

<b>Well Name:</b> Gato Pequeno 4 Fed	<b>Well Location:</b> T23S / R32E / SEC 9 / NWNE /	<b>County or Parish/State:</b>
<b>Well Number:</b> 230H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM126065	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b>	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> DEVON ENERGY PRODUCTION COMPANY LP

**Notice of Intent**

**Sundry ID:** 2721651

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 03/20/2023

**Time Sundry Submitted:** 09:54

**Date proposed operation will begin:** 03/20/2023

**Procedure Description:** Devon Energy Production Co., L.P. (Devon) respectfully requests to move the BHL and have a name change on the subject well. Please see attached revised C102, drill plan (break test variance included), and directional plan. Permitted BHL: LOT 3, 20 FNL, 1750 FWL, 4-23S-32E Proposed BHL: LOT 3, 20 FNL, 1720 FWL, 4-23S-32E Permitted Well name: COOL CATS 4 FED 230H Proposed Well name: GATO PEQUENO 4 FED 230H AFMSS APD ID tracking number: 10400064735

**NOI Attachments**

**Procedure Description**

8.625\_32lb\_P110EC\_SPRINT\_FJ\_VST\_20230320095326.pdf

5.5\_17lb\_P110\_BTC\_20230320095325.pdf

10.750\_45.50lb\_J55\_BTC\_SC\_BLP\_Devon\_20230320095325.pdf

WA018195172\_GATO\_PEQUENO\_4\_FED\_230H\_WL\_R3\_20230320095156.PDF

GATO\_PEQUENO\_4\_FED\_230H\_20230320095155.pdf

GATO\_PEQUENO\_4\_FED\_230H\_Directional\_Plan\_02\_07\_23\_20230320095155.pdf

break\_test\_variance\_BOP\_20230320095155.pdf

Well Name: Gato Pequeno 4 Fed

Well Location: T23S / R32E / SEC 9 / NWNE /

County or Parish/State:

Well Number: 230H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM126065

Unit or CA Name:

Unit or CA Number:

US Well Number:

Well Status: Approved Application for Permit to Drill

Operator: DEVON ENERGY PRODUCTION COMPANY LP

### Conditions of Approval

#### Specialist Review

Gato\_Pequeno\_4\_Fed\_230H\_Sundry\_ID\_2721651\_20230321073221.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: MAR 20, 2023 09:54 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: 5752345972

BLM POC Email Address: LVO@BLM.GOV

Disposition: Approved

Disposition Date: 03/21/2023

Signature: Long Vo



Intent  As Drilled

API #		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, L.P.	Property Name: GATO PEQUENO 4 FED	Well Number 230H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	4	23S	32E		45	SOUTH	1721	WEST	LEA
Latitude 32.32640434					Longitude -103.68269029				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	4	23S	32E		100	SOUTH	1720	WEST	LEA
Latitude 32.3266510					Longitude 103.6826087				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	4	23S	32E	3	100	NORTH	1720	WEST	LEA
Latitude 32.3405659					Longitude 103.6826200				NAD 83

Is this well the defining well for the Horizontal Spacing Unit?  Y

Is this well an infill well?  N

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018



**10-3/4"    45.50#        0.400"        J-55**

**Dimensions (Nominal)**

Outside Diameter	10.750	in.
Wall	0.400	in.
Inside Diameter	9.950	in.
Drift	9.875	in.
Weight, T&C	45.500	lbs/ft
Weight, PE	44.260	lbs/ft

**Performance Properties**

Collapse	2090	psi
Internal Yield Pressure at Minimum Yield		
PE	3580	psi
STC	3580	psi
BTC	3580	psi
Yield Strength, Pipe Body	715	1000 lbs
Joint Strength		
STC	493	1000 lbs
BTC	796	1000 lbs
BTC Special Clearance (11.25" OD Cplg)	506	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.



# U. S. Steel Tubular Products

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

2/21/2019 8:12:22 AM

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

### Legal Notice

All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

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

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

Issued on: 16 Dec. 2020 by Logan Van Gorp



### Connection Data Sheet

<b>OD</b> 8 5/8 in.	<b>Weight (lb/ft)</b> Nominal: 32.00 Plain End: 31.13	<b>Wall Th.</b> 0.352 in.	<b>Grade</b> P110EC	<b>Alt. Drift:</b> 7.875 in.	<b>Connection</b> VAM® SPRINT-FJ
------------------------	---	------------------------------	------------------------	---------------------------------	-------------------------------------

PIPE PROPERTIES		
Nominal OD	8.625	in.
Nominal ID	7.921	in.
Nominal Cross Section Area	9.149	sqin.
Grade Type	High Yield	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Ultimate Tensile Strength	135	ksi

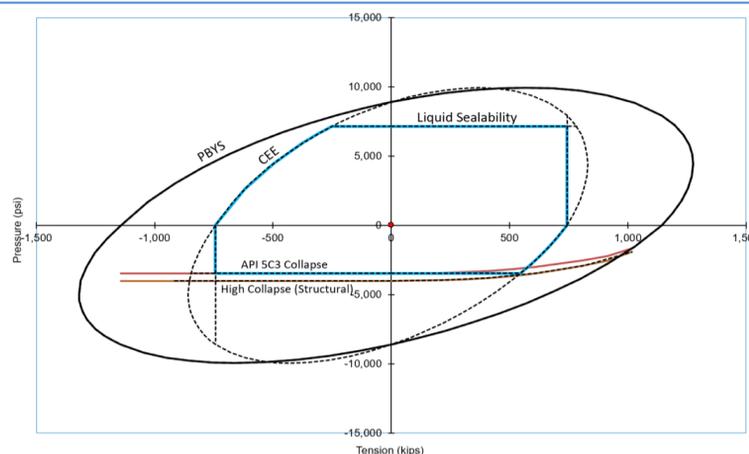
CONNECTION PROPERTIES		
Connection Type	Semi-Premium Integral Flush	
Connection OD (nom):	8.665	in.
Connection ID (nom):	7.954	in.
Make-Up Loss	2.614	in.
Critical Cross Section	6.038	sqin.
Tension Efficiency	65.0	% of pipe
Compression Efficiency	65.0	% of pipe
Internal Pressure Efficiency	80.0	% of pipe
External Pressure Efficiency	100	% of pipe

CONNECTION PERFORMANCES		
Tensile Yield Strength	744	klb
Compression Resistance	744	klb
Max. Internal Pressure	7,150	psi
Structural Collapse Resistance	4,000	psi
Max. Bending with Sealability	41	°/100ft
Max. Bending with Sealability	10	°/100ft

TORQUE VALUES		
Min. Make-up torque	15,000	ft.lb
Opt. Make-up torque	16,500	ft.lb
Max. Make-up torque	18,000	ft.lb
Max. Torque with Sealability (MTS)	TBD	ft.lb

\* 87.5% RBW

**VAM® SPRINT-FJ** is a semi-premium flush connection designed for shale applications, where maximum clearance and high tension capacity are required for intermediate casing strings.



Do you need help on this product? - Remember no one knows VAM® like VAM®

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



## Section 2 - Blowout Preventer Testing Procedure

### Variance Request

Devon Energy requests to only test BOP connection breaks after drilling out of surface casing and while skidding between wells which conforms to API Standard 53 and industry standards. This test will include the Top Pipe Rams, HCR, Kill Line Check Valve, QDC (quick disconnect to wellhead) and Shell of the 10M BOPE to 5M for 10 minutes. If a break to the flex hose that runs to the choke manifold is required due to repositioning from a skid, the HCR will remain open during the shell test to include that additional break. The variance only pertains to intermediate hole-sections and no deeper than the Bone Springs Formation where 5M BOP tests are required. The initial BOP test will follow OOGO2.III.A.2.i, and subsequent tests following a skid will only test connections that are broken. The annular preventer will be tested to 100% working pressure. This variance will meet or exceed OOGO2.III.A.2.i per the following: Devon Energy will perform a full BOP test per OOGO2.III.A.2.i before drilling out of the intermediate casing string(s) and starting the production hole, before starting any hole section that requires a 10M test, before the expiration of the allotted 14-days for 5M intermediate batch drilling or when the drilling rig is fully mobilized to a new well pad, whichever is sooner. We will utilize a 200' TVD tolerance between intermediate shoes as the cutoff for a full BOP test. The BLM will be contacted 4hrs prior to a BOPE test. The BLM will be notified if and when a well control event is encountered. Break test will be a 14 day interval and not a 30 day full BOPE test interval. If in the event break testing is not utilized, then a full BOPE test would be conducted.

