

Well Name: BLUE KRAIT 23 FED	Well Location: T24S / R33E / SEC 23 / SESE / 32.196943 / -103.537606	County or Parish/State: LEA / NM
Well Number: 21H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMLC063798	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002546857	Well Status: Approved Application for Permit to Drill	Operator: DEVON ENERGY PRODUCTION COMPANY LP

Notice of Intent

Sundry ID: 2702204

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 11/09/2022	Time Sundry Submitted: 03:29
Date proposed operation will begin: 11/09/2022	

Procedure Description: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the BHL on the subject well and update casing design to a 13-1/2" surface hole and 10-3/4" surface casing. Please see attached revised C102, Drill plan, directional plan. Permitted BHL: NENE, 20 FNL, 380 FEL, 23-24S-33E Proposed BHL: NENE, 20 FNL, 830 FEL, 23-24S-33E

NOI Attachments

Procedure Description

- 8.625_32lb_P110EC_SPRINT_FJ_VST_20221212093627.pdf
- 10.750_45.5_J55_SEAH_20221212093627.pdf
- Blue_Krait_23_Fed_21H___Sundry_rev1_20221212093535.pdf
- 5.5_17lb_P110_BTC_20221109152849.pdf
- Blue_Krait_23_Fed_21H_Directional_Plan_10_13_22_20221109152603.pdf
- WA017315324_BLUE_KRAIT_23_FED_21H_WL_R4_20221109152531.pdf

Received by OCD: 1/16/2023 1:20:50 PM

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Conditions of Approval

Additional

Blue_Krait_23_Fed_21H_Dr_COA_Sundry_ID_2702204_20221219071848.pdf
23_24_33_P_Sundry_ID_2702204_Blue_Krait_23_Fed_21H_Lea_LC063798_20221219071848.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: CHELSEY GREEN

Signed on: DEC 12, 2022 09:29 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

City: Oklahoma CityState: OK

Phone: (405) 228-8595

Email address: Chelsey.Green@dnv.com

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 01/06/2023

Signature: Chris Walls

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-46857	Pool Code 5150	Pool Name BELL LAKE; BONE SPRING, NORTH
Property Code 315754	Property Name BLUE KRAIT 23 FED	Well Number 21H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3563.2'

Surface Location

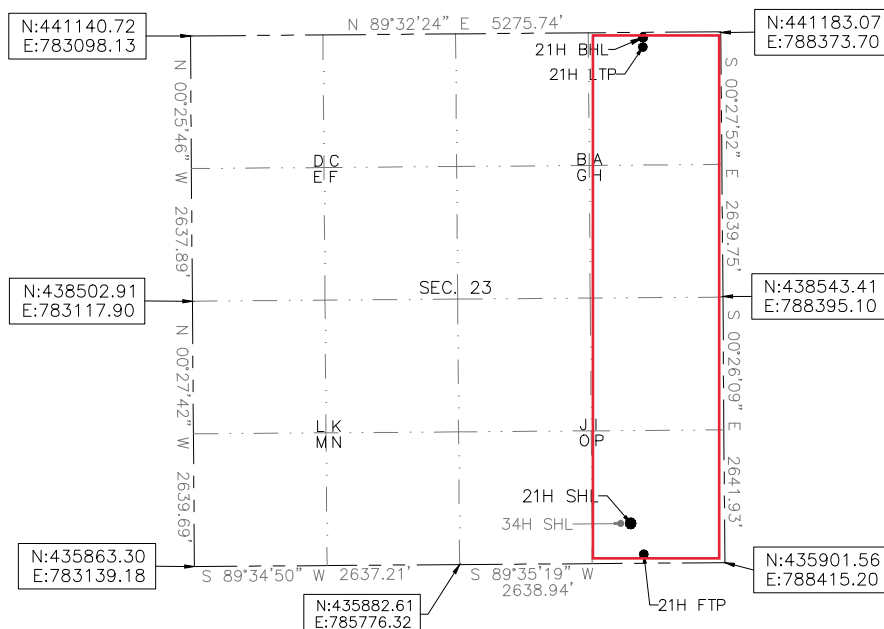
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	23	24-S	33-E		398	SOUTH	934	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	23	24-S	33-E		20	NORTH	830	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



BLUE KRAIT 23 FED 21H

EL:3563.2'
LAT:32.196943
LON:103.537606
N:436292.84
E:787478.19

FIRST TAKE POINT

100' FSL 830' FEL SEC. 23
LAT:32.196123
LON:103.537270
N:435995.59
E:787584.46

LAST TAKE POINT

100' FNL 830' FEL SEC. 23
LAT:32.210090
LON:103.537277
N:441076.41
E:787544.54

BOTTOM OF HOLE

LAT:32.210310
LON:103.537277
N:441156.40
E:787543.89

Note: All bearings recited herein
are based on the New Mexico
State Plane Coordinate System,
NAD 83, New Mexico East Zone
3001, US Survey Feet, all
distances are grid.

