

Form 2015
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OCT 24 2019
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FORM APPROVED
 OMB No. 1004-0137
 Expires: January 31, 2018

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
 NMLC0063798

6. If Indian, Allottee or Tribe Name

1a. Type of work: DRILL REENTER
 1b. Type of Well: Oil Well Gas Well Other
 1c. Type of Completion: Hydraulic Fracturing Single Zone Multiple Zone

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

8. Lease Name and Well No.
 BLUE KRAIT 23-14 FED
 37H
 (316705)

2. Name of Operator
 DEVON ENERGY PRODUCTION COMPANY LP

9. API Well No.
 70-025-46460

3a. Address
 333 West Sheridan Avenue Oklahoma City OK 73102

3b. Phone No. (include area code)
 (800)583-3866

10. Field and Pool, or Exploratory
 BRINNINSTOOL / WOLFCAMP

4. Location of Well (Report location clearly and in accordance with any State requirements. *)
 At surface SESE / 200 FSL / 1174 FEL / LAT 32.196399 / LONG -103.538382
 At proposed prod. zone NWNE / 20 FNL / 2317 FEL / LAT 32.224803 / LONG -103.542095

11. Sec., T. R. M. or Blk. and Survey or Area
 SEC 23 / T24S / R33E / NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish
 LEA

13. State
 NM

15. Distance from proposed* location to nearest property or lease line, ft.
 (Also to nearest drig. unit line, if any)
 200 feet

16. No of acres in lease
 2480

17. Spacing Unit dedicated to this well
 320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
 111 feet

19. Proposed Depth
 12475 feet / 22781 feet

20. BLM/BIA Bond No. in file
 FED: CO1104

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
 3557 feet

22. Approximate date work will start*
 08/25/2019

23. Estimated duration
 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- 1. Well plat certified by a registered surveyor.
- 2. A Drilling Plan.
- 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)

- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- 5. Operator certification.
- 6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature
 (Electronic Submission)

Name (Printed/Typed)
 Rebecca Deal / Ph: (405)552-6556

Date
 01/28/2019

Title
 Regulatory Compliance Professional

Approved by (Signature)
 (Electronic Submission)

Name (Printed/Typed)
 Cody Layton / Ph: (575)234-5959

Date
 10/18/2019

Title
 Assistant Field Manager Lands & Minerals

Office
 CARLSBAD

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

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.

SLP Rec 10/23/19

APPROVED WITH CONDITIONS
 Approval Date: 10/18/2019

KP
 10/26/19

REQUERS USE
 *(Instructions on page 2)

(Continued on page 2)



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

Operator Certification Data Report

10/21/2019

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Rebecca Deal

Signed on: 01/28/2019

Title: Regulatory Compliance Professional

Street Address: 333 W. Sheridan Ave

City: OKC

State: OK

Zip: 73102

Phone: (405)552-6556

Email address: blake.richardson@dvn.com

Field Representative

Representative Name: Blake Richardson

Street Address: 333 W SHERIDAN AVE

City: OKC

State: OK

Zip: 73102

Phone: (405)552-6556

Email address: blake.richardson@dvn.com



APD ID: 10400038545

Submission Date: 01/28/2019

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400038545

Tie to previous NOS? N

Submission Date: 01/28/2019

BLM Office: CARLSBAD

User: Rebecca Deal

Title: Regulatory Compliance

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Professional

Lease number: NMLC0063798

Lease Acres: 2480

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: DEVON ENERGY PRODUCTION COMPANY LP

Operator letter of designation:

Operator Info

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue

Zip: 73102

Operator PO Box:

Operator City: Oklahoma City State: OK

Operator Phone: (800)583-3866

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: BRINNINSTOOL

Pool Name: WOLFCAMP

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N Use Existing Well Pad? NO New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: BLUE Number: 7

Well Class: HORIZONTAL

KRAIT 23 FED WELLPAD

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town:

Distance to nearest well: 111 FT

Distance to lease line: 200 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: BLUE_KRAIT_23_14_FED_37H_C_102_20190128101517.pdf

Well work start Date: 08/25/2019

Duration: 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

Reference Datum:

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	200	FSL	1174	FEL	24S	33E	23	Aliquot SESE	32.196399	-103.538382	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 063798	3557	0	0	
KOP Leg #1	50	FSL	2317	FEL	24S	33E	23	Aliquot SWSE	32.196009	-103.54208	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 063798	-8345	11978	11902	
PPP Leg #1	100	FSL	2317	FEL	24S	33E	23	Aliquot SWSE	32.196147	-103.54208	LEA	NEW MEXI CO	NEW MEXI CO	F	NMLC0 063798	-8579	12220	12136	

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
EXIT Leg #1	100	FNL	2317	FEL	24S	33E	14	Aliquot NWNE 3	32.224583	-103.542095	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0063798	-8918	22701	12475	
BHL Leg #1	20	FNL	2317	FEL	24S	33E	14	Aliquot NWNE 3	32.224803	-103.542095	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0063798	-8918	22781	12475	



**Devon Energy Center
333 West Sheridan Avenue
Oklahoma City, Oklahoma 73102-5015**

Hydrogen Sulfide (H₂S) Contingency Plan

For

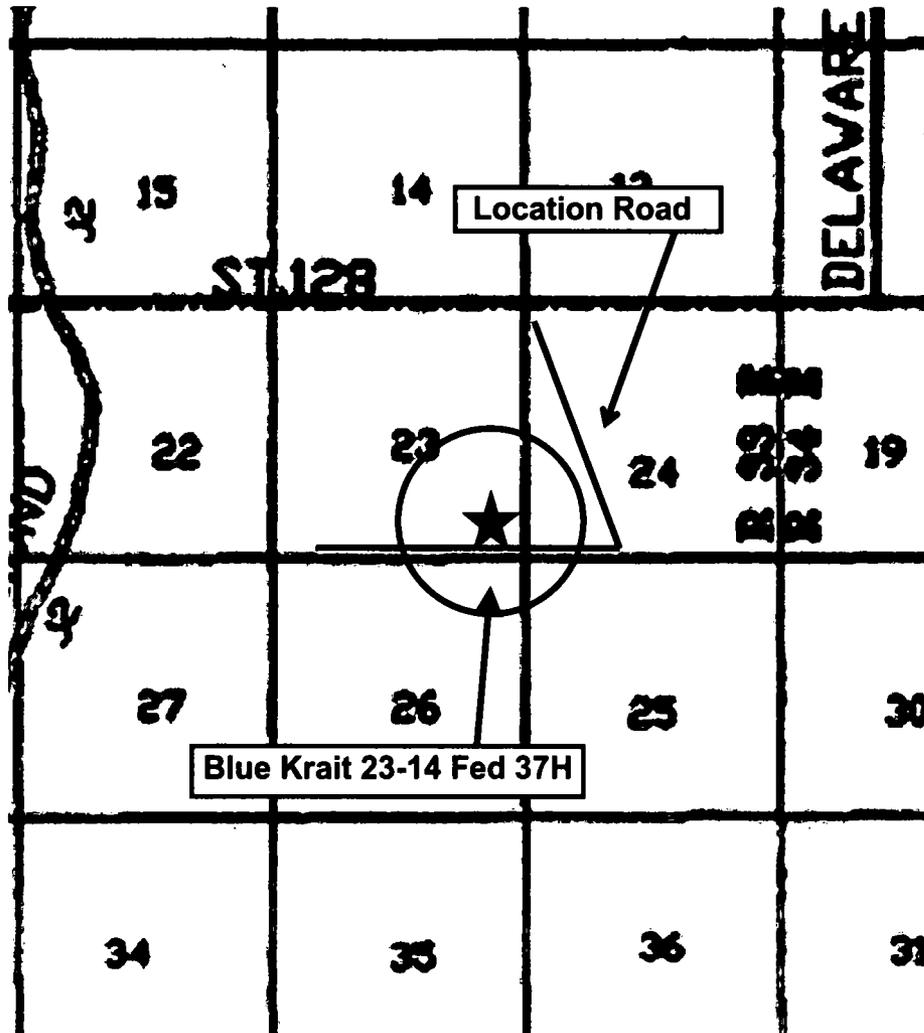
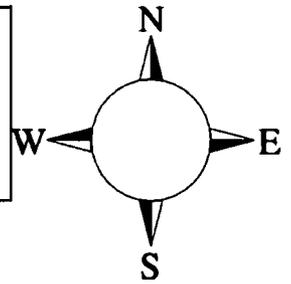
Blue Krait 23-14 Fed 37H

**Sec-23 T-24S R-33E
200' FSL & 1174' FEL
LAT. = 32.196399' N (NAD83)
LONG = 103.538382' W**

Lea County NM

Blue Krait 23-14 Fed 37H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



**Assumed 100 ppm ROE = 3000' (Radius of Exposure)
100 ppm H₂S concentration shall trigger activation of this plan.**

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H₂S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
 - **Detection of H₂S, and**
 - **Measures for protection against the gas,**
 - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H₂S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H₂S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

1. Well Control Equipment

- A. Flare line
- B. Choke manifold – Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

2. Protective equipment for essential personnel:

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. H₂S detection and monitoring equipment:

Portable H₂S monitors positioned on location for best coverage and response. These units have warning lights which activate when H₂S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
- Possum Belly/Shale shaker
- Rig floor
- Choke manifold
- Cellar

Visual warning systems:

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. Mud program:

The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

5. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H₂S trim.
- B. All elastomers used for packing and seals shall be H₂S trim.

6. Communication:

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

7. Well testing:

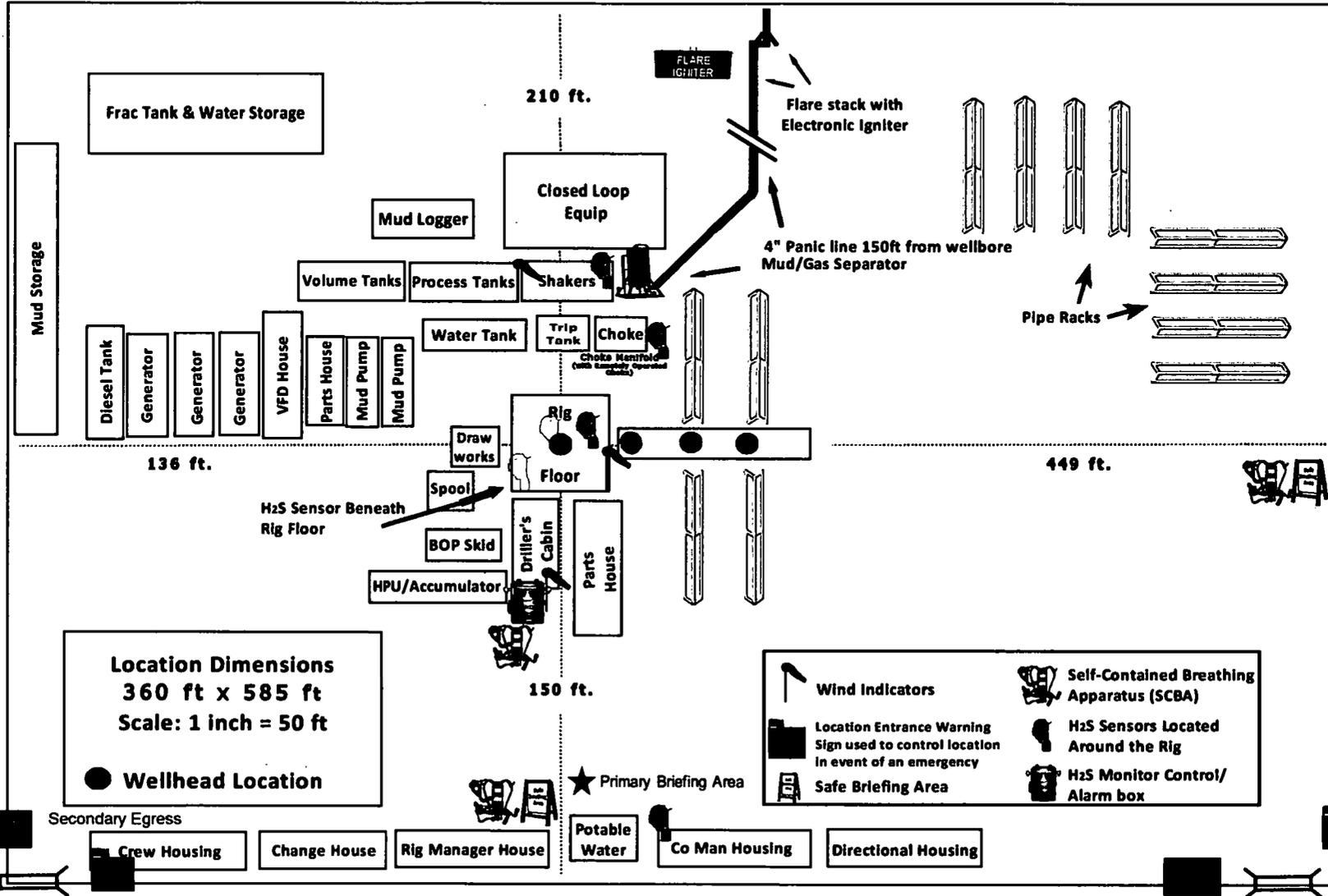
- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

