

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
NM OIL CONSERVATION
Altesia DISTRICTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

OCT 17 2019

RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM0554239
2. Name of Operator XTO PERMIAN OPERATING LLC		6. If Indian, Allottee or Tribe Name
Contact: KELLY KARDOS E-Mail: kelly_kardos@xtoenergy.com		7. If Unit or CA/Agreement, Name and/or No. 891000558X
3a. Address 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707	3b. Phone No. (include area code) Ph: 432-620-4374	8. Well Name and No. JRU DI 11 WHITLASH A 715H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 17 T22S R30E NESW 1990FSL 2015FWL 32.390461 N Lat, 103.905769 W Lon		9. API Well No. 30-015-46284-00-X1
		10. Field and Pool or Exploratory Area WILDCAT
		11. County or Parish, State EDDY COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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

XTO Permian Operating, LLC respectfully requests permission to make the following changes to the original APD?

Change BHL from 330'FSL & 50'FWL to 1650'FSL & 50'FWL. ✓

Update the drilling program per the attached procedure.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL****5m BOP will be used after 13-3/8"**

14. I hereby certify that the foregoing is true and correct. Electronic Submission #486342 verified by the BLM Well Information System. For XTO PERMIAN OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER SANCHEZ on 10/03/2019 (20JAS0002SE)	
Name (Printed/Typed) KELLY KARDOS	Title REGULATORY COORDINATOR
Signature (Electronic Submission)	Date 10/03/2019
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By	Title
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Date
	Office
BUREAU OF LAND MANAGEMENT ROSWELL FIELD OFFICE	

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RW10-21-19

Revisions to Operator-Submitted EC Data for Sundry Notice #486342

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM0554239	NMNM0554239
Agreement:	NMNM70965X	891000558X (NMNM70965X)
Operator:	XTO PERMIAN OPERATING, LLC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO PERMIAN OPERATING LLC 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707 Ph: 432.683 2277
Admin Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Tech Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	WC-G-07 S223021G;BS	WILDCAT
Well/Facility:	JRU DI 11 WHITLASH A 715H Sec 17 T22S R30E Mer NMP NESW 1990FSL 2015FWL	JRU DI 11 WHITLASH A 715H Sec 17 T22S R30E NESW 1990FSL 2015FWL 32.390461 N Lat, 103.905769 W Lon

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

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☒ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 46284	² Pool Code 97905	³ Pool Name WILDCAT G-07 S223021G;BONE SPRING
⁴ Property Code	⁵ Property Name JRU DI II WHITLASH A	
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATING, LLC.	
	⁶ Well Number 715H	
	⁹ Elevation 3,102'	

¹⁰ Surface Location

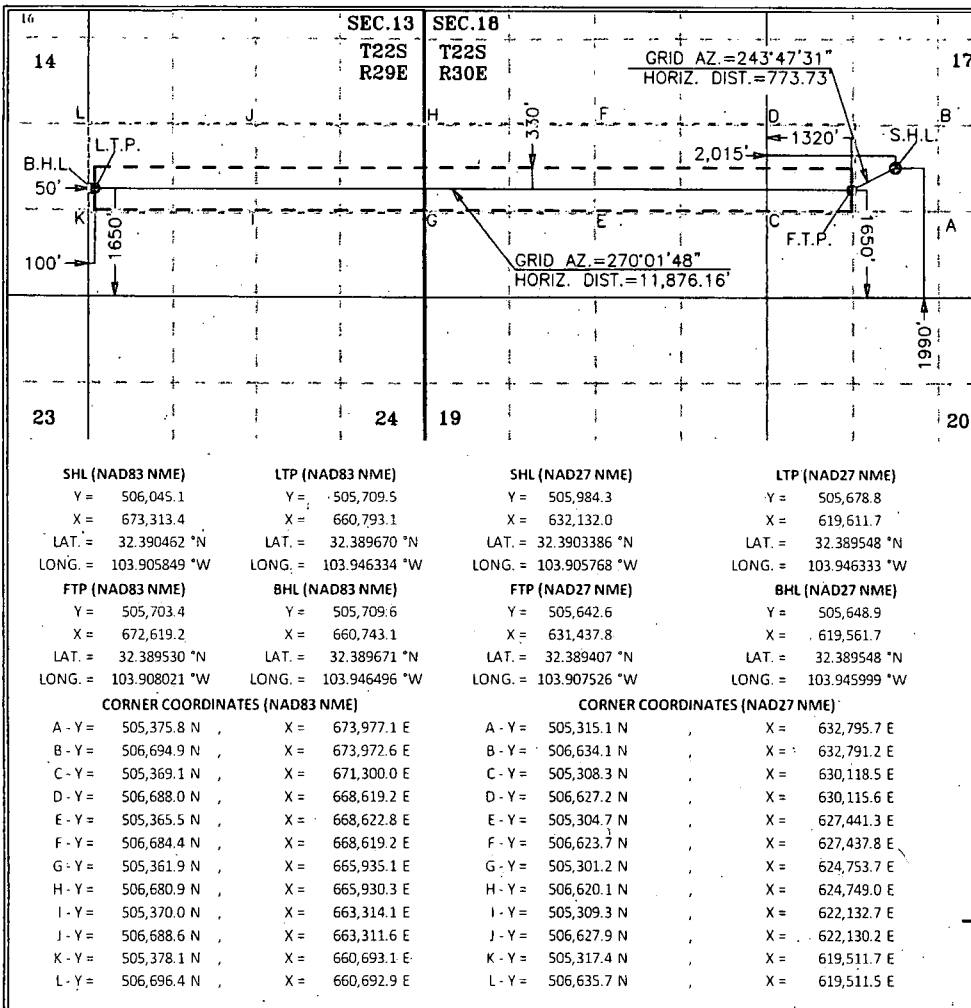
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	17	22S	30 E		1,990	SOUTH	2,015	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	13	22 S	29 E		1,650	SOUTH	50	WEST	EDDY

¹² Dedicated Acres 360	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



¹⁷ OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order, heretofore entered by the division.

Kelly Kardos
Signature
10/4/19
Date

Kelly Kardos
Printed Name

kelly_kardos@xtoenergy.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

9-30-2019
Date of Survey

Signature and Seal of
Professional Surveyor:

MARK DILLON HARP 23786
Certificate Number

GM 2019041014

RwP 10-21-19

Intent ☒ As Drilled ☐

API #			
Operator Name: XTO PERMIAN OPERATING, LLC		Property Name: JRU DI 11 Whitlash A	Well Number 715H

Kick Off Point (KOP)

UL K	Section 17	Township 22S	Range 30E	Lot	Feet 1990	From N/S South	Feet 2015	From E/W West	County Eddy
Latitude 32.390462					Longitude -103.905849			NAD 83	

First Take Point (FTP)

UL L	Section 17	Township 22S	Range 30E	Lot	Feet 1650	From N/S South	Feet 1320	From E/W West	County Eddy
Latitude 32.389530					Longitude -103.908021			NAD 83	

Last Take Point (LTP)

UL L	Section 13	Township 22S	Range 29E	Lot	Feet 1650	From N/S South	Feet 100	From E/W West	County Eddy
Latitude 32.389670					Longitude -103.946334			NAD 83	

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

Is this well an infill well? ☐

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

API #			
Operator Name:		Property Name:	Well Number

DRILLING PLAN: BLM COMPLIANCE
(Supplement to BLM 3160-3)

XTO Energy Inc.
JRU DI 11 Whitlash A #715H
Projected TD: 21448' MD / 9056' TVD
SHL: 1990' FSL & 2015' FWL , Section 17, T22S, R30E
BHL: 1650' FSL & 50' FWL , Section 13, T22S, R29E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Permian

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	48'	Water
Top of Salt	465'	Water
Base of Salt	3104'	Water
Delaware	3363'	Water
Bone Spring	7195'	Water/Oil/Gas
1st Bone Spring Ss	8098'	Water/Oil/Gas
2nd Bone Spring Ss	8915'	Water/Oil/Gas
Target/Land Curve	9056'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

*** Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 18-E455/8 inch casing @ 460' (5' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 3200' and circulating cement to surface. A 12-1/4 inch vertical hole will be drilled to 7500' and 9-5/8 inch casing ran and cemented 500' into the 13-3/8 inch casing. An 8-3/4 inch pilot hole will be drilled to 11017' TVD/MD. An abandon plug will be set to plug back to 10435' TVD / MD to seal off the Wolfcamp. An additional abandon plug will be set to plug back to 8900' TVD / MD and a kickoff plug will be set to plug back to 8300' TVD / MD. A 8-1/2 inch curve and lateral hole will be drilled to 21448' MD/TD and 5-1/2 casing will be set at TD and cemented back 300' into the 9-5/8 inch casing shoe.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' - 460'	18-5/8"	87.5	BTC	J-55	New	2.34	3.03	34.15
17-1/2"	0' - 3200'	13-3/8"	68	BTC	HCL-80	New	1.80	2.99	13.51
12-1/4"	0' - 7500'	9-5/8"	40	BTC	HCL-80	New	2.42	1.78	4.21
8-1/2"	0' - 21448'	5-1/2"	20	BTC	P-110	New	1.20	4.43	2.34

XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.

13-3/8" Collapse analyzed using 50% evacuation based on regional experience.

9-5/8" Collapse analyzed using 50% evacuation based on regional experience.