OPERATOR CERTIFICATION

I hereby certify that the information
herein is true and complete to the best of
my knowledge and belief, and that this
organization either owns a working interest
or unleased mineral interest in the land
including the proposed bottom hole location
or has a right to drill this well at this
location pursuant to a contract with an
owner of such mineral or working interest,
or to a voluntary pooling agreement or a
compulsory pooling order heretofore entered
by the division.

Chelsey Green 10/20/22
Signature Date

Chelsey Green

Printed Name

chelsey.green@dvn.com

E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location
shown on this plat was plotted from field
notes of actual surveys made by me or
under my supervision, and that the same is
true and correct to the best of my belief.

10/19/21

Date of Survey

Signature & Seal of Professional Surveyor

B. L. LAMAN
NEW MEXICO
22404
PROFESSIONAL SURVEYOR

REV: 10/12/22

Certificate No. 22404 **B.L. LAMAN**
DRAWN BY: CM

Intent ☒ As Drilled ☐

API # 30-025-46857		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, LP.	Property Name: BLUE KRAIT 23 FED	Well Number 21H

Kick Off Point (KOP)

UL P	Section 23	Township 24S	Range 33E	Lot	Feet 49	From N/S SOUTH	Feet 830	From E/W EAST	County LEA
Latitude 32.1959					Longitude 103.5374			NAD 83	

First Take Point (FTP)

UL P	Section 23	Township 24-S	Range 33-E	Lot	Feet 100	From N/S SOUTH	Feet 830	From E/W EAST	County LEA
Latitude 32.196123					Longitude 103.537270			NAD 83	

Last Take Point (LTP)

UL A	Section 23	Township 24-S	Range 33-E	Lot	Feet 100	From N/S NORTH	Feet 830	From E/W EAST	County LEA
Latitude 32.210090					Longitude 103.537277			NAD 83	

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

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

API # 30-025-43239		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, LP	Property Name: BLUE KRAIT 23 FED	Well Number 6H

KZ 06/29/2018

Blue Krait 23 Fed 21H

1. Geologic Formations

TVD of target	11502	Pilot hole depth	N/A
MD at TD:	16597	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	1280		
Salt	1801		
Base of Salt	5224		
Delaware	5224		
Bone Spring 1st	10155		
Bone Spring 2nd	10406		
3rd Bone Spring Lime	11230		

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

Blue Krait 23 Fed 21H

2. Casing Program (Primary Design)

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	45.5	J-55	BTC	0	1305	0	1305
9 7/8	8 5/8	32	P110	Sprint FJ	0	10431	0	10431
7 7/8	5 1/2	17	P110	BTC	0	16597	0	11502

• 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 (Primary Design)

Casing	# Sks	TOC	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	530	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	500	Surf	9	3.27	Lead: Class C Cement + additives
	67	4000' above	13.2	1.44	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.44	Squeeze Lead: Class C Cement + additives
	500	Surf	9	3.27	Lead: Class C Cement + additives
	67	4000' above	13.2	1.44	Tail: Class H / C + additives
Production	66	9931	9	3.27	Lead: Class H / C + additives
	733	11057	13.2	1.44	Tail: Class H / C + additives

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

Blue Krait 23 Fed 21H

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 (5M)		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*			
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						

Blue Krait 23 Fed 21H

5. Mud Program (Three String Design)

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

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

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

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

Additional logs planned		Interval
	Resistivity	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	5383
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	H ₂ S is present
Y	H ₂ S 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

