, BTC	909	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.

Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 20.00 Plain End: 19.83	0.361	VST P110 EC	4.653	87.5	DWC/C-IS PLUS

PIPE PROPERTIES		
Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Area	5.828	sq.in.
Grade Type	API 5CT; Vallourec Sourced Material Only	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	729	klb
Ultimate Strength	787	klb
Min. Internal Yield	14,360	psi
High Collapse	12,090	psi

CONNECTION PROPERTIES		
Connection Type	Semi-Premium T&C	
Connection OD (nom)	6.300	in.
Connection ID (nom)	4.778	in.
Make-Up Loss	4.125	in.
Coupling Length	9.250	in.
Critical Cross Section	5.828	sq.in.
Tension Efficiency	100.0%	of pipe
Compression Efficiency	100.0%	of pipe
Internal Pressure Efficiency	100.0%	of pipe
External Pressure Efficiency	100.0%	of pipe

CONNECTION PERFORMANCES		
Yield Strength	729	klb
Parting Load	787	klb
Compression Rating	729	klb
Min. Internal Yield	14,360	psi
High Collapse	12,090	psi
Maximum Uniaxial Bend Rating	104.2	°/100 ft
Ref String Length w 1.4 Design Factor	26,040	ft

FIELD TORQUE VALUES		
Min. Make-up Torque	16,600	ft.lbs
Opti. Make-up Torque	17,850	ft.lbs
Max. Make-up Torque	19,100	ft.lbs
Min. Shoulder Torque	1,660	ft.lbs
Max. Shoulder Torque	13,280	ft.lbs
Max. Delta Turn	0.200	Turns
†Max Operational Torque	24,300	ft.lbs
†Maximum Torsional Value (MTV)	26,730	ft.lbs

†Maximum Operational Torque and Maximum Torsional Value Only Valid with Vallourec P110EC Material

For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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05/23/2023 4:11 PM



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Tech Support E-mail: tech.support@vam-usa.com

DWC Connection Data Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.

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05/23/2023 4:11 PM



Metal One Corp. 	MO-FXL Pipe Body: BMP P110HC MinYS110ksi Connection Data Sheet	CDS#	MO-FXL 7-5/8 29.7
			P110HC
			MinYS110ksi
		Date	10-Mar-21

MO-FXL

Geometry

Imperial

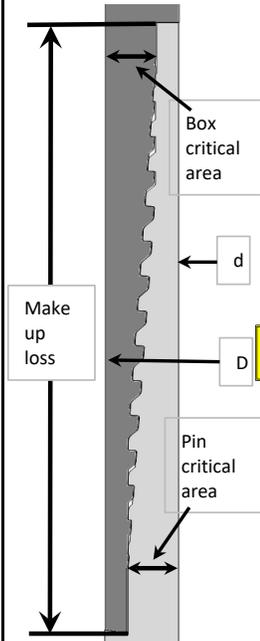
S.I.

Pipe Body

Grade *	P110HC		P110HC	
Pipe OD (D)	7 5/8	in	193.68	mm
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	8.537	in ²	5,508	mm ²
Drift Dia.	6.750	in	171.45	mm

Connection

Box OD (W)	7.625	in	193.68	mm
PIN ID	6.875	in	174.63	mm
Make up Loss	4.219	in	107.16	mm
Box Critical Area	5.714	in ²	3686	mm ²
Joint load efficiency	70	%	70	%
Thread Taper	1 / 10 (1.2" per ft)			
Number of Threads	5 TPI			



Performance

Performance Properties for Pipe Body

S.M.Y.S. *	939	kips	4,177	kN
M.I.Y.P. *	9,470	psi	65.31	MPa
Collapse Strength *	7,050	psi	48.62	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body

M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

* BMP P110HC: MinYS110ksi, Collapse 7,050psi

Performance Data Sheet: SOP-12-F05 Rev.1, dated 9/6/2018

Performance Properties for Connection

Tensile Yield load	657 kips (70% of S.M.Y.S.)
Min. Compression Yield	657 kips (70% of S.M.Y.S.)
Internal Pressure	7,580 psi (80% of M.I.Y.P.)
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	27

Recommended Torque

Min.	15,500	ft-lb	21,000	N-m
Opti.	17,200	ft-lb	23,300	N-m
Max.	18,900	ft-lb	25,600	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

Note : Operational Max. torque can be applied for high torque application

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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.