5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

WELLHEAD:

Temporary Wellhead

- 18-5/8" SOW x 21-1/4" 3M top flange

Permanent Wellhead – GE RSH Multibowl System

A. Starting Head (RSH System): 13-3/8" SOW bottom x 13-5/8" 5M top flange

B. Tubing Head: 13-5/8" 15M bottom flange x 7-1/16" 15M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per Onshore Order 2.
- Wellhead manufacturer representative may not be present for BOP test plug installation

4. Cement Program

Surface Casing: 18-5/8", 87.5 New J-55, BTC casing to be set at +/- 460'

Tail: 1060 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

1st Intermediate Casing: 13-3/8", 68 New HCL-80, BTC casing to be set at +/- 3200'

Lead: 3660 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.94 ft3/sx, 9.61 gal/sx water)

Tail: 810 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.37 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing (Stage 2): 9-5/8", 40 New HCL-80, BTC casing to be set at +/- 7500'

ECP/DV Tool to be set at 3250'

1st Stage

Lead: 880 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 9.61 gal/sx water)

Tail: 210 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.92 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Stage

Lead: 720 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.94 ft3/sx, 9.61 gal/sx water)

Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives:

Production Casing: 5-1/2", 20 New P-110, BTC casing to be set at +/- 21448'

Lead: 4950 sxs Halcem-C + 2% CaCl (mixed at 11.5 ppg, 1.29 ft3/sx, 9.61 gal/sx water)

Tail: 0 sxs VersaCem (mixed at 13.2 ppg, 1.33 ft3/sx, 8.38 gal/sx water)
Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

5. Pressure Control Equipment

The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 960 psi.

Once the permanent wellhead is installed the blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum ~~2M Hydril~~ and a 13-5/8" minimum ~~3M Double Ram~~ BOP. MASP should not exceed 2717 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipping up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to ~~3000 psi~~. When the 13-3/8" and 9-5/8" casing is set, the packoff seals will be tested to a minimum of ~~3000 psi~~. All BOP tests will include a low pressure test as per BLM regulations. The ~~3M~~ BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

5M multibowl
will be used
and tested for a
5M rating.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 460'	24"	FW/Native	8.4-8.8	35-40	NC
460' to 3200'	17-1/2"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
3200' to 7500'	12-1/4"	FW / Cut Brine	9.1-9.5	29-32	NC - 20
7500' to 21448'	8-1/2"	FW / Cut Brine / Polymer	9.7-10.3	32-50	NC - 20

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 18.625" surface casing with brine solution. A 9.8ppg-10.2ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 13-3/8" casing.

8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) from surface to TD.

Coring includes sidewall cores in the first and second intermediate hole sections.

Open hole logging will include Quad combo (GR, Neu, Den, Sonic) and NMR in the first and second intermediate hole sections.

9. Abnormal Pressures and Temperatures / Potential Hazards

None

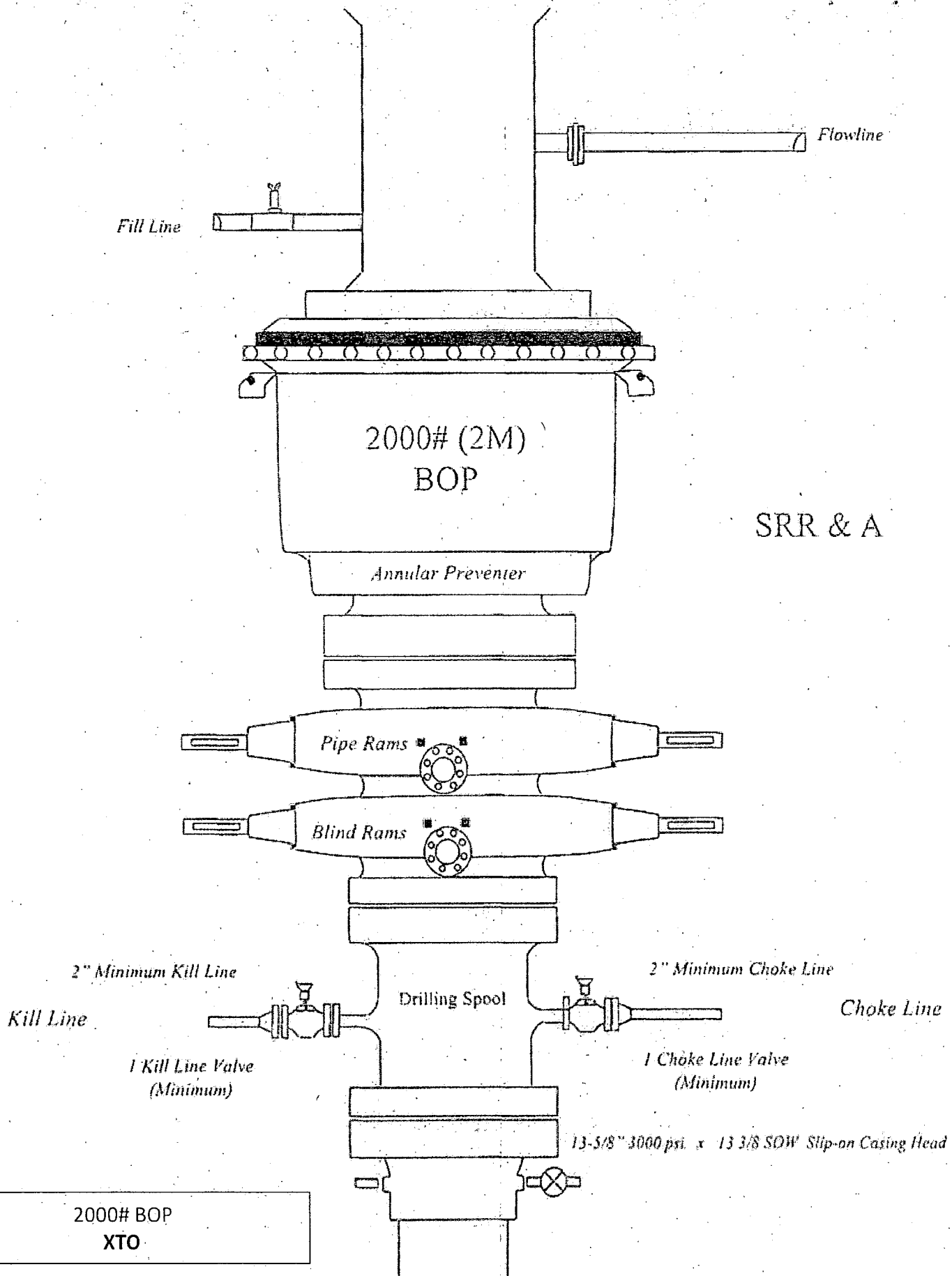
10. Anticipated Starting Date and Duration of Operations

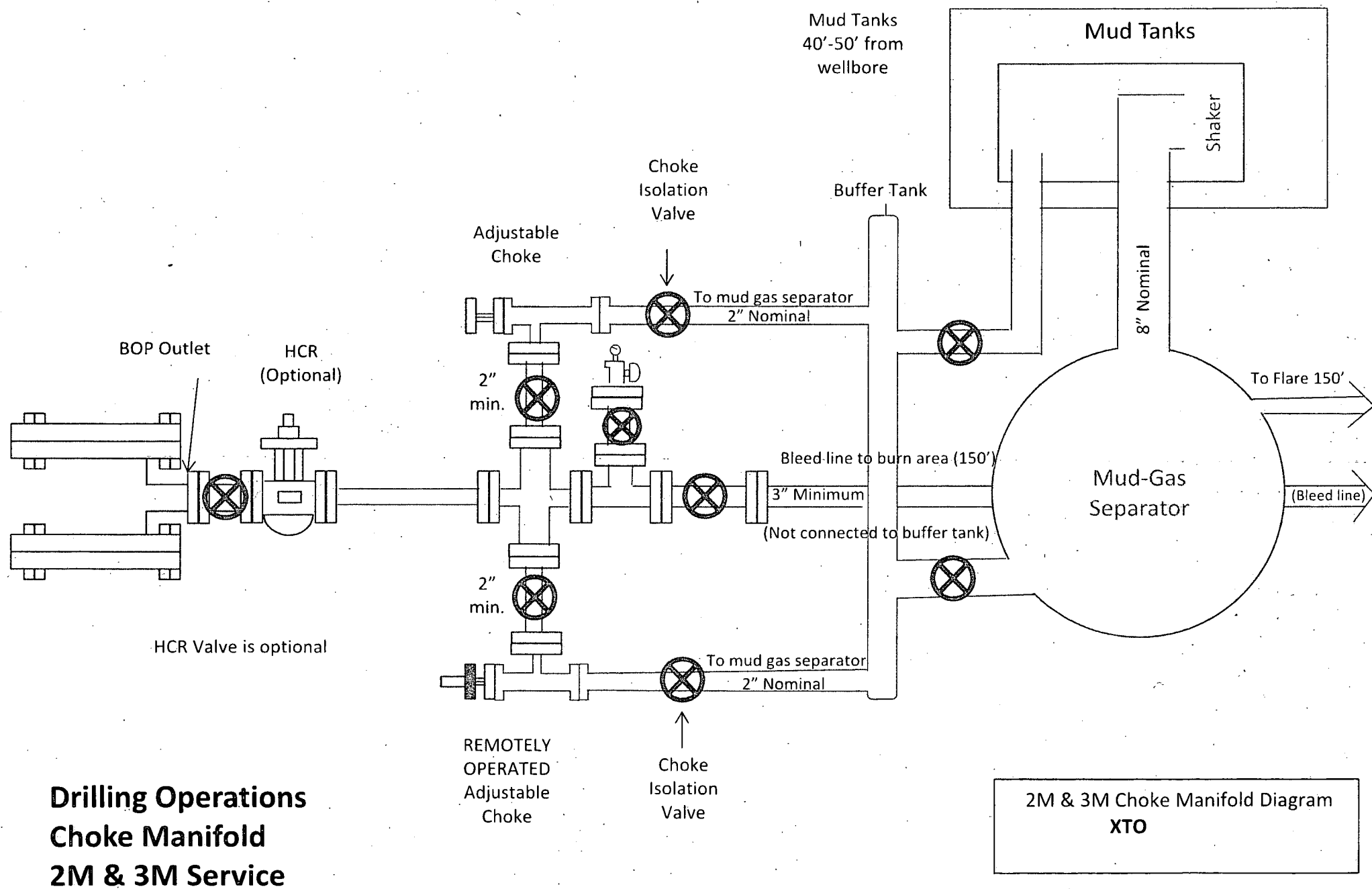
Road and location construction will begin after Santa Fe and BLM have approved the APD.