<u>Devon Energy Corp. Company Call List</u>		
Drilling Supervisor – Basin – Mark Kramer		405-823-4796
EHS Professional – Laura Wright		405-439-8129
<u>Agency Call List</u>		
<u>Lea County (575)</u>	Hobbs	
	Lea County Communication Authority	393-3981
	State Police	392-5588
	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	911
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	US Bureau of Land Management	393-3612
<u>Eddy County (575)</u>	Carlsbad	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	911
	Fire Department	885-3125
	LEPC (Local Emergency Planning Committee)	887-3798
	US Bureau of Land Management	887-6544
	NM Emergency Response Commission (Santa Fe)	(505) 476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control	(915) 699-0139 (915) 563-3356
	Halliburton	(575) 746-2757
B. J. Services	(575) 746-3569	
<u>Give GPS position:</u>	Native Air – Emergency Helicopter – Hobbs	(575) 392-6429
	Flight For Life - Lubbock, TX	(806) 743-9911
	Aerocare - Lubbock, TX	(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM	(800) 222-1222
	Poison Control (24/7)	(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	

Prepared in conjunction with
Dave Small



Devon Energy - Well Pad Rig Location Layout Safety Equipment Location



WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 23-T24S-R33E

Blue Krait 23-14 Fed 37H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

27 December, 2018

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Blue Krait 23-14 Fed 37H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3581.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3581.80ft
Site:	Sec 23-T24S-R33E	North Reference:	Grid
Well:	Blue Krait 23-14 Fed 37H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Project	Lea County (NAD83 New Mexico East)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 23-T24S-R33E				
Site Position:		Northing:	446,417.68 usft	Latitude:	32.224862
From:	Map	Easting:	783,057.71 usft	Longitude:	-103.551658
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well	Blue Krait 23-14 Fed 37H					
Well Position	+N/-S	0.00 ft	Northing:	436,093.12 usft	Latitude:	32.196399
	+E/-W	0.00 ft	Easting:	787,239.71 usft	Longitude:	-103.538382
Position Uncertainty		0.50 ft	Wellhead Elevation:		Ground Level:	3,556.80 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/26/2018	6.77	60.02	47,767.33612704

Design	Permit Plan 1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	353.24	

Plan Survey Tool Program	Date	12/27/2018			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	22,780.97 Permit Plan 1 (Wellbore #1)	MWD+HDGM OWSG MWD + HDGM		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,281.46	7.81	262.52	3,279.04	-6.92	-52.76	1.00	1.00	0.00	262.52	
11,107.74	7.81	262.52	11,032.64	-145.38	-1,107.83	0.00	0.00	0.00	0.00	
11,628.71	0.00	0.01	11,552.00	-150.00	-1,143.00	1.50	-1.50	0.00	180.00	
11,978.75	0.00	0.01	11,902.04	-150.00	-1,143.00	0.00	0.00	0.00	0.01	
12,878.76	90.00	359.55	12,475.00	422.94	-1,147.47	10.00	10.00	0.00	359.55	PBHL - Blue Krait 23-
22,780.97	90.00	359.55	12,475.00	10,324.85	-1,224.66	0.00	0.00	0.00	0.00	PBHL - Blue Krait 23-

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Blue Krait 23-14 Fed 37H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3581.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3581.80ft
Site:	Sec 23-T24S-R33E	North Reference:	Grid
Well:	Blue Krait 23-14 Fed 37H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
100.00	0.00	0.00	100.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
200.00	0.00	0.00	200.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
300.00	0.00	0.00	300.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
400.00	0.00	0.00	400.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
500.00	0.00	0.00	500.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
600.00	0.00	0.00	600.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
700.00	0.00	0.00	700.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
800.00	0.00	0.00	800.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
900.00	0.00	0.00	900.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
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1,100.00	0.00	0.00	1,100.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	436,093.12	787,239.71	32.196399	-103.538382	
2,600.00	1.00	262.52	2,599.99	-0.11	-0.87	436,093.01	787,238.84	32.196398	-103.538385	
2,700.00	2.00	262.52	2,699.96	-0.45	-3.46	436,092.67	787,236.25	32.196397	-103.538393	
2,800.00	3.00	262.52	2,799.86	-1.02	-7.79	436,092.10	787,231.92	32.196396	-103.538407	
2,900.00	4.00	262.52	2,899.68	-1.82	-13.84	436,091.30	787,225.87	32.196394	-103.538427	
3,000.00	5.00	262.52	2,999.37	-2.84	-21.62	436,090.28	787,218.09	32.196391	-103.538452	
3,100.00	6.00	262.52	3,098.90	-4.08	-31.12	436,089.04	787,208.59	32.196388	-103.538483	
3,200.00	7.00	262.52	3,198.26	-5.56	-42.34	436,087.56	787,197.36	32.196384	-103.538519	
3,281.46	7.81	262.52	3,279.04	-6.92	-52.76	436,086.20	787,186.95	32.196381	-103.538553	
3,300.00	7.81	262.52	3,297.41	-7.25	-55.26	436,085.87	787,184.45	32.196380	-103.538561	
3,400.00	7.81	262.52	3,396.48	-9.02	-68.74	436,084.10	787,170.97	32.196375	-103.538604	
3,500.00	7.81	262.52	3,495.55	-10.79	-82.22	436,082.33	787,157.49	32.196371	-103.538648	
3,600.00	7.81	262.52	3,594.62	-12.56	-95.70	436,080.56	787,144.01	32.196366	-103.538692	
3,700.00	7.81	262.52	3,693.69	-14.33	-109.18	436,078.79	787,130.53	32.196361	-103.538735	
3,800.00	7.81	262.52	3,792.76	-16.10	-122.66	436,077.02	787,117.05	32.196357	-103.538779	
3,900.00	7.81	262.52	3,891.84	-17.87	-136.14	436,075.25	787,103.56	32.196352	-103.538823	
4,000.00	7.81	262.52	3,990.91	-19.64	-149.62	436,073.48	787,090.08	32.196348	-103.538866	
4,100.00	7.81	262.52	4,089.98	-21.40	-163.11	436,071.71	787,076.60	32.196343	-103.538910	
4,200.00	7.81	262.52	4,189.05	-23.17	-176.59	436,069.95	787,063.12	32.196338	-103.538953	
4,300.00	7.81	262.52	4,288.12	-24.94	-190.07	436,068.18	787,049.64	32.196334	-103.538997	
4,400.00	7.81	262.52	4,387.19	-26.71	-203.55	436,066.41	787,036.16	32.196329	-103.539041	
4,500.00	7.81	262.52	4,486.26	-28.48	-217.03	436,064.64	787,022.68	32.196325	-103.539084	
4,600.00	7.81	262.52	4,585.33	-30.25	-230.51	436,062.87	787,009.20	32.196320	-103.539128	
4,700.00	7.81	262.52	4,684.41	-32.02	-243.99	436,061.10	786,995.72	32.196316	-103.539171	
4,800.00	7.81	262.52	4,783.48	-33.79	-257.47	436,059.33	786,982.23	32.196311	-103.539215	
4,900.00	7.81	262.52	4,882.55	-35.56	-270.95	436,057.56	786,968.75	32.196306	-103.539259	
5,000.00	7.81	262.52	4,981.62	-37.33	-284.44	436,055.79	786,955.27	32.196302	-103.539302	
5,100.00	7.81	262.52	5,080.69	-39.10	-297.92	436,054.02	786,941.79	32.196297	-103.539346	
5,200.00	7.81	262.52	5,179.76	-40.87	-311.40	436,052.25	786,928.31	32.196293	-103.539390	
5,300.00	7.81	262.52	5,278.83	-42.64	-324.88	436,050.48	786,914.83	32.196288	-103.539433	

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Blue Krait 23-14 Fed 37H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3581.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3581.80ft
Site:	Sec 23-T24S-R33E	North Reference:	Grid
Well:	Blue Krait 23-14 Fed 37H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,400.00	7.81	262.52	5,377.91	-44.40	-338.36	436,048.72	786,901.35	32.196283	-103.539477
5,500.00	7.81	262.52	5,476.98	-46.17	-351.84	436,046.95	786,887.87	32.196279	-103.539520
5,600.00	7.81	262.52	5,576.05	-47.94	-365.32	436,045.18	786,874.39	32.196274	-103.539564
5,700.00	7.81	262.52	5,675.12	-49.71	-378.80	436,043.41	786,860.90	32.196270	-103.539608
5,800.00	7.81	262.52	5,774.19	-51.48	-392.28	436,041.64	786,847.42	32.196265	-103.539651
5,900.00	7.81	262.52	5,873.26	-53.25	-405.77	436,039.87	786,833.94	32.196260	-103.539695
6,000.00	7.81	262.52	5,972.33	-55.02	-419.25	436,038.10	786,820.46	32.196256	-103.539739
6,100.00	7.81	262.52	6,071.40	-56.79	-432.73	436,036.33	786,806.98	32.196251	-103.539782
6,200.00	7.81	262.52	6,170.48	-58.56	-446.21	436,034.56	786,793.50	32.196247	-103.539826
6,300.00	7.81	262.52	6,269.55	-60.33	-459.69	436,032.79	786,780.02	32.196242	-103.539869
6,400.00	7.81	262.52	6,368.62	-62.10	-473.17	436,031.02	786,766.54	32.196238	-103.539913
6,500.00	7.81	262.52	6,467.69	-63.87	-486.65	436,029.25	786,753.06	32.196233	-103.539957
6,600.00	7.81	262.52	6,566.76	-65.63	-500.13	436,027.49	786,739.57	32.196228	-103.540000
6,700.00	7.81	262.52	6,665.83	-67.40	-513.62	436,025.72	786,726.09	32.196224	-103.540044
6,800.00	7.81	262.52	6,764.90	-69.17	-527.10	436,023.95	786,712.61	32.196219	-103.540088
6,900.00	7.81	262.52	6,863.98	-70.94	-540.58	436,022.18	786,699.13	32.196215	-103.540131
7,000.00	7.81	262.52	6,963.05	-72.71	-554.06	436,020.41	786,685.65	32.196210	-103.540175
7,100.00	7.81	262.52	7,062.12	-74.48	-567.54	436,018.64	786,672.17	32.196205	-103.540218
7,200.00	7.81	262.52	7,161.19	-76.25	-581.02	436,016.87	786,658.69	32.196201	-103.540262
7,300.00	7.81	262.52	7,260.26	-78.02	-594.50	436,015.10	786,645.21	32.196196	-103.540306
7,400.00	7.81	262.52	7,359.33	-79.79	-607.98	436,013.33	786,631.73	32.196192	-103.540349
7,500.00	7.81	262.52	7,458.40	-81.56	-621.46	436,011.56	786,618.24	32.196187	-103.540393
7,600.00	7.81	262.52	7,557.47	-83.33	-634.95	436,009.79	786,604.76	32.196182	-103.540436
7,700.00	7.81	262.52	7,656.55	-85.10	-648.43	436,008.02	786,591.28	32.196178	-103.540480
7,800.00	7.81	262.52	7,755.62	-86.86	-661.91	436,006.25	786,577.80	32.196173	-103.540524
7,900.00	7.81	262.52	7,854.69	-88.63	-675.39	436,004.49	786,564.32	32.196169	-103.540567
8,000.00	7.81	262.52	7,953.76	-90.40	-688.87	436,002.72	786,550.84	32.196164	-103.540611
8,100.00	7.81	262.52	8,052.83	-92.17	-702.35	436,000.95	786,537.36	32.196159	-103.540655
8,200.00	7.81	262.52	8,151.90	-93.94	-715.83	435,999.18	786,523.88	32.196155	-103.540698
8,300.00	7.81	262.52	8,250.97	-95.71	-729.31	435,997.41	786,510.40	32.196150	-103.540742
8,400.00	7.81	262.52	8,350.05	-97.48	-742.79	435,995.64	786,496.91	32.196146	-103.540785
8,500.00	7.81	262.52	8,449.12	-99.25	-756.28	435,993.87	786,483.43	32.196141	-103.540829
8,600.00	7.81	262.52	8,548.19	-101.02	-769.76	435,992.10	786,469.95	32.196137	-103.540873
8,700.00	7.81	262.52	8,647.26	-102.79	-783.24	435,990.33	786,456.47	32.196132	-103.540916
8,800.00	7.81	262.52	8,746.33	-104.56	-796.72	435,988.56	786,442.99	32.196127	-103.540960
8,900.00	7.81	262.52	8,845.40	-106.33	-810.20	435,986.79	786,429.51	32.196123	-103.541004
9,000.00	7.81	262.52	8,944.47	-108.09	-823.68	435,985.03	786,416.03	32.196118	-103.541047
9,100.00	7.81	262.52	9,043.54	-109.86	-837.16	435,983.26	786,402.55	32.196114	-103.541091
9,200.00	7.81	262.52	9,142.62	-111.63	-850.64	435,981.49	786,389.07	32.196109	-103.541134
9,300.00	7.81	262.52	9,241.69	-113.40	-864.12	435,979.72	786,375.58	32.196104	-103.541178
9,400.00	7.81	262.52	9,340.76	-115.17	-877.61	435,977.95	786,362.10	32.196100	-103.541222
9,500.00	7.81	262.52	9,439.83	-116.94	-891.09	435,976.18	786,348.62	32.196095	-103.541265
9,600.00	7.81	262.52	9,538.90	-118.71	-904.57	435,974.41	786,335.14	32.196091	-103.541309
9,700.00	7.81	262.52	9,637.97	-120.48	-918.05	435,972.64	786,321.66	32.196086	-103.541353
9,800.00	7.81	262.52	9,737.04	-122.25	-931.53	435,970.87	786,308.18	32.196081	-103.541396
9,900.00	7.81	262.52	9,836.12	-124.02	-945.01	435,969.10	786,294.70	32.196077	-103.541440
10,000.00	7.81	262.52	9,935.19	-125.79	-958.49	435,967.33	786,281.22	32.196072	-103.541483
10,100.00	7.81	262.52	10,034.26	-127.56	-971.97	435,965.56	786,267.74	32.196068	-103.541527
10,200.00	7.81	262.52	10,133.33	-129.32	-985.45	435,963.80	786,254.25	32.196063	-103.541571
10,300.00	7.81	262.52	10,232.40	-131.09	-998.94	435,962.03	786,240.77	32.196059	-103.541614
10,400.00	7.81	262.52	10,331.47	-132.86	-1,012.42	435,960.26	786,227.29	32.196054	-103.541658
10,500.00	7.81	262.52	10,430.54	-134.63	-1,025.90	435,958.49	786,213.81	32.196049	-103.541701
10,600.00	7.81	262.52	10,529.61	-136.40	-1,039.38	435,956.72	786,200.33	32.196045	-103.541745
10,700.00	7.81	262.52	10,628.69	-138.17	-1,052.86	435,954.95	786,186.85	32.196040	-103.541789
10,800.00	7.81	262.52	10,727.76	-139.94	-1,066.34	435,953.18	786,173.37	32.196036	-103.541832