9.625" 40# .395" J-55

Dimensions (Nominal)

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
Internal Yield Pressure at Minimum Yield		
PE	3950	psi
LTC	3950	psi
BTC	3950	psi
Yield Strength, Pipe Body	630	1000 lbs.
Joint Strength		
STC	452	1000 lbs.
LTC	520	1000 lbs.
BTC	714	1000 lbs.

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1. Geologic Formations

TVD of target	12650	Pilot hole depth	14062
MD at TD:	22953	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	770		
Salt	1075		
Base of Salt	4420		
Delaware	4690		
Cherry Canyon	5570		
Brushy Canyon	6980		
1st Bone Spring Lime	8530		
Bone Spring 1st	9630		
Bone Spring 2nd	10230		
3rd Bone Spring Lime	10760		
Bone Spring 3rd	11480		
Wolfcamp	11950		

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

2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Top (MD)	Bottom (MD)	Top (TVD)	Bottom (TVD)
17 1/2	13 3/8	54.5	J-55	BTC	0.0	795 MD	0	795 TVD
12 1/4	9 5/8	40.0	J-55	BTC	0.0	8600 MD	0	8600 TVD
8 3/4	7 5/8	29.7	P110HC	MO-FXL	8400	12300 MD	8400	12300 TVD
6 3/4	5 1/2	20.0	P110	DWC / C-1S+	0	22953 MD	0	12650 TVD

7-5/8" Intermediate drilling liner will be run via liner hanger with minimum 200' overlap inside 9-5/8" Intermediate casing

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

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	612	Surf	13.2	1.44	Lead: Class C Cement + additives
Int	853	Surf	9	3.27	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
	470	6980	13.2	1.44	Tail: Class H / C + additives
Int 1	361	8400	13.2	1.44	Tail: Class H / C + additives
Production	63	10125	9	3.27	Lead: Class H / C + additives
	691	12125	13.2	1.44	Tail: Class H / C + additives

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 String	% Excess
Surface	50%
Intermediate and Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

4. Pressure Control Equipment (Four String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
Other*					
Int 1	13-5/8"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram		
			Double Ram	X	
Other*					
Production	13-5/8"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram		
			Double Ram	X	
Other*					
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.				
Y	A variance is requested to run a 5 M annular on a 10M system				

5. Mud Program (Four String Design)

Section	Type	Weight (ppg)
Surface	WBM	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Intermediate 1	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	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Rpeort and sbumitted 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	Specify what type and where?
BH pressure at deepest TVD	6907
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 43 CFR 3176. 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.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

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

Will be pre-setting casing? Potentially

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

Attachments

- Directional Plan
- Other, describe

From: [Dzurisin, Ryan](#)
To: [Vo, Long T](#)
Cc: [Omoumi, Shayda](#); [Perez-Jimenez, Jose](#)
Subject: RE: [EXTERNAL] Paint 822H Sundry - 4 String Pilot Hole
Date: Thursday, September 21, 2023 7:50:42 AM
Attachments: [Paint 822H Pilot Hole Sundry_REV2.pdf](#)
[image002.png](#)
[7.625.29.7.BMP-P110HC.CDS.FXL \(slim hole alternate for timing\).pdf](#)

Yes. Attached are both plug back procedure and spec sheet.

From: Vo, Long T <lvo@blm.gov>
Sent: Thursday, September 21, 2023 7:39 AM
To: Dzurisin, Ryan <Ryan.Dzurisin@dmv.com>
Cc: Omoumi, Shayda <Shayda.Omoumi@dmv.com>; Perez-Jimenez, Jose <Jose.Perez-Jimenez@dmv.com>
Subject: Re: [EXTERNAL] Paint 822H Sundry - 4 String Pilot Hole

Ryan,

Could you include the Liner string casing data sheet?