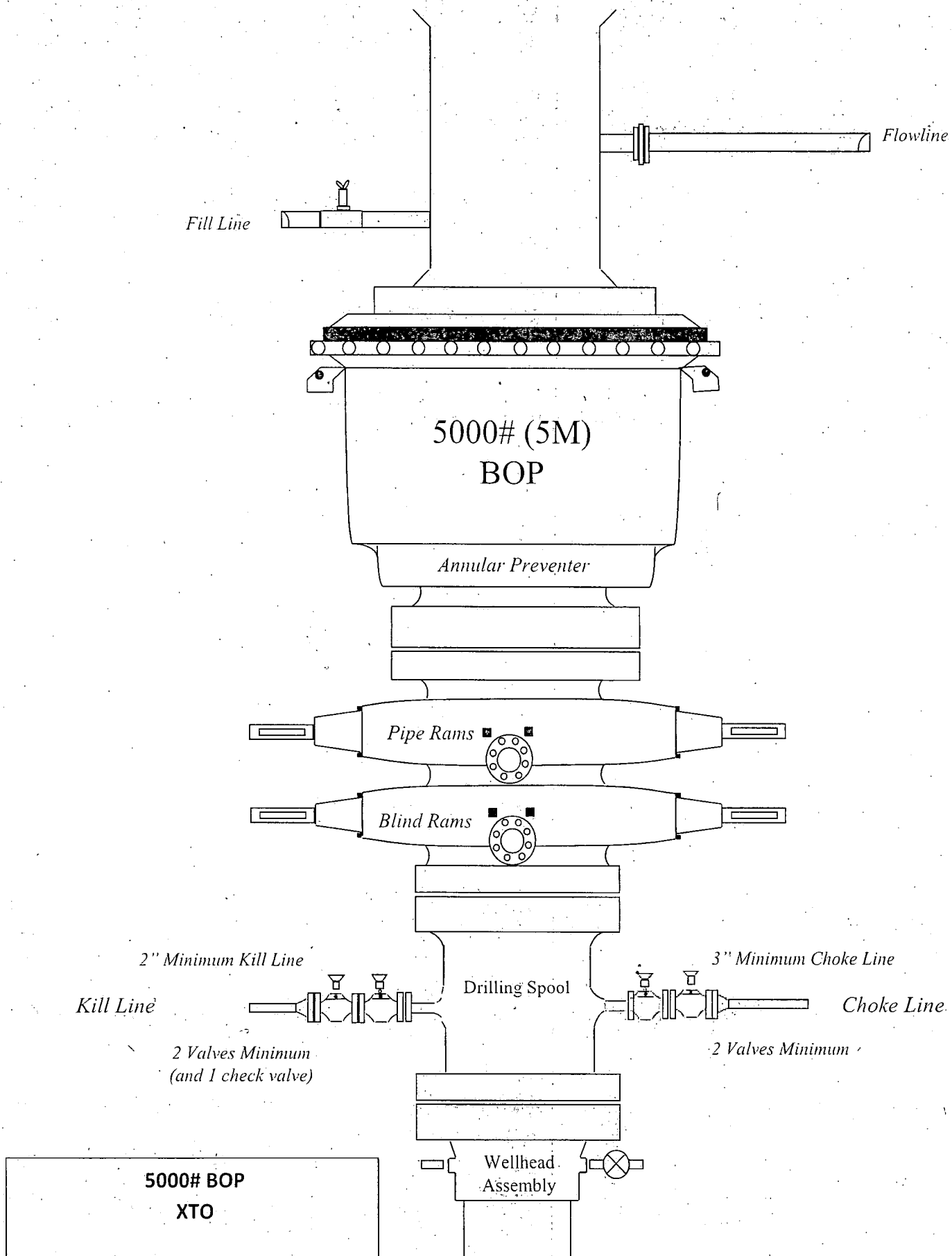
Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

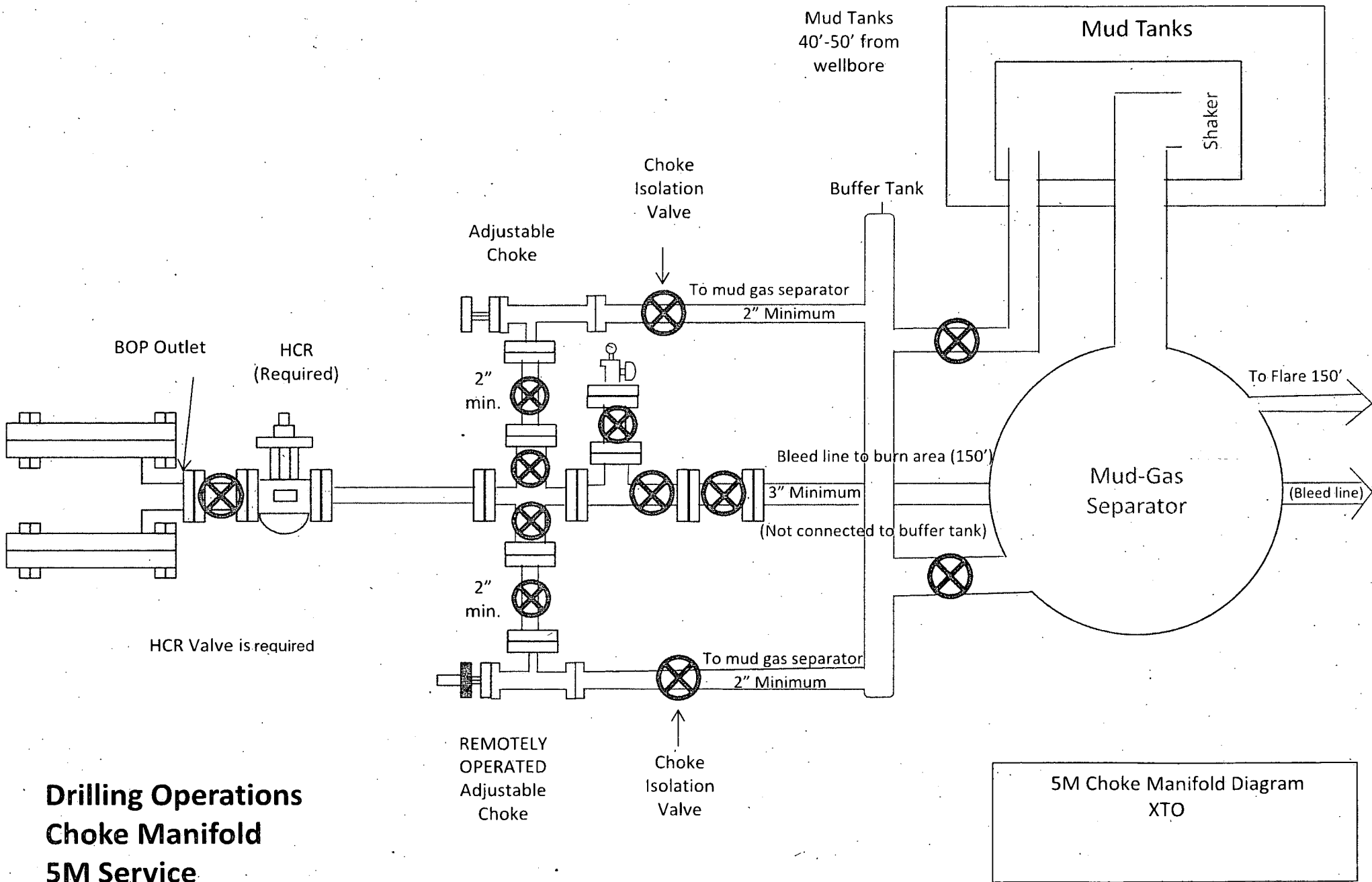
PILOT HOLE CASING PLUGS

- Plug 1 (Class H Abandon Plug)
 - Depth (TVD) – 10435-11007' (3rd Bone Spring SS to Wolfcamp B)
 - Density – 15.6 ppg
 - 15% OH excess
 - Yield – 1.196 cu. ft. / sack
- Plug 2 (Class H Abandon Plug)
 - Depth (TVD) – 8900-10435' (2nd Bone Spring Carb to 3rd Bone Spring SS)
 - Density – 15.6 ppg
 - 15% OH excess
 - Yield – 1.196 cu. ft. / sack
- Plug 3 (Class H Kick Off Plug)
 - Depth (TVD) – 8300-8900' (3rd Bone Spring Shale to 3rd Bone Spring SS)
 - Density – 17.5 ppg
 - 35% OH excess
 - Yield – 0.956 cu. ft. / sack