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Blue Krait 23-14 Fed 37H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3581.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3581.80ft
Site:	Sec 23-T24S-R33E	North Reference:	Grid
Well:	Blue Krait 23-14 Fed 37H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,900.00	7.81	262.52	10,826.83	-141.71	-1,079.82	435,951.41	786,159.89	32.196031	-103.541876
11,000.00	7.81	262.52	10,925.90	-143.48	-1,093.30	435,949.64	786,146.41	32.196026	-103.541920
11,100.00	7.81	262.52	11,024.97	-145.25	-1,106.79	435,947.87	786,132.92	32.196022	-103.541963
11,107.74	7.81	262.52	11,032.64	-145.38	-1,107.83	435,947.74	786,131.88	32.196021	-103.541967
11,200.00	6.43	262.52	11,124.19	-146.87	-1,119.17	435,946.25	786,120.54	32.196018	-103.542003
11,300.00	4.93	262.52	11,223.69	-148.16	-1,128.98	435,944.96	786,110.73	32.196014	-103.542035
11,400.00	3.43	262.52	11,323.42	-149.11	-1,136.21	435,944.01	786,103.50	32.196012	-103.542058
11,500.00	1.93	262.52	11,423.31	-149.72	-1,140.85	435,943.40	786,098.86	32.196010	-103.542073
11,600.00	0.43	262.52	11,523.29	-149.99	-1,142.89	435,943.13	786,096.82	32.196010	-103.542080
11,628.71	0.00	0.01	11,552.00	-150.00	-1,143.00	435,943.12	786,096.71	32.196009	-103.542080
11,700.00	0.00	0.00	11,623.29	-150.00	-1,143.00	435,943.12	786,096.71	32.196009	-103.542080
11,800.00	0.00	0.00	11,723.29	-150.00	-1,143.00	435,943.12	786,096.71	32.196009	-103.542080
11,900.00	0.00	0.00	11,823.29	-150.00	-1,143.00	435,943.12	786,096.71	32.196009	-103.542080
11,978.75	0.00	0.00	11,902.04	-150.00	-1,143.00	435,943.12	786,096.71	32.196009	-103.542080
KOP @ 11979' MD, 50' FSL, 2317' FEL									
12,000.00	2.12	359.55	11,923.28	-149.61	-1,143.00	435,943.51	786,096.71	32.196011	-103.542080
12,100.00	12.12	359.55	12,022.38	-137.22	-1,143.10	435,955.90	786,096.61	32.196045	-103.542080
12,200.00	22.12	359.55	12,117.83	-107.81	-1,143.33	435,985.31	786,096.38	32.196125	-103.542080
12,220.00	24.12	359.55	12,136.22	-99.96	-1,143.39	435,993.16	786,096.32	32.196147	-103.542080
FTP @ 12220' MD, 100' FSL, 2317' FEL									
12,300.00	32.12	359.55	12,206.72	-62.28	-1,143.68	436,030.84	786,096.03	32.196251	-103.542080
12,400.00	42.12	359.55	12,286.35	-2.00	-1,144.15	436,091.12	786,095.56	32.196416	-103.542081
12,500.00	52.12	359.55	12,354.30	71.18	-1,144.72	436,164.30	786,094.99	32.196617	-103.542081
12,600.00	62.12	359.55	12,408.52	155.06	-1,145.38	436,248.18	786,094.33	32.196848	-103.542081
12,700.00	72.12	359.55	12,447.34	247.08	-1,146.10	436,340.20	786,093.61	32.197101	-103.542081
12,800.00	82.12	359.55	12,469.60	344.44	-1,146.85	436,437.55	786,092.86	32.197369	-103.542081
12,878.76	90.00	359.55	12,475.00	422.94	-1,147.47	436,516.06	786,092.24	32.197584	-103.542081
12,900.00	90.00	359.55	12,475.00	444.18	-1,147.63	436,537.30	786,092.08	32.197643	-103.542081
13,000.00	90.00	359.55	12,475.00	544.18	-1,148.41	436,637.30	786,091.30	32.197918	-103.542081
13,100.00	90.00	359.55	12,475.00	644.18	-1,149.19	436,737.30	786,090.52	32.198193	-103.542081
13,200.00	90.00	359.55	12,475.00	744.18	-1,149.97	436,837.29	786,089.74	32.198467	-103.542082
13,300.00	90.00	359.55	12,475.00	844.17	-1,150.75	436,937.29	786,088.96	32.198742	-103.542082
13,400.00	90.00	359.55	12,475.00	944.17	-1,151.53	437,037.29	786,088.18	32.199017	-103.542082
13,500.00	90.00	359.55	12,475.00	1,044.17	-1,152.31	437,137.28	786,087.40	32.199292	-103.542082
13,600.00	90.00	359.55	12,475.00	1,144.16	-1,153.09	437,237.28	786,086.62	32.199567	-103.542082
13,700.00	90.00	359.55	12,475.00	1,244.16	-1,153.87	437,337.28	786,085.84	32.199842	-103.542082
13,800.00	90.00	359.55	12,475.00	1,344.16	-1,154.65	437,437.27	786,085.06	32.200117	-103.542082
13,900.00	90.00	359.55	12,475.00	1,444.15	-1,155.43	437,537.27	786,084.28	32.200391	-103.542083
14,000.00	90.00	359.55	12,475.00	1,544.15	-1,156.21	437,637.27	786,083.50	32.200666	-103.542083
14,100.00	90.00	359.55	12,475.00	1,644.15	-1,156.99	437,737.26	786,082.72	32.200941	-103.542083
14,200.00	90.00	359.55	12,475.00	1,744.15	-1,157.77	437,837.26	786,081.94	32.201216	-103.542083
14,300.00	90.00	359.55	12,475.00	1,844.14	-1,158.55	437,937.26	786,081.16	32.201491	-103.542083
14,400.00	90.00	359.55	12,475.00	1,944.14	-1,159.33	438,037.25	786,080.38	32.201766	-103.542083
14,500.00	90.00	359.55	12,475.00	2,044.14	-1,160.11	438,137.25	786,079.60	32.202041	-103.542083
14,600.00	90.00	359.55	12,475.00	2,144.13	-1,160.89	438,237.25	786,078.82	32.202316	-103.542084
14,700.00	90.00	359.55	12,475.00	2,244.13	-1,161.66	438,337.25	786,078.05	32.202590	-103.542084
14,800.00	90.00	359.55	12,475.00	2,344.13	-1,162.44	438,437.24	786,077.27	32.202865	-103.542084
14,900.00	90.00	359.55	12,475.00	2,444.12	-1,163.22	438,537.24	786,076.49	32.203140	-103.542084
15,000.00	90.00	359.55	12,475.00	2,544.12	-1,164.00	438,637.24	786,075.71	32.203415	-103.542084
15,100.00	90.00	359.55	12,475.00	2,644.12	-1,164.78	438,737.23	786,074.93	32.203690	-103.542084
15,200.00	90.00	359.55	12,475.00	2,744.11	-1,165.56	438,837.23	786,074.15	32.203965	-103.542084
15,300.00	90.00	359.55	12,475.00	2,844.11	-1,166.34	438,937.23	786,073.37	32.204240	-103.542085
15,400.00	90.00	359.55	12,475.00	2,944.11	-1,167.12	439,037.22	786,072.59	32.204515	-103.542085
15,500.00	90.00	359.55	12,475.00	3,044.11	-1,167.90	439,137.22	786,071.81	32.204789	-103.542085