Regards,

Long Vo, EIT, M.Sc.

Petroleum Engineer SME
 Carlsbad Field Office
 Land and Minerals
 Bureau of Land Management
 Department of Interior
 575-988-5402 Cell

From: Dzurisin, Ryan <Ryan.Dzurisin@dmv.com>
Sent: Wednesday, September 20, 2023 2:25 PM
To: Vo, Long T <lvo@blm.gov>
Cc: Omoumi, Shayda <Shayda.Omoumi@dmv.com>; Perez-Jimenez, Jose <Jose.Perez-Jimenez@dmv.com>
Subject: [EXTERNAL] Paint 822H Sundry - 4 String Pilot Hole

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Long,
 As discussed, here is what we are going to submit for the sundry for our upcoming Paint 4-33 Fed Com 822H. The pilot hole will be drilled to 14,062' MD (as shown on attached "Plot 1"), with isolation cement plug covering from 50' into OH up to top of Wolfcamp at 11,850' MD. Thanks for your help with this.

2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Top (MD)	Bottom (MD)	Top (TVD)	Bottom (TVD)
17 1/2	13 3/8	54.5	J-55	BTC	0.0	795 MD	0	795 TVD
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6 3/4	5 1/2	20.0	P110	DWC / C-IS+	0	22953 MD	0	12650 TVD

7-5/8" Intermediate drilling liner will be run via liner hanger with minimum 200' overlap inside 9-5/8" Intermediate casing

Thanks,

Ryan Dzurisin

Drilling Engineer
Devon Energy Corporation
 333 West Sheridan Avenue

Oklahoma City, OK 73102

C: 405-635-7062



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Unit or CA Number:

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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: SEP 21, 2023 01:21 PM

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:

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company LP
LEASE NO.:	NMNLC061863A
LOCATION:	Section 4, T.25 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Paint 4-33 Fed Com 822H
SURFACE HOLE FOOTAGE:	200'S & 1797'/W
BOTTOM HOLE FOOTAGE:	20'/N & 1870'/W
ATS/API ID:	3002551956
APD ID:	10400083772
Sundry ID:	2752633

COA

H2S	Yes <input type="checkbox"/>		
Potash	None <input type="checkbox"/>		
Cave/Karst Potential	Low <input type="checkbox"/>		
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Other
Wellhead	Conventional and Multibowl <input type="checkbox"/>		
Other	<input type="checkbox"/> 4 String	Capitan Reef <input type="checkbox"/> None <input type="checkbox"/>	<input type="checkbox"/> WIPP
Other	Pilot Hole <input type="checkbox"/> None <input type="checkbox"/>	<input type="checkbox"/> Open Annulus	
Cementing	Contingency Squeeze <input type="checkbox"/> None <input type="checkbox"/>	Echo-Meter <input type="checkbox"/> Int 1 <input type="checkbox"/>	Primary Cement Squeeze <input type="checkbox"/> None <input type="checkbox"/>
Special Requirements	<input type="checkbox"/> Water Disposal/Injection	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry		
Special Requirements Variance	<input checked="" type="checkbox"/> Break Testing	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **875 feet** (a minimum of **25 feet (Lea County)**) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement. Maximum mud weight shall be less than 10.35 ppg.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

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

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 6980' (470 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 853 sxs Class C**)

Operator has proposed to pump down 13-3/8" X 9-5/8" 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 9-5/8" 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.

Intermediate casing liner must be kept fluid filled to meet BLM minimum collapse requirement. Maximum mud weight shall be less than 10.35 ppg.

3. The minimum required fill of cement behind the 7-5/8 inch intermediate liner is:
 - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

The pilot hole plugging procedure is approved as written. Note plug tops on subsequent drilling report. The BLM is to be contacted 24 hours prior to the commencement of any plugging operations (**575-689-5981 Lea County**) and when tagging the plugs.