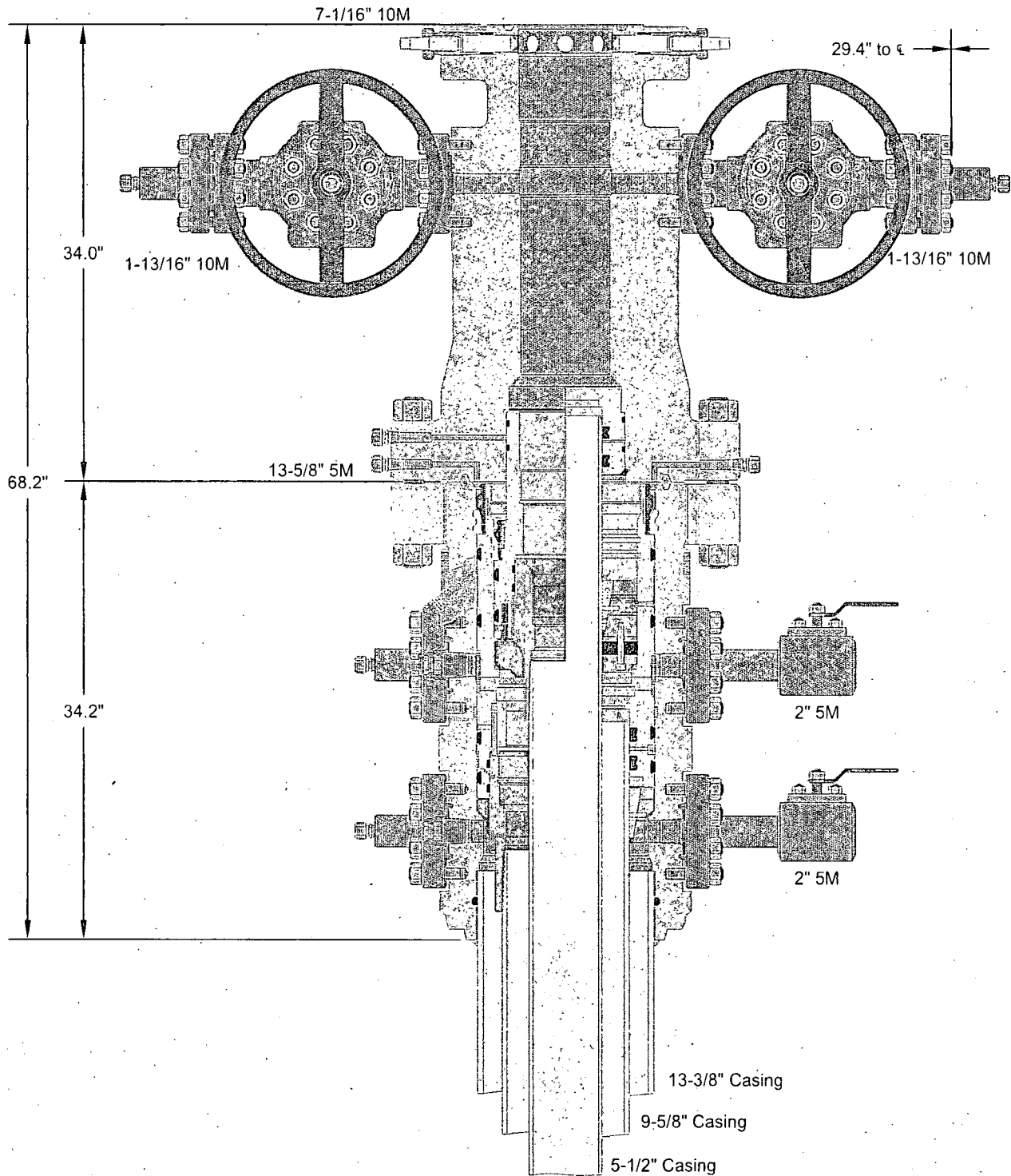








GE Oil & Gas



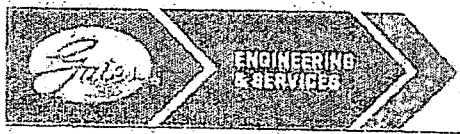
ALL DIMENSIONS ARE APPROXIMATE

This drawing is the property of GE Oil & Gas Pressure Control LP and is considered confidential. Unless otherwise approved in writing, neither it nor its contents may be used, copied, transmitted or reproduced except for the sole purpose of GE Oil & Gas Pressure Control LP.

XTO ENERGY, INC.

13-3/8" x 9-5/8" x 5-1/2" 10M RSH-2 Wellhead
Assembly, With T-EBS-F Tubing Head

DRAWN	VJK	16FEB17
APPRV	KN	16FEB17
FOR REFERENCE ONLY		
DRAWING NO.		10012842



GATES E & S NORTH AMERICA, INC
DU-TEX
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

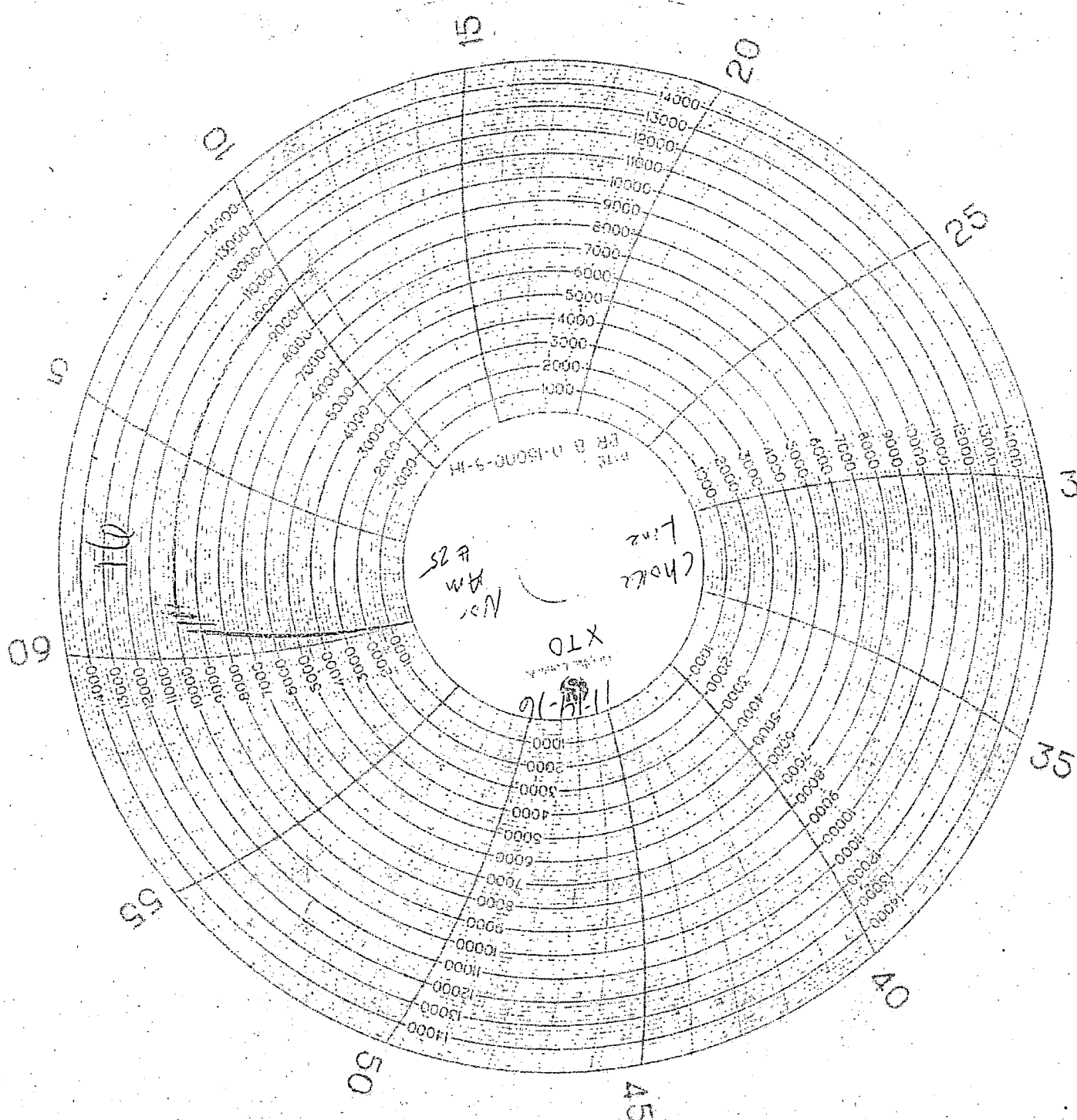
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

GRADE D PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	MORHA
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011S13D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

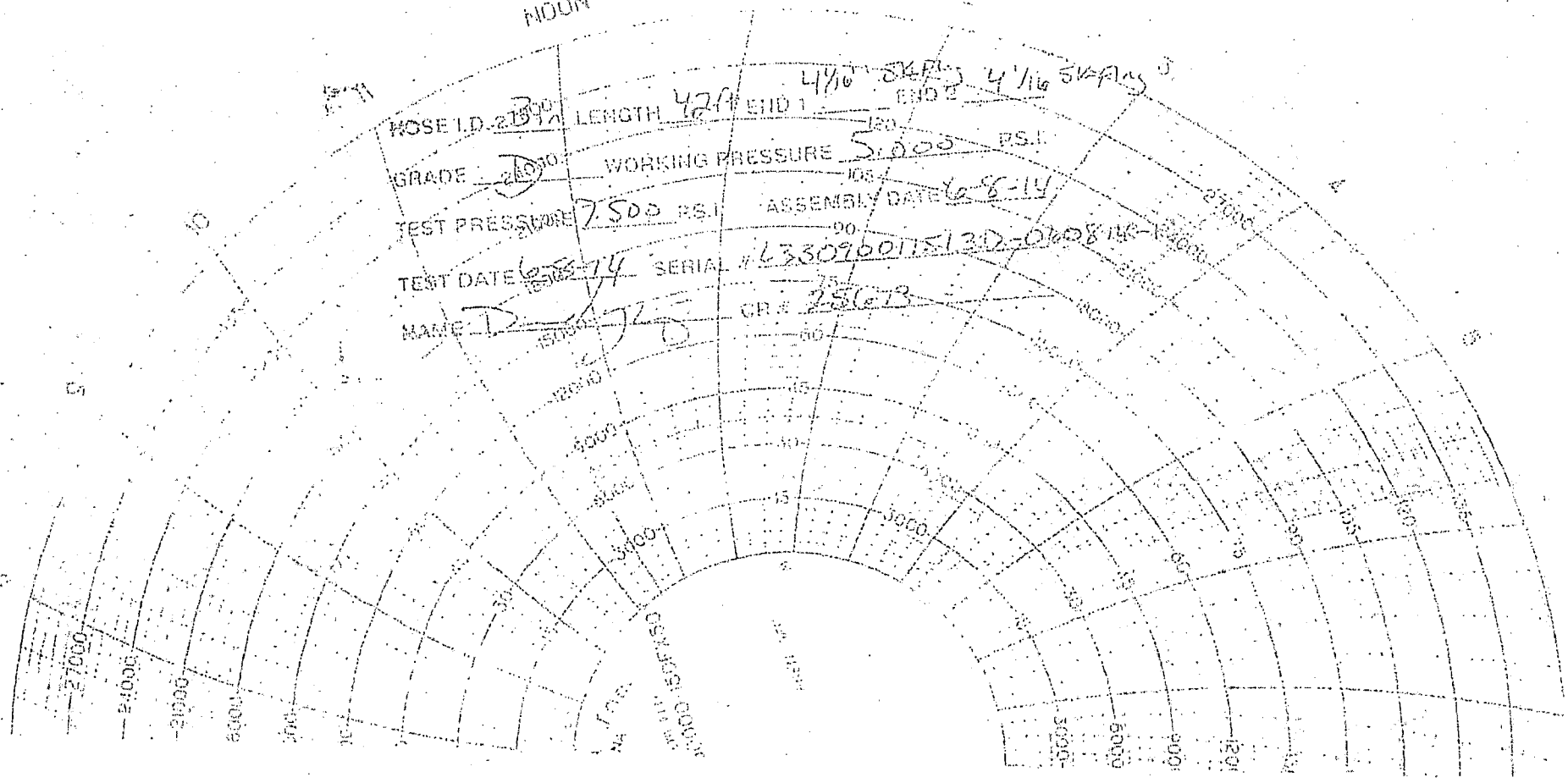
Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor:	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	