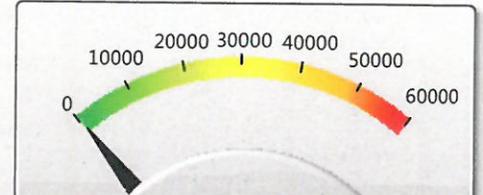
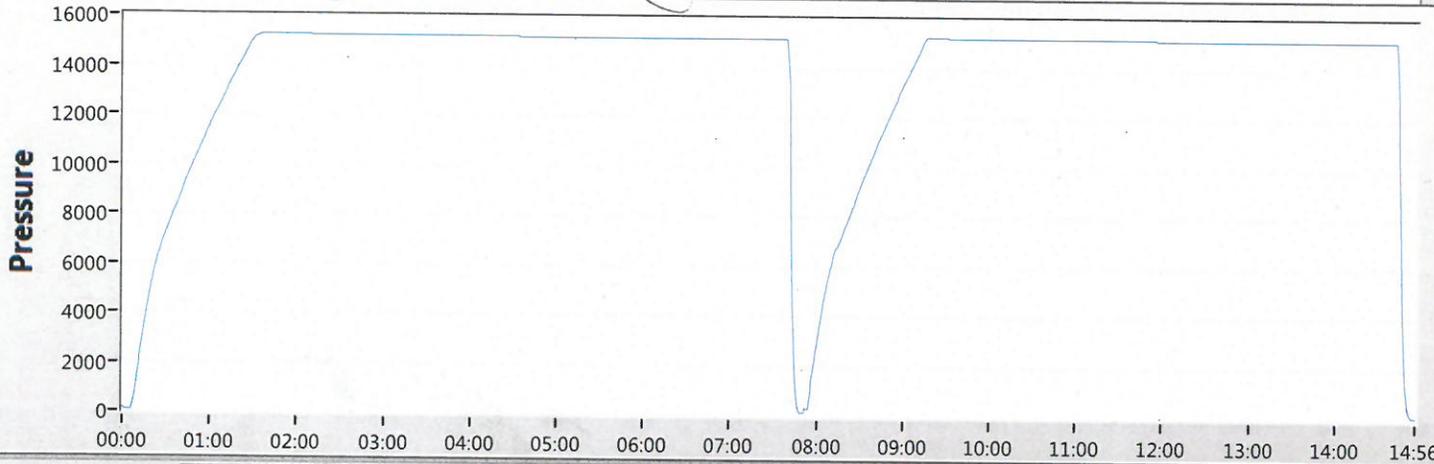
1. Well Control Response:
  1. Primary barrier remains fluid
  2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:
    - a) Annular first
    - b) If annular were to not hold, Upper pipe rams second (which were tested on the skid BOP test)
    - c) If the Upper Pipe Rams were to not hold, Lower Pipe Rams would be third

**Cactus**  
**Wellhead**

2-9-17  
E Bell

80.7 °F

15:49



50

Date 02-09-17

Tested By E.BELL

Transducer bay2

Transducer Serial 181504

Calibration Date 9/6/15

Job#	Part#	Serial#	Description	Test Pressure
1	TRJ0006341-0007 116966	TRJ6341-7-1	ADPT,DRLG,CW,MBU-3T,13-5/8 10M	15000
2				
3				
4				
5			TRANSDUCER CALIBRATION DUE 03/13/2017	
6				
7				
8				

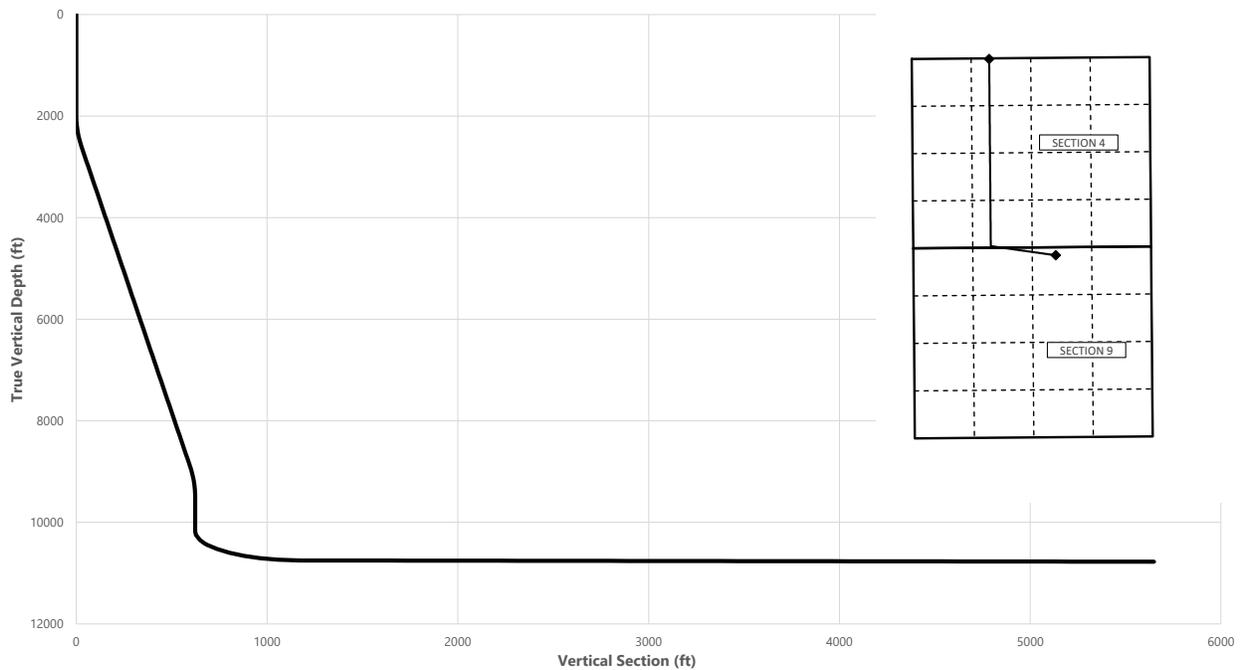
▶ Start
■ Stop
⚙ Zero
🔧 Config
💾 Save
🖨 Print
EXIT



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	280.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2600.00	12.00	280.00	2595.62	10.87	-61.65	26.62	2.00	Hold Tangent
9042.47	12.00	280.00	8897.31	243.47	-1380.77	596.20	0.00	Drop to Vertical
9642.47	0.00	280.00	9492.94	254.34	-1442.42	622.82	2.00	Hold Vertical
10326.59	0.00	359.61	10177.05	254.34	-1442.42	622.82	0.00	KOP
11223.49	89.69	359.61	10750.00	824.19	-1446.30	1173.84	10.00	Landing Point
15851.66	89.69	359.61	10775.00	5452.18	-1477.80	5648.91	0.00	BHL



Key Depths	MD (ft)	TVD (ft)
Rustler	1160.00	1160.00
Salt	1454.00	1454.00
Base of Salt	4612.35	4564.00
Delaware	4873.05	4819.00
Cherry Canyon	6045.67	5966.00
Brushy Canyon	7015.87	6915.00
1st Bone Spring Lime	8779.41	8640.00
Bone Spring 1st	9929.54	9780.00
Bone Spring 2nd / Point of Penetrati	10564.30	10408.00
exit	15771.66	10774.57

	MD (ft)	TVD (ft)	Lat (°)	Long (°)	Section Footages
SHL	0.00	0.00	32.3257	-103.6780	225' FNL, 2120' FEL of Sec 9 in T23S, R32E
KOP	10326.59	10177.05	32.3264	-103.6827	45' FSL, 1721' FWL of Sec 4 in T23S, R32E
Point of Penetration	10564.30	10408.00	32.3267	-103.6826	100' FSL, 1720' FWL of Sec 4 in T23S, R32E
Exit	15771.66	10774.57	32.3406	-103.6826	100' FNL, 1720' FWL of Sec 4 in T23S, R32E
BHL	15851.66	10775.00	32.3407	-103.6827	20' FNL, 1720' FWL of Sec 4 in T23S, R32E