- ❖ Mud Requirement: Mud shall be placed between all or below plugs. Minimum consistency of plugging mud shall be obtained by mixing at a rate of 25 sacks (50 pounds each) of gel per 100 barrels of **brine** water. Minimum nine (9) pounds per gallon.
- ❖ Cement requirement: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

- ❖ **Subsequent Plugging Reporting:** Within 30 days after plugging work is completed to the BLM. The report should give in detail the manner in which the plugging work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. **Show date pilot hole was plugged and tagged.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

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 **9-5/8** inch intermediate casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.

- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

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 **(575-689-5981 Lea 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 Onshore Oil and Gas Order No. 2.

- If in the event break testing is not utilized, then a full BOPE test would be conducted.

GENERAL REQUIREMENTS

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

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

Eddy County

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

BLM_NM_CFO_DrillingNotifications@BLM.GOV

(575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,

(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a

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

A. CASING

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

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.
- B. PRESSURE CONTROL
1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.
 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after

installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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

part 3170 Subpart 3172.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

LVO 9/29/2023

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

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

5. Lease Serial No. **NMLC061863A**

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator **DEVON ENERGY PRODUCTION COMPANY LP**

3a. Address **333 WEST SHERIDAN AVE, OKLAHOMA CITY,** 3b. Phone No. (include area code)
(405) 235-3611

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)
SEC 4/T25S/R32E/NMP

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

8. Well Name and No. **PAINT 4-33 FED COM/822H**

9. API Well No. **3002551956**

10. Field and Pool or Exploratory Area
Wildcat Lower Wolfcamp/WOLFCAAMP

11. Country or Parish, State
LEA/NM

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

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

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

ENGINEERING ONLY Devon Energy Production Company, L.P. respectfully requests a change in casing of the pilot hole to the subject well. Please see attach revised drill plan and casing spec sheets. Please see attached documentation. API: 30-025-51956

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
SHAYDA OMOUMI / Ph: (405) 235-3611

Title **Regulatory Compliance Associate 3**

Signature _____ Date **09/21/2023**

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by _____ Title _____ Date _____

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

Office _____

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Location of Well

0. SHL: SESW / 200 FSL / 1797 FWL / TWSP: 25S / RANGE: 32E / SECTION: 4 / LAT: 32.1527423 / LONG: -103.6828301 (TVD: 0 feet, MD: 0 feet)

PPP: SESW / 100 FSL / 1870 FWL / TWSP: 25S / RANGE: 32E / SECTION: 4 / LAT: 32.1524692 / LONG: -103.6825943 (TVD: 11950 feet, MD: 11962 feet)

BHL: NENW / 20 FNL / 1870 FWL / TWSP: 24S / RANGE: 32E / SECTION: 33 / LAT: 32.1811777 / LONG: -103.6821089 (TVD: 12687 feet, MD: 22869 feet)

CONFIDENTIAL

From: [Dzurisin, Ryan](#)
To: [Vo, Long T](#)
Cc: [Omoumi, Shayda](#); [Perez-Jimenez, Jose](#)
Subject: RE: [EXTERNAL] Paint 822H Sundry - 4 String Pilot Hole
Date: Thursday, September 21, 2023 7:50:42 AM
Attachments: [Paint 822H Pilot Hole Sundry_REV2.pdf](#)
[image002.png](#)
[7.625.29.7.BMP-P110HC.CDS.FXL \(slim hole alternate for timing\).pdf](#)

Yes. Attached are both plug back procedure and spec sheet.

From: Vo, Long T <lvo@blm.gov>
Sent: Thursday, September 21, 2023 7:39 AM
To: Dzurisin, Ryan <Ryan.Dzurisin@dmv.com>
Cc: Omoumi, Shayda <Shayda.Omoumi@dmv.com>; Perez-Jimenez, Jose <Jose.Perez-Jimenez@dmv.com>
Subject: Re: [EXTERNAL] Paint 822H Sundry - 4 String Pilot Hole

Ryan,

Could you include the Liner string casing data sheet?

Regards,

Long Vo, EIT, M.Sc.