MOON

HOSE I.D. 2 1/2" LENGTH 42ft END 1 4 1/16" S&P END 2 4 1/16" S&P
GRADE D WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14 SERIAL # 633096011513D-060814-12000
NAME D-1725 CR # 25673





Planned Wellpath Report

JRU DI 11 Whitlash A 715H Rev-A.0

Page 1 of 10



REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Okimlucg
Scale	0.999929	Report Generated	02/Oct/2019 at 10:24
Convergence at slot	0.23° East	Database	WA_HOU_Midland_Defn

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.50	-24.80	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W
Facility Reference Pt			632156.80	505984.80	32°23'25.223"N	103°54'18.690"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature	Precision 598 (KB) to Facility Vertical Datum	3127.00ft
Horizontal Reference Pt	Slot	Precision 598 (KB) to Mean Sea Level	3127.00ft
Vertical Reference Pt	Precision 598 (KB)	Precision 598 (KB) to Ground Level at Slot (JRU DI 11 Whitlash A 715H)	25.00ft
MD Reference Pt	Precision 598 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	270.03°



Planned Wellpath Report

JRU DI 11 Whitlash A 715H Rev-A.0

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**BAKER
HUGHES**
a GE company



REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	221.870	0.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
25.00	0.000	221.870	25.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	Tie On
125.00†	0.000	221.870	125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
225.00†	0.000	221.870	225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
325.00†	0.000	221.870	325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
425.00†	0.000	221.870	425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
525.00†	0.000	221.870	525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
625.00†	0.000	221.870	625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
725.00†	0.000	221.870	725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
825.00†	0.000	221.870	825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
925.00†	0.000	221.870	925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1025.00†	0.000	221.870	1025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1125.00†	0.000	221.870	1125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1225.00†	0.000	221.870	1225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1325.00†	0.000	221.870	1325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1425.00†	0.000	221.870	1425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1525.00†	0.000	221.870	1525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1625.00†	0.000	221.870	1625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1725.00†	0.000	221.870	1725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1825.00†	0.000	221.870	1825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
1925.00†	0.000	221.870	1925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2025.00†	0.000	221.870	2025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2125.00†	0.000	221.870	2125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2225.00†	0.000	221.870	2225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2325.00†	0.000	221.870	2325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2425.00†	0.000	221.870	2425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2525.00†	0.000	221.870	2525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2625.00†	0.000	221.870	2625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2725.00†	0.000	221.870	2725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
2825.00†	0.000	221.870	2825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = interpolated/extrapolated station														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
2925.00†	0.000	221.870	2925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3025.00†	0.000	221.870	3025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3125.00†	0.000	221.870	3125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3225.00†	0.000	221.870	3225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3325.00†	0.000	221.870	3325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3425.00†	0.000	221.870	3425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3525.00†	0.000	221.870	3525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3625.00†	0.000	221.870	3625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3725.00†	0.000	221.870	3725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3825.00†	0.000	221.870	3825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
3925.00†	0.000	221.870	3925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4025.00†	0.000	221.870	4025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4125.00†	0.000	221.870	4125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4225.00†	0.000	221.870	4225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4325.00†	0.000	221.870	4325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4425.00†	0.000	221.870	4425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4525.00†	0.000	221.870	4525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4625.00†	0.000	221.870	4625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4725.00†	0.000	221.870	4725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4825.00†	0.000	221.870	4825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
4925.00†	0.000	221.870	4925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5025.00†	0.000	221.870	5025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5125.00†	0.000	221.870	5125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5225.00†	0.000	221.870	5225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5325.00†	0.000	221.870	5325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5425.00†	0.000	221.870	5425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5525.00†	0.000	221.870	5525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5625.00†	0.000	221.870	5625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5725.00†	0.000	221.870	5725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
5825.00†	0.000	221.870	5825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = Interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
5925.00†	0.000	221.870	5925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6025.00†	0.000	221.870	6025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6125.00†	0.000	221.870	6125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6225.00†	0.000	221.870	6225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6325.00†	0.000	221.870	6325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6425.00†	0.000	221.870	6425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6525.00†	0.000	221.870	6525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6625.00†	0.000	221.870	6625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6725.00†	0.000	221.870	6725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6825.00†	0.000	221.870	6825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
6925.00†	0.000	221.870	6925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7025.00†	0.000	221.870	7025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7125.00†	0.000	221.870	7125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7225.00†	0.000	221.870	7225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7325.00†	0.000	221.870	7325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7425.00†	0.000	221.870	7425.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7525.00†	0.000	221.870	7525.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7625.00†	0.000	221.870	7625.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7725.00†	0.000	221.870	7725.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7825.00†	0.000	221.870	7825.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
7925.00†	0.000	221.870	7925.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
8025.00†	0.000	221.870	8025.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
8125.00†	0.000	221.870	8125.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