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	280.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	280.00	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	280.00	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	280.00	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	280.00	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	280.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	280.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	280.00	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	280.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	280.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	280.00	1100.00	0.00	0.00	0.00	0.00	
1160.00	0.00	280.00	1160.00	0.00	0.00	0.00	0.00	Rustler
1200.00	0.00	280.00	1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	280.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	280.00	1400.00	0.00	0.00	0.00	0.00	
1454.00	0.00	280.00	1454.00	0.00	0.00	0.00	0.00	Salt
1500.00	0.00	280.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	280.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	280.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	280.00	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	280.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	280.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	280.00	2099.98	0.30	-1.72	0.74	2.00	
2200.00	4.00	280.00	2199.84	1.21	-6.87	2.97	2.00	
2300.00	6.00	280.00	2299.45	2.73	-15.46	6.67	2.00	
2400.00	8.00	280.00	2398.70	4.84	-27.46	11.86	2.00	
2500.00	10.00	280.00	2497.47	7.56	-42.86	18.51	2.00	
2600.00	12.00	280.00	2595.62	10.87	-61.65	26.62	2.00	Hold Tangent
2700.00	12.00	280.00	2693.44	14.48	-82.13	35.46	0.00	
2800.00	12.00	280.00	2791.25	18.09	-102.60	44.30	0.00	
2900.00	12.00	280.00	2889.07	21.70	-123.08	53.14	0.00	
3000.00	12.00	280.00	2986.88	25.31	-143.55	61.99	0.00	
3100.00	12.00	280.00	3084.70	28.92	-164.03	70.83	0.00	
3200.00	12.00	280.00	3182.51	32.53	-184.50	79.67	0.00	
3300.00	12.00	280.00	3280.33	36.14	-204.98	88.51	0.00	
3400.00	12.00	280.00	3378.14	39.75	-225.45	97.35	0.00	
3500.00	12.00	280.00	3475.96	43.36	-245.93	106.19	0.00	
3600.00	12.00	280.00	3573.77	46.97	-266.40	115.03	0.00	
3700.00	12.00	280.00	3671.59	50.58	-286.88	123.87	0.00	
3800.00	12.00	280.00	3769.40	54.19	-307.36	132.71	0.00	
3900.00	12.00	280.00	3867.22	57.80	-327.83	141.55	0.00	
4000.00	12.00	280.00	3965.03	61.41	-348.31	150.40	0.00	
4100.00	12.00	280.00	4062.84	65.02	-368.78	159.24	0.00	
4200.00	12.00	280.00	4160.66	68.63	-389.26	168.08	0.00	
4300.00	12.00	280.00	4258.47	72.25	-409.73	176.92	0.00	
4400.00	12.00	280.00	4356.29	75.86	-430.21	185.76	0.00	
4500.00	12.00	280.00	4454.10	79.47	-450.68	194.60	0.00	
4600.00	12.00	280.00	4551.92	83.08	-471.16	203.44	0.00	
4612.35	12.00	280.00	4564.00	83.52	-473.69	204.53	0.00	Base of Salt
4700.00	12.00	280.00	4649.73	86.69	-491.63	212.28	0.00	
4800.00	12.00	280.00	4747.55	90.30	-512.11	221.12	0.00	
4873.05	12.00	280.00	4819.00	92.93	-527.06	227.58	0.00	Delaware
4900.00	12.00	280.00	4845.36	93.91	-532.58	229.97	0.00	
5000.00	12.00	280.00	4943.18	97.52	-553.06	238.81	0.00	
5100.00	12.00	280.00	5040.99	101.13	-573.53	247.65	0.00	
5200.00	12.00	280.00	5138.81	104.74	-594.01	256.49	0.00	
5300.00	12.00	280.00	5236.62	108.35	-614.48	265.33	0.00	
5400.00	12.00	280.00	5334.44	111.96	-634.96	274.17	0.00	
5500.00	12.00	280.00	5432.25	115.57	-655.44	283.01	0.00	
5600.00	12.00	280.00	5530.07	119.18	-675.91	291.85	0.00	
5700.00	12.00	280.00	5627.88	122.79	-696.39	300.69	0.00	
5800.00	12.00	280.00	5725.70	126.40	-716.86	309.53	0.00	
5900.00	12.00	280.00	5823.51	130.01	-737.34	318.38	0.00	
6000.00	12.00	280.00	5921.33	133.62	-757.81	327.22	0.00	
6045.67	12.00	280.00	5966.00	135.27	-767.16	331.25	0.00	Cherry Canyon
6100.00	12.00	280.00	6019.14	137.23	-778.29	336.06	0.00	
6200.00	12.00	280.00	6116.95	140.84	-798.76	344.90	0.00	
6300.00	12.00	280.00	6214.77	144.45	-819.24	353.74	0.00	
6400.00	12.00	280.00	6312.58	148.06	-839.71	362.58	0.00	



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
6500.00	12.00	280.00	6410.40	151.67	-860.19	371.42	0.00	
6600.00	12.00	280.00	6508.21	155.28	-880.66	380.26	0.00	
6700.00	12.00	280.00	6606.03	158.89	-901.14	389.10	0.00	
6800.00	12.00	280.00	6703.84	162.50	-921.61	397.95	0.00	
6900.00	12.00	280.00	6801.66	166.11	-942.09	406.79	0.00	
7000.00	12.00	280.00	6899.47	169.72	-962.56	415.63	0.00	
7015.87	12.00	280.00	6915.00	170.30	-965.82	417.03	0.00	Brushy Canyon
7100.00	12.00	280.00	6997.29	173.33	-983.04	424.47	0.00	
7200.00	12.00	280.00	7095.10	176.94	-1003.52	433.31	0.00	
7300.00	12.00	280.00	7192.92	180.55	-1023.99	442.15	0.00	
7400.00	12.00	280.00	7290.73	184.16	-1044.47	450.99	0.00	
7500.00	12.00	280.00	7388.55	187.77	-1064.94	459.83	0.00	
7600.00	12.00	280.00	7486.36	191.38	-1085.42	468.67	0.00	
7700.00	12.00	280.00	7584.18	194.99	-1105.89	477.51	0.00	
7800.00	12.00	280.00	7681.99	198.60	-1126.37	486.36	0.00	
7900.00	12.00	280.00	7779.81	202.21	-1146.84	495.20	0.00	
8000.00	12.00	280.00	7877.62	205.82	-1167.32	504.04	0.00	
8100.00	12.00	280.00	7975.44	209.44	-1187.79	512.88	0.00	
8200.00	12.00	280.00	8073.25	213.05	-1208.27	521.72	0.00	
8300.00	12.00	280.00	8171.06	216.66	-1228.74	530.56	0.00	
8400.00	12.00	280.00	8268.88	220.27	-1249.22	539.40	0.00	
8500.00	12.00	280.00	8366.69	223.88	-1269.69	548.24	0.00	
8600.00	12.00	280.00	8464.51	227.49	-1290.17	557.08	0.00	
8700.00	12.00	280.00	8562.32	231.10	-1310.64	565.93	0.00	
8779.41	12.00	280.00	8640.00	233.96	-1326.90	572.95	0.00	1st Bone Spring Lime
8800.00	12.00	280.00	8660.14	234.71	-1331.12	574.77	0.00	
8900.00	12.00	280.00	8757.95	238.32	-1351.60	583.61	0.00	
9000.00	12.00	280.00	8855.77	241.93	-1372.07	592.45	0.00	
9042.47	12.00	280.00	8897.31	243.47	-1380.77	596.20	0.00	Drop to Vertical
9100.00	10.85	280.00	8953.70	245.45	-1391.99	601.05	2.00	
9200.00	8.85	280.00	9052.22	248.42	-1408.83	608.33	2.00	
9300.00	6.85	280.00	9151.28	250.79	-1422.28	614.14	2.00	
9400.00	4.85	280.00	9250.75	252.56	-1432.32	618.47	2.00	
9500.00	2.85	280.00	9350.52	253.72	-1438.93	621.32	2.00	
9600.00	0.85	280.00	9450.46	254.28	-1442.11	622.70	2.00	
9642.47	0.00	280.00	9492.94	254.34	-1442.42	622.82	2.00	Hold Vertical
9700.00	0.00	359.61	9550.46	254.34	-1442.42	622.83	0.00	
9800.00	0.00	359.61	9650.46	254.34	-1442.42	622.83	0.00	
9900.00	0.00	359.61	9750.46	254.34	-1442.42	622.83	0.00	
9929.54	0.00	359.61	9780.00	254.34	-1442.42	622.83	0.00	Bone Spring 1st
10000.00	0.00	359.61	9850.46	254.34	-1442.42	622.83	0.00	
10100.00	0.00	359.61	9950.46	254.34	-1442.42	622.83	0.00	
10200.00	0.00	359.61	10050.46	254.34	-1442.42	622.83	0.00	
10300.00	0.00	359.61	10150.46	254.34	-1442.42	622.83	0.00	
10326.59	0.00	359.61	10177.05	254.34	-1442.42	622.82	0.00	KOP
10400.00	7.34	359.61	10250.26	259.03	-1442.45	627.37	10.00	
10500.00	17.34	359.61	10347.83	280.38	-1442.60	648.01	10.00	
10564.30	23.77	359.61	10408.00	302.94	-1442.75	669.83	10.00	Bone Spring 2nd / Point of Penetration
10600.00	27.34	359.61	10440.20	318.34	-1442.85	684.72	10.00	
10700.00	37.34	359.61	10524.58	371.77	-1443.22	736.38	10.00	
10800.00	47.34	359.61	10598.41	439.04	-1443.68	801.43	10.00	
10900.00	57.34	359.61	10659.42	518.10	-1444.22	877.88	10.00	
11000.00	67.34	359.61	10705.79	606.56	-1444.82	963.41	10.00	
11100.00	77.34	359.61	10736.08	701.72	-1445.47	1055.43	10.00	
11200.00	87.34	359.61	10749.39	800.70	-1446.14	1151.14	10.00	
11223.49	89.69	359.61	10750.00	824.19	-1446.30	1173.84	10.00	Landing Point
11300.00	89.69	359.61	10750.41	900.69	-1446.82	1247.83	0.00	
11400.00	89.69	359.61	10750.95	1000.69	-1447.50	1344.52	0.00	
11500.00	89.69	359.61	10751.49	1100.68	-1448.18	1441.21	0.00	
11600.00	89.69	359.61	10752.03	1200.68	-1448.86	1537.90	0.00	
11700.00	89.69	359.61	10752.57	1300.68	-1449.54	1634.59	0.00	
11800.00	89.69	359.61	10753.11	1400.67	-1450.22	1731.28	0.00	
11900.00	89.69	359.61	10753.66	1500.67	-1450.91	1827.98	0.00	
12000.00	89.69	359.61	10754.20	1600.67	-1451.59	1924.67	0.00	
12100.00	89.69	359.61	10754.74	1700.66	-1452.27	2021.36	0.00	
12200.00	89.69	359.61	10755.28	1800.66	-1452.95	2118.05	0.00	
12300.00	89.69	359.61	10755.82	1900.65	-1453.63	2214.74	0.00	
12400.00	89.69	359.61	10756.36	2000.65	-1454.31	2311.44	0.00	
12500.00	89.69	359.61	10756.90	2100.65	-1454.99	2408.13	0.00	
12600.00	89.69	359.61	10757.44	2200.64	-1455.67	2504.82	0.00	