Petroleum Engineer SME
 Carlsbad Field Office
 Land and Minerals
 Bureau of Land Management
 Department of Interior
 575-988-5402 Cell

From: Dzurisin, Ryan <Ryan.Dzurisin@dmv.com>
Sent: Wednesday, September 20, 2023 2:25 PM
To: Vo, Long T <lvo@blm.gov>
Cc: Omoumi, Shayda <Shayda.Omoumi@dmv.com>; Perez-Jimenez, Jose <Jose.Perez-Jimenez@dmv.com>
Subject: [EXTERNAL] Paint 822H Sundry - 4 String Pilot Hole

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Long,
 As discussed, here is what we are going to submit for the sundry for our upcoming Paint 4-33 Fed Com 822H. The pilot hole will be drilled to 14,062' MD (as shown on attached "Plot 1"), with isolation cement plug covering from 50' into OH up to top of Wolfcamp at 11,850' MD. Thanks for your help with this.

2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Top (MD)	Bottom (MD)	Top (TVD)	Bottom (TVD)
17 1/2	13 3/8	54.5	J-55	BTC	0.0	795 MD	0	795 TVD
12 1/4	9 5/8	40.0	J-55	BTC	0.0	8600 MD	0	8600 TVD
8 3/4	7 5/8	29.7	P110HC	MO-FXL	8400	12300 MD	8400	12300 TVD
6 3/4	5 1/2	20.0	P110	DWC / C-IS+	0	22953 MD	0	12650 TVD

7-5/8" Intermediate drilling liner will be run via liner hanger with minimum 200' overlap inside 9-5/8" Intermediate casing

Thanks,

Ryan Dzurisin

Drilling Engineer
Devon Energy Corporation
 333 West Sheridan Avenue

Oklahoma City, OK 73102

C: 405-635-7062



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8 3/4	7 5/8	29.7	P110HC	MO-FXL	8400	12300 MD	8400	12300 TVD
6 3/4	5 1/2	20.0	P110	DWC / C-1S+	0	22953 MD	0	12650 TVD

7-5/8" Intermediate drilling liner will be run via liner hanger with minimum 200' overlap inside 9-5/8" Intermediate casing

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

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	612	Surf	13.2	1.44	Lead: Class C Cement + additives
Int	853	Surf	9	3.27	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
	470	6980	13.2	1.44	Tail: Class H / C + additives
Int 1	361	8400	13.2	1.44	Tail: Class H / C + additives
Production	63	10125	9	3.27	Lead: Class H / C + additives
	691	12125	13.2	1.44	Tail: Class H / C + additives

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 String	% Excess
Surface	50%
Intermediate and Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

4. Pressure Control Equipment (Four String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
Other*					
Int 1	13-5/8"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram		
			Double Ram	X	
Other*					
Production	13-5/8"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram		
			Double Ram	X	
Other*					
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.				
Y	A variance is requested to run a 5 M annular on a 10M system				

5. Mud Program (Four String Design)

Section	Type	Weight (ppg)
Surface	WBM	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Intermediate 1	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	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Rpeort and sbumitted 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	Specify what type and where?
BH pressure at deepest TVD	6907
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 43 CFR 3176. 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.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

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

Will be pre-setting casing? Potentially

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

Attachments

- Directional Plan
- Other, describe

Hole Size 7 7/8"

From 12,300 (Pilot Begin) **To** 14,062 (Pilot end)

- Pilot hole will be plugged back per NMOCD P&A requirements with a **cement plug**.
- Plug depths will be verified and tagged on the plug back
- Devon will contact the NMOCD and give notice before performing any of the procedures including the tagging of the cement plug.