Blue Krait 23 Fed 21H

from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

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

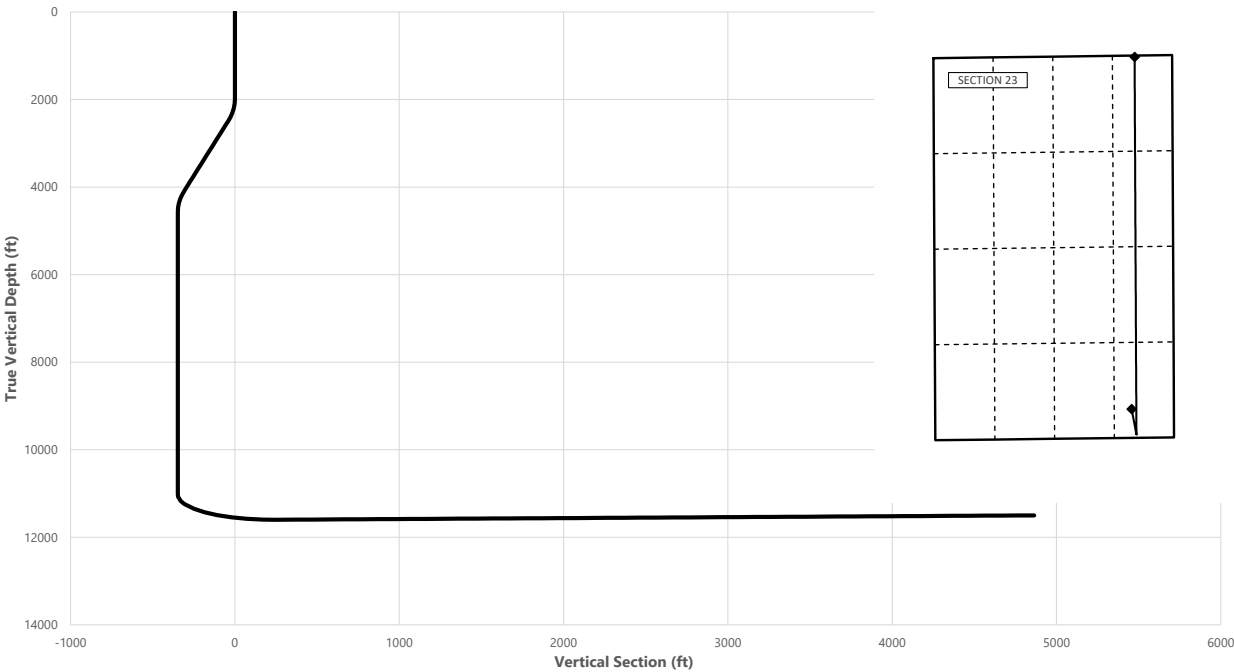
Blue Krait 23 Fed 21H



Well: Blue Krait 23 Fed 21H
County: Lea
Wellbore: Permit Plan
Design: Permit Plan #1

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

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	163.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	163.00	2497.47	-41.62	12.72	-41.45	2.00	Hold Tangent
4099.08	10.00	163.00	4072.25	-307.16	93.91	-305.87	0.00	Drop to Vertical
4599.08	0.00	163.00	4569.72	-348.79	106.63	-347.31	2.00	Hold Vertical
11056.54	0.00	359.55	11027.18	-348.79	106.63	-347.31	0.00	KOP
11968.92	91.24	359.55	11600.00	236.53	102.04	237.89	10.00	Landing Point
16597.17	91.24	359.55	11500.00	4863.56	65.70	4864.00	0.00	BHL



Key Depths	MD	TVD
	(ft)	(ft)
Rustler	1280.00	1280.00
Salt	1801.00	1801.00
Base of Salt	5253.36	5224.00
Delaware	5253.36	5224.00
Bone Spring 1st	10184.36	10155.00
Bone Spring 2nd	10435.36	10406.00
3rd Bone Spring Lime / Point of Penetration	11263.86	11230.00
exit	16517.17	11501.73

SHL
KOP
Point of Penetration
Exit
BHL

MD	TVD	Lat	Long	Section Footages
(ft)	(ft)	(°)	(°)	
0.00	0.00	32.1968	-103.5377	398' FSL, 934' FEL of Sec 23 in T24S, R33E
11056.54	11027.18	32.1959	-103.5374	49' FSL, 830' FEL of Sec 23 in T24S, R33E
11263.86	11230.00	32.1961	-103.5373	100' FSL, 830' FEL of Sec 23 in T24S, R33E
16517.17	11501.73	32.2101	-103.5373	100' FNL, 830' FEL of Sec 23 in T24S, R33E
16597.17	11500.00	32.2102	-103.5374	20' FNL, 830' FEL of Sec 23 in T24S, R33E