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
12700.00	89.69	359.61	10757.98	2300.64	-1456.36	2601.51	0.00	
12800.00	89.69	359.61	10758.52	2400.64	-1457.04	2698.20	0.00	
12900.00	89.69	359.61	10759.06	2500.63	-1457.72	2794.90	0.00	
13000.00	89.69	359.61	10759.60	2600.63	-1458.40	2891.59	0.00	
13100.00	89.69	359.61	10760.14	2700.62	-1459.08	2988.28	0.00	
13200.00	89.69	359.61	10760.68	2800.62	-1459.76	3084.97	0.00	
13300.00	89.69	359.61	10761.22	2900.62	-1460.44	3181.66	0.00	
13400.00	89.69	359.61	10761.76	3000.61	-1461.12	3278.36	0.00	
13500.00	89.69	359.61	10762.30	3100.61	-1461.81	3375.05	0.00	
13600.00	89.69	359.61	10762.84	3200.60	-1462.49	3471.74	0.00	
13700.00	89.69	359.61	10763.38	3300.60	-1463.17	3568.43	0.00	
13800.00	89.69	359.61	10763.92	3400.60	-1463.85	3665.12	0.00	
13900.00	89.69	359.61	10764.46	3500.59	-1464.53	3761.82	0.00	
14000.00	89.69	359.61	10765.00	3600.59	-1465.21	3858.51	0.00	
14100.00	89.69	359.61	10765.54	3700.59	-1465.89	3955.20	0.00	
14200.00	89.69	359.61	10766.08	3800.58	-1466.57	4051.89	0.00	
14300.00	89.69	359.61	10766.62	3900.58	-1467.25	4148.58	0.00	
14400.00	89.69	359.61	10767.16	4000.57	-1467.94	4245.28	0.00	
14500.00	89.69	359.61	10767.70	4100.57	-1468.62	4341.97	0.00	
14600.00	89.69	359.61	10768.24	4200.57	-1469.30	4438.66	0.00	
14700.00	89.69	359.61	10768.78	4300.56	-1469.98	4535.35	0.00	
14800.00	89.69	359.61	10769.32	4400.56	-1470.66	4632.04	0.00	
14900.00	89.69	359.61	10769.86	4500.56	-1471.34	4728.74	0.00	
15000.00	89.69	359.61	10770.40	4600.55	-1472.02	4825.43	0.00	
15100.00	89.69	359.61	10770.94	4700.55	-1472.70	4922.12	0.00	
15200.00	89.69	359.61	10771.49	4800.54	-1473.39	5018.81	0.00	
15300.00	89.69	359.61	10772.03	4900.54	-1474.07	5115.50	0.00	
15400.00	89.69	359.61	10772.57	5000.54	-1474.75	5212.20	0.00	
15500.00	89.69	359.61	10773.11	5100.53	-1475.43	5308.89	0.00	
15600.00	89.69	359.61	10773.65	5200.53	-1476.11	5405.58	0.00	
15700.00	89.69	359.61	10774.19	5300.53	-1476.79	5502.27	0.00	
15771.66	89.69	359.61	10774.57	5372.18	-1477.28	5571.56	0.00	exit
15800.00	89.69	359.61	10774.73	5400.52	-1477.47	5598.96	0.00	
15851.66	89.69	359.61	10775.00	5452.18	-1477.80	5648.91	0.00	BHL



**Well:** GATO PEQUENO 4 FED 230H  
**County:** Lea  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

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

<b>MD</b>	<b>INC</b>	<b>AZI</b>	<b>TVD</b>	<b>NS</b>	<b>EW</b>	<b>VS</b>	<b>DLS</b>	<b>Comment</b>
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	

**Well:** GATO PEQUENO 4 FED 230H  
**County:** Lea  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

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

<b>MD</b>	<b>INC</b>	<b>AZI</b>	<b>TVD</b>	<b>NS</b>	<b>EW</b>	<b>VS</b>	<b>DLS</b>	<b>Comment</b>
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	

GATO PEQUENO 4 FED 230H

**1. Geologic Formations**

TVD of target	10775	Pilot hole depth	N/A
MD at TD:	15852	Deepest expected fresh water	

**Basin**

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	1160		
Salt	1454		
Base of Salt	4564		
Delaware	4819		
Cherry Canyon	5966		
Brushy Canyon	6915		
1st Bone Spring Lime	8640		
Bone Spring 1st	9780		
Bone Spring 2nd	10408		

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

## GATO PEQUENO 4 FED 230H

**2. Casing Program**

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
13 1/2	10 3/4	45 1/2	J-55	BTC	0	1185	0	1185
9 7/8	8 5/8	32	P110EC	Sprint FJ	0	10126	0	10126
7 7/8	5 1/2	17	P110EC	BTC	0	15852	0	10775

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

**3. Cementing Program (3-String Primary Design)**

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft <sup>3</sup> /sack)	Slurry Description
Surface	473	Surf	13.2	1.4	Lead: Class C Cement + additives
Int 1	472	Surf	9.0	3.3	Lead: Class C Cement + additives
	67	9626	13.2	1.4	Tail: Class H / C + additives
Production	41	9626	9.0	3.3	Lead: Class H / C + additives
	731	10327	13.2	1.4	Tail: Class H / C + additives

Cementing Program (Primary Design) Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the 8-5/8" 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	30%
Production	10%

GATO PEQUENO 4 FED 230H

**4. Pressure Control Equipment (Three String Design)**

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

GATO PEQUENO 4 FED 230H

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

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

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

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

**6. Logging and Testing Procedures**

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

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

**7. Drilling Conditions**

Condition	Specify what type and where?
BH pressure at deepest TVD	5043
Abnormal temperature	No

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

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 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.
- 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 (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 pad.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

- X Directional Plan
- Other, describe

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

<b>Well Name:</b> COOL CATS 4 FED	<b>Well Location:</b> T23S / R32E / SEC 9 / NWNE /	<b>County or Parish/State:</b>
<b>Well Number:</b> 230H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM126065	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b>	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> DEVON ENERGY PRODUCTION COMPANY LP

**Notice of Intent**

**Sundry ID:** 2721651

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 03/20/2023

**Time Sundry Submitted:** 09:54

**Date proposed operation will begin:** 03/20/2023

**Procedure Description:** Devon Energy Production Co., L.P. (Devon) respectfully requests to move the BHL and have a name change on the subject well. Please see attached revised C102, drill plan (break test variance included), and directional plan. Permitted BHL: LOT 3, 20 FNL, 1750 FWL, 4-23S-32E Proposed BHL: LOT 3, 20 FNL, 1720 FWL, 4-23S-32E Permitted Well name: COOL CATS 4 FED 230H Proposed Well name: GATO PEQUENO 4 FED 230H AFMSS APD ID tracking number: 10400064735

**NOI Attachments**

**Procedure Description**

8.625\_32lb\_P110EC\_SPRINT\_FJ\_VST\_20230320095326.pdf

5.5\_17lb\_P110\_BTC\_20230320095325.pdf

10.750\_45.50lb\_J55\_BTC\_SC\_BLP\_Devon\_20230320095325.pdf

WA018195172\_GATO\_PEQUENO\_4\_FED\_230H\_WL\_R3\_20230320095156.PDF

GATO\_PEQUENO\_4\_FED\_230H\_20230320095155.pdf

GATO\_PEQUENO\_4\_FED\_230H\_Directional\_Plan\_02\_07\_23\_20230320095155.pdf

break\_test\_variance\_BOP\_20230320095155.pdf

Well Name: COOL CATS 4 FED

Well Location: T23S / R32E / SEC 9 / NWNE /

County or Parish/State:

Well Number: 230H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM126065

Unit or CA Name:

Unit or CA Number:

US Well Number:

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: MAR 20, 2023 09:54 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:

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>Devon Energy Production Company LP</b>
<b>LEASE NO.:</b>	<b>NMNM126065</b>
<b>LOCATION:</b>	Section 9, T.23 S., R.32 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	<b>Gato Pequeno 4 Fed Com 230H</b>
<b>SURFACE HOLE FOOTAGE:</b>	225'/N & 2120'/E
<b>BOTTOM HOLE FOOTAGE:</b>	20'/N & 1720'/W
<b>ATS/API ID:</b>	
<b>APD ID:</b>	<b>10400064735</b>
<b>Sundry ID:</b>	<b>2721651</b>

COA

H2S	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Potash	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Secretary	<input type="checkbox"/> R-111-P
Cave/Karst Potential	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Other
Wellhead	<input type="checkbox"/> Conventional	<input type="checkbox"/> Multibowl	<input checked="" type="checkbox"/> Both
Wellhead Variance	<input type="checkbox"/> Diverter		
Other	<input type="checkbox"/> 4 String	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Open Annulus
Cementing	<input type="checkbox"/> Contingency Cement Squeeze	<input checked="" type="checkbox"/> EchoMeter	<input type="checkbox"/> Primary Cement Squeeze
Special Requirements	<input type="checkbox"/> Water Disposal	<input 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 **Sand Dunes, Triste Draw, Wildcat, and Bone Springs** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 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 **10-3/4** inch surface casing shall be set at approximately **1280 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 **14-1/2** 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.