PILOT HOLE ABANDONMENT

ABDMNT Plug 1 (PILOT HOLE)

Slurry Top: 11,850
 Slurry Base: 12,350
 Slurry Weight: 15.6
 Cement Plug 500'
 Height:

Whipstock Set Depths

Whip Set Depth 12,100
 Whip Window 12,075 – 12,085

	TOC	Wt (lb/gal)	H2O (gal/sk)	Sacks	Yield (ft3/sack)	Slurry Description
Stage 1 (Pilot Hole)	11,850	15.6	5.24	280	1.18	Lead: Class H Cement + Retarder – HR-601- 0.1% BWOC Suspension Agent – SA-1015 – 0.05% BWOC Fluid Loss Additive – Halad-322 -0.5% BWOC



13-3/8" 54.50# .380 J-55

Dimensions (Nominal)

Outside Diameter	13.375	in.
Wall	0.380	in.
Inside Diameter	12.615	in.
Drift	12.459	in.
Weight, T&C	54.500	lbs/ft
Weight, PE	52.790	lbs/ft

Performance Ratings, Minimum

Collapse, PE	1130	psi
Internal Yields Pressure		
PE	2730	psi
STC	2730	PSI
BTC	2730	psi
Yield Strength, Pipe Body	853	1000 lbs
Joint Strength, STC	514	1000 lbs
Joint Strength, BTC	909	1000 lbs

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9.625" 40# .395" J-55

Dimensions (Nominal)

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
Internal Yield Pressure at Minimum Yield		
PE	3950	psi
LTC	3950	psi
BTC	3950	psi
Yield Strength, Pipe Body	630	1000 lbs.
Joint Strength		
STC	452	1000 lbs.
LTC	520	1000 lbs.
BTC	714	1000 lbs.

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Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 20.00 Plain End: 19.83	0.361	VST P110 EC	4.653	87.5	DWC/C-IS PLUS

PIPE PROPERTIES		
Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Area	5.828	sq.in.
Grade Type	API 5CT; Vallourec Sourced Material Only	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	729	klb
Ultimate Strength	787	klb
Min. Internal Yield	14,360	psi
High Collapse	12,090	psi

CONNECTION PROPERTIES		
Connection Type	Semi-Premium T&C	
Connection OD (nom)	6.300	in.
Connection ID (nom)	4.778	in.
Make-Up Loss	4.125	in.
Coupling Length	9.250	in.
Critical Cross Section	5.828	sq.in.
Tension Efficiency	100.0%	of pipe
Compression Efficiency	100.0%	of pipe
Internal Pressure Efficiency	100.0%	of pipe
External Pressure Efficiency	100.0%	of pipe

CONNECTION PERFORMANCES		
Yield Strength	729	klb
Parting Load	787	klb
Compression Rating	729	klb
Min. Internal Yield	14,360	psi
High Collapse	12,090	psi
Maximum Uniaxial Bend Rating	104.2	°/100 ft
Ref String Length w 1.4 Design Factor	26,040	ft

FIELD TORQUE VALUES		
Min. Make-up Torque	16,600	ft.lbs
Opti. Make-up Torque	17,850	ft.lbs
Max. Make-up Torque	19,100	ft.lbs
Min. Shoulder Torque	1,660	ft.lbs
Max. Shoulder Torque	13,280	ft.lbs
Max. Delta Turn	0.200	Turns
†Max Operational Torque	24,300	ft.lbs
†Maximum Torsional Value (MTV)	26,730	ft.lbs

†Maximum Operational Torque and Maximum Torsional Value Only Valid with Vallourec P110EC Material

For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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DWC Connection Data Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.

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Metal One Corp. 	MO-FXL Pipe Body: BMP P110HC MinYS110ksi Connection Data Sheet	CDS#	MO-FXL 7-5/8 29.7
			P110HC
			MinYS110ksi
		Date	10-Mar-21

MO-FXL

Geometry

Imperial

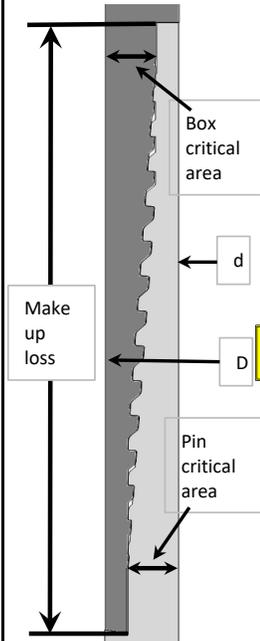
S.I.