8225.00†	0.000	221.870	8225.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
8325.00†	0.000	221.870	8325.00	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	
8410.80	0.000	221.870	8410.80	0.00	0.00	0.00	632132.00	505984.30	32°23'25.219"N	103°54'18.980"W	0.00	0.00	0.00	Curve KOP
8425.00†	1.420	221.870	8425.00	0.12	-0.13	-0.12	632131.88	505984.17	32°23'25.218"N	103°54'18.981"W	10.00	10.00	-972.75	
8525.00†	11.420	221.870	8524.25	7.57	-8.45	-7.57	632124.43	505975.85	32°23'25.136"N	103°54'19.068"W	10.00	10.00	0.00	
8625.00†	21.420	221.870	8620.05	26.40	-29.47	-26.41	632105.59	505954.83	32°23'24.928"N	103°54'19.289"W	10.00	10.00	0.00	
8725.00†	31.420	221.870	8709.49	56.04	-62.56	-56.07	632075.93	505921.74	32°23'24.602"N	103°54'19.637"W	10.00	10.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8825.00†	41.420	221.870	8789.85	95.59	-106.72	-95.65	632036.36	505877.59	32°23'24.167"N	103°54'20.100"W	10.00	10.00	0.00	
8910.80	50.000	221.870	8849.71	136.52	-152.41	-136.60	631995.41	505831.90	32°23'23.716"N	103°54'20.580"W	10.00	10.00	0.00	Build / Turn
8925.00†	50.739	223.445	8858.77	143.93	-160.45	-144.01	631988.00	505823.86	32°23'23.637"N	103°54'20.667"W	10.00	5.20	11.09	
9025.00†	56.475	233.636	8918.18	204.24	-213.41	-204.35	631927.66	505770.91	32°23'23.115"N	103°54'21.373"W	10.00	5.74	10.19	
9125.00†	62.938	242.486	8968.67	277.46	-258.80	-277.60	631854.42	505725.51	32°23'22.669"N	103°54'22.229"W	10.00	6.46	8.85	
9225.00†	69.892	250.335	9008.71	361.36	-295.27	-361.51	631770.51	505689.05	32°23'22.311"N	103°54'23.209"W	10.00	6.95	7.85	
9325.00†	77.163	257.501	9037.08	453.39	-321.68	-453.56	631678.48	505662.64	32°23'22.054"N	103°54'24.284"W	10.00	7.27	7.17	
9425.00†	84.617	264.258	9052.92	550.75	-337.26	-550.93	631581.11	505647.07	32°23'21.903"N	103°54'25.420"W	10.00	7.45	6.76	
9512.55	91.206	270.030	9056.11	638.04	-341.60	-638.22	631493.82	505642.72	32°23'21.864"N	103°54'26.438"W	10.00	7.53	6.59	Land
9525.00†	91.206	270.030	9055.85	650.49	-341.60	-650.67	631481.37	505642.73	32°23'21.864"N	103°54'26.583"W	10.00	0.00	0.00	
9625.00†	91.206	270.030	9053.74	750.47	-341.54	-750.65	631381.40	505642.78	32°23'21.869"N	103°54'27.749"W	0.00	0.00	0.00	
9725.00†	91.206	270.030	9051.64	850.45	-341.49	-850.63	631281.43	505642.83	32°23'21.873"N	103°54'28.915"W	0.00	0.00	0.00	
9825.00†	91.206	270.030	9049.53	950.43	-341.44	-950.61	631181.46	505642.88	32°23'21.878"N	103°54'30.081"W	0.00	0.00	0.00	
9925.00†	91.206	270.030	9047.43	1050.41	-341.39	-1050.58	631081.49	505642.94	32°23'21.882"N	103°54'31.247"W	0.00	0.00	0.00	
10025.00†	91.206	270.030	9045.33	1150.38	-341.34	-1150.56	630981.52	505642.99	32°23'21.887"N	103°54'32.413"W	10.00	0.00	0.00	
10125.00†	91.206	270.030	9043.22	1250.36	-341.28	-1250.54	630881.55	505643.04	32°23'21.891"N	103°54'33.579"W	0.00	0.00	0.00	
10225.00†	91.206	270.030	9041.12	1350.34	-341.23	-1350.52	630781.58	505643.09	32°23'21.896"N	103°54'34.745"W	0.00	0.00	0.00	
10325.00†	91.206	270.030	9039.02	1450.32	-341.18	-1450.50	630681.61	505643.14	32°23'21.900"N	103°54'35.911"W	0.00	0.00	0.00	
10425.00†	91.206	270.030	9036.91	1550.30	-341.13	-1550.47	630581.64	505643.20	32°23'21.904"N	103°54'37.076"W	0.00	0.00	0.00	
10525.00†	91.206	270.030	9034.81	1650.27	-341.08	-1650.45	630481.67	505643.25	32°23'21.909"N	103°54'38.242"W	10.00	0.00	0.00	
10625.00†	91.206	270.030	9032.70	1750.25	-341.03	-1750.43	630381.70	505643.30	32°23'21.913"N	103°54'39.408"W	0.00	0.00	0.00	
10725.00†	91.206	270.030	9030.60	1850.23	-340.97	-1850.41	630281.73	505643.35	32°23'21.918"N	103°54'40.574"W	0.00	0.00	0.00	
10825.00†	91.206	270.030	9028.50	1950.21	-340.92	-1950.39	630181.76	505643.40	32°23'21.922"N	103°54'41.740"W	0.00	0.00	0.00	
10925.00†	91.206	270.030	9026.39	2050.18	-340.87	-2050.36	630081.79	505643.45	32°23'21.926"N	103°54'42.906"W	0.00	0.00	0.00	
11025.00†	91.206	270.030	9024.29	2150.16	-340.82	-2150.34	629981.82	505643.51	32°23'21.931"N	103°54'44.072"W	0.00	0.00	0.00	
11125.00†	91.206	270.030	9022.18	2250.14	-340.77	-2250.32	629881.85	505643.56	32°23'21.935"N	103°54'45.238"W	0.00	0.00	0.00	
11225.00†	91.206	270.030	9020.08	2350.12	-340.72	-2350.30	629781.87	505643.61	32°23'21.940"N	103°54'46.404"W	0.00	0.00	0.00	
11325.00†	91.206	270.030	9017.98	2450.10	-340.66	-2450.27	629681.90	505643.66	32°23'21.944"N	103°54'47.569"W	0.00	0.00	0.00	
11425.00†	91.206	270.030	9015.87	2550.07	-340.61	-2550.25	629581.93	505643.71	32°23'21.948"N	103°54'48.735"W	0.00	0.00	0.00	
11525.00†	91.206	270.030	9013.77	2650.05	-340.56	-2650.23	629481.96	505643.76	32°23'21.953"N	103°54'49.901"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
11625.00†	91.206	270.030	9011.67	2750.03	-340.51	-2750.21	629381.99	505643.82	32°23'21.957"N	103°54'51.067"W	0.00	0.00	0.00	
11725.00†	91.206	270.030	9009.56	2850.01	-340.46	-2850.19	629282.02	505643.87	32°23'21.962"N	103°54'52.233"W	0.00	0.00	0.00	
11825.00†	91.206	270.030	9007.46	2949.99	-340.41	-2950.16	629182.05	505643.92	32°23'21.966"N	103°54'53.399"W	0.00	0.00	0.00	
11925.00†	91.206	270.030	9005.35	3049.96	-340.35	-3050.14	629082.08	505643.97	32°23'21.970"N	103°54'54.565"W	0.00	0.00	0.00	
12025.00†	91.206	270.030	9003.25	3149.94	-340.30	-3150.12	628982.11	505644.02	32°23'21.975"N	103°54'55.731"W	0.00	0.00	0.00	
12125.00†	91.206	270.030	9001.15	3249.92	-340.25	-3250.10	628882.14	505644.08	32°23'21.979"N	103°54'56.897"W	0.00	0.00	0.00	
12225.00†	91.206	270.030	8999.04	3349.90	-340.20	-3350.08	628782.17	505644.13	32°23'21.984"N	103°54'58.062"W	0.00	0.00	0.00	
12325.00†	91.206	270.030	8996.94	3449.87	-340.15	-3450.05	628682.20	505644.18	32°23'21.988"N	103°54'59.228"W	0.00	0.00	0.00	
12425.00†	91.206	270.030	8994.83	3549.85	-340.09	-3550.03	628582.23	505644.23	32°23'21.992"N	103°55'00.394"W	0.00	0.00	0.00	
12525.00†	91.206	270.030	8992.73	3649.83	-340.04	-3650.01	628482.26	505644.28	32°23'21.997"N	103°55'01.560"W	0.00	0.00	0.00	
12625.00†	91.206	270.030	8990.63	3749.81	-339.99	-3749.99	628382.29	505644.33	32°23'22.001"N	103°55'02.726"W	0.00	0.00	0.00	
12725.00†	91.206	270.030	8988.52	3849.79	-339.94	-3849.96	628282.32	505644.39	32°23'22.005"N	103°55'03.892"W	0.00	0.00	0.00	
12825.00†	91.206	270.030	8986.42	3949.76	-339.89	-3949.94	628182.35	505644.44	32°23'22.010"N	103°55'05.058"W	0.00	0.00	0.00	
12925.00†	91.206	270.030	8984.32	4049.74	-339.84	-4049.92	628082.37	505644.49	32°23'22.014"N	103°55'06.224"W	0.00	0.00	0.00	
13025.00†	91.206	270.030	8982.21	4149.72	-339.78	-4149.90	627982.40	505644.54	32°23'22.018"N	103°55'07.390"W	0.00	0.00	0.00	
13125.00†	91.206	270.030	8980.11	4249.70	-339.73	-4249.88	627882.43	505644.59	32°23'22.023"N	103°55'08.555"W	0.00	0.00	0.00	
13225.00†	91.206	270.030	8978.00	4349.68	-339.68	-4349.85	627782.46	505644.64	32°23'22.027"N	103°55'09.721"W	0.00	0.00	0.00	
13325.00†	91.206	270.030	8975.90	4449.65	-339.63	-4449.83	627682.49	505644.70	32°23'22.031"N	103°55'10.887"W	0.00	0.00	0.00	
13425.00†	91.206	270.030	8973.80	4549.63	-339.58	-4549.81	627582.52	505644.75	32°23'22.036"N	103°55'12.053"W	0.00	0.00	0.00	
13525.00†	91.206	270.030	8971.69	4649.61	-339.53	-4649.79	627482.55	505644.80	32°23'22.040"N	103°55'13.219"W	0.00	0.00	0.00	
13625.00†	91.206	270.030	8969.59	4749.59	-339.47	-4749.77	627382.58	505644.85	32°23'22.044"N	103°55'14.385"W	0.00	0.00	0.00	
13725.00†	91.206	270.030	8967.48	4849.56	-339.42	-4849.74	627282.61	505644.90	32°23'22.049"N	103°55'15.551"W	0.00	0.00	0.00	
13825.00†	91.206	270.030	8965.38	4949.54	-339.37	-4949.72	627182.64	505644.95	32°23'22.053"N	103°55'16.717"W	0.00	0.00	0.00	
13925.00†	91.206	270.030	8963.28	5049.52	-339.32	-5049.70	627082.67	505645.01	32°23'22.057"N	103°55'17.883"W	0.00	0.00	0.00	
14025.00†	91.206	270.030	8961.17	5149.50	-339.27	-5149.68	626982.70	505645.06	32°23'22.062"N	103°55'19.049"W	0.00	0.00	0.00	
14125.00†	91.206	270.030	8959.07	5249.48	-339.21	-5249.65	626882.73	505645.11	32°23'22.066"N	103°55'20.214"W	0.00	0.00	0.00	
14225.00†	91.206	270.030	8956.97	5349.45	-339.16	-5349.63	626782.76	505645.16	32°23'22.070"N	103°55'21.380"W	0.00	0.00	0.00	