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

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

2. The minimum required fill of cement behind the **8-5/8** 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 6915' (365 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 472 sxs Class C)**

**Operator has proposed to pump down 10-3/4" X 8-5/8" 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 8-5/8" 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.**

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.  
**Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

### **C. PRESSURE CONTROL**

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

#### **Option 1:**

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. 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 8-5/8 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 **10-3/4** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

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

#### **D. SPECIAL REQUIREMENT (S)**

##### **BOPE Break Testing Variance**

- 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 **14-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

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(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 Onshore Oil and Gas Order No. 2 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
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 Onshore Order 2 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 Onshore Order No. 2.

### 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 3/21/2023



Intent  As Drilled

API #		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, L.P.	Property Name: GATO PEQUENO 4 FED	Well Number 230H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	4	23S	32E		45	SOUTH	1721	WEST	LEA
Latitude 32.32640434					Longitude -103.68269029				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	4	23S	32E		100	SOUTH	1720	WEST	LEA
Latitude 32.3266510					Longitude 103.6826087				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	4	23S	32E	3	100	NORTH	1720	WEST	LEA
Latitude 32.3405659					Longitude 103.6826200				NAD 83

Is this well the defining well for the Horizontal Spacing Unit?  Y

Is this well an infill well?  N

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

GATO PEQUENO 4 FED 230H

**1. Geologic Formations**

TVD of target	10775	Pilot hole depth	N/A
MD at TD:	15852	Deepest expected fresh water	

**Basin**

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	1160		
Salt	1454		
Base of Salt	4564		
Delaware	4819		
Cherry Canyon	5966		
Brushy Canyon	6915		
1st Bone Spring Lime	8640		
Bone Spring 1st	9780		
Bone Spring 2nd	10408		

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

## GATO PEQUENO 4 FED 230H

**2. Casing Program**

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
13 1/2	10 3/4	45 1/2	J-55	BTC	0	1185	0	1185
9 7/8	8 5/8	32	P110EC	Sprint FJ	0	10126	0	10126
7 7/8	5 1/2	17	P110EC	BTC	0	15852	0	10775

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

**3. Cementing Program (3-String Primary Design)**

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft <sup>3</sup> /sack)	Slurry Description
Surface	473	Surf	13.2	1.4	Lead: Class C Cement + additives
Int 1	472	Surf	9.0	3.3	Lead: Class C Cement + additives
	67	9626	13.2	1.4	Tail: Class H / C + additives
Production	41	9626	9.0	3.3	Lead: Class H / C + additives
	731	10327	13.2	1.4	Tail: Class H / C + additives

Cementing Program (Primary Design) Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the 8-5/8" 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	30%
Production	10%

GATO PEQUENO 4 FED 230H

**4. Pressure Control Equipment (Three String Design)**

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

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

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

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

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

**6. Logging and Testing Procedures**

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

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

**7. Drilling Conditions**

Condition	Specify what type and where?
BH pressure at deepest TVD	5043
Abnormal temperature	No

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

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 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.
- 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 (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 pad.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

- X Directional Plan
- Other, describe

## Section 2 - Blowout Preventer Testing Procedure

### Variance Request

Devon Energy requests to only test BOP connection breaks after drilling out of surface casing and while skidding between wells which conforms to API Standard 53 and industry standards. This test will include the Top Pipe Rams, HCR, Kill Line Check Valve, QDC (quick disconnect to wellhead) and Shell of the 10M BOPE to 5M for 10 minutes. If a break to the flex hose that runs to the choke manifold is required due to repositioning from a skid, the HCR will remain open during the shell test to include that additional break. The variance only pertains to intermediate hole-sections and no deeper than the Bone Springs Formation where 5M BOP tests are required. The initial BOP test will follow OOGO2.III.A.2.i, and subsequent tests following a skid will only test connections that are broken. The annular preventer will be tested to 100% working pressure. This variance will meet or exceed OOGO2.III.A.2.i per the following: Devon Energy will perform a full BOP test per OOGO2.III.A.2.i before drilling out of the intermediate casing string(s) and starting the production hole, before starting any hole section that requires a 10M test, before the expiration of the allotted 14-days for 5M intermediate batch drilling or when the drilling rig is fully mobilized to a new well pad, whichever is sooner. We will utilize a 200' TVD tolerance between intermediate shoes as the cutoff for a full BOP test. The BLM will be contacted 4hrs prior to a BOPE test. The BLM will be notified if and when a well control event is encountered. Break test will be a 14 day interval and not a 30 day full BOPE test interval. If in the event break testing is not utilized, then a full BOPE test would be conducted.

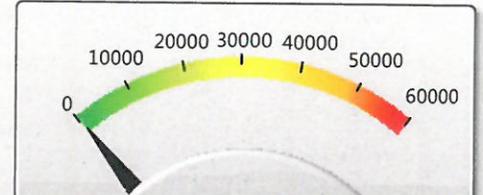
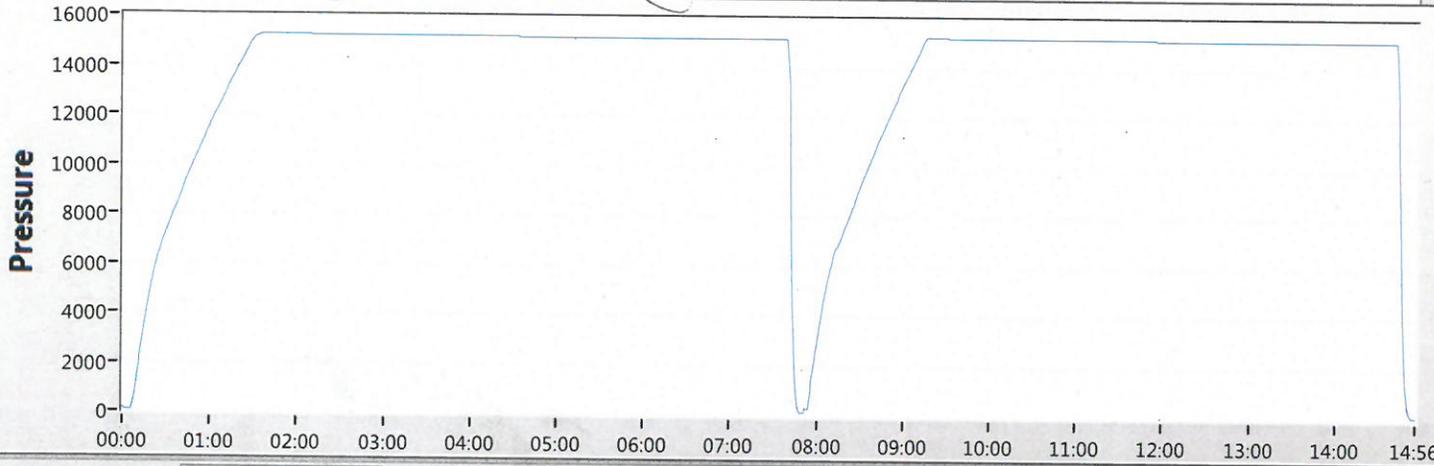
1. Well Control Response:
  1. Primary barrier remains fluid
  2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:
    - a) Annular first
    - b) If annular were to not hold, Upper pipe rams second (which were tested on the skid BOP test)
    - c) If the Upper Pipe Rams were to not hold, Lower Pipe Rams would be third

**Cactus**  
**Wellhead**

2-9-17  
E Bell

80.7 °F

15:49



50

Date 02-09-17

Tested By E.BELL

Transducer bay2

Transducer Serial 181504

Calibration Date 9/6/15

Job#	Part#	Serial#	Description	Test Pressure
1	TRJ0006341-0007 116966	TRJ6341-7-1	ADPT,DRLG,CW,MBU-3T,13-5/8 10M	15000
2				
3				
4				
5			TRANSDUCER CALIBRATION DUE 03/13/2017	
6				
7				
8				