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Blue Krait 23-14 Fed 37H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3581.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3581.80ft
Site:	Sec 23-T24S-R33E	North Reference:	Grid
Well:	Blue Krait 23-14 Fed 37H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,600.00	90.00	359.55	12,475.00	3,144.10	-1,168.68	439,237.22	786,071.03	32.205064	-103.542085
15,700.00	90.00	359.55	12,475.00	3,244.10	-1,169.46	439,337.21	786,070.25	32.205339	-103.542085
15,800.00	90.00	359.55	12,475.00	3,344.10	-1,170.24	439,437.21	786,069.47	32.205614	-103.542085
15,900.00	90.00	359.55	12,475.00	3,444.09	-1,171.02	439,537.21	786,068.69	32.205889	-103.542085
16,000.00	90.00	359.55	12,475.00	3,544.09	-1,171.80	439,637.20	786,067.91	32.206164	-103.542086
16,100.00	90.00	359.55	12,475.00	3,644.09	-1,172.58	439,737.20	786,067.13	32.206439	-103.542086
16,200.00	90.00	359.55	12,475.00	3,744.08	-1,173.36	439,837.20	786,066.35	32.206714	-103.542086
16,300.00	90.00	359.55	12,475.00	3,844.08	-1,174.14	439,937.19	786,065.57	32.206988	-103.542086
16,400.00	90.00	359.55	12,475.00	3,944.08	-1,174.92	440,037.19	786,064.79	32.207263	-103.542086
16,500.00	90.00	359.55	12,475.00	4,044.08	-1,175.70	440,137.19	786,064.01	32.207538	-103.542086
16,600.00	90.00	359.55	12,475.00	4,144.07	-1,176.48	440,237.18	786,063.23	32.207813	-103.542086
16,700.00	90.00	359.55	12,475.00	4,244.07	-1,177.26	440,337.18	786,062.45	32.208088	-103.542087
16,800.00	90.00	359.55	12,475.00	4,344.07	-1,178.04	440,437.18	786,061.67	32.208363	-103.542087
16,900.00	90.00	359.55	12,475.00	4,444.06	-1,178.82	440,537.17	786,060.89	32.208638	-103.542087
17,000.00	90.00	359.55	12,475.00	4,544.06	-1,179.60	440,637.17	786,060.11	32.208913	-103.542087
17,100.00	90.00	359.55	12,475.00	4,644.06	-1,180.37	440,737.17	786,059.34	32.209187	-103.542087
17,200.00	90.00	359.55	12,475.00	4,744.05	-1,181.15	440,837.16	786,058.56	32.209462	-103.542087
17,300.00	90.00	359.55	12,475.00	4,844.05	-1,181.93	440,937.16	786,057.78	32.209737	-103.542087
17,400.00	90.00	359.55	12,475.00	4,944.05	-1,182.71	441,037.16	786,057.00	32.210012	-103.542088
17,500.00	90.00	359.55	12,475.00	5,044.04	-1,183.49	441,137.15	786,056.22	32.210287	-103.542088
17,536.00	90.00	359.55	12,475.00	5,080.04	-1,183.77	441,173.15	786,055.94	32.210386	-103.542088
Cross Section @ 17536' MD, 0' FSL, 2317' FEL									
17,600.00	90.00	359.55	12,475.00	5,144.04	-1,184.27	441,237.15	786,055.44	32.210562	-103.542088
17,700.00	90.00	359.55	12,475.00	5,244.04	-1,185.05	441,337.15	786,054.66	32.210837	-103.542088
17,800.00	90.00	359.55	12,475.00	5,344.04	-1,185.83	441,437.14	786,053.88	32.211112	-103.542088
17,900.00	90.00	359.55	12,475.00	5,444.03	-1,186.61	441,537.14	786,053.10	32.211386	-103.542088
18,000.00	90.00	359.55	12,475.00	5,544.03	-1,187.39	441,637.14	786,052.32	32.211661	-103.542088
18,100.00	90.00	359.55	12,475.00	5,644.03	-1,188.17	441,737.14	786,051.54	32.211936	-103.542089
18,200.00	90.00	359.55	12,475.00	5,744.02	-1,188.95	441,837.13	786,050.76	32.212211	-103.542089
18,300.00	90.00	359.55	12,475.00	5,844.02	-1,189.73	441,937.13	786,049.98	32.212486	-103.542089
18,400.00	90.00	359.55	12,475.00	5,944.02	-1,190.51	442,037.13	786,049.20	32.212761	-103.542089
18,500.00	90.00	359.55	12,475.00	6,044.01	-1,191.29	442,137.12	786,048.42	32.213036	-103.542089
18,600.00	90.00	359.55	12,475.00	6,144.01	-1,192.07	442,237.12	786,047.64	32.213310	-103.542089
18,700.00	90.00	359.55	12,475.00	6,244.01	-1,192.85	442,337.12	786,046.86	32.213585	-103.542089
18,800.00	90.00	359.55	12,475.00	6,344.01	-1,193.63	442,437.11	786,046.08	32.213860	-103.542090
18,900.00	90.00	359.55	12,475.00	6,444.00	-1,194.41	442,537.11	786,045.30	32.214135	-103.542090
19,000.00	90.00	359.55	12,475.00	6,544.00	-1,195.19	442,637.11	786,044.52	32.214410	-103.542090
19,100.00	90.00	359.55	12,475.00	6,644.00	-1,195.97	442,737.10	786,043.74	32.214685	-103.542090
19,200.00	90.00	359.55	12,475.00	6,743.99	-1,196.75	442,837.10	786,042.96	32.214960	-103.542090
19,300.00	90.00	359.55	12,475.00	6,843.99	-1,197.53	442,937.10	786,042.18	32.215235	-103.542090
19,400.00	90.00	359.55	12,475.00	6,943.99	-1,198.31	443,037.09	786,041.40	32.215509	-103.542090
19,500.00	90.00	359.55	12,475.00	7,043.98	-1,199.08	443,137.09	786,040.63	32.215784	-103.542090
19,600.00	90.00	359.55	12,475.00	7,143.98	-1,199.86	443,237.09	786,039.85	32.216059	-103.542091
19,700.00	90.00	359.55	12,475.00	7,243.98	-1,200.64	443,337.08	786,039.07	32.216334	-103.542091
19,800.00	90.00	359.55	12,475.00	7,343.98	-1,201.42	443,437.08	786,038.29	32.216609	-103.542091
19,900.00	90.00	359.55	12,475.00	7,443.97	-1,202.20	443,537.08	786,037.51	32.216884	-103.542091
20,000.00	90.00	359.55	12,475.00	7,543.97	-1,202.98	443,637.07	786,036.73	32.217159	-103.542091
20,100.00	90.00	359.55	12,475.00	7,643.97	-1,203.76	443,737.07	786,035.95	32.217434	-103.542091
20,200.00	90.00	359.55	12,475.00	7,743.96	-1,204.54	443,837.07	786,035.17	32.217708	-103.542091
20,300.00	90.00	359.55	12,475.00	7,843.96	-1,205.32	443,937.06	786,034.39	32.217983	-103.542092
20,400.00	90.00	359.55	12,475.00	7,943.96	-1,206.10	444,037.06	786,033.61	32.218258	-103.542092
20,500.00	90.00	359.55	12,475.00	8,043.95	-1,206.88	444,137.06	786,032.83	32.218533	-103.542092
20,600.00	90.00	359.55	12,475.00	8,143.95	-1,207.66	444,237.05	786,032.05	32.218808	-103.542092
20,700.00	90.00	359.55	12,475.00	8,243.95	-1,208.44	444,337.05	786,031.27	32.219083	-103.542092

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Blue Krait 23-14 Fed 37H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3581.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3581.80ft
Site:	Sec 23-T24S-R33E	North Reference:	Grid
Well:	Blue Krait 23-14 Fed 37H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,800.00	90.00	359.55	12,475.00	8,343.94	-1,209.22	444,437.05	786,030.49	32.219358	-103.542092
20,900.00	90.00	359.55	12,475.00	8,443.94	-1,210.00	444,537.04	786,029.71	32.219633	-103.542092
21,000.00	90.00	359.55	12,475.00	8,543.94	-1,210.78	444,637.04	786,028.93	32.219907	-103.542093
21,100.00	90.00	359.55	12,475.00	8,643.94	-1,211.56	444,737.04	786,028.15	32.220182	-103.542093
21,200.00	90.00	359.55	12,475.00	8,743.93	-1,212.34	444,837.03	786,027.37	32.220457	-103.542093
21,300.00	90.00	359.55	12,475.00	8,843.93	-1,213.12	444,937.03	786,026.59	32.220732	-103.542093
21,400.00	90.00	359.55	12,475.00	8,943.93	-1,213.90	445,037.03	786,025.81	32.221007	-103.542093
21,500.00	90.00	359.55	12,475.00	9,043.92	-1,214.68	445,137.03	786,025.03	32.221282	-103.542093
21,600.00	90.00	359.55	12,475.00	9,143.92	-1,215.46	445,237.02	786,024.25	32.221557	-103.542093
21,700.00	90.00	359.55	12,475.00	9,243.92	-1,216.24	445,337.02	786,023.47	32.221831	-103.542094
21,800.00	90.00	359.55	12,475.00	9,343.91	-1,217.02	445,437.02	786,022.69	32.222106	-103.542094
21,900.00	90.00	359.55	12,475.00	9,443.91	-1,217.79	445,537.01	786,021.92	32.222381	-103.542094
22,000.00	90.00	359.55	12,475.00	9,543.91	-1,218.57	445,637.01	786,021.14	32.222656	-103.542094
22,100.00	90.00	359.55	12,475.00	9,643.91	-1,219.35	445,737.01	786,020.36	32.222931	-103.542094
22,200.00	90.00	359.55	12,475.00	9,743.90	-1,220.13	445,837.00	786,019.58	32.223206	-103.542094
22,300.00	90.00	359.55	12,475.00	9,843.90	-1,220.91	445,937.00	786,018.80	32.223481	-103.542094
22,400.00	90.00	359.55	12,475.00	9,943.90	-1,221.69	446,037.00	786,018.02	32.223756	-103.542095
22,500.00	90.00	359.55	12,475.00	10,043.89	-1,222.47	446,136.99	786,017.24	32.224030	-103.542095
22,600.00	90.00	359.55	12,475.00	10,143.89	-1,223.25	446,236.99	786,016.46	32.224305	-103.542095
22,700.00	90.00	359.55	12,475.00	10,243.89	-1,224.03	446,336.99	786,015.68	32.224580	-103.542095
22,700.96	90.00	359.55	12,475.00	10,244.85	-1,224.04	446,337.95	786,015.67	32.224583	-103.542095
LTP @ 22701' MD, 100' FNL, 2317' FEL									
22,780.96	90.00	359.55	12,475.00	10,324.84	-1,224.66	446,417.94	786,015.05	32.224803	-103.542095
PBHL; 20' FNL, 2317' FEL									
22,780.97	90.00	359.55	12,475.00	10,324.85	-1,224.66	446,417.95	786,015.05	32.224803	-103.542095

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Blue Krait 23-14	0.00	0.00	0.00	10,324.85	-1,224.66	446,417.95	786,015.05	32.224803	-103.542095
- hit/miss target									
- Shape									
- plan misses target center by 10397.23ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
11,978.75	11,902.04	-150.00	-1,143.00	KOP @ 11979' MD, 50' FSL, 2317' FEL
12,220.00	12,136.22	-99.96	-1,143.39	FTP @ 12220' MD, 100' FSL, 2317' FEL
17,536.00	12,475.00	5,080.04	-1,183.77	Cross Section @ 17536' MD, 0' FSL, 2317' FEL
22,700.96	12,475.00	10,244.85	-1,224.04	LTP @ 22701' MD, 100' FNL, 2317' FEL
22,780.96	12,475.00	10,324.84	-1,224.66	PBHL; 20' FNL, 2317' FEL

Devon Energy

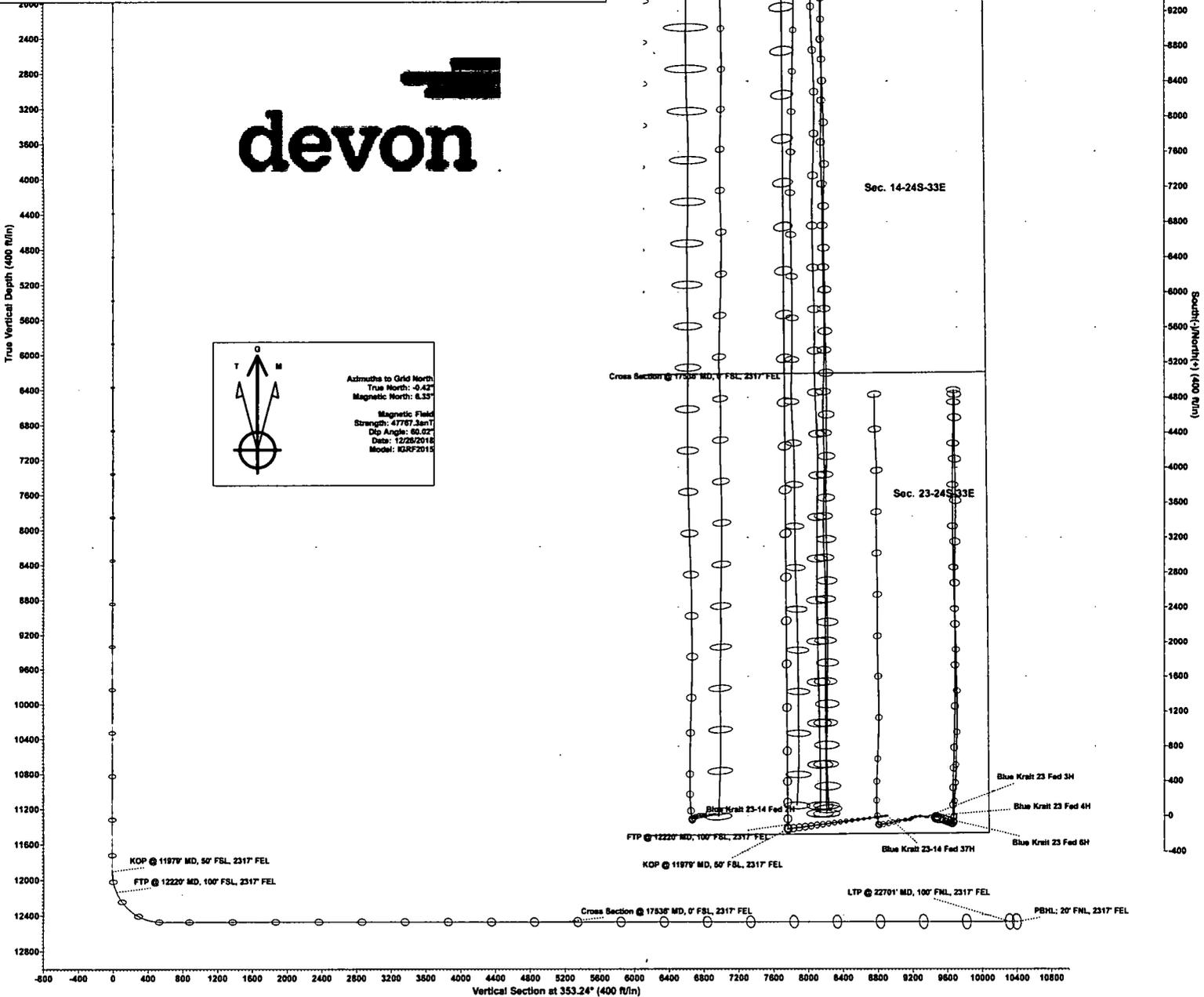
WELL DETAILS: Blue Krait 23-14 Fed 37H

RKB @ 3581.80ft
3556.80

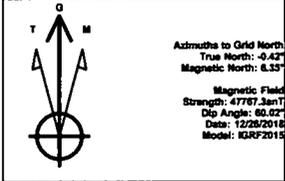
Northing 436093.12 Easting 787239.71 Latitude 32.196399 Longitude -103.538382

SECTION DETAILS Permit Plan 1

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	
3281.46	7.81	262.52	3279.04	-6.92	-52.78	1.00	-0.66	
11107.74	7.81	262.52	11032.64	-145.38	-1107.83	0.00	-13.88	
11628.71	0.00	0.00	11552.00	-150.00	-1143.00	1.50	-14.32	KOP @ 11979' MD, 50' FSL, 2317' FEL
11978.75	0.00	0.00	11902.04	-150.00	-1143.00	0.00	-14.32	
12878.76	90.00	359.55	12475.00	422.94	-1147.47	10.00	555.15	
22780.97	90.00	359.55	12475.00	10324.85	-1224.66	0.00	10397.23	PBHL: 20' FNL, 2317' FEL



devon



Blue Krait 23-14 Fed 37H

1. Geologic Formations

TVD of target	12475	Pilot hole depth	N/A
MD at TD:	22780	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	1101		
Top of Salt	1622		
Base of Salt	5048		
Delaware	5267		
Lower Brushy Canyon	9010		
1st BSPG Lime	9196		
Leonard A	9274		
Leonard B	9617		
Leonard C	9895		
1st BSPG Sand	10200		
2nd BSPG Lime	10447		
2nd BSPG Sand	10860		
2BSSS Target Top	11127		
2BSSS Target Base	11211		
3rd BSPG Lime	11360		
3BSSS	11940		
WLFMP	12350		
WLFMP 100	12505		
WLFMP 120	12640		

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

Blue Krait 23-14 Fed 37H

2. Casing Program (Primary Design)

Hole Size	Casing Interval		Csg. Size	Wt (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
	From	To							
14.75"	0	1350	10.75"	40.5	J-55	STC	1.125	1.25	1.6
9.875"	0	11965 TVD	7.625"	29.7	P110	BTC	1.125	1.25	1.6
6.75"	0	TD	5.5"	20	P110	Vam SG	1.125	1.25	1.6
BLM Minimum Safety Factor							1.125	1.00	1.6 Dry 1.8 Wet

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h Must have table for contingency casing
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.
- Int casing shoe will be selected based on drilling data / gamma, setting depth with be revised accordingly if needed.
- A variance is requested to wave the centralizer requirement for the Intermediate casing and production casing.