Blue Krait 23 Fed 21H



Well: Blue Krait 23 Fed 21H
 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	163.00	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	163.00	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	163.00	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	163.00	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	163.00	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	163.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	163.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	163.00	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	163.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	163.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	163.00	1100.00	0.00	0.00	0.00	0.00	
1200.00	0.00	163.00	1200.00	0.00	0.00	0.00	0.00	
1280.00	0.00	163.00	1280.00	0.00	0.00	0.00	0.00	Rustler
1300.00	0.00	163.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	163.00	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	163.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	163.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	163.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	163.00	1800.00	0.00	0.00	0.00	0.00	
1801.00	0.00	163.00	1801.00	0.00	0.00	0.00	0.00	Salt
1900.00	0.00	163.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	163.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	163.00	2099.98	-1.67	0.51	-1.66	2.00	
2200.00	4.00	163.00	2199.84	-6.67	2.04	-6.65	2.00	
2300.00	6.00	163.00	2299.45	-15.01	4.59	-14.94	2.00	
2400.00	8.00	163.00	2398.70	-26.66	8.15	-26.55	2.00	
2500.00	10.00	163.00	2497.47	-41.62	12.72	-41.45	2.00	Hold Tangent
2600.00	10.00	163.00	2595.95	-58.23	17.80	-57.98	0.00	
2700.00	10.00	163.00	2694.43	-74.83	22.88	-74.52	0.00	
2800.00	10.00	163.00	2792.91	-91.44	27.96	-91.05	0.00	
2900.00	10.00	163.00	2891.39	-108.04	33.03	-107.59	0.00	
3000.00	10.00	163.00	2989.87	-124.65	38.11	-124.12	0.00	
3100.00	10.00	163.00	3088.35	-141.26	43.19	-140.66	0.00	
3200.00	10.00	163.00	3186.83	-157.86	48.26	-157.20	0.00	
3300.00	10.00	163.00	3285.31	-174.47	53.34	-173.73	0.00	
3400.00	10.00	163.00	3383.79	-191.08	58.42	-190.27	0.00	
3500.00	10.00	163.00	3482.27	-207.68	63.49	-206.80	0.00	
3600.00	10.00	163.00	3580.75	-224.29	68.57	-223.34	0.00	
3700.00	10.00	163.00	3679.23	-240.89	73.65	-239.88	0.00	
3800.00	10.00	163.00	3777.72	-257.50	78.73	-256.41	0.00	
3900.00	10.00	163.00	3876.20	-274.11	83.80	-272.95	0.00	
4000.00	10.00	163.00	3974.68	-290.71	88.88	-289.48	0.00	
4099.08	10.00	163.00	4072.25	-307.16	93.91	-305.87	0.00	Drop to Vertical
4100.00	9.98	163.00	4073.16	-307.32	93.96	-306.02	2.01	
4200.00	7.98	163.00	4171.93	-322.25	98.52	-320.89	2.00	
4300.00	5.98	163.00	4271.18	-333.87	102.07	-332.46	2.00	
4400.00	3.98	163.00	4370.80	-342.17	104.61	-340.73	2.00	
4500.00	1.98	163.00	4470.66	-347.15	106.13	-345.68	2.00	
4599.08	0.00	163.00	4569.72	-348.79	106.63	-347.31	2.00	Hold Vertical
4600.00	0.00	359.55	4570.64	-348.79	106.63	-347.31	0.01	
4700.00	0.00	359.55	4670.64	-348.79	106.63	-347.31	0.00	
4800.00	0.00	359.55	4770.64	-348.79	106.63	-347.31	0.00	
4900.00	0.00	359.55	4870.64	-348.79	106.63	-347.31	0.00	
5000.00	0.00	359.55	4970.64	-348.79	106.63	-347.31	0.00	
5100.00	0.00	359.55	5070.64	-348.79	106.63	-347.31	0.00	
5200.00	0.00	359.55	5170.64	-348.79	106.63	-347.31	0.00	
5253.36	0.00	359.55	5224.00	-348.79	106.63	-347.31	0.00	Base of Salt, Delaware
5300.00	0.00	359.55	5270.64	-348.79	106.63	-347.31	0.00	
5400.00	0.00	359.55	5370.64	-348.79	106.63	-347.31	0.00	
5500.00	0.00	359.55	5470.64	-348.79	106.63	-347.31	0.00	
5600.00	0.00	359.55	5570.64	-348.79	106.63	-347.31	0.00	
5700.00	0.00	359.55	5670.64	-348.79	106.63	-347.31	0.00	
5800.00	0.00	359.55	5770.64	-348.79	106.63	-347.31	0.00	
5900.00	0.00	359.55	5870.64	-348.79	106.63	-347.31	0.00	
6000.00	0.00	359.55	5970.64	-348.79	106.63	-347.31	0.00	
6100.00	0.00	359.55	6070.64	-348.79	106.63	-347.31	0.00	
6200.00	0.00	359.55	6170.64	-348.79	106.63	-347.31	0.00	
6300.00	0.00	359.55	6270.64	-348.79	106.63	-347.31	0.00	
6400.00	0.00	359.55	6370.64	-348.79	106.63	-347.31	0.00	