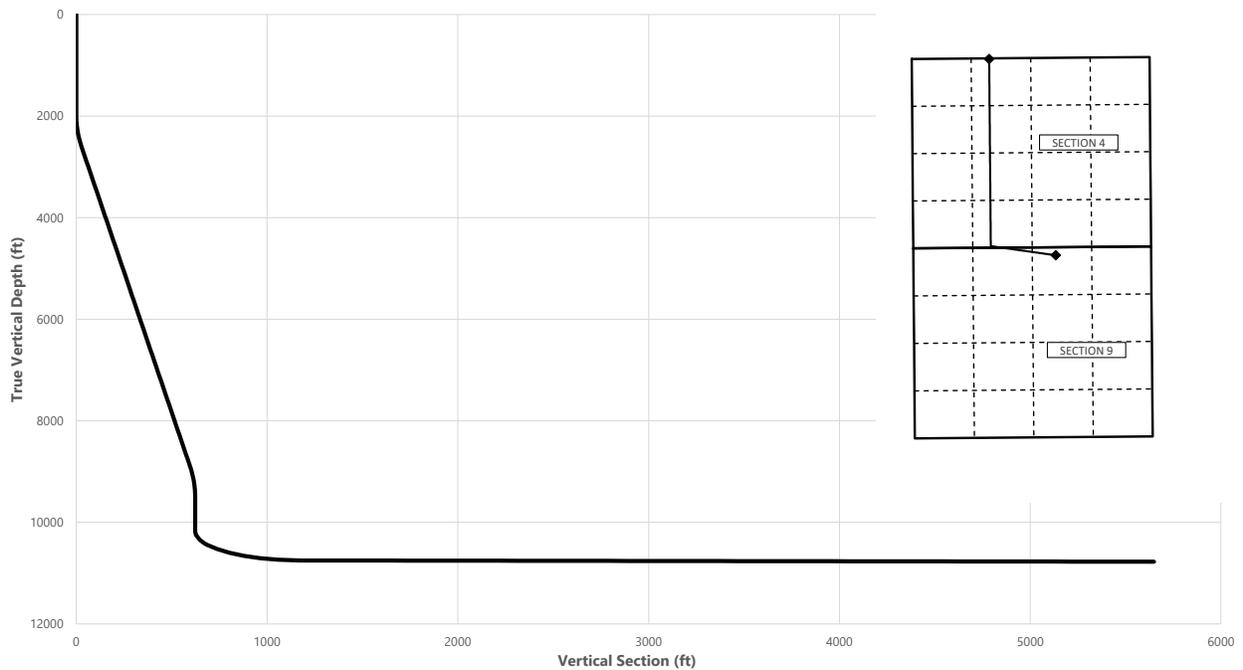
Start Stop Zero Config Save Print EXIT



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	280.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2600.00	12.00	280.00	2595.62	10.87	-61.65	26.62	2.00	Hold Tangent
9042.47	12.00	280.00	8897.31	243.47	-1380.77	596.20	0.00	Drop to Vertical
9642.47	0.00	280.00	9492.94	254.34	-1442.42	622.82	2.00	Hold Vertical
10326.59	0.00	359.61	10177.05	254.34	-1442.42	622.82	0.00	KOP
11223.49	89.69	359.61	10750.00	824.19	-1446.30	1173.84	10.00	Landing Point
15851.66	89.69	359.61	10775.00	5452.18	-1477.80	5648.91	0.00	BHL



Key Depths	MD (ft)	TVD (ft)
Rustler	1160.00	1160.00
Salt	1454.00	1454.00
Base of Salt	4612.35	4564.00
Delaware	4873.05	4819.00
Cherry Canyon	6045.67	5966.00
Brushy Canyon	7015.87	6915.00
1st Bone Spring Lime	8779.41	8640.00
Bone Spring 1st	9929.54	9780.00
Bone Spring 2nd / Point of Penetrati	10564.30	10408.00
exit	15771.66	10774.57

	MD (ft)	TVD (ft)	Lat (°)	Long (°)	Section Footages
<b>SHL</b>	0.00	0.00	32.3257	-103.6780	225' FNL, 2120' FEL of Sec 9 in T23S, R32E
<b>KOP</b>	10326.59	10177.05	32.3264	-103.6827	45' FSL, 1721' FWL of Sec 4 in T23S, R32E
<b>Point of Penetration</b>	10564.30	10408.00	32.3267	-103.6826	100' FSL, 1720' FWL of Sec 4 in T23S, R32E
<b>Exit</b>	15771.66	10774.57	32.3406	-103.6826	100' FNL, 1720' FWL of Sec 4 in T23S, R32E
<b>BHL</b>	15851.66	10775.00	32.3407	-103.6827	20' FNL, 1720' FWL of Sec 4 in T23S, R32E



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	280.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	280.00	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	280.00	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	280.00	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	280.00	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	280.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	280.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	280.00	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	280.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	280.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	280.00	1100.00	0.00	0.00	0.00	0.00	
1160.00	0.00	280.00	1160.00	0.00	0.00	0.00	0.00	Rustler
1200.00	0.00	280.00	1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	280.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	280.00	1400.00	0.00	0.00	0.00	0.00	
1454.00	0.00	280.00	1454.00	0.00	0.00	0.00	0.00	Salt
1500.00	0.00	280.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	280.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	280.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	280.00	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	280.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	280.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	280.00	2099.98	0.30	-1.72	0.74	2.00	
2200.00	4.00	280.00	2199.84	1.21	-6.87	2.97	2.00	
2300.00	6.00	280.00	2299.45	2.73	-15.46	6.67	2.00	
2400.00	8.00	280.00	2398.70	4.84	-27.46	11.86	2.00	
2500.00	10.00	280.00	2497.47	7.56	-42.86	18.51	2.00	
2600.00	12.00	280.00	2595.62	10.87	-61.65	26.62	2.00	Hold Tangent
2700.00	12.00	280.00	2693.44	14.48	-82.13	35.46	0.00	
2800.00	12.00	280.00	2791.25	18.09	-102.60	44.30	0.00	
2900.00	12.00	280.00	2889.07	21.70	-123.08	53.14	0.00	
3000.00	12.00	280.00	2986.88	25.31	-143.55	61.99	0.00	
3100.00	12.00	280.00	3084.70	28.92	-164.03	70.83	0.00	
3200.00	12.00	280.00	3182.51	32.53	-184.50	79.67	0.00	
3300.00	12.00	280.00	3280.33	36.14	-204.98	88.51	0.00	
3400.00	12.00	280.00	3378.14	39.75	-225.45	97.35	0.00	
3500.00	12.00	280.00	3475.96	43.36	-245.93	106.19	0.00	
3600.00	12.00	280.00	3573.77	46.97	-266.40	115.03	0.00	
3700.00	12.00	280.00	3671.59	50.58	-286.88	123.87	0.00	
3800.00	12.00	280.00	3769.40	54.19	-307.36	132.71	0.00	
3900.00	12.00	280.00	3867.22	57.80	-327.83	141.55	0.00	
4000.00	12.00	280.00	3965.03	61.41	-348.31	150.40	0.00	
4100.00	12.00	280.00	4062.84	65.02	-368.78	159.24	0.00	
4200.00	12.00	280.00	4160.66	68.63	-389.26	168.08	0.00	
4300.00	12.00	280.00	4258.47	72.25	-409.73	176.92	0.00	
4400.00	12.00	280.00	4356.29	75.86	-430.21	185.76	0.00	
4500.00	12.00	280.00	4454.10	79.47	-450.68	194.60	0.00	
4600.00	12.00	280.00	4551.92	83.08	-471.16	203.44	0.00	
4612.35	12.00	280.00	4564.00	83.52	-473.69	204.53	0.00	Base of Salt
4700.00	12.00	280.00	4649.73	86.69	-491.63	212.28	0.00	
4800.00	12.00	280.00	4747.55	90.30	-512.11	221.12	0.00	
4873.05	12.00	280.00	4819.00	92.93	-527.06	227.58	0.00	Delaware
4900.00	12.00	280.00	4845.36	93.91	-532.58	229.97	0.00	
5000.00	12.00	280.00	4943.18	97.52	-553.06	238.81	0.00	
5100.00	12.00	280.00	5040.99	101.13	-573.53	247.65	0.00	
5200.00	12.00	280.00	5138.81	104.74	-594.01	256.49	0.00	
5300.00	12.00	280.00	5236.62	108.35	-614.48	265.33	0.00	
5400.00	12.00	280.00	5334.44	111.96	-634.96	274.17	0.00	
5500.00	12.00	280.00	5432.25	115.57	-655.44	283.01	0.00	
5600.00	12.00	280.00	5530.07	119.18	-675.91	291.85	0.00	
5700.00	12.00	280.00	5627.88	122.79	-696.39	300.69	0.00	
5800.00	12.00	280.00	5725.70	126.40	-716.86	309.53	0.00	
5900.00	12.00	280.00	5823.51	130.01	-737.34	318.38	0.00	
6000.00	12.00	280.00	5921.33	133.62	-757.81	327.22	0.00	
6045.67	12.00	280.00	5966.00	135.27	-767.16	331.25	0.00	Cherry Canyon
6100.00	12.00	280.00	6019.14	137.23	-778.29	336.06	0.00	
6200.00	12.00	280.00	6116.95	140.84	-798.76	344.90	0.00	
6300.00	12.00	280.00	6214.77	144.45	-819.24	353.74	0.00	
6400.00	12.00	280.00	6312.58	148.06	-839.71	362.58	0.00	