Casing Program (Alternate Design)

Hole Size	Casing Interval		Csg. Size	Wt. (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
	From	To							
17.5"	0	Same as above	13.375"	48	H-40	STC	1.125	1.25	1.6
10.625"	0	Same as above	8.625"	32	P110EC	BTC	1.125	1.25	1.6
7.875"	0	TD	5.5"	17	P110	BTC	1.125	1.25	1.6
BLM Minimum Safety Factor							1.125	1.00	1.6 Dry 1.8 Wet

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h Must have table for contingency casing
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.
- Int 1 casing shoe will be selected based on drilling data / gamma, setting depth with be revised accordingly if needed.
- Option to drill change intermediate 1 hole size to 9.625, (8.625" connection will change from BTC to TLW)
- Option to run 8.625" TLW connection for intermediate 1
- A variance is requested to wave the centralizer requirement for the Intermediate casing and production casing.
- Variance is requested for collapse rating on intermediate casing. Operator will keep pipe full while running casing. No losses are expected in subsequent hole section.
- 8-5/8" Intermediate casing will be kept fluid filled to 100%.

Blue Krait 23-14 Fed 37H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Blue Krait 23-14 Fed 37H

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft ³ /sack)	Slurry Description
Surface	864	Surf	13.2	1.33	Lead: Class C Cement + additives
Int 1	1160	Surf	9	1.85	Lead: Class C Cement + additives
	847	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Int 1 Two Stage w DV @ ~4500	580	Surf	9	1.85	1 st stage Lead: Class C Cement + additives
	55	500' above shoe	13.2	1.33	1 st stage Tail: Class H / C + additives
	600	Surf	9	1.85	2 nd stage Lead: Class C Cement + additives
	55	500' above DV	13.2	1.33	2 nd stage Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.33	Squeeze Lead: Class C Cement + additives
	1160	Surf	9	1.85	Lead: Class C Cement + additives
	847	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Production	790	500' tieback	13.2	1.33	Lead: Class H / C + additives

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

Casing String	% Excess	TOC
Surface	50%	0'
Intermediate 1	30%	0'
Intermediate 1 (Two Stage)	25%	0'
Prod	10%	200' Tie-Back to intermediate

Blue Krait 23-14 Fed 37H

Cementing Program (Alternate Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft ³ /sack)	Slurry Description
Surface	1098	Surf	13.2	1.33	Lead: Class C Cement + additives
Int 1	1313	Surf	9	1.85	Lead: Class C Cement + additives
	831	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Int 1 Two Stage w DV @ ~4500	650	Surf	9	1.85	1 st stage Lead: Class C Cement + additives
	55	500' above shoe	13.2	1.33	1 st stage Tail: Class H / C + additives
	670	Surf	9	1.85	2 nd stage Lead: Class C Cement + additives
	55	500' above DV	13.2	1.33	2 nd stage Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.33	Squeeze Lead: Class C Cement + additives
	1313	Surf	9	1.85	Lead: Class C Cement + additives
	831	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Production	1435	500' tieback	13.2	1.33	Lead: Class H / C + additives

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

Casing String	% Excess	TOC
Surface	50%	0'
Intermediate 1	30%	0'
Intermediate 1 (Two Stage)	25%	0'
Prod	10%	200' Tie-Back to intermediate

Blue Krait 23-14 Fed 37H

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"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram		
			Double Ram	X	
			Other*		

N | A variance is requested for the use of a diverter on the surface casing. See attached for schematic. Devon requests a variance to run a 5M annular on a 10M BOP system. See separately attached variance request and support documents in AFMSS.

5. Mud Program (3 String Design)

Section	Type	Weight (ppg)	Vis	Water Loss
Surface	FW Gel	8.5 - 9	28-34	N/C
Intermediate	DBE / Cut Brine	9 - 10	28-34	N/C
Production	OBM	10-10.5	28-34	N/C

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	Int. shoe to KOP
Density	Int. shoe to KOP
X	CBL
X	Mud log
PEX	Intermediate shoe to TD

Blue Krait 23-14 Fed 37H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6811 psi
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 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 the 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.

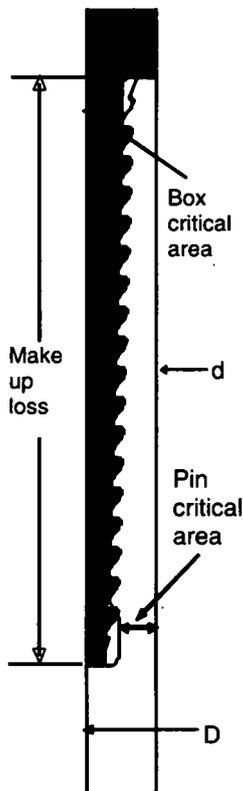
Attachments

- Directional Plan
 Other, describe

Blue Krait 23-14 Fed 37H

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FLUSHMAX-III



Imperial

S.I.

Pipe Body

Pipe OD (D)	7 5/8	in	193.68	mm
Actual weight	29.04		43.21	kg/m
Pipe ID (d)	6.875	in	174.63	mm
Drift Dia.	6.750	in	171.45	mm

Connection

PIN ID	6.875	in	174.63	mm
Thread Taper	1 / 16 (3/4" per ft)			

Performance Properties for Pipe Body

M.I.Y.P.	9,470	psi	65.31	MPa
----------	-------	-----	-------	-----

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

Performance Properties for Connection

Min. Compression Yield	563 kips (60% of S.M.Y.S.)			
External Pressure	100% of Collapse Strength			

Recommended Torque

Opti.	17,200	ft-lb	23,300	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

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

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

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mto.co.jp/mo-con/ images/top/WebsiteTerms_Active_20333287_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.

CASING PERFORMANCE Data Sheet



O.D.	PE LB/FT	T&C LB/FT	GRADE
8.625	31.13	32.00	P110EC

Grade - Material Properties

Minimum Yield Strength:	125	ksi
Maximum Yield Strength:	140	ksi
Minimum Tensile Strength:	135	ksi

Pipe Body Data (PE)

Geometry

Nominal ID:	7.921	inch
Wall:	0.352	inch
Min. Wall % (API = 87.5%):	87.5	%
API Drift:	7.796	inch
Special Drift*:	7.875	inch

Performance

Pipe Body Yield Strength:	1,144	kips
Collapse Resistance:	3,470	psi
Internal Yield Pressure (API Historical):	8,930	psi

API Connection Data

SC Internal Pressure:	8,930	psi
SC Joint Strength:	793	kips
LC Internal Pressure:	8,930	psi
LC Joint Strength:	887	kips
BC Internal Pressure:	8,930	psi
BC Joint Strength:	1,121	kips

SC Torque (ft-lbs)

minimum: 5,950	optimum: 7,933	maximum: 9,916
----------------	----------------	----------------

LC Torque (ft-lbs)

minimum: 6,651	optimum: 8,868	maximum: 11,085
----------------	----------------	-----------------

*Special drift must be ordered or API drift will be used for actual drifting of product.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

This data sheet is for informational purposes only. While every effort has been made to ensure the accuracy of all data and that the information contained herein is correct, this material is presented as a reference guide only. Vallourec assumes no responsibility for the results obtained through the use of this material.



U. S. Steel Tubular Products
13.375" 48.00lbs/ft (0.330" Wall) H40

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MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	40,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	60,000	--	--	--	psi

DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	13.375	--	--	14.375	in.
Wall Thickness	0.330	--	--	--	in.
Inside Diameter	12.715	--	--	12.715	in.
Standard Drift	12.559	12.559	--	12.559	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	48.00	--	--	--	lbs/ft
Plain End Weight	46.02	--	--	--	lbs/ft

PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	740	740	--	740	psi
Minimum Internal Yield Pressure	1,730	1,730	--	1,730	psi
Minimum Pipe Body Yield Strength	541	--	--	--	1,000 lbs
Joint Strength	--	--	--	322	1,000 lbs
Reference Length	--	--	--	4,473	ft

MAKE-UP DATA	Pipe	BTC	LTC	STC	
Make-Up Loss	--	--	--	3.50	in.
Minimum Make-Up Torque	--	--	--	2,420	ft-lbs
Maximum Make-Up Torque	--	--	--	4,030	ft-lbs

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U. S. Steel Tubular Products 1-877-893-9461
 460 Wildwood Forest Drive, Suite 300S connections@uss.com
 Spring, Texas 77380 www.usstubular.com

Technical Specifications

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
DWC/C Casing standard	5-1/2 in	17.00 lb/ft (0.304 in)	P-110RY

P-110RY	Material Grade
110,000	Minimum Yield Strength (psi)
125,000	Minimum Ultimate Strength (psi)

	Pipe Dimensions
5.500	Nominal Pipe Body O.D. (in)
4.892	Nominal Pipe Body I.D.(in)
0.304	Nominal Wall Thickness (in)
17.00	Nominal Weight (lbs/ft)
16.89	Plain End Weight (lbs/ft)
4.962	Nominal Pipe Body Area (sq in)

	Pipe Body Performance Properties
546,000	Minimum Pipe Body Yield Strength (lbs)
7,480	Minimum Collapse Pressure (psi)
10,640	Minimum Internal Yield Pressure (psi)
9,700	Hydrostatic Test Pressure (psi)

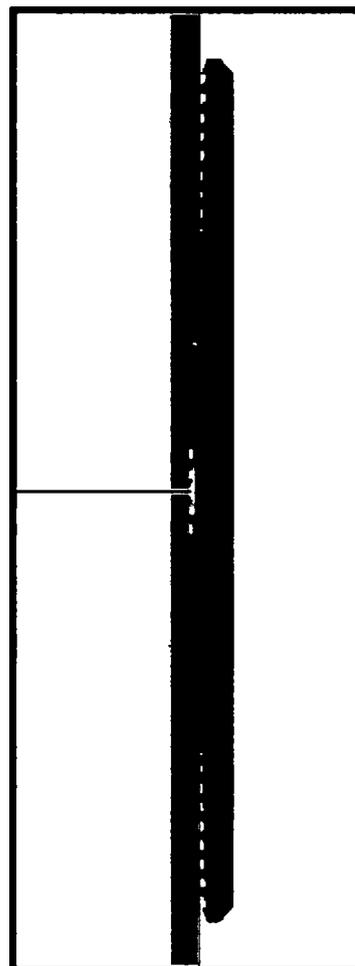
	Connection Dimensions
6.050	Connection O.D. (in)
4.892	Connection I.D. (in)
4.767	Connection Drift Diameter (in)
4.13	Make-up Loss (in)
4.962	Critical Area (sq in)
100.0	Joint Efficiency (%)

	Connection Performance Properties
546,000	Joint Strength (lbs)
22,940	Reference String Length (ft) 1.4 Design Factor
568,000	API Joint Strength (lbs)
546,000	Compression Rating (lbs)
7,480	API Collapse Pressure Rating (psi)
10,640	API Internal Pressure Resistance (psi)
91.7	Maximum Uniaxial Bend Rating [degrees/100 ft]

	Appoximated Field End Torque Values
12,000	Minimum Final Torque (ft-lbs)
13,800	Maximum Final Torque (ft-lbs)
15,500	Connection Yield Torque (ft-lbs)



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 E-mail: VAMUSAsales@vam-usa.com



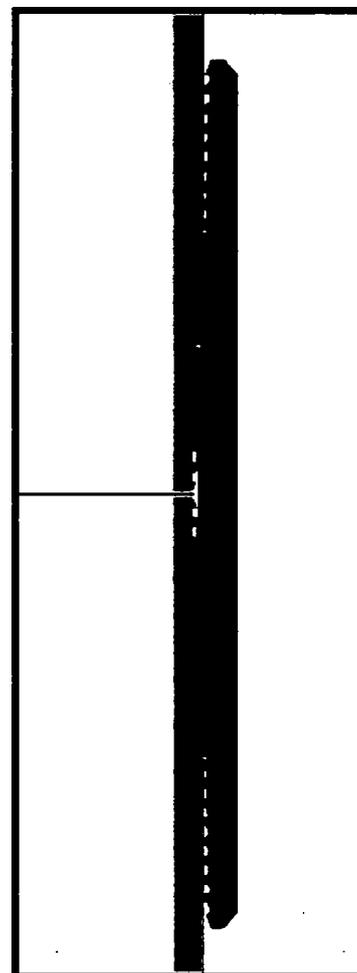
For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

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

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**DWC Connection Data Notes:**

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



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

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A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Devon proposes using a multi-bowl wellhead assembly. 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.