Blue Krait 23 Fed 21H



Well: Blue Krait 23 Fed 21H
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	0.00	359.55	6470.64	-348.79	106.63	-347.31	0.00	
6600.00	0.00	359.55	6570.64	-348.79	106.63	-347.31	0.00	
6700.00	0.00	359.55	6670.64	-348.79	106.63	-347.31	0.00	
6800.00	0.00	359.55	6770.64	-348.79	106.63	-347.31	0.00	
6900.00	0.00	359.55	6870.64	-348.79	106.63	-347.31	0.00	
7000.00	0.00	359.55	6970.64	-348.79	106.63	-347.31	0.00	
7100.00	0.00	359.55	7070.64	-348.79	106.63	-347.31	0.00	
7200.00	0.00	359.55	7170.64	-348.79	106.63	-347.31	0.00	
7300.00	0.00	359.55	7270.64	-348.79	106.63	-347.31	0.00	
7400.00	0.00	359.55	7370.64	-348.79	106.63	-347.31	0.00	
7500.00	0.00	359.55	7470.64	-348.79	106.63	-347.31	0.00	
7600.00	0.00	359.55	7570.64	-348.79	106.63	-347.31	0.00	
7700.00	0.00	359.55	7670.64	-348.79	106.63	-347.31	0.00	
7800.00	0.00	359.55	7770.64	-348.79	106.63	-347.31	0.00	
7900.00	0.00	359.55	7870.64	-348.79	106.63	-347.31	0.00	
8000.00	0.00	359.55	7970.64	-348.79	106.63	-347.31	0.00	
8100.00	0.00	359.55	8070.64	-348.79	106.63	-347.31	0.00	
8200.00	0.00	359.55	8170.64	-348.79	106.63	-347.31	0.00	
8300.00	0.00	359.55	8270.64	-348.79	106.63	-347.31	0.00	
8400.00	0.00	359.55	8370.64	-348.79	106.63	-347.31	0.00	
8500.00	0.00	359.55	8470.64	-348.79	106.63	-347.31	0.00	
8600.00	0.00	359.55	8570.64	-348.79	106.63	-347.31	0.00	
8700.00	0.00	359.55	8670.64	-348.79	106.63	-347.31	0.00	
8800.00	0.00	359.55	8770.64	-348.79	106.63	-347.31	0.00	
8900.00	0.00	359.55	8870.64	-348.79	106.63	-347.31	0.00	
9000.00	0.00	359.55	8970.64	-348.79	106.63	-347.31	0.00	
9100.00	0.00	359.55	9070.64	-348.79	106.63	-347.31	0.00	
9200.00	0.00	359.55	9170.64	-348.79	106.63	-347.31	0.00	
9300.00	0.00	359.55	9270.64	-348.79	106.63	-347.31	0.00	
9400.00	0.00	359.55	9370.64	-348.79	106.63	-347.31	0.00	
9500.00	0.00	359.55	9470.64	-348.79	106.63	-347.31	0.00	
9600.00	0.00	359.55	9570.64	-348.79	106.63	-347.31	0.00	
9700.00	0.00	359.55	9670.64	-348.79	106.63	-347.31	0.00	
9800.00	0.00	359.55	9770.64	-348.79	106.63	-347.31	0.00	
9900.00	0.00	359.55	9870.64	-348.79	106.63	-347.31	0.00	