14325.00†	91.206	270.030	8954.86	5449.43	-339.11	-5449.61	626682.79	505645.21	32°23'22.075"N	103°55'22.546"W	0.00	0.00	0.00	
14425.00†	91.206	270.030	8952.76	5549.41	-339.06	-5549.59	626582.82	505645.27	32°23'22.079"N	103°55'23.712"W	0.00	0.00	0.00	
14525.00†	91.206	270.030	8950.65	5649.39	-339.01	-5649.57	626482.85	505645.32	32°23'22.083"N	103°55'24.878"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
14625.00†	91.206	270.030	8948.55	5749.37	-338.96	-5749.54	626382.88	505645.37	32°23'22.088"N	103°55'26.044"W	0.00	0.00	0.00	
14725.00†	91.206	270.030	8946.45	5849.34	-338.90	-5849.52	626282.90	505645.42	32°23'22.092"N	103°55'27.210"W	0.00	0.00	0.00	
14825.00†	91.206	270.030	8944.34	5949.32	-338.85	-5949.50	626182.93	505645.47	32°23'22.096"N	103°55'28.376"W	0.00	0.00	0.00	
14925.00†	91.206	270.030	8942.24	6049.30	-338.80	-6049.48	626082.96	505645.52	32°23'22.100"N	103°55'29.542"W	0.00	0.00	0.00	
15025.00†	91.206	270.030	8940.13	6149.28	-338.75	-6149.46	625982.99	505645.58	32°23'22.105"N	103°55'30.707"W	0.00	0.00	0.00	
15125.00†	91.206	270.030	8938.03	6249.25	-338.70	-6249.43	625883.02	505645.63	32°23'22.109"N	103°55'31.873"W	0.00	0.00	0.00	
15225.00†	91.206	270.030	8935.93	6349.23	-338.65	-6349.41	625783.05	505645.68	32°23'22.113"N	103°55'33.039"W	0.00	0.00	0.00	
15325.00†	91.206	270.030	8933.82	6449.21	-338.59	-6449.39	625683.08	505645.73	32°23'22.118"N	103°55'34.205"W	0.00	0.00	0.00	
15425.00†	91.206	270.030	8931.72	6549.19	-338.54	-6549.37	625583.11	505645.78	32°23'22.122"N	103°55'35.371"W	0.00	0.00	0.00	
15525.00†	91.206	270.030	8929.62	6649.17	-338.49	-6649.34	625483.14	505645.83	32°23'22.126"N	103°55'36.537"W	0.00	0.00	0.00	
15625.00†	91.206	270.030	8927.51	6749.14	-338.44	-6749.32	625383.17	505645.89	32°23'22.130"N	103°55'37.703"W	0.00	0.00	0.00	
15725.00†	91.206	270.030	8925.41	6849.12	-338.39	-6849.30	625283.20	505645.94	32°23'22.135"N	103°55'38.869"W	0.00	0.00	0.00	
15825.00†	91.206	270.030	8923.30	6949.10	-338.33	-6949.28	625183.23	505645.99	32°23'22.139"N	103°55'40.035"W	0.00	0.00	0.00	
15925.00†	91.206	270.030	8921.20	7049.08	-338.28	-7049.26	625083.26	505646.04	32°23'22.143"N	103°55'41.200"W	0.00	0.00	0.00	
16025.00†	91.206	270.030	8919.10	7149.06	-338.23	-7149.23	624983.29	505646.09	32°23'22.147"N	103°55'42.366"W	0.00	0.00	0.00	
16125.00†	91.206	270.030	8916.99	7249.03	-338.18	-7249.21	624883.32	505646.15	32°23'22.152"N	103°55'43.532"W	0.00	0.00	0.00	
16225.00†	91.206	270.030	8914.89	7349.01	-338.13	-7349.19	624783.35	505646.20	32°23'22.156"N	103°55'44.698"W	0.00	0.00	0.00	
16325.00†	91.206	270.030	8912.78	7448.99	-338.08	-7449.17	624683.38	505646.25	32°23'22.160"N	103°55'45.864"W	0.00	0.00	0.00	
16425.00†	91.206	270.030	8910.68	7548.97	-338.02	-7549.15	624583.41	505646.30	32°23'22.164"N	103°55'47.030"W	0.00	0.00	0.00	
16525.00†	91.206	270.030	8908.58	7648.95	-337.97	-7649.12	624483.43	505646.35	32°23'22.169"N	103°55'48.196"W	0.00	0.00	0.00	
16625.00†	91.206	270.030	8906.47	7748.92	-337.92	-7749.10	624383.46	505646.40	32°23'22.173"N	103°55'49.362"W	0.00	0.00	0.00	
16725.00†	91.206	270.030	8904.37	7848.90	-337.87	-7849.08	624283.49	505646.46	32°23'22.177"N	103°55'50.528"W	0.00	0.00	0.00	
16825.00†	91.206	270.030	8902.27	7948.88	-337.82	-7949.06	624183.52	505646.51	32°23'22.181"N	103°55'51.693"W	0.00	0.00	0.00	
16925.00†	91.206	270.030	8900.16	8048.86	-337.77	-8049.03	624083.55	505646.56	32°23'22.186"N	103°55'52.859"W	0.00	0.00	0.00	
17025.00†	91.206	270.030	8898.06	8148.83	-337.71	-8149.01	623983.58	505646.61	32°23'22.190"N	103°55'54.025"W	0.00	0.00	0.00	
17125.00†	91.206	270.030	8895.95	8248.81	-337.66	-8248.99	623883.61	505646.66	32°23'22.194"N	103°55'55.191"W	0.00	0.00	0.00	
17225.00†	91.206	270.030	8893.85	8348.79	-337.61	-8348.97	623783.64	505646.71	32°23'22.198"N	103°55'56.357"W	0.00	0.00	0.00	
17325.00†	91.206	270.030	8891.75	8448.77	-337.56	-8448.95	623683.67	505646.77	32°23'22.203"N	103°55'57.523"W	0.00	0.00	0.00	
17425.00†	91.206	270.030	8889.64	8548.75	-337.51	-8548.92	623583.70	505646.82	32°23'22.207"N	103°55'58.689"W	0.00	0.00	0.00	
17525.00†	91.206	270.030	8887.54	8648.72	-337.45	-8648.90	623483.73	505646.87	32°23'22.211"N	103°55'59.855"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = interpolated/extrapolated station														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
17625.00†	91.206	270.030	8885.43	8748.70	-337.40	-8748.88	623383.76	505646.92	32°23'22.215"N	103°56'01.021"W	0.00	0.00	0.00	
17725.00†	91.206	270.030	8883.33	8848.68	-337.35	-8848.86	623283.79	505646.97	32°23'22.219"N	103°56'02.187"W	0.00	0.00	0.00	
17825.00†	91.206	270.030	8881.23	8948.66	-337.30	-8948.84	623183.82	505647.02	32°23'22.224"N	103°56'03.352"W	0.00	0.00	0.00	
17925.00†	91.206	270.030	8879.12	9048.64	-337.25	-9048.81	623083.85	505647.08	32°23'22.228"N	103°56'04.518"W	0.00	0.00	0.00	
18025.00†	91.206	270.030	8877.02	9148.61	-337.20	-9148.79	622983.88	505647.13	32°23'22.232"N	103°56'05.684"W	0.00	0.00	0.00	
18125.00†	91.206	270.030	8874.91	9248.59	-337.14	-9248.77	622883.91	505647.18	32°23'22.236"N	103°56'06.850"W	0.00	0.00	0.00	
18225.00†	91.206	270.030	8872.81	9348.57	-337.09	-9348.75	622783.94	505647.23	32°23'22.240"N	103°56'08.016"W	0.00	0.00	0.00	
18325.00†	91.206	270.030	8870.71	9448.55	-337.04	-9448.72	622683.96	505647.28	32°23'22.245"N	103°56'09.182"W	0.00	0.00	0.00	
18425.00†	91.206	270.030	8868.60	9548.52	-336.99	-9548.70	622583.99	505647.34	32°23'22.249"N	103°56'10.348"W	0.00	0.00	0.00	
18525.00†	91.206	270.030	8866.50	9648.50	-336.94	-9648.68	622484.02	505647.39	32°23'22.253"N	103°56'11.514"W	0.00	0.00	0.00	
18625.00†	91.206	270.030	8864.40	9748.48	-336.89	-9748.66	622384.05	505647.44	32°23'22.257"N	103°56'12.680"W	0.00	0.00	0.00	
18725.00†	91.206	270.030	8862.29	9848.46	-336.83	-9848.64	622284.08	505647.49	32°23'22.261"N	103°56'13.845"W	0.00	0.00	0.00	
18825.00†	91.206	270.030	8860.19	9948.44	-336.78	-9948.61	622184.11	505647.54	32°23'22.266"N	103°56'15.011"W	0.00	0.00	0.00	
18925.00†	91.206	270.030	8858.08	10048.41	-336.73	-10048.59	622084.14	505647.59	32°23'22.270"N	103°56'16.177"W	0.00	0.00	0.00	
19025.00†	91.206	270.030	8855.98	10148.39	-336.68	-10148.57	621984.17	505647.65	32°23'22.274"N	103°56'17.343"W	0.00	0.00	0.00	
19125.00†	91.206	270.030	8853.88	10248.37	-336.63	-10248.55	621884.20	505647.70	32°23'22.278"N	103°56'18.509"W	0.00	0.00	0.00	
19225.00†	91.206	270.030	8851.77	10348.35	-336.58	-10348.53	621784.23	505647.75	32°23'22.282"N	103°56'19.675"W	0.00	0.00	0.00	
19325.00†	91.206	270.030	8849.67	10448.33	-336.52	-10448.50	621684.26	505647.80	32°23'22.286"N	103°56'20.841"W	0.00	0.00	0.00	
19425.00†	91.206	270.030	8847.56	10548.30	-336.47	-10548.48	621584.29	505647.85	32°23'22.290"N	103°56'22.007"W	0.00	0.00	0.00	
19525.00†	91.206	270.030	8845.46	10648.28	-336.42	-10648.46	621484.32	505647.90	32°23'22.295"N	103°56'23.173"W	0.00	0.00	0.00	
19625.00†	91.206	270.030	8843.36	10748.26	-336.37	-10748.44	621384.35	505647.96	32°23'22.299"N	103°56'24.339"W	0.00	0.00	0.00	
19725.00†	91.206	270.030	8841.25	10848.24	-336.32	-10848.41	621284.38	505648.01	32°23'22.303"N	103°56'25.504"W	0.00	0.00	0.00	
19825.00†	91.206	270.030	8839.15	10948.21	-336.26	-10948.39	621184.41	505648.06	32°23'22.307"N	103°56'26.670"W	0.00	0.00	0.00	
19925.00†	91.206	270.030	8837.05	11048.19	-336.21	-11048.37	621084.44	505648.11	32°23'22.311"N	103°56'27.836"W	0.00	0.00	0.00	
20025.00†	91.206	270.030	8834.94	11148.17	-336.16	-11148.35	620984.46	505648.16	32°23'22.315"N	103°56'29.002"W	0.00	0.00	0.00	
20125.00†	91.206	270.030	8832.84	11248.15	-336.11	-11248.33	620884.49	505648.22	32°23'22.320"N	103°56'30.168"W	0.00	0.00	0.00	
20225.00†	91.206	270.030	8830.73	11348.13	-336.06	-11348.30	620784.52	505648.27	32°23'22.324"N	103°56'31.334"W	0.00	0.00	0.00	
20325.00†	91.206	270.030	8828.63	11448.10	-336.01	-11448.28	620684.55	505648.32	32°23'22.328"N	103°56'32.500"W	0.00	0.00	0.00	
20425.00†	91.206	270.030	8826.53	11548.08	-335.95	-11548.26	620584.58	505648.37	32°23'22.332"N	103°56'33.666"W	0.00	0.00	0.00	
20525.00†	91.206	270.030	8824.42	11648.06	-335.90	-11648.24	620484.61	505648.42	32°23'22.336"N	103°56'34.832"W	0.00	0.00	0.00	