- Wellhead will be installed by wellhead representatives.
- If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- Wellhead representative will install the test plug for the initial BOP test.
- Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 5M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.
- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

After running the surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 10M will be installed and tested, with 5M annular being tested to 100% of rated working pressure.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 10,000 psi WP.

Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.

Devon Energy
APD VARIANCE DATA

OPERATOR NAME: Devon Energy

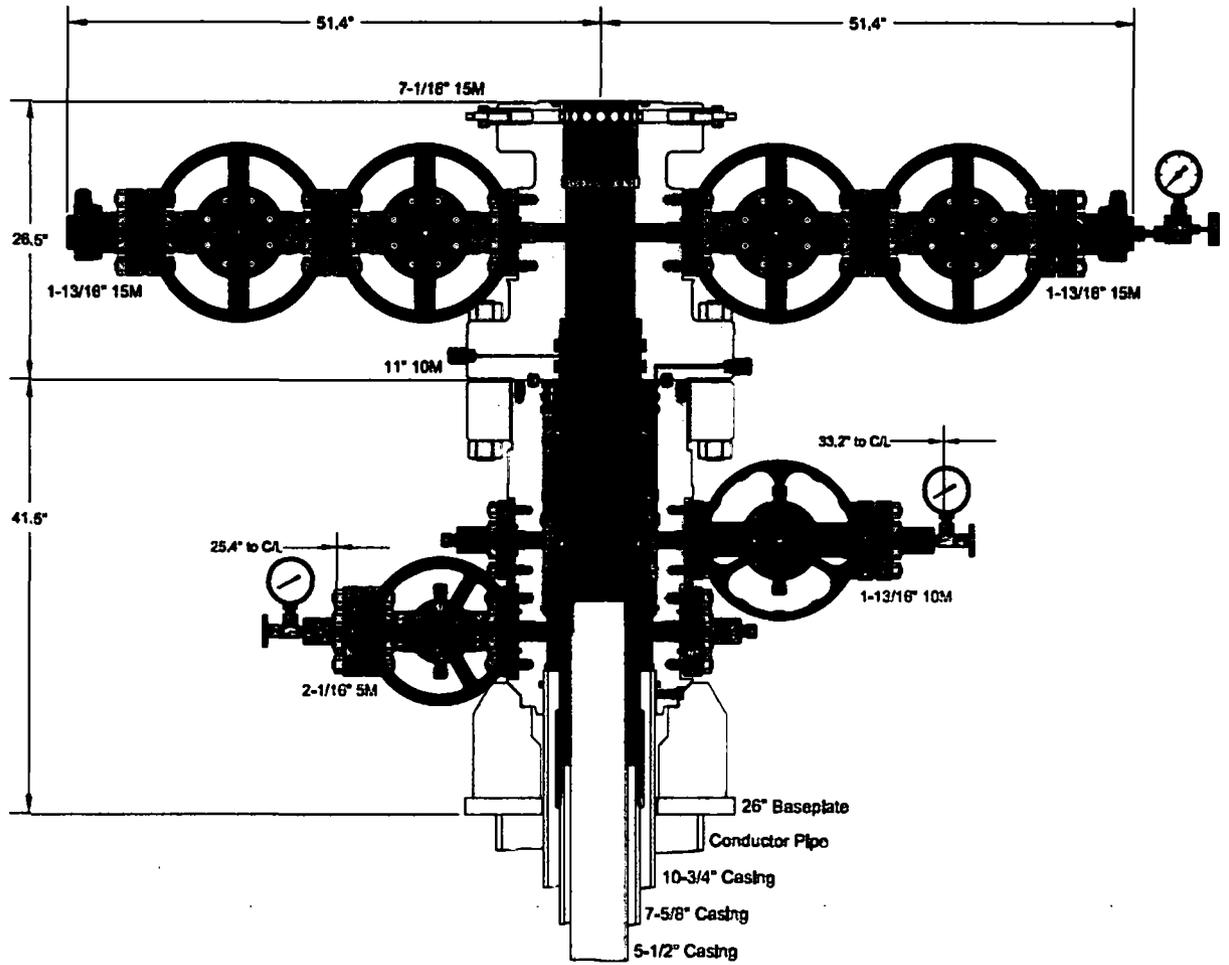
1. SUMMARY OF Variance:

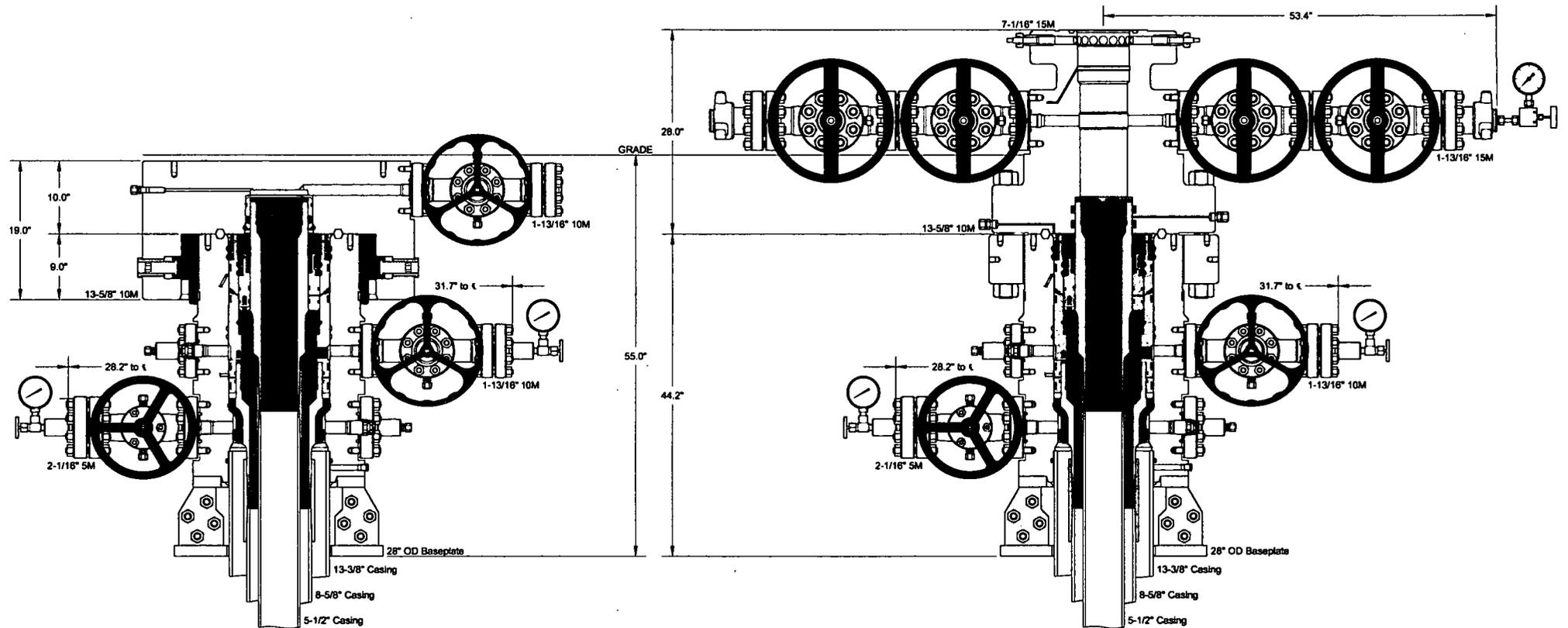
Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

2. Description of Operations

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
 - a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big 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 BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.





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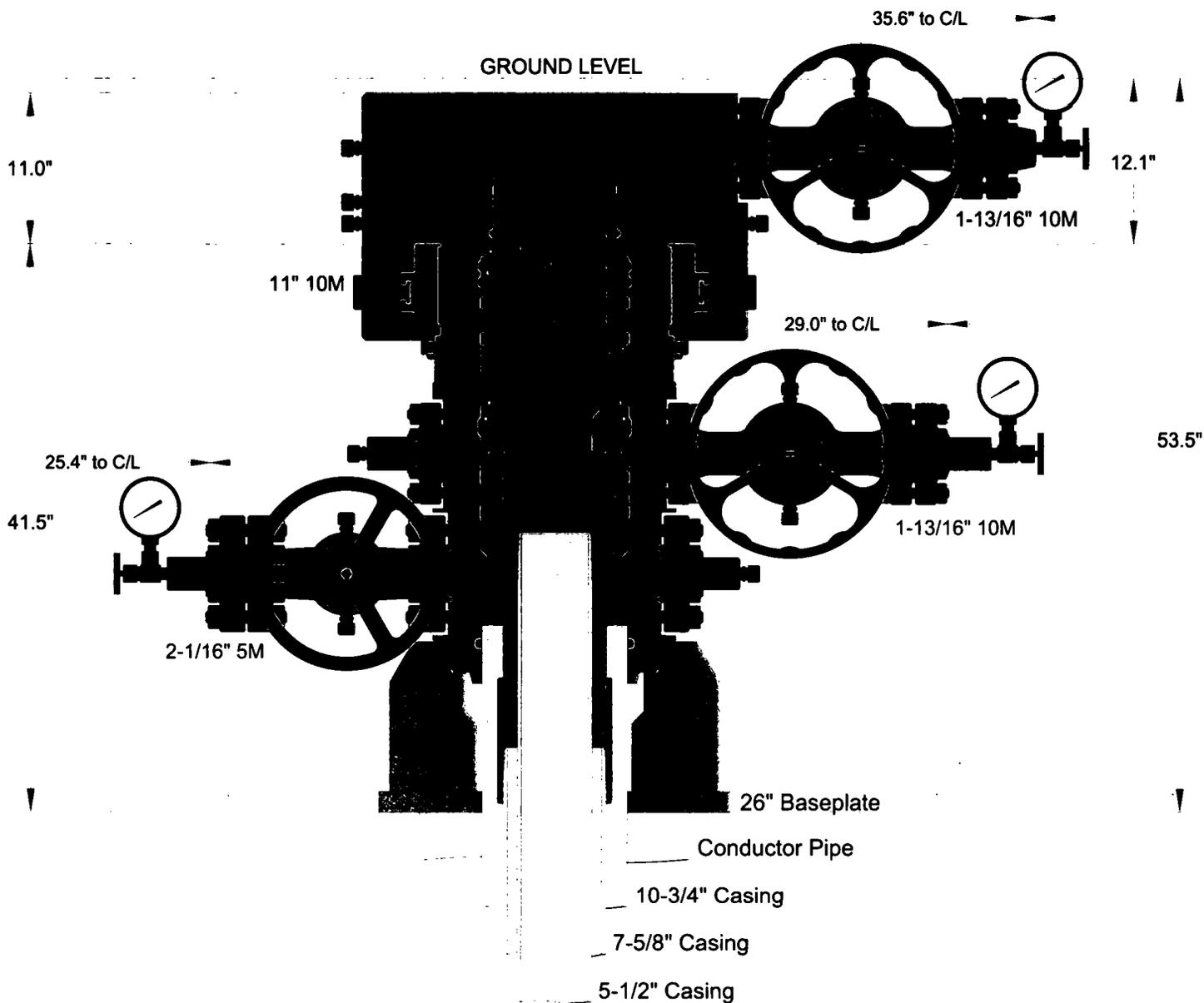
13-3/8" x 8-5/8" x 5-1/2" 5M MBU-3T Wellhead System
 With 8-5/8" & 5-1/2" Pin Down Rotating Mandrel Hangers
 And 13-5/8" 10M x 7-1/16" 15M CTH-P-DBLHPS Tubing Head