10000.00	0.00	359.55	9970.64	-348.79	106.63	-347.31	0.00	
10100.00	0.00	359.55	10070.64	-348.79	106.63	-347.31	0.00	
10184.36	0.00	359.55	10155.00	-348.79	106.63	-347.31	0.00	Bone Spring 1st
10200.00	0.00	359.55	10170.64	-348.79	106.63	-347.31	0.00	
10300.00	0.00	359.55	10270.64	-348.79	106.63	-347.31	0.00	
10400.00	0.00	359.55	10370.64	-348.79	106.63	-347.31	0.00	
10435.36	0.00	359.55	10406.00	-348.79	106.63	-347.31	0.00	Bone Spring 2nd
10500.00	0.00	359.55	10470.64	-348.79	106.63	-347.31	0.00	
10600.00	0.00	359.55	10570.64	-348.79	106.63	-347.31	0.00	
10700.00	0.00	359.55	10670.64	-348.79	106.63	-347.31	0.00	
10800.00	0.00	359.55	10770.64	-348.79	106.63	-347.31	0.00	
10900.00	0.00	359.55	10870.64	-348.79	106.63	-347.31	0.00	
11000.00	0.00	359.55	10970.64	-348.79	106.63	-347.31	0.00	
11056.54	0.00	359.55	11027.18	-348.79	106.63	-347.31	0.00	KOP
11100.00	4.35	359.55	11070.60	-347.14	106.62	-345.67	10.00	
11200.00	14.35	359.55	11169.14	-330.92	106.49	-329.45	10.00	
11263.86	20.73	359.55	11230.00	-311.69	106.34	-310.22	10.00	3rd Bone Spring Lime / Point of Penetration
11300.00	24.35	359.55	11263.38	-297.83	106.23	-296.37	10.00	
11400.00	34.35	359.55	11350.43	-248.89	105.85	-247.44	10.00	
11500.00	44.35	359.55	11427.67	-185.57	105.35	-184.13	10.00	
11600.00	54.35	359.55	11492.73	-109.80	104.76	-108.38	10.00	
11700.00	64.35	359.55	11543.65	-23.89	104.08	-22.48	10.00	
11800.00	74.35	359.55	11578.88	69.56	103.35	70.95	10.00	
11900.00	84.35	359.55	11597.35	167.71	102.58	169.08	10.00	
11968.92	91.24	359.55	11600.00	236.53	102.04	237.89	10.00	Landing Point
12000.00	91.24	359.55	11599.33	267.61	101.79	268.96	0.00	
12100.00	91.24	359.55	11597.17	367.58	101.01	368.91	0.00	
12200.00	91.24	359.55	11595.01	467.55	100.22	468.87	0.00	
12300.00	91.24	359.55	11592.85	567.53	99.44	568.82	0.00	
12400.00	91.24	359.55	11590.69	667.50	98.65	668.77	0.00	
12500.00	91.24	359.55	11588.53	767.47	97.86	768.73	0.00	
12600.00	91.24	359.55	11586.36	867.45	97.08	868.68	0.00	
12700.00	91.24	359.55	11584.20	967.42	96.29	968.63	0.00	
12800.00	91.24	359.55	11582.04	1067.40	95.51	1068.59	0.00	
12900.00	91.24	359.55	11579.88	1167.37	94.72	1168.54	0.00	