Pipe Body

Grade *	P110HC		P110HC	
Pipe OD (D)	7 5/8	in	193.68	mm
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	8.537	in ²	5,508	mm ²
Drift Dia.	6.750	in	171.45	mm

Connection

Box OD (W)	7.625	in	193.68	mm
PIN ID	6.875	in	174.63	mm
Make up Loss	4.219	in	107.16	mm
Box Critical Area	5.714	in ²	3686	mm ²
Joint load efficiency	70	%	70	%
Thread Taper	1 / 10 (1.2" per ft)			
Number of Threads	5 TPI			



Performance

Performance Properties for Pipe Body

S.M.Y.S. *	939	kips	4,177	kN
M.I.Y.P. *	9,470	psi	65.31	MPa
Collapse Strength *	7,050	psi	48.62	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body

M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

* BMP P110HC: MinYS110ksi, Collapse 7,050psi

Performance Data Sheet: SOP-12-F05 Rev.1, dated 9/6/2018

Performance Properties for Connection

Tensile Yield load	657 kips (70% of S.M.Y.S.)
Min. Compression Yield	657 kips (70% of S.M.Y.S.)
Internal Pressure	7,580 psi (80% of M.I.Y.P.)
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	27

Recommended Torque

Min.	15,500	ft-lb	21,000	N-m
Opti.	17,200	ft-lb	23,300	N-m
Max.	18,900	ft-lb	25,600	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

Note : Operational Max. torque can be applied for high torque application

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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.

4-25-32-N Sundry ID 2752633 Paint 4-33 Fed Com 822H Lea NM113964 DEVON ENERGY PRODUCTION COMPANY LP 13-22d 3-25-2022 LV.xlsm

Paint 4-33 Fed Com 822H

13 3/8		surface csg in a		17 1/2		inch hole.		Design Factors				Surface	
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	54.50		j 55	btc	17.89	2.76	0.59	875	7	1.00	5.22	47,688	
"B"				btc				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500								Totals:				47,688	
Tail Cmt does not circ to sfc.													
Comparison of Proposed to Minimum Required Cement Volumes													
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg		
17 1/2	0.6946	485	698	608	15	9.00	2732	5M			1.56		

Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK. See plot (pipe racks 5 per F) as per D.D.1.D.D.4.1 not found.

9 5/8		casing inside the		13 3/8		Design Factors				Int 1		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00		j 55	btc	1.83	0.56	0.6	8,600	1	1.01	0.94	344,000
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:								Totals:				344,000
The cement volume(s) are intended to achieve a top of 0 ft from surface or a								875				overlap.
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg	
12 1/4	0.3132	470	677	2737	-75	10.35	3907	5M			0.81	
D V Tool(s):								sum of sx	Σ CuFt		Σ%excess	
t by stage % :								1323	3466		27	
Class 'C' tail cmt yld > 1.35												

Burst Frac Gradient(s) for Segment(s) A, B, C, D = 0.46, b, c, d < 0.70 a Problem!!

7 5/8		Liner w/top @		8400		Design Factors				Liner		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	29.70		p 110	mo-fxl	5.67	1.07	1.1	3,900	1	1.84	1.80	115,830
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: -61								Totals:				115,830
The cement volume(s) are intended to achieve a top of 8500 ft from surface or a								100				overlap.
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg	
8 3/4	0.1005	361	520	383	36	10.35	4117	5M			0.56	
Class 'C' tail cmt yld > 1.35												

5 1/2		casing inside the		7 5/8		Design Factors				Prod 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00		p 110	dwc/c is+	2.88	1.75	2.08	22,953	2	3.49	2.94	459,060
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,783								Totals:				459,060
The cement volume(s) are intended to achieve a top of 11900 ft from surface or a								400				overlap.
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg	
6 3/4	0.0835	754	1201	927	30	10.50					0.63	
Class 'H' tail cmt yld > 1.20 Capitan Reef est top XXXX.												

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 270730

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 270730
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	IF ON ANY STRING CEMENT DOES NOT CIRCULATE, A RCBL MUST BE RUN ON THAT STRING OF CASING.	10/2/2023