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
6500.00	12.00	280.00	6410.40	151.67	-860.19	371.42	0.00	
6600.00	12.00	280.00	6508.21	155.28	-880.66	380.26	0.00	
6700.00	12.00	280.00	6606.03	158.89	-901.14	389.10	0.00	
6800.00	12.00	280.00	6703.84	162.50	-921.61	397.95	0.00	
6900.00	12.00	280.00	6801.66	166.11	-942.09	406.79	0.00	
7000.00	12.00	280.00	6899.47	169.72	-962.56	415.63	0.00	
7015.87	12.00	280.00	6915.00	170.30	-965.82	417.03	0.00	Brushy Canyon
7100.00	12.00	280.00	6997.29	173.33	-983.04	424.47	0.00	
7200.00	12.00	280.00	7095.10	176.94	-1003.52	433.31	0.00	
7300.00	12.00	280.00	7192.92	180.55	-1023.99	442.15	0.00	
7400.00	12.00	280.00	7290.73	184.16	-1044.47	450.99	0.00	
7500.00	12.00	280.00	7388.55	187.77	-1064.94	459.83	0.00	
7600.00	12.00	280.00	7486.36	191.38	-1085.42	468.67	0.00	
7700.00	12.00	280.00	7584.18	194.99	-1105.89	477.51	0.00	
7800.00	12.00	280.00	7681.99	198.60	-1126.37	486.36	0.00	
7900.00	12.00	280.00	7779.81	202.21	-1146.84	495.20	0.00	
8000.00	12.00	280.00	7877.62	205.82	-1167.32	504.04	0.00	
8100.00	12.00	280.00	7975.44	209.44	-1187.79	512.88	0.00	
8200.00	12.00	280.00	8073.25	213.05	-1208.27	521.72	0.00	
8300.00	12.00	280.00	8171.06	216.66	-1228.74	530.56	0.00	
8400.00	12.00	280.00	8268.88	220.27	-1249.22	539.40	0.00	
8500.00	12.00	280.00	8366.69	223.88	-1269.69	548.24	0.00	
8600.00	12.00	280.00	8464.51	227.49	-1290.17	557.08	0.00	
8700.00	12.00	280.00	8562.32	231.10	-1310.64	565.93	0.00	
8779.41	12.00	280.00	8640.00	233.96	-1326.90	572.95	0.00	1st Bone Spring Lime
8800.00	12.00	280.00	8660.14	234.71	-1331.12	574.77	0.00	
8900.00	12.00	280.00	8757.95	238.32	-1351.60	583.61	0.00	
9000.00	12.00	280.00	8855.77	241.93	-1372.07	592.45	0.00	
9042.47	12.00	280.00	8897.31	243.47	-1380.77	596.20	0.00	Drop to Vertical
9100.00	10.85	280.00	8953.70	245.45	-1391.99	601.05	2.00	
9200.00	8.85	280.00	9052.22	248.42	-1408.83	608.33	2.00	
9300.00	6.85	280.00	9151.28	250.79	-1422.28	614.14	2.00	
9400.00	4.85	280.00	9250.75	252.56	-1432.32	618.47	2.00	
9500.00	2.85	280.00	9350.52	253.72	-1438.93	621.32	2.00	
9600.00	0.85	280.00	9450.46	254.28	-1442.11	622.70	2.00	
9642.47	0.00	280.00	9492.94	254.34	-1442.42	622.82	2.00	Hold Vertical
9700.00	0.00	359.61	9550.46	254.34	-1442.42	622.83	0.00	
9800.00	0.00	359.61	9650.46	254.34	-1442.42	622.83	0.00	
9900.00	0.00	359.61	9750.46	254.34	-1442.42	622.83	0.00	
9929.54	0.00	359.61	9780.00	254.34	-1442.42	622.83	0.00	Bone Spring 1st
10000.00	0.00	359.61	9850.46	254.34	-1442.42	622.83	0.00	
10100.00	0.00	359.61	9950.46	254.34	-1442.42	622.83	0.00	
10200.00	0.00	359.61	10050.46	254.34	-1442.42	622.83	0.00	
10300.00	0.00	359.61	10150.46	254.34	-1442.42	622.83	0.00	
10326.59	0.00	359.61	10177.05	254.34	-1442.42	622.82	0.00	KOP
10400.00	7.34	359.61	10250.26	259.03	-1442.45	627.37	10.00	
10500.00	17.34	359.61	10347.83	280.38	-1442.60	648.01	10.00	
10564.30	23.77	359.61	10408.00	302.94	-1442.75	669.83	10.00	Bone Spring 2nd / Point of Penetration
10600.00	27.34	359.61	10440.20	318.34	-1442.85	684.72	10.00	
10700.00	37.34	359.61	10524.58	371.77	-1443.22	736.38	10.00	
10800.00	47.34	359.61	10598.41	439.04	-1443.68	801.43	10.00	
10900.00	57.34	359.61	10659.42	518.10	-1444.22	877.88	10.00	
11000.00	67.34	359.61	10705.79	606.56	-1444.82	963.41	10.00	
11100.00	77.34	359.61	10736.08	701.72	-1445.47	1055.43	10.00	
11200.00	87.34	359.61	10749.39	800.70	-1446.14	1151.14	10.00	
11223.49	89.69	359.61	10750.00	824.19	-1446.30	1173.84	10.00	Landing Point
11300.00	89.69	359.61	10750.41	900.69	-1446.82	1247.83	0.00	
11400.00	89.69	359.61	10750.95	1000.69	-1447.50	1344.52	0.00	
11500.00	89.69	359.61	10751.49	1100.68	-1448.18	1441.21	0.00	
11600.00	89.69	359.61	10752.03	1200.68	-1448.86	1537.90	0.00	
11700.00	89.69	359.61	10752.57	1300.68	-1449.54	1634.59	0.00	
11800.00	89.69	359.61	10753.11	1400.67	-1450.22	1731.28	0.00	
11900.00	89.69	359.61	10753.66	1500.67	-1450.91	1827.98	0.00	
12000.00	89.69	359.61	10754.20	1600.67	-1451.59	1924.67	0.00	
12100.00	89.69	359.61	10754.74	1700.66	-1452.27	2021.36	0.00	
12200.00	89.69	359.61	10755.28	1800.66	-1452.95	2118.05	0.00	
12300.00	89.69	359.61	10755.82	1900.65	-1453.63	2214.74	0.00	
12400.00	89.69	359.61	10756.36	2000.65	-1454.31	2311.44	0.00	
12500.00	89.69	359.61	10756.90	2100.65	-1454.99	2408.13	0.00	
12600.00	89.69	359.61	10757.44	2200.64	-1455.67	2504.82	0.00	