Blue Krait 23 Fed 21H



Well: Blue Krait 23 Fed 21H
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
13000.00	91.24	359.55	11577.72	1267.34	93.94	1268.50	0.00	
13100.00	91.24	359.55	11575.56	1367.32	93.15	1368.45	0.00	
13200.00	91.24	359.55	11573.40	1467.29	92.36	1468.40	0.00	
13300.00	91.24	359.55	11571.24	1567.26	91.58	1568.36	0.00	
13400.00	91.24	359.55	11569.08	1667.24	90.79	1668.31	0.00	
13500.00	91.24	359.55	11566.92	1767.21	90.01	1768.27	0.00	
13600.00	91.24	359.55	11564.76	1867.18	89.22	1868.22	0.00	
13700.00	91.24	359.55	11562.60	1967.16	88.44	1968.17	0.00	
13800.00	91.24	359.55	11560.44	2067.13	87.65	2068.13	0.00	
13900.00	91.24	359.55	11558.28	2167.10	86.86	2168.08	0.00	
14000.00	91.24	359.55	11556.12	2267.08	86.08	2268.03	0.00	
14100.00	91.24	359.55	11553.96	2367.05	85.29	2367.99	0.00	
14200.00	91.24	359.55	11551.80	2467.03	84.51	2467.94	0.00	
14300.00	91.24	359.55	11549.64	2567.00	83.72	2567.90	0.00	
14400.00	91.24	359.55	11547.48	2666.97	82.94	2667.85	0.00	
14500.00	91.24	359.55	11545.32	2766.95	82.15	2767.80	0.00	
14600.00	91.24	359.55	11543.15	2866.92	81.36	2867.76	0.00	
14700.00	91.24	359.55	11540.99	2966.89	80.58	2967.71	0.00	
14800.00	91.24	359.55	11538.83	3066.87	79.79	3067.67	0.00	
14900.00	91.24	359.55	11536.67	3166.84	79.01	3167.62	0.00	
15000.00	91.24	359.55	11534.51	3266.81	78.22	3267.57	0.00	
15100.00	91.24	359.55	11532.35	3366.79	77.44	3367.53	0.00	
15200.00	91.24	359.55	11530.19	3466.76	76.65	3467.48	0.00	
15300.00	91.24	359.55	11528.03	3566.73	75.86	3567.43	0.00	
15400.00	91.24	359.55	11525.87	3666.71	75.08	3667.39	0.00	
15500.00	91.24	359.55	11523.71	3766.68	74.29	3767.34	0.00	
15600.00	91.24	359.55	11521.55	3866.66	73.51	3867.30	0.00	
15700.00	91.24	359.55	11519.39	3966.63	72.72	3967.25	0.00	
15800.00	91.24	359.55	11517.23	4066.60	71.94	4067.20	0.00	
15900.00	91.24	359.55	11515.07	4166.58	71.15	4167.16	0.00	
16000.00	91.24	359.55	11512.91	4266.55	70.36	4267.11	0.00	
16100.00	91.24	359.55	11510.75	4366.52	69.58	4367.06	0.00	
16200.00	91.24	359.55	11508.59	4466.50	68.79	4467.02	0.00	
16300.00	91.24	359.55	11506.43	4566.47	68.01	4566.97	0.00	
16400.00	91.24	359.55	11504.27	4666.44	67.22	4666.93	0.00	
16500.00	91.24	359.55	11502.10	4766.42	66.43	4766.88	0.00	
16517.17	91.24	359.55	11501.73	4783.58	66.30	4784.04	0.00	exit
16597.17	91.24	359.55	11500.00	4863.56	65.70	4864.00	0.00	BHL



Well: Blue Krait 23 Fed 21H
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Ellipsoid: Clarke 1866
Zone: 3001 - NM East (NAD83)

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

Blue Krait 23 Fed 21H

Well: Blue Krait 23 Fed 21H

County: Lea

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Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(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

Internal Yield Pressure at Minimum Yield

Collapse	2090	psi
----------	------	-----

Internal Yields Pressure

PE	3580	psi
STC	3580	psi
BTC	3580	psi

Yield Strength, Pipe Body	715	1000 lbs
---------------------------	-----	----------

Joint Strength, STC

STC	493	1000 lbs
BTC	796	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.

Issued on: 16 Dec. 2020 by Logan Van Gorp



Connection Data Sheet

OD 8 5/8 in.	Weight (lb/ft) Nominal: 32.00 Plain End: 31.13	Wall Th. 0.352 in.	Grade P110EC	Alt. Drift: 7.875 in.	Connection 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