DEVON ENERGY CORPORATION

DRAWN DLE 10MAY18

APPRV

DRAWING NO. ODE0002309



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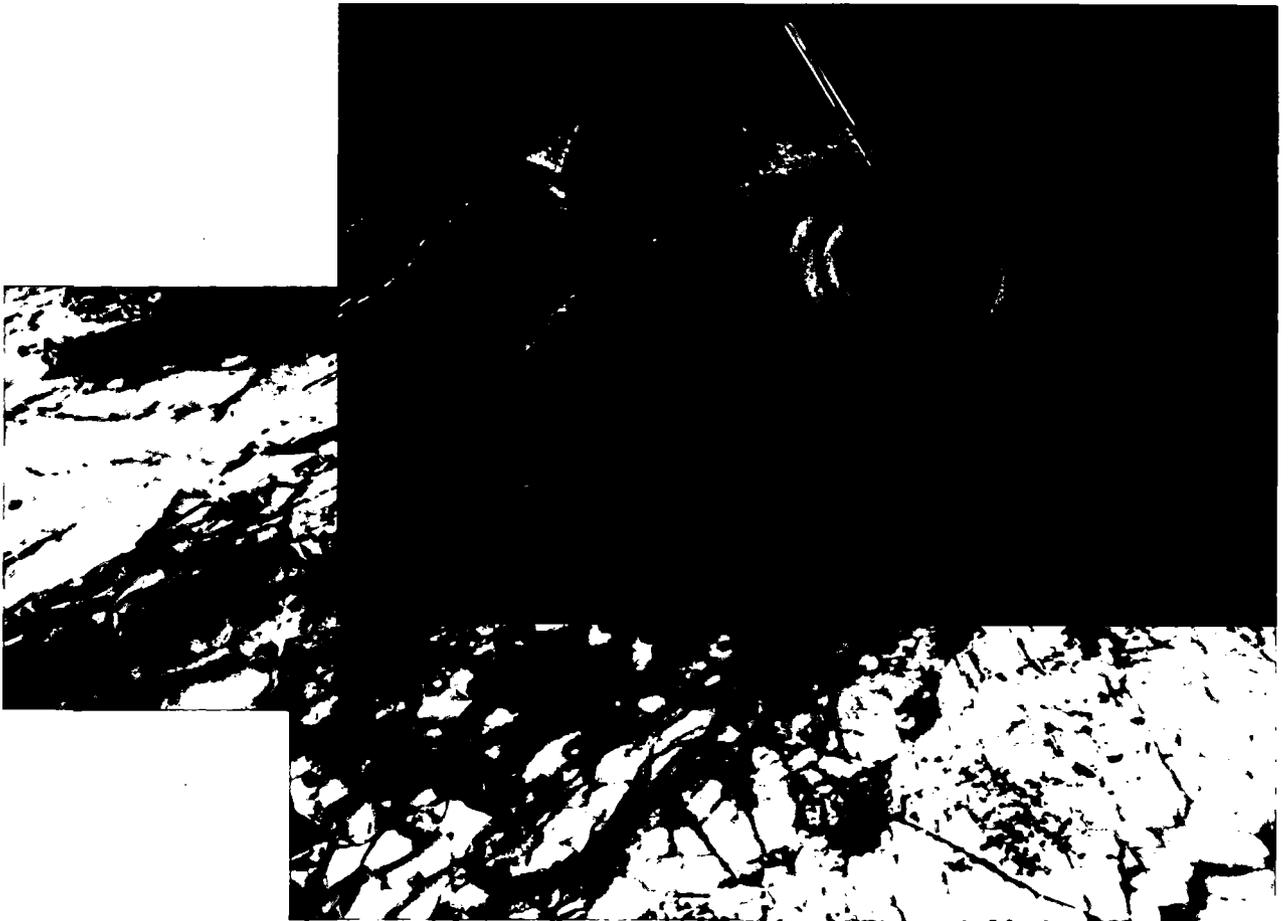
DEVON ENERGY CORPORATION

16" x 11-7/8" x 7-5/8" MBU-T Wellhead Assembly
 With 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers
 And 11" 10M MBU-T-HPS-F TA Cap

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APPRV		
DRAWING NO.	OKE0001764	



Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2010

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

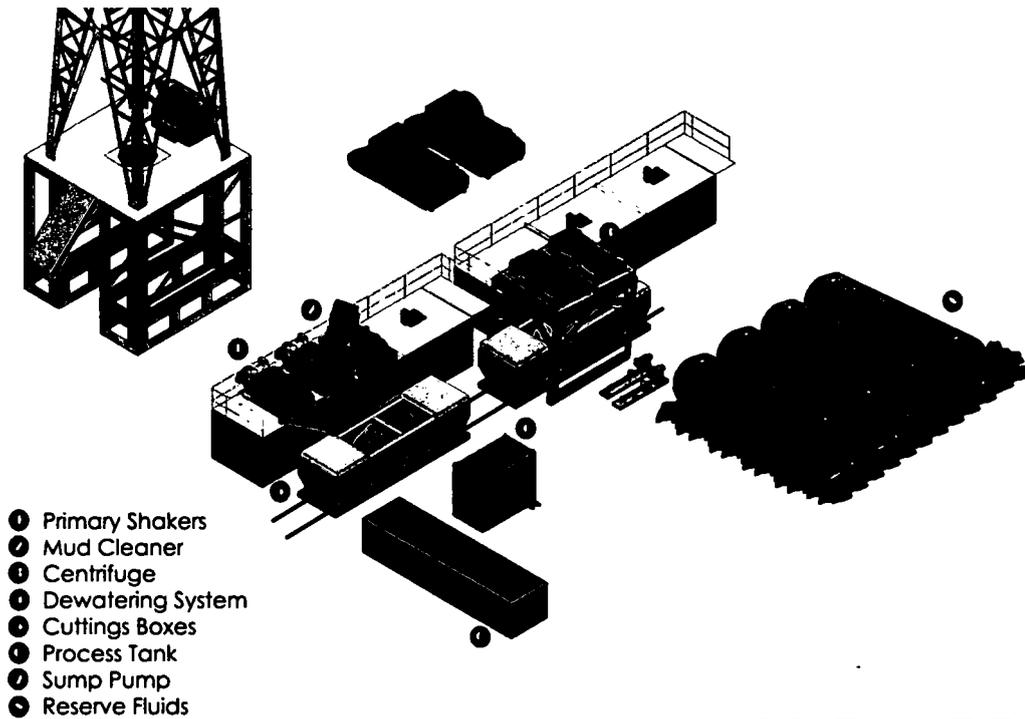
II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Closed Loop Schematic



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.



U. S. Steel Tubular Products
10.75 40.5/0.35 J55

1/18/2017 9:30:29 AM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	55,000	--	--	--	psi
Maximum Yield Strength	80,000	--	--	--	psi
Minimum Tensile Strength	75,000	--	--	--	psi

DIMENSIONS	Pipe	BTC	LTC	STC	
Outside Diameter	10.750	11.750	--	11.750	in.
Wall Thickness	0.350	--	--	--	in.
Inside Diameter	10.050	10.050	--	10.050	in.
Standard Drift	9.894	9.894	--	9.894	in.
Alternate Drift	--	--	--	--	in.
Nominal Linear Weight, T&C	40.50	--	--	--	lbs/ft
Plain End Weight	38.91	--	--	--	lbs/ft

PERFORMANCE	Pipe	BTC	LTC	STC	
Minimum Collapse Pressure	1,580	1,580	--	1,580	psi
Minimum Internal Yield Pressure	3,130	3,130	--	3,130	psi
Minimum Pipe Body Yield Strength	629,000	--	--	--	lbs
Joint Strength	--	700	--	420	lbs
Reference Length	--	11,522	--	6,915	ft

Make-Up Loss	--	4.81	--	3.50	in.
Minimum Make-Up Torque	--	--	--	3,150	ft-lbs
Maximum Make-Up Torque	--	--	--	5,250	ft-lbs

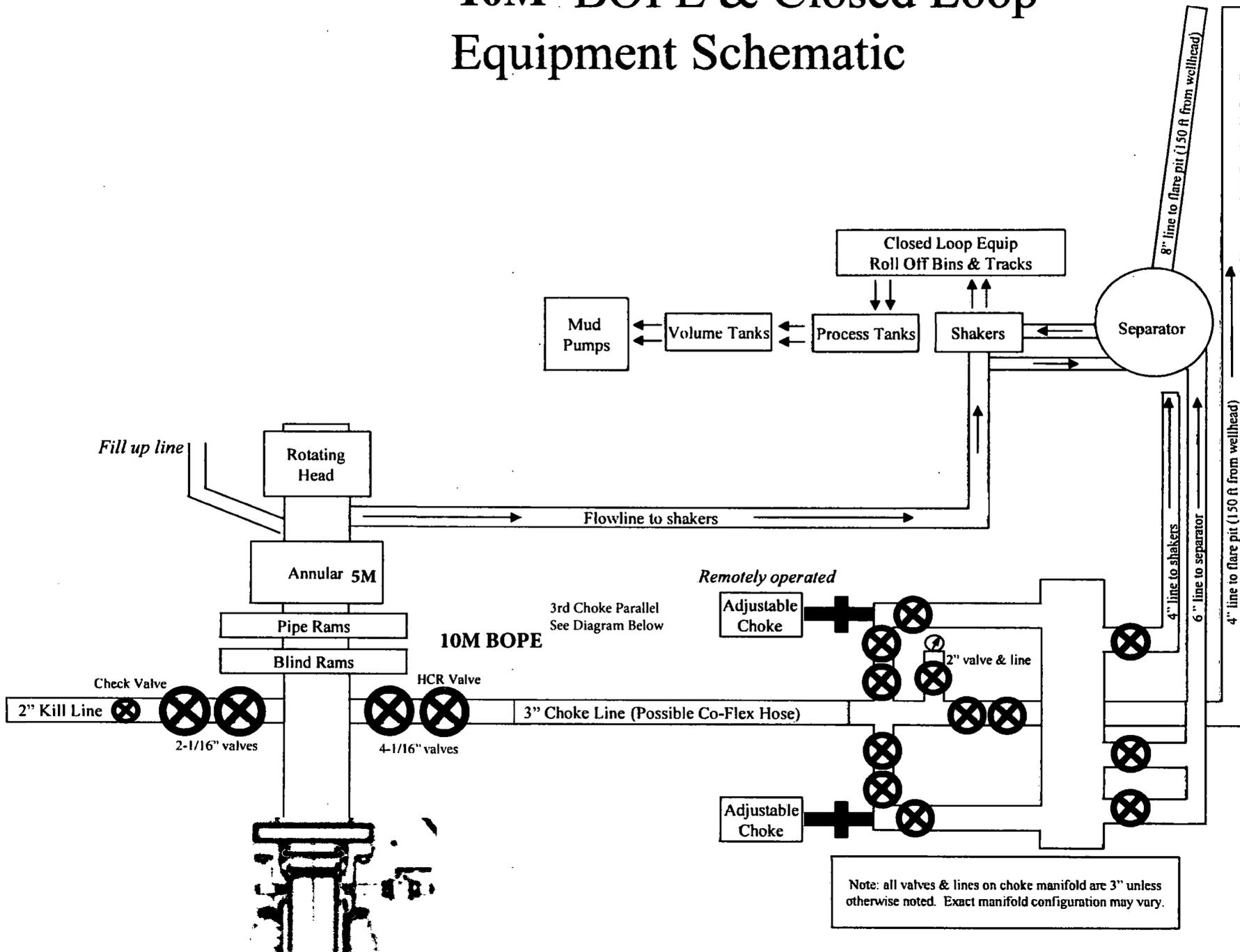
Legal Notice

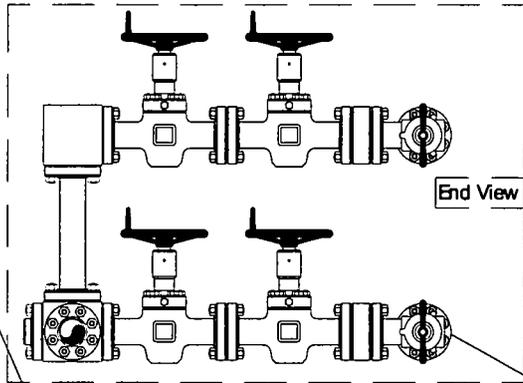
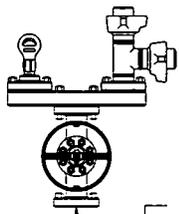
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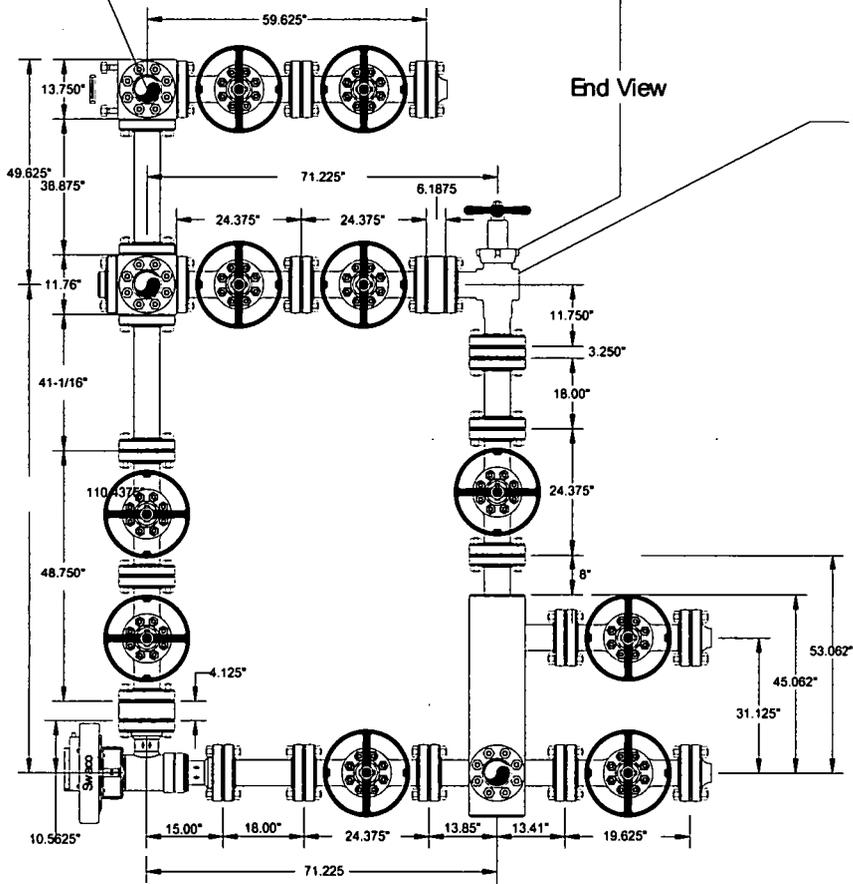
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 connections@uss.com
 www.usstubular.com