Well: GATO PEQUENO 4 FED 230H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
12700.00	89.69	359.61	10757.98	2300.64	-1456.36	2601.51	0.00	
12800.00	89.69	359.61	10758.52	2400.64	-1457.04	2698.20	0.00	
12900.00	89.69	359.61	10759.06	2500.63	-1457.72	2794.90	0.00	
13000.00	89.69	359.61	10759.60	2600.63	-1458.40	2891.59	0.00	
13100.00	89.69	359.61	10760.14	2700.62	-1459.08	2988.28	0.00	
13200.00	89.69	359.61	10760.68	2800.62	-1459.76	3084.97	0.00	
13300.00	89.69	359.61	10761.22	2900.62	-1460.44	3181.66	0.00	
13400.00	89.69	359.61	10761.76	3000.61	-1461.12	3278.36	0.00	
13500.00	89.69	359.61	10762.30	3100.61	-1461.81	3375.05	0.00	
13600.00	89.69	359.61	10762.84	3200.60	-1462.49	3471.74	0.00	
13700.00	89.69	359.61	10763.38	3300.60	-1463.17	3568.43	0.00	
13800.00	89.69	359.61	10763.92	3400.60	-1463.85	3665.12	0.00	
13900.00	89.69	359.61	10764.46	3500.59	-1464.53	3761.82	0.00	
14000.00	89.69	359.61	10765.00	3600.59	-1465.21	3858.51	0.00	
14100.00	89.69	359.61	10765.54	3700.59	-1465.89	3955.20	0.00	
14200.00	89.69	359.61	10766.08	3800.58	-1466.57	4051.89	0.00	
14300.00	89.69	359.61	10766.62	3900.58	-1467.25	4148.58	0.00	
14400.00	89.69	359.61	10767.16	4000.57	-1467.94	4245.28	0.00	
14500.00	89.69	359.61	10767.70	4100.57	-1468.62	4341.97	0.00	
14600.00	89.69	359.61	10768.24	4200.57	-1469.30	4438.66	0.00	
14700.00	89.69	359.61	10768.78	4300.56	-1469.98	4535.35	0.00	
14800.00	89.69	359.61	10769.32	4400.56	-1470.66	4632.04	0.00	
14900.00	89.69	359.61	10769.86	4500.56	-1471.34	4728.74	0.00	
15000.00	89.69	359.61	10770.40	4600.55	-1472.02	4825.43	0.00	
15100.00	89.69	359.61	10770.94	4700.55	-1472.70	4922.12	0.00	
15200.00	89.69	359.61	10771.49	4800.54	-1473.39	5018.81	0.00	
15300.00	89.69	359.61	10772.03	4900.54	-1474.07	5115.50	0.00	
15400.00	89.69	359.61	10772.57	5000.54	-1474.75	5212.20	0.00	
15500.00	89.69	359.61	10773.11	5100.53	-1475.43	5308.89	0.00	
15600.00	89.69	359.61	10773.65	5200.53	-1476.11	5405.58	0.00	
15700.00	89.69	359.61	10774.19	5300.53	-1476.79	5502.27	0.00	
15771.66	89.69	359.61	10774.57	5372.18	-1477.28	5571.56	0.00	exit
15800.00	89.69	359.61	10774.73	5400.52	-1477.47	5598.96	0.00	
15851.66	89.69	359.61	10775.00	5452.18	-1477.80	5648.91	0.00	BHL



**Well:** GATO PEQUENO 4 FED 230H  
**County:** Lea  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

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

<b>MD</b> (ft)	<b>INC</b> (°)	<b>AZI</b> (°)	<b>TVD</b> (ft)	<b>NS</b> (ft)	<b>EW</b> (ft)	<b>VS</b> (ft)	<b>DLS</b> (°/100ft)	<b>Comment</b>
-------------------	-------------------	-------------------	--------------------	-------------------	-------------------	-------------------	-------------------------	----------------

**Well:** GATO PEQUENO 4 FED 230H  
**County:** Lea  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

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

<b>MD</b>	<b>INC</b>	<b>AZI</b>	<b>TVD</b>	<b>NS</b>	<b>EW</b>	<b>VS</b>	<b>DLS</b>	<b>Comment</b>
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	



**10-3/4"    45.50#    0.400"    J-55**

### **Dimensions (Nominal)**

Outside Diameter	10.750	in.
Wall	0.400	in.
Inside Diameter	9.950	in.
Drift	9.875	in.
Weight, T&C	45.500	lbs/ft
Weight, PE	44.260	lbs/ft

### **Performance Properties**

Collapse	2090	psi
Internal Yield Pressure at Minimum Yield		
PE	3580	psi
STC	3580	psi
BTC	3580	psi
Yield Strength, Pipe Body	715	1000 lbs
Joint Strength		
STC	493	1000 lbs
BTC	796	1000 lbs
BTC Special Clearance (11.25" OD Cplg)	506	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.



# U. S. Steel Tubular Products

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

2/21/2019 8:12:22 AM

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

### Legal Notice

All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

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

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

Issued on: 16 Dec. 2020 by Logan Van Gorp



### Connection Data Sheet

<b>OD</b> 8 5/8 in.	<b>Weight (lb/ft)</b> Nominal: 32.00 Plain End: 31.13	<b>Wall Th.</b> 0.352 in.	<b>Grade</b> P110EC	<b>Alt. Drift:</b> 7.875 in.	<b>Connection</b> VAM® SPRINT-FJ
------------------------	---	------------------------------	------------------------	---------------------------------	-------------------------------------

PIPE PROPERTIES	
Nominal OD	8.625 in.
Nominal ID	7.921 in.
Nominal Cross Section Area	9.149 sqin.
Grade Type	High Yield
Min. Yield Strength	125 ksi
Max. Yield Strength	140 ksi
Min. Ultimate Tensile Strength	135 ksi

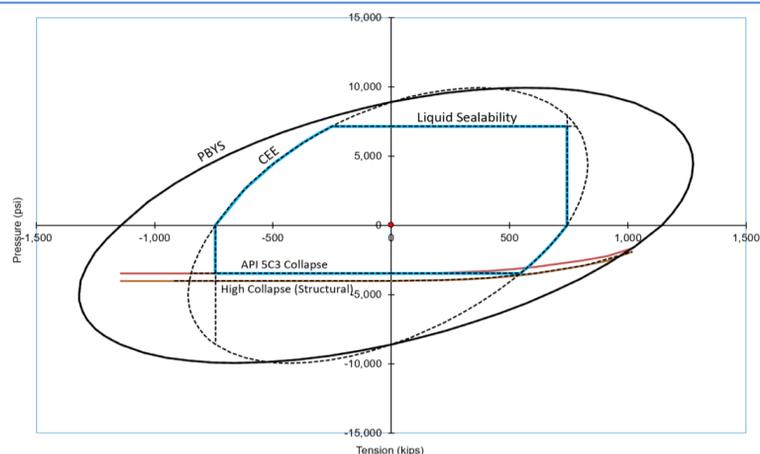
CONNECTION PROPERTIES	
Connection Type	Semi-Premium Integral Flush
Connection OD (nom):	8.665 in.
Connection ID (nom):	7.954 in.
Make-Up Loss	2.614 in.
Critical Cross Section	6.038 sqin.
Tension Efficiency	65.0 % of pipe
Compression Efficiency	65.0 % of pipe
Internal Pressure Efficiency	80.0 % of pipe
External Pressure Efficiency	100 % of pipe

CONNECTION PERFORMANCES	
Tensile Yield Strength	744 klb
Compression Resistance	744 klb
Max. Internal Pressure	7,150 psi
Structural Collapse Resistance	4,000 psi
Max. Bending with Sealability	41 °/100ft
Max. Bending with Sealability	10 °/100ft

TORQUE VALUES	
Min. Make-up torque	15,000 ft.lb
Opt. Make-up torque	16,500 ft.lb
Max. Make-up torque	18,000 ft.lb
Max. Torque with Sealability (MTS)	TBD ft.lb

\* 87.5% RBW

**VAM® SPRINT-FJ** is a semi-premium flush connection designed for shale applications, where maximum clearance and high tension capacity are required for intermediate casing strings.



Do you need help on this product? - Remember no one knows VAM® like VAM®

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



9-23-32-B Sundry ID 2721651 Gato Pequeno 4 Fed 230H Lea NM126065 DEVON ENERGY PRODUCTION COMPANY LP 13-22f 3-21-2023 LV.xlsm

Gato Pequeno 4 Fed 230H

10 3/4		surface csg in a		14 1/2		inch hole.		Design Factors				Surface	
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight		
"A"	45.50		j 55	btc	12.28	3.49	0.65	1,280	6	1.09	6.60	58,240	
"B"				btc			0					0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500							Totals:	1,280				58,240	
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	
14 1/2	0.5164	473	662	661	0	9.00	3296	5M				1.38	
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.													
Site plan (page links S or E) as per D.D. L. in D.A. not found.													

8 5/8		casing inside the		10 3/4		Design Factors				Int 1			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight		
"A"	32.00		p 110	vam sprint fj	2.30	0.72	1.42	10,126	1	2.68	1.21	324,032	
"B"							0					0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 586							Totals:	10,126				324,032	
The cement volume(s) are intended to achieve a top of 0 ft from surface or a 1280 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	
9 7/8	0.1261	365	511	1288	-60	10.50	3637	5M				0.61	
D V Tool(s):													
t by stage % :													
		26	76	6915			sum of sx	Σ CuFt				Σ%excess	
							837	2069				61	
Class 'C' tail cmt yld > 1.35													

Tail cmt 5 1/2		casing inside the		8 5/8		Design Factors				Prod 1			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight		
"A"	17.00		p 110		2.98	1.48	2.11	15,852	2	3.99	2.80	269,484	
"B"							0					0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,371							Totals:	15,852				269,484	
The cement volume(s) are intended to achieve a top of 9926 ft from surface or a 200 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	
7 7/8	0.1733	772	1159	1027	13	9.00						0.91	
Class 'C' tail cmt yld > 1.35													

#N/A 0		casing inside the		5 1/2		Design Factors				<Choose Casing>			
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight		
"A"			0.00				0				0		
"B"			0.00				0				0		
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	0			0		
Cmt vol calc below includes this csg, TOC intended #N/A ft from surface or a #N/A overlap.													
Hole 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	
0		#N/A	#N/A	0	#N/A	#N/A							
#N/A 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 199229

**CONDITIONS**

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137 Action Number: 199229 Action Type: [C-103] NOI Change of Plans (C-103A)
---	---

**CONDITIONS**

Created By	Condition	Condition Date
pkautz	None	3/22/2023