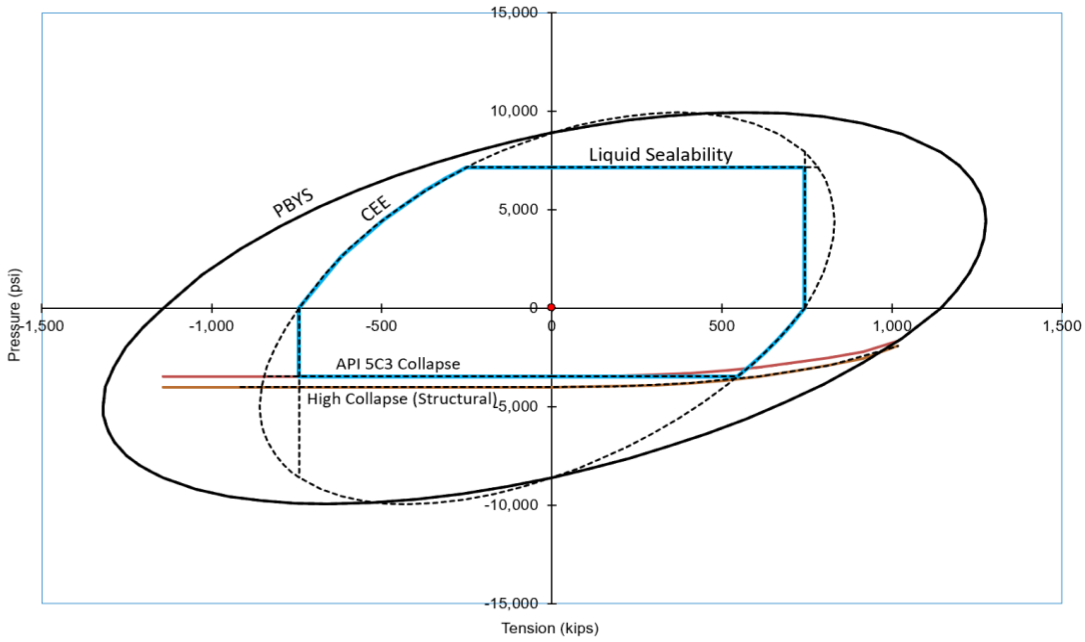
CONNECTION PROPERTIES		
Connection Type	Semi-Premium Integral Flush	
Connection OD (nom):	8.665	in.
Connection ID (nom):	7.954	in.
Make-Up Loss	2.614	in.
Critical Cross Section	6.038	sqin.
Tension Efficiency	65.0	% of pipe
Compression Efficiency	65.0	% of pipe
Internal Pressure Efficiency	80.0	% of pipe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

* 87.5% RBW

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

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.



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brazil@vamfieldservice.com

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

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australia@vamfieldservice.com

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





U. S. Steel Tubular Products

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

2/21/2019 8:12:22 AM

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

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

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connections@uss.com
www.usstubular.com

23-24-33-P Sundry ID 2702204 Blue Krait 23 Fed 21H Lea LC063798.xlsm

Blue Krait 23 Fed 21H

10 3/4	surface csg in a		13 1/2	inch hole.		Design Factors				Surface		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	45.50		j 55	btc	11.65	3.31	0.63	1,350	6	1.05	6.25	61,425
"B"				btc				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500												
				Tail Cmt	does not	circ to sfc.	Totals:	1,350				61,425
Comparison of Proposed to Minimum Required Cement Volumes												
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
13 1/2	0.3637	530	763	491	55	9.00	3395	5M				0.88
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.												
Site plot (pipe racks S or E) as per O.G. L.H.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	2.23	0.7	1.33	10,431	1	2.51	1.18	333,792
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 453						Totals:			10,431			333,792
The cement volume(s) are intended to achieve a top of 0						ft from surface or a 1350						overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
9 7/8	0.1261	567	1731	1327	31	10.50	2847	5M				0.61
D V Tool(s):						sum of sx		Σ CuFt				Σ%excess
t by stage % :						567		1731				31
Class 'H' tail cmt yld > 1.20												

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	btc	2.79	1.39	1.98	16,597	2	3.74	2.63	282,149		
"B"								0				0		
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,530								Totals:	16,597			282,149		
The cement volume(s) are intended to achieve a top of								10231	ft from surface or a		200	overlap.		
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist		
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg		
7 7/8	0.1733	799	1271	1104	15	9.00						0.91		
Class 'C' tail cmt yld > 1.35														

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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company LP
LEASE NO.:	NMLC063798
LOCATION:	Section 23, T.24 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Blue Krait 23 Fed 21H
SURFACE HOLE FOOTAGE:	398'/S & 934'/E
BOTTOM HOLE FOOTAGE:	20'/N & 830'/E
ATS/API ID:	
APD ID:	3002546857
Sundry ID:	2702204

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 checked="" type="checkbox"/> Cement Squeeze	<input type="checkbox"/> EchoMeter	
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements Variance	<input checked="" type="checkbox"/> Break Testing	<input type="checkbox"/> Offline Cementing	

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 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 **1350 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.

- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Operator has proposed to pump down 10-3/4" X 8-5/8" annulus after primary cementing stage. Operator must run a CBL from TD of the 8-5/8" casing to surface. Submit results to the BLM.

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

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

C. PRESSURE CONTROL

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

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. 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 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 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 when specified), 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. 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 12/19/2022

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 176404

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 176404
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	1/18/2023