Planned Wellpath Report

JRU DI 11 Whitlash A 715H Rev-A.0

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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

WELLPATH DATA (220 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
20625.00†	91.206	270.030	8822.32	11748.04	-335.85	-11748.22	620384.64	505648.47	32°23'22.340"N	103°56'35.997"W	0.00	0.00	0.00	
20725.00†	91.206	270.030	8820.21	11848.02	-335.80	-11848.19	620284.67	505648.53	32°23'22.344"N	103°56'37.163"W	0.00	0.00	0.00	
20825.00†	91.206	270.030	8818.11	11947.99	-335.75	-11948.17	620184.70	505648.58	32°23'22.348"N	103°56'38.329"W	0.00	0.00	0.00	
20925.00†	91.206	270.030	8816.01	12047.97	-335.70	-12048.15	620084.73	505648.63	32°23'22.352"N	103°56'39.495"W	0.00	0.00	0.00	
21025.00†	91.206	270.030	8813.90	12147.95	-335.64	-12148.13	619984.76	505648.68	32°23'22.357"N	103°56'40.661"W	0.00	0.00	0.00	
21125.00†	91.206	270.030	8811.80	12247.93	-335.59	-12248.10	619884.79	505648.73	32°23'22.361"N	103°56'41.827"W	0.00	0.00	0.00	
21225.00†	91.206	270.030	8809.70	12347.90	-335.54	-12348.08	619784.82	505648.78	32°23'22.365"N	103°56'42.993"W	0.00	0.00	0.00	
21325.00†	91.206	270.030	8807.59	12447.88	-335.49	-12448.06	619684.85	505648.84	32°23'22.369"N	103°56'44.159"W	0.00	0.00	0.00	
21425.00†	91.206	270.030	8805.49	12547.86	-335.44	-12548.04	619584.88	505648.89	32°23'22.373"N	103°56'45.325"W	0.00	0.00	0.00	
21448.18†	91.206	270.030	8805.00	12571.04	-335.42	-12571.22	619561.70	505648.90	32°23'22.374"N	103°56'45.595"W	0.00	0.00	0.00	PBHL

HOLE & CASING SECTIONS - Ref Wellbore: JRU DI 11 Whitlash A 715H PWB Ref Wellpath: JRU DI 11 Whitlash A 715H Rev-A.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
9.625in Casing	25.00	3229.00	3204.00	25.00	3229.00	0.00	0.00	0.00	0.00
5.5in Casing	25.00	21450.00	21425.00	25.00	N/A	0.00	0.00	N/A	N/A



Planned Wellpath Report

JRU DI 11 Whitlash A 715H Rev-A.0

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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	JRU DI 11 Whitlash A 715H
Area	Eddy County, NM	Well	JRU DI 11 Whitlash A 715H
Field	Bone Spring (Eddy Co., NM)	Wellbore	JRU DI 11 Whitlash A 715H PWB
Facility	JRU DI 11 Whitlash A		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
JRU DI 11 Whitlash A 715H_LTP		8805.00	-305.52	-12521.21	619611.70	505678.80	32°23'22.668"N	103°56'45.011"W	point
1) JRU DI 11 Whitlash A 715H_PBHL	21448.18	8805.00	-335.42	-12571.22	619561.70	505648.90	32°23'22.374"N	103°56'45.595"W	rectangle
JRU DI 11 Whitlash A 715H_FTP		9055.00	-341.72	-694.25	631437.80	505642.60	32°23'21.865"N	103°54'27.092"W	point

SURVEY PROGRAM - Ref Wellbore: JRU DI 11 Whitlash A 715H PWB Ref Wellpath: JRU DI 11 Whitlash A 715H Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	8410.00	BHI NaviTrak (Standard)		JRU DI 11 Whitlash A 715H PWB
8410.00	21448.18	OWSG MWD rev2 + IFR1 + Multi-Station Correction		JRU DI 11 Whitlash A 715H PWB



XTO Energy Inc.

Location: Eddy County, NM
Field: Bone Spring (Eddy Co., NM)
Facility: JRU DI 11 Whittash A

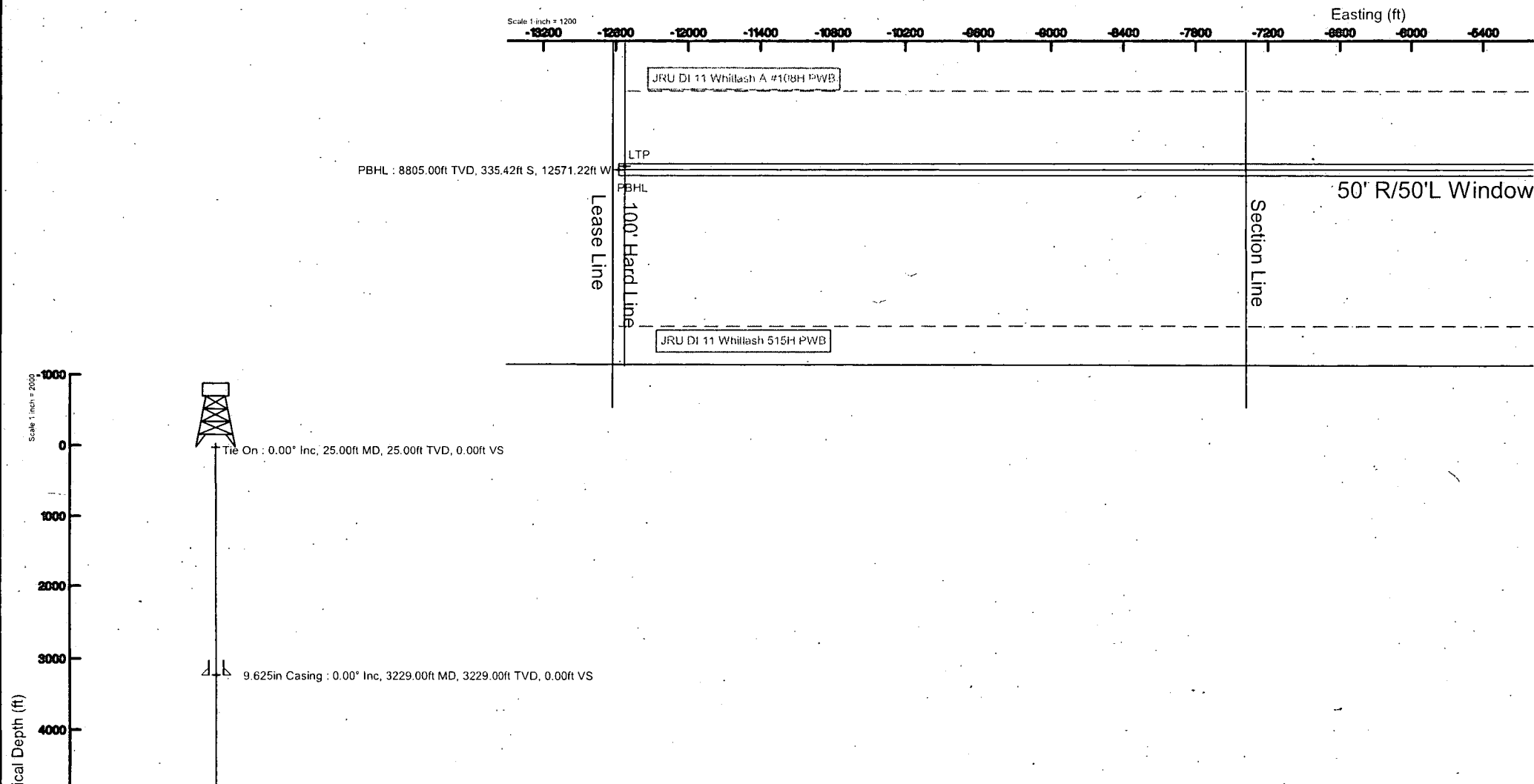
Slot: JRU DI 11 Whittash A 715H
Well: JRU DI 11 Whittash A 715H
Wellbore: JRU DI 11 Whittash A 715H PWB

Plot reference wellpath is JRU DI 11 Whittash A 715H Rev-A.0	Grid System: NAD2011 TM New Mexico SP, Eastern Zone (3001) US feet
True vertical depths are referenced to Precision 598 (KB)	* ± Wellpath was transformed from a different geospatial datum
Measured depths are referenced to Precision 598 (KB)	North Reference: Grid north
Precision 598 (KB) to Mean Sea Level: 3127 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot JRU DI 11 Whittash A 715H): -3102 feet	Depths are in feet
Coordinates are on feet referenced to Slot	Created by: otkimlucy on 2019-10-02
	Database: WA, HDU, Midland, Oelir

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
JRU DI 11 Whittash A	632156.800	505984.800	32°23'25.223"N	103°54'18.690"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
JRU DI 11 Whittash A 715H	-0.50	-24.80	632132.000	505984.300	32°23'25.219"N
Precision 598 (KB) to Ground level (At Slot JRU DI 11 Whittash A 715H)	25ft				
Mean Sea Level to Ground level (At Slot JRU DI 11 Whittash A 715H)	-3102ft				
Precision 598 (KB) to Mean Sea Level	3127ft				

Targets							
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
JRU DI 11 Whittash A 715H LTP		8805.00	-335.42	-12571.22	619561.70	505648.90	32°23'22.668"N
JRU DI 11 Whittash A 715H PBHL	21448.18	8805.00	-335.42	-12571.22	619561.70	505648.90	32°23'22.374"N
JRU DI 11 Whittash A 715H FTP		9055.00	-341.72	-694.25	631437.80	505642.60	32°23'21.865"N

Bottom Hole Location							
MD (ft)	Inc (")	Ar (")	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
21448.18	91.206	270.030	8805.00	-335.42	-12571.22	619561.70	505648.90



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating, LLC
LEASE NO.:	NMNM-0554239
WELL NAME & NO.:	JRU DI 11 Whitlash A 715H
SURFACE HOLE FOOTAGE:	1990' FSL & 2015' FWL
BOTTOM HOLE FOOTAGE:	1650' FSL & 0050' FWL Sec. 13, T. 22 S., R 29 E.
LOCATION:	Section 17, T. 22 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

Keep in contact with BLM on call engineer at 575-706-2779 on this wellbore if any issues occur.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months.

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Potash Areas:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

R-111-P-Potash

High Cave/Karst

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

Abnormal pressure may be encountered within the 3rd Bone Spring Sand and all subsequent formations.

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH. IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

1. The **18-5/8** inch surface casing shall be set at approximately **460** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing, which shall be set at approximately **3200** feet, is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst and potash.**

Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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

Operator has proposed DV tool at depth of 3250', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required through the curve and a minimum of one every other joint.

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

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.
2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi**

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8" 1st intermeidate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8" 1st intermeidate casing shoe shall be 5000 (5M) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Operator shall perform the 9-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

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

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

JAM 100319