10M BOPE & Closed Loop Equipment Schematic



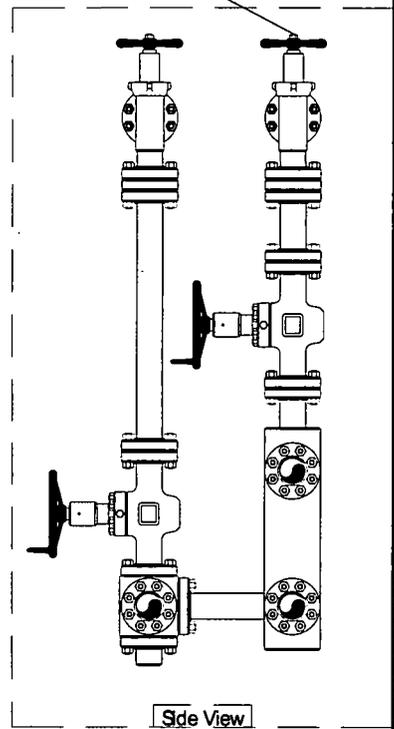


End View



End View

Side View



Side View

Helmerich & Payne
Rg 282



Name	Jeanette	Date	7-19-06	Working Pressure		#	J-5132-E
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Devon Energy Annular Preventer Summary

1. Component and Preventer Compatibility Table

The table below, which covers the drilling and casing of the 10M MASP portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

6-3/4" Production hole section, 10M requirement

Component	OD	Preventer	RWP
Drillpipe	4.5"	Fixed lower 4.5" Upper 4.5-7" VBR	10M
HWDP	4.5"	Fixed lower 4.5" Upper 4.5-7" VBR	10M
Drill collars and MWD tools	4.75"	Upper 4.5-7" VBR	10M
Mud Motor	4.75"	Upper 4.5-7" VBR	10M
Production casing	5.5"	Upper 4.5-7" VBR	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

VBR = Variable Bore Ram. Compatible range listed in chart.

2. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. The pressure at which control is swapped from the annular to another compatible ram is variable, but the operator will document in the submission their operating pressure limit. The operator may chose an operating pressure less than or equal to RWP, but in no case will it exceed the RWP of the annular preventer.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

Devon Energy Annular Preventer Summary

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out drill string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab crossover and full opening safety valve and close
3. Space out string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to compatible pipe ram.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
 - a. SICP
 - b. Pit gain
 - c. Time
6. Regroup and identify forward plan

Devon Energy Annular Preventer Summary

General Procedures While Pulling BHA thru Stack

1. PRIOR to pulling last joint of drillpipe thru the stack.
 - a. Perform flowcheck, if flowing:
 - b. Sound alarm (alert crew)
 - c. Stab full opening safety valve and close
 - d. Space out drill string with tool joint just beneath the upper pipe ram.
 - e. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
 - f. Confirm shut-in
 - g. Notify toolpusher/company representative
 - h. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - i. Regroup and identify forward plan

2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
 - a. Sound alarm (alert crew)
 - b. Stab crossover and full opening safety valve and close
 - c. Space out drill string with upset just beneath the compatible pipe ram.
 - d. Shut-in using compatible pipe ram. (HCR and choke will already be in the closed position.)
 - e. Confirm shut-in
 - f. Notify toolpusher/company representative
 - g. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - h. Regroup and identify forward plan

3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
 - a. Sound alarm (alert crew)
 - b. If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
 - c. If impossible to pick up high enough to pull the string clear of the stack:
 - d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
 - e. Space out drill string with tooljoint just beneath the upper pipe ram.
 - f. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
 - g. Confirm shut-in
 - h. Notify toolpusher/company representative
 - i. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - j. Regroup and identify forward plan



Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

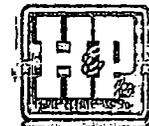
Should you have any questions or require any additional information/clearifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
11535 Brittnoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com



RIG 212



QUALITY DOCUMENT

PHOENIX RUBBER INDUSTRIAL LTD.

5728 Szeged, Budapesti út 10. Hungary • H-6701 Szeged, P. O. Box 152
Phone: (3662) 566-737 • Fax: (3662) 566-738

SALES & MARKETING: H-1092 Budapest, Ráday u. 42-44. Hungary • H-1440 Budapest, P. O. Box 28
Phone: (361) 456-4200 • Fax: (361) 217-2872, 456-4273 • www.tatusemerge.hu

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 552	
PURCHASER: Phoenix Beattie Co.				P.O. N°: 1519FA-871	
PHOENIX RUBBER order N°: 170466		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 34128		NOMINAL / ACTUAL LENGTH: 11,43 m			
W.P. 68,96 MPa		10000 psi		T.P. 103,4 MPa 15000 psi Duration: 60 min.	
<p>Pressure test with water at ambient temperature</p> <p style="text-align: center;">See attachment. (1 page)</p> <p>↑ 10 mm = 10 Min. → 10 mm = 25 MPa</p>					
COUPLINGS					
Type	Serial N°		Quality	Heat N°	
3" coupling with 4 1/16" Flange end	720 719		AISI 4130	C7626	
			AISI 4130	47357	
API Spec 16 C Temperature rate: "B"					
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
Date: 29. April. 2002.	Inspector		Quality Control PHOENIX RUBBER Industrial Ltd. Hose Inspection and VESSELS TRUE CONTROL PHOENIX RUBBER S.C.		



APD ID: 10400038545	Submission Date: 01/28/2019	 Show Final Text
Operator Name: DEVON ENERGY PRODUCTION COMPANY LP		
Well Name: BLUE KRAIT 23-14 FED	Well Number: 37H	
Well Type: OIL WELL	Well Work Type: Drill	

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Blue_Krait_23_14_Fed_37H_ACCESS_RD_20190128103410.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Improve road to accommodate Drilling and Completion operations.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

BLUE_KRAIT_23_CTB_2_20190128103437.PDF

BLUE_KRAIT_23_WP_7_20190128103439.PDF

New road type: LOCAL

Length: 2370 **Feet** **Width (ft.):** 30

Max slope (%): 6 **Max grade (%):** 4

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Water Drainage Ditch

New road access plan or profile prepared? YES

New road access plan attachment:

New_Access_Rd_Doc_20190124104028.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Access road engineering design? YES

Access road engineering design attachment:

New_Access_Rd_Doc_20190124104041.pdf

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: See attached Interim reclamation diagram.

Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: Water Drainage Ditch

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

OneMileBuffer_WA017315276_20190128103530.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: 9 ATTACHMENTS - WELLPAD PLAT, CTB PLAT, 4 FLOWLINE PLATS, 2 WELLPAD ELECTRIC PLATS, GAS CONNECT PLAT. REMAINING CONNECTS HANDLED BY THIRD PARTY

Production Facilities map:

BLUE_KRAIT_23_WP_7_TO_CT_B_1_FL_BLM_20190128103609.pdf

BLUE_KRAIT_23_WP_7_TO_CT_B_2_FL_BLM_20190128103610.pdf

BLUE_KRAIT_23_CT_B_2_20190128103612.PDF

BLUE_KRAIT_23_CT_B_2_BATCON_20190128103613.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

BLUE_KRAIT_23_WP_7_20190128103615.PDF

BLUE_KRAIT_23_WP_7_TO_CTB_2_FL_20190128103618.pdf

EL8271_BLUE_KRAIT_23_CTB_2_EL_P_20190128103619.pdf

BLUE_KRAIT_23_WP_7_TO_CTB_1_FL_20190128103616.pdf

EL8276_BLUE_KRAIT_23_WP_7_P_20190128103620.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: RECYCLED

Water source use type: STIMULATION

Source latitude:

Source longitude:

Source datum:

Water source permit type: OTHER

Water source transport method: PIPELINE

Source land ownership: FEDERAL

Source transportation land ownership: FEDERAL

Water source volume (barrels): 500000

Source volume (acre-feet): 64.44655

Source volume (gal): 21000000

Water source and transportation map:

BLUE_KRAIT_23_14_FED_WP_7_Water_Map_20190128104101.PDF

Water source comments: The attached Water Transfer Map is a proposal only and the final route and documentation will be provided by a Devon contractor prior to installation. When available Devon will always follow existing disturbance.

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Dirt fill and caliche will be used to construct well pad. See attached map.

Construction Materials source location attachment:

Blue_Krait_23_CTB_2_Caliche_Map_20190128081425.pdf

Blue_Krait_23_WP_7_Caliche_Map_20190128104124.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Water Based and Oil Based Cuttings

Amount of waste: 1769 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: All cuttings will disposed of at R360, Sundance, or equivalent.

Waste type: COMPLETIONS/STIMULATION

Waste content description: Flow back water during completion operations.

Amount of waste: 3000 barrels

Waste disposal frequency : One Time Only

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Various disposal locations in Lea and Eddy counties.

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Waste type: FLOWBACK

Waste content description: Average produced BWPD over the flowback period (first 30 days of production).

Amount of waste: 6900 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Produced water will primarily be disposed of at commercial disposals connected to the Devon water system.

Waste type: PRODUCED WATER

Waste content description: Average produced BWPD over the first year of production.

Amount of waste: 2500 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Produced water will primarily be disposed of at commercial disposals connected to the Devon water system.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Description of cuttings location

Cuttings area length (ft.)

Cuttings area width (ft.)

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Blue_Krait_23_14_Fed_37H_Well_Layout_20190128104142.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: BLUE KRAIT 23 FED WELLPAD

Multiple Well Pad Number: 7

Recontouring attachment:

Blue_Krait_23_14_Fed_37H_Well_Layout_20190128104155.pdf

Drainage/Erosion control construction: All areas disturbed shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.

Drainage/Erosion control reclamation: Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season.

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Well pad proposed disturbance (acres): 6.887	Well pad interim reclamation (acres): 5.394	Well pad long term disturbance (acres): 1.493
Road proposed disturbance (acres): 1.632	Road interim reclamation (acres): 0	Road long term disturbance (acres): 1.632
Powerline proposed disturbance (acres): 1.489	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 1.486
Pipeline proposed disturbance (acres): 2.892	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 2.892
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 12.9	Total interim reclamation: 5.394	Total long term disturbance: 7.503

Disturbance Comments:

Reconstruction method: Operator will use Best Management Practices "BMP" to mechanically recontour to obtain the desired outcome.

Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Soil treatment: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Existing Vegetation at the well pad: Shinnery, yucca, grasses and mesquite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre
-----------	-------------

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Blake

Last Name: Richardson

Phone: (405)552-6556

Email: blake.richardson@dvn.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing Invasive species treatment description:

Existing Invasive species treatment attachment:

Weed treatment plan description: Maintain weeds on an as need basis.

Weed treatment plan attachment:

Monitoring plan description: Monitor as needed.

Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Section 11 - Surface Ownership

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Section 12 - Other Information

Right of Way needed? YES

Use APD as ROW? YES

ROW Type(s): 281001 ROW - ROADS,288100 ROW – O&G Pipeline,FLPMA (Powerline),Other

ROW Applications

SUPO Additional Information: See Section 4 for 14 Facility & Infrastructure Plats. See C-102 for grading plats.

Use a previously conducted onsite? YES

Previous Onsite Information: 8/14/2018

Other SUPO Attachment



APD ID: 10400038545

Submission Date: 01/28/2019

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

10/21/2019

APD ID: 10400038545

Submission Date: 01/28/2019

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: BLUE KRAIT 23-14 FED

Well Number: 37H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Bond Information

Federal/Indian APD: FED

BLM Bond number: CO1104

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: