

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM 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.5. Lease Serial No.
NMNM06808

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
JAMES RANCH UNIT D11 161H9. API Well No.
30-015-4360710. Field and Pool or Exploratory Area
WILDCAT - 607-52230216
977905 Bone Spring11. County or Parish, State
EDDY COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
BOPCO, L.P.Contact: STEPHANIE RABADUE
E-Mail: stephanie_rabadue@xtoenergy.com

3a. Address

PO BOX 2760
MIDLAND, TX 79702

3b. Phone No. (include area code)

Ph: 432-620-6714

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 21 T22S R30E Mer NMP 1433FNL 1462FEL

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 recompleat 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 recompleat 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.

BOPCO, L.P. respectfully requests the following changes to the referenced well:

1. Change of drilling 'slot'. The drill island has been built, the concrete cellars have been set, the EA has been written for the entire island. This is a change of slot designation only which requires no additional surface disturbance. Environmental Assessment for ENTIRE drill island previously cleared.

2. Drilling Program and Casing Design. See attached amended drilling program, directional drill survey, and associated C-102.

SC 12-13-17
Accepted for record - NMOCDNM OIL CONSERVATION
ARTESIA DISTRICT

DEC 12 2017

11/03/2017 Engineering review completed by m Haque. 12/6/2017 POMSH APPROVED SUNDRY SSR RECEIVED

Surface goal 12/01/17 FIB, Al Puerto Bellos 12.1.2017

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #391701 verified by the BLM Well Information System
For BOPCO, L.P., sent to the Carlsbad
Committed to AFMSS for processing by MUSTAFA HAQUE on 10/31/2017 ()

Name (Printed/Typed) STEPHANIE RABADUE

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 10/12/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

for FIELD MANAGER

Date

12/16/17

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

Office CARLSBAD FIELD OFFICE

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

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

12-29-17

RUP 12-15-17

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43407	² Pool Code 9-7900	³ Pool Name wildcat 6-07 52230216
⁴ Property Code 40211	⁵ Property Name JAMES RANCH UNIT DI I	
⁷ OGRID No. 260737	⁸ Operator Name BUREAU, L.P.	⁶ Well Number 161H
		⁹ Elevation 3167'

¹⁰ Surface Location

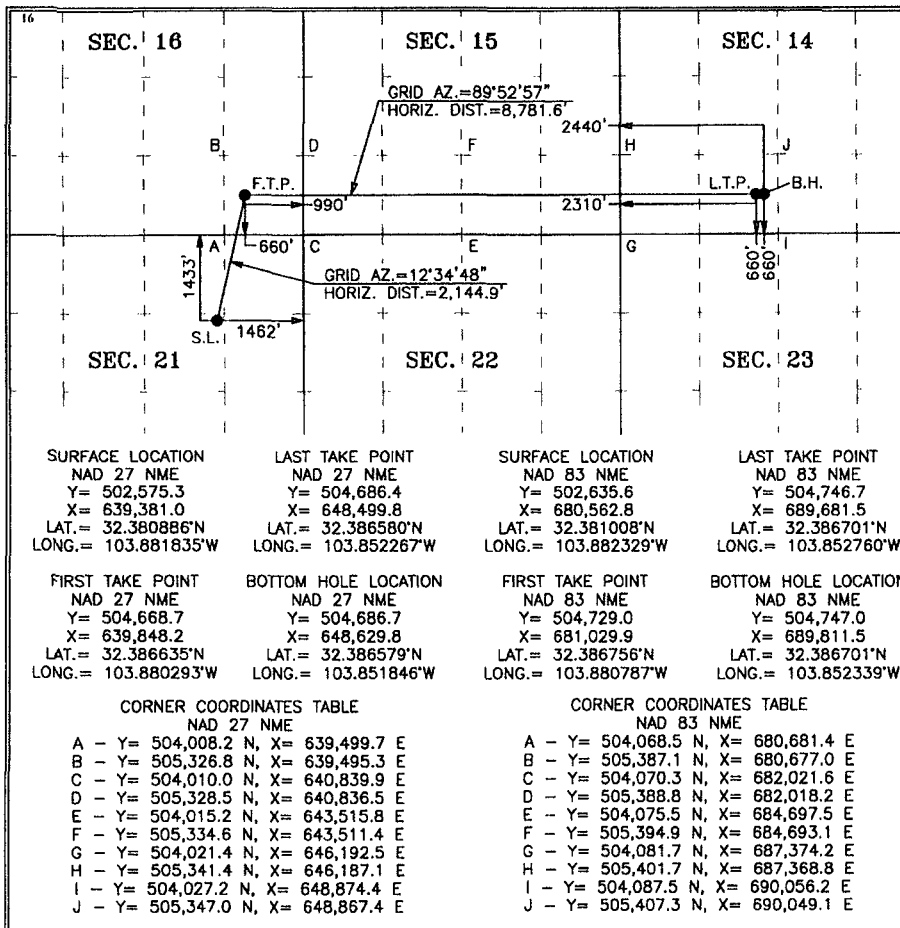
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	21	22 S	30 E		1,433	NORTH	1,462	EAST	EDDY

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
N	14	22 S	30 E		660	SOUTH	2,440	WEST	EDDY

¹² Dedicated Acres 28.6	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
---------------------------------------	-------------------------------	----------------------------------	-------------------------

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

Stephane Rabadue 6-10-17
Signature Date

Stephane Rabadue
Printed Name

stephane-rabadue@xboenergy.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.

05-23-2017

Date of Survey

Signature and Seal of
Professional Surveyor:

[Signature]

MARK DILLON HARP 23786
Certificate Number



DIH 2017050642

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

XTO Energy Inc.
James Ranch Unit DI1 161H
Projected TD: 18436' MD / 9272' TVD
SHL: 1433' FNL & 1462' FEL, SECTION 21, T22S, R30E
BHL: 660' FSL & 2440' FWL, SECTION 14, T22S, R30E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	187'	Water
Top of Salt	556'	Water
Base of Salt	3364'	Water
Delaware	3544'	Water
Brushy Canyon	6021'	Water/Oil/Gas
Bone Spring	7372'	Water/Oil/Gas
1st Bone Spring Ss	8379'	Water/Oil/Gas
2nd Bone Spring Ss	9131'	Water/Oil/Gas
Target/Land Curve	9221'	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 13-3/8 inch casing @ 535' (24' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 3556' and circulating cement to surface. An 8-3/4 inch curve and 8-1/2 inch lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to the 9-5/8 inch casing shoe. *surface*

→ surface casing needs to be set at least 25' above the salt. - SEE COA

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' - 535'	13-3/8"	48#	STC	H-40	New	7.07	3.15	12.54
12-1/4"	0' - 3556'	9-5/8"	36#	LTC	J-55	New	3.70	2.12	3.54
8-3/4" x 8-1/2"	0' - 18436'	5-1/2"	17#	BTC	P-110	New	1.12	1.69	2.48

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

- A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
- B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange
- Wellhead will be installed by manufacturer's representatives.
 - Manufacturer will monitor welding process to ensure appropriate temperature of seal.
 - Manufacturer will witness installation of test plug for initial test.
 - Operator will test the 9-5/8" casing to 70% of casing burst before drilling out.

4. Cement Program

Surface Casing: 13-3/8", 48# New H-40, STC casing to be set at +/- 535'

550 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 → TOC = 0'

Intermediate Casing: 9-5/8", 36# New J-55, LTC casing to be set at +/- 3556'

Lead: 1010 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft³/sx, 9.61 gal/sx water)

Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft³/sx, 6.39 gal/sx water)

Compressives: 12-hr = 900 psi 24 hr = 1500 psi → TOC = 0'

Production Casing: 5-1/2", 17# New P-110, BTC casing to be set at +/- 18436'

Lead: 650 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft³/sx, 12.26 gal/sx water)

Tail: 1880 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft³/sx, 8.38 gal/sx water)

Compressives: 12-hr = 1375 psi 24 hr = 2285 psi → TOC = 0'

Low cement
- SEE COA

5. Pressure Control Equipment → SEE COA

The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2396 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 3000psi. When nipping up on the 9-5/8", the BOP 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.

6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 535'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
535' to 3556'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
3556' to 18436'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer	8.4-9.2	29-32	NC - 20

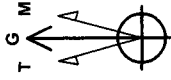
The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 13-3/8" 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.

XTO Energy, Inc.

Project: Eddy County, NM (NAD 27)
 Site: James Ranch Unit DI 1
 Well: DI 1 161H
 Wellbore: OH
 Design: Plan #1

PROJECT DETAILS: Eddy County, NM (NAD 27)
 Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 Datum: GE 3165 + KB 24' @ 3189.00usft (Noram 26)



Azimuths to Grid North
 True North: -0.24°
 Magnetic North: 6.96°
 Magnetic Field
 Strength: 48222.0nT
 Dip Angle: 60.23°
 Date: 5/25/2017
 Model: HDGM

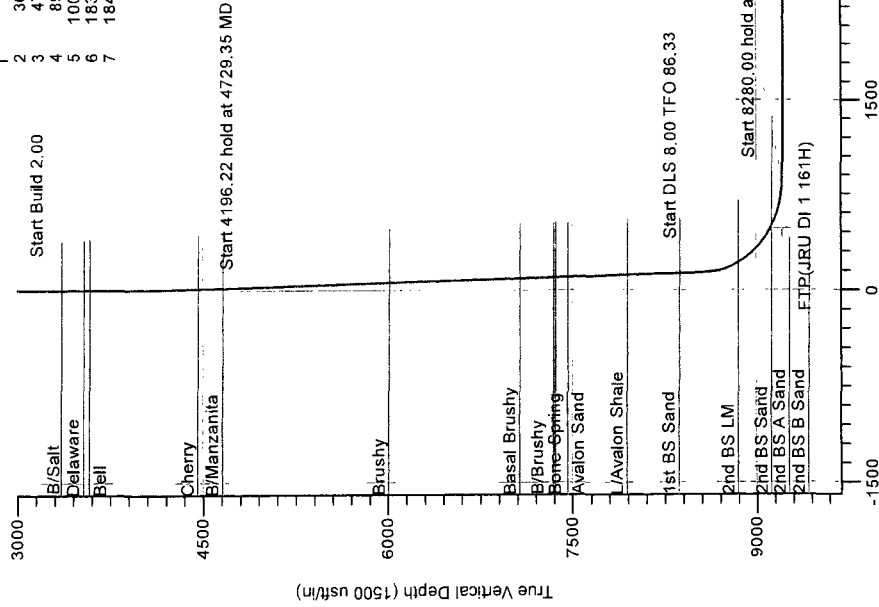


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL(JRU DI 1 161H)	0.00	0.00	0.00	502575.30	639381.00	32° 22' 51.189 N	103° 52' 54.607 W
FTP(JRU DI 1 161H)	9219.00	2093.40	467.20	504668.70	639848.20	32° 23' 11.885 N	103° 52' 49.055 W
LTP(JRU DI 1 161H)	9272.04	2111.10	9118.80	504886.40	648499.80	32° 23' 11.687 N	103° 51' 8.160 W
PBHL(JRU DI 1 161H)	9272.87	2111.40	9248.80	504886.70	648629.80	32° 23' 11.684 N	103° 51' 6.644 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	0.00	
3	4729.35	22.59	4.00	4700.32	219.20	15.35	2.00	4.00	15.80	
4	8925.57	22.59	4.00	8574.68	1826.97	127.90	0.00	0.00	131.66	
5	10026.51	89.63	89.88	9218.57	2093.76	838.99	8.00	86.33	843.30	LTP(JRU DI 1 161H)
6	18306.51	89.63	89.88	9272.04	2111.10	9118.80	0.00	0.00	9123.12	PBHL(JRU DI 1 161H)
7	18436.51	89.63	89.88	9272.88	2111.37	9248.80	0.00	0.00	9253.13	



FORMATION TOP DETAILS

MDPath	Formation
185.00	Rustler
554.00	Salado
3362.00	B/Salt
3542.00	Delaware
3590.00	Bell
4478.83	Cherry
4666.10	B/Manzanita
6157.96	Brushy
7307.32	Basal Brushy
7352.61	B/Brushy
7621.47	Bone Spring
7729.80	Avalon Sand
8255.19	L/Avalon Shale
8377.81	1st BS Sand
8859.36	2nd BS LM
9132.19	2nd BS Sand

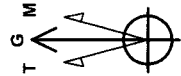


LEAM DRILLING SERVICES
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax: 936/756-7595

Plan: Plan #1 (DI 1 161H)OH
 Created By: David Vogler
 Date: 7:55, June 01 2017
 Approved: _____
 Date: _____

XTO Energy, Inc.

PROJECT DETAILS: Eddy County, NM (NAD 27)
 Project: Eddy County, NM (NAD 27)
 Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 Datum: GE 3165 + KB 24 @ 3189.00usft (Noram 25)
 Well: DI 1 161H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.24°
 Magnetic North: 6.96°
 Magnetic Field
 Strength: 48222.0nT
 Dip Angle: 60.23°
 Date: 5/25/2017
 Model: HDGM

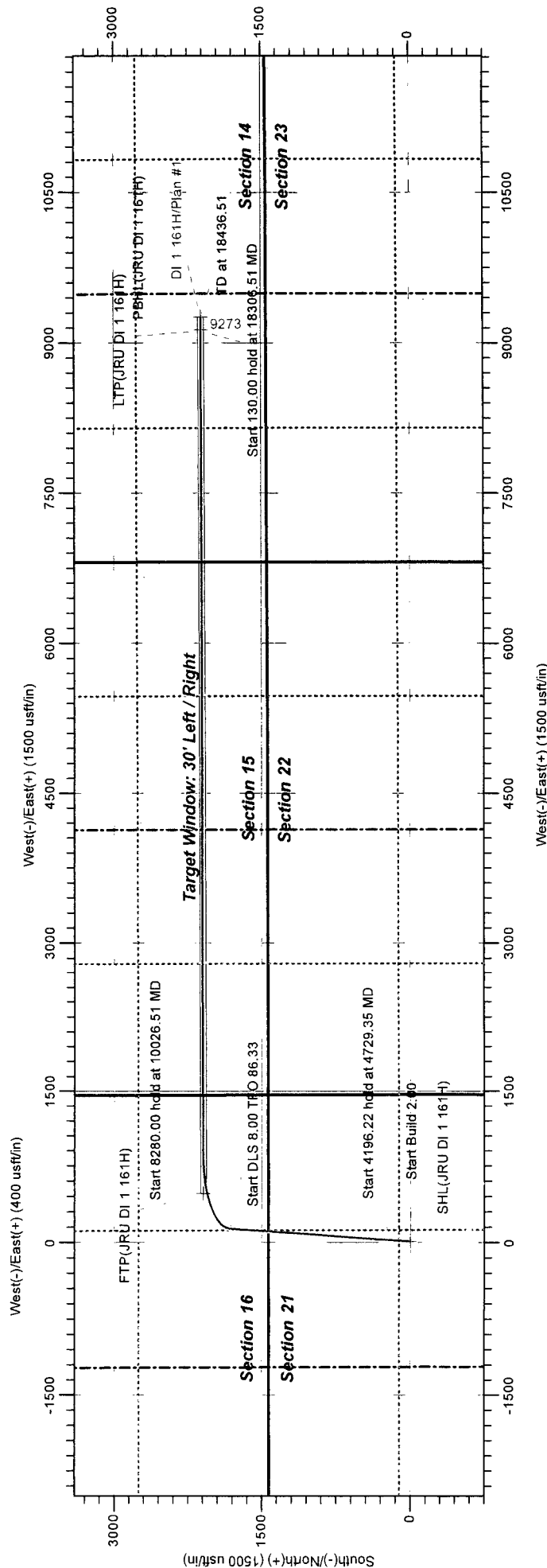
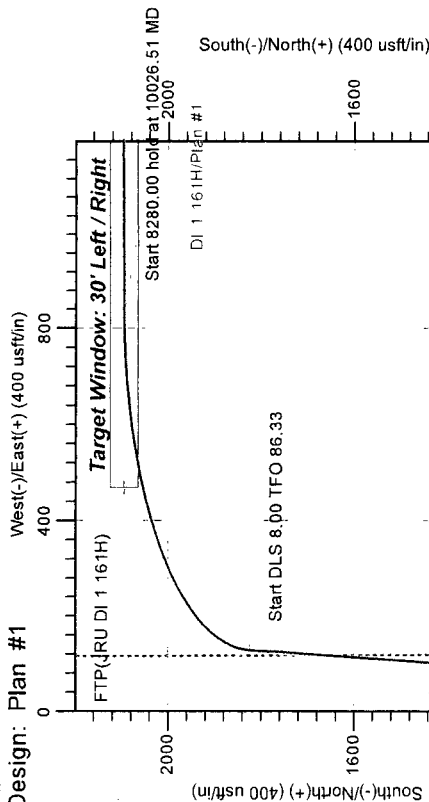


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL(JRU DI 1 161H)	0.00	0.00	0.00	502575.30	639381.00	32° 22' 51.189 N	103° 52' 54.607 W
FTP(JRU DI 1 161H)	9219.00	2093.40	467.20	504668.70	639848.20	32° 23' 11.885 N	103° 52' 49.055 W
LTP(JRU DI 1 161H)	9272.04	2111.10	9118.80	504686.40	648499.80	32° 23' 11.687 N	103° 51' 8.160 W
PBHL(JRU DI 1 161H)	9272.87	2111.40	9248.80	504686.70	648623.80	32° 23' 11.684 N	103° 51' 6.644 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	0.00	
3	4729.35	22.59	4.00	4700.32	219.20	15.35	2.00	4.00	15.80	
4	8925.57	22.59	4.00	8574.68	1826.97	127.90	0.00	0.00	131.66	
5	10026.51	89.63	89.88	9218.57	2093.76	838.99	8.00	86.33	843.30	LTP(JRU DI 1 161H)
6	18306.51	89.63	89.88	9272.04	2111.10	9118.80	0.00	0.00	9123.12	PBHL(JRU DI 1 161H)
7	18436.51	89.63	89.88	9272.88	2111.37	9248.80	0.00	0.00	9253.13	



LEAM DRILLING SERVICES
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax: 936/756-7595

Plan: Plan #1 (DI 1 161H/OH)
 Created By: David Vogler
 Date: 7:55, June 01 2017
 Approved: _____
 Date: _____

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 MULTI User DB
Company: XTO Energy, Inc.
Project: Eddy County, NM (NAD 27)
Site: James Ranch Unit DI 1
Well: DI 1 161H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well DI 1 161H
TVD Reference: GE 3165' + KB 24' @ 3189.00usft (Noram 25)
MD Reference: GE 3165' + KB 24' @ 3189.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	James Ranch Unit DI 1		
Site Position:		Northing:	502,574.70 usft
From:	Map	Easting:	639,393.10 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 22' 51.183 N
		Longitude:	103° 52' 54.466 W
		Grid Convergence:	0.24 °

Well	DI 1 161H		
Well Position	+N/-S	0.60 usft	Northing: 502,575.30 usft
	+E/-W	-12.10 usft	Easting: 639,381.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 22' 51.189 N
		Longitude:	103° 52' 54.607 W
		Ground Level:	3,165.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	5/25/2017	7.20
			Dip Angle
			(°)
			60.23
			Field Strength
			(nT)
			48,222

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			89.88

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,729.35	22.59	4.00	4,700.32	219.20	15.35	2.00	2.00	0.00	4.00	
8,925.57	22.59	4.00	8,574.68	1,826.97	127.90	0.00	0.00	0.00	0.00	
10,026.51	89.63	89.88	9,218.57	2,093.76	838.99	8.00	6.09	7.80	86.33	
18,306.51	89.63	89.88	9,272.04	2,111.10	9,118.80	0.00	0.00	0.00	0.00	LTP(JRU DI 1 161H)
18,436.51	89.63	89.88	9,272.88	2,111.37	9,248.80	0.00	0.00	0.00	0.00	PBHL(JRU DI 1 161H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 MULTI User DB
Company: XTO Energy, Inc.
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MD Reference: GE 3165' + KB 24' @ 3189.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL(JRU DI 1 161H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
185.00	0.00	0.00	185.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
554.00	0.00	0.00	554.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	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
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,362.00	0.00	0.00	3,362.00	0.00	0.00	0.00	0.00	0.00	0.00
B/Salt									
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,542.00	0.00	0.00	3,542.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
3,590.00	0.00	0.00	3,590.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell									
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	2.00	4.00	3,699.98	1.74	0.12	0.13	2.00	2.00	0.00
3,800.00	4.00	4.00	3,799.84	6.96	0.49	0.50	2.00	2.00	0.00
3,900.00	6.00	4.00	3,899.45	15.66	1.10	1.13	2.00	2.00	0.00
4,000.00	8.00	4.00	3,998.70	27.81	1.95	2.00	2.00	2.00	0.00
4,100.00	10.00	4.00	4,097.47	43.42	3.04	3.13	2.00	2.00	0.00

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Wellbore: OH
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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,200.00	12.00	4.00	4,195.62	62.45	4.37	4.50	2.00	2.00	0.00
4,300.00	14.00	4.00	4,293.06	84.89	5.94	6.12	2.00	2.00	0.00
4,400.00	16.00	4.00	4,389.64	110.71	7.75	7.98	2.00	2.00	0.00
4,479.83	17.60	4.00	4,466.06	133.72	9.36	9.64	2.00	2.00	0.00
Cherry									
4,500.00	18.00	4.00	4,485.27	139.87	9.79	10.08	2.00	2.00	0.00
4,600.00	20.00	4.00	4,579.82	172.35	12.07	12.42	2.00	2.00	0.00
4,692.38	21.85	4.00	4,666.10	205.25	14.37	14.79	2.00	2.00	0.00
B/Manzanita									
4,700.00	22.00	4.00	4,673.17	208.09	14.57	15.00	2.00	2.00	0.00
4,729.35	22.59	4.00	4,700.32	219.20	15.35	15.80	2.00	2.00	0.00
4,800.00	22.59	4.00	4,765.56	246.27	17.24	17.75	0.00	0.00	0.00
4,900.00	22.59	4.00	4,857.89	284.58	19.92	20.51	0.00	0.00	0.00
5,000.00	22.59	4.00	4,950.22	322.90	22.60	23.27	0.00	0.00	0.00
5,100.00	22.59	4.00	5,042.55	361.21	25.29	26.03	0.00	0.00	0.00
5,200.00	22.59	4.00	5,134.88	399.53	27.97	28.79	0.00	0.00	0.00
5,300.00	22.59	4.00	5,227.21	437.84	30.65	31.55	0.00	0.00	0.00
5,400.00	22.59	4.00	5,319.53	476.16	33.33	34.31	0.00	0.00	0.00
5,500.00	22.59	4.00	5,411.86	514.47	36.02	37.07	0.00	0.00	0.00
5,600.00	22.59	4.00	5,504.19	552.79	38.70	39.84	0.00	0.00	0.00
5,700.00	22.59	4.00	5,596.52	591.10	41.38	42.60	0.00	0.00	0.00
5,800.00	22.59	4.00	5,688.85	629.42	44.06	45.36	0.00	0.00	0.00
5,900.00	22.59	4.00	5,781.18	667.73	46.74	48.12	0.00	0.00	0.00
6,000.00	22.59	4.00	5,873.51	706.05	49.43	50.88	0.00	0.00	0.00
6,100.00	22.59	4.00	5,965.84	744.36	52.11	53.64	0.00	0.00	0.00
6,157.96	22.59	4.00	6,019.36	766.57	53.66	55.24	0.00	0.00	0.00
Brushy									
6,200.00	22.59	4.00	6,058.17	782.67	54.79	56.40	0.00	0.00	0.00
6,300.00	22.59	4.00	6,150.50	820.99	57.47	59.16	0.00	0.00	0.00
6,400.00	22.59	4.00	6,242.83	859.30	60.16	61.92	0.00	0.00	0.00
6,500.00	22.59	4.00	6,335.16	897.62	62.84	64.69	0.00	0.00	0.00
6,600.00	22.59	4.00	6,427.49	935.93	65.52	67.45	0.00	0.00	0.00
6,700.00	22.59	4.00	6,519.82	974.25	68.20	70.21	0.00	0.00	0.00
6,800.00	22.59	4.00	6,612.15	1,012.56	70.89	72.97	0.00	0.00	0.00
6,900.00	22.59	4.00	6,704.48	1,050.88	73.57	75.73	0.00	0.00	0.00
7,000.00	22.59	4.00	6,796.81	1,089.19	76.25	78.49	0.00	0.00	0.00
7,100.00	22.59	4.00	6,889.14	1,127.51	78.93	81.25	0.00	0.00	0.00
7,200.00	22.59	4.00	6,981.47	1,165.82	81.61	84.01	0.00	0.00	0.00
7,300.00	22.59	4.00	7,073.80	1,204.14	84.30	86.77	0.00	0.00	0.00
7,307.32	22.59	4.00	7,080.56	1,206.94	84.49	86.98	0.00	0.00	0.00
Basal Brushy									
7,400.00	22.59	4.00	7,166.13	1,242.45	86.98	89.54	0.00	0.00	0.00
7,500.00	22.59	4.00	7,258.46	1,280.77	89.66	92.30	0.00	0.00	0.00
7,600.00	22.59	4.00	7,350.79	1,319.08	92.34	95.06	0.00	0.00	0.00
7,601.98	22.59	4.00	7,352.61	1,319.84	92.40	95.11	0.00	0.00	0.00
B/Brushy									
7,621.47	22.59	4.00	7,370.62	1,327.31	92.92	95.65	0.00	0.00	0.00
Bone Spring									
7,700.00	22.59	4.00	7,443.12	1,357.39	95.03	97.82	0.00	0.00	0.00
7,729.80	22.59	4.00	7,470.64	1,368.81	95.82	98.64	0.00	0.00	0.00
Avalon Sand									
7,800.00	22.59	4.00	7,535.45	1,395.71	97.71	100.58	0.00	0.00	0.00
7,900.00	22.59	4.00	7,627.78	1,434.02	100.39	103.34	0.00	0.00	0.00

LEAM Drilling Systems LLC

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Well: DI 1 161H
Wellbore: OH
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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,000.00	22.59	4.00	7,720.11	1,472.34	103.07	106.10	0.00	0.00	0.00
8,100.00	22.59	4.00	7,812.44	1,510.65	105.75	108.86	0.00	0.00	0.00
8,200.00	22.59	4.00	7,904.77	1,548.97	108.44	111.62	0.00	0.00	0.00
8,255.20	22.59	4.00	7,955.73	1,570.12	109.92	113.15	0.00	0.00	0.00
L/Avalon Shale									
8,300.00	22.59	4.00	7,997.10	1,587.28	111.12	114.38	0.00	0.00	0.00
8,400.00	22.59	4.00	8,089.43	1,625.60	113.80	117.15	0.00	0.00	0.00
8,500.00	22.59	4.00	8,181.76	1,663.91	116.48	119.91	0.00	0.00	0.00
8,600.00	22.59	4.00	8,274.09	1,702.23	119.17	122.67	0.00	0.00	0.00
8,700.00	22.59	4.00	8,366.42	1,740.54	121.85	125.43	0.00	0.00	0.00
8,712.34	22.59	4.00	8,377.81	1,745.27	122.18	125.77	0.00	0.00	0.00
1st BS Sand									
8,800.00	22.59	4.00	8,458.75	1,778.86	124.53	128.19	0.00	0.00	0.00
8,900.00	22.59	4.00	8,551.08	1,817.17	127.21	130.95	0.00	0.00	0.00
8,925.57	22.59	4.00	8,574.68	1,826.97	127.90	131.66	0.00	0.00	0.00
8,950.00	22.79	9.05	8,597.23	1,836.32	128.97	132.75	8.00	0.84	20.63
9,000.00	23.69	18.94	8,643.19	1,855.39	133.75	137.57	8.00	1.79	19.79
9,050.00	25.16	27.95	8,688.73	1,874.29	142.00	145.85	8.00	2.94	18.02
9,100.00	27.11	35.88	8,733.63	1,892.91	153.66	157.56	8.00	3.91	15.87
9,150.00	29.45	42.73	8,777.67	1,911.18	168.69	172.62	8.00	4.68	13.71
9,200.00	32.10	48.61	8,820.64	1,929.00	187.00	190.97	8.00	5.29	11.75
9,246.40	34.76	53.31	8,859.36	1,945.06	206.86	210.86	8.00	5.74	10.13
2nd BS LM									
9,250.00	34.97	53.64	8,862.32	1,946.29	208.51	212.52	8.00	5.94	9.38
9,300.00	38.03	57.99	8,902.51	1,962.95	233.12	237.16	8.00	6.11	8.68
9,350.00	41.22	61.76	8,941.02	1,978.92	260.71	264.78	8.00	6.39	7.55
9,400.00	44.53	65.08	8,977.66	1,994.11	291.14	295.24	8.00	6.61	6.63
9,450.00	47.92	68.02	9,012.26	2,008.44	324.25	328.39	8.00	6.78	5.89
9,500.00	51.37	70.67	9,044.63	2,021.86	359.90	364.06	8.00	6.91	5.29
9,550.00	54.88	73.07	9,074.63	2,034.28	397.91	402.10	8.00	7.02	4.80
9,600.00	58.44	75.26	9,102.11	2,045.66	438.09	442.30	8.00	7.11	4.40
9,650.00	62.03	77.30	9,126.93	2,055.94	480.25	484.48	8.00	7.18	4.07
9,661.37	62.85	77.74	9,132.19	2,058.12	490.09	494.33	8.00	7.21	3.90
2nd BS Sand									
9,685.24	64.57	78.65	9,142.76	2,062.49	511.04	515.28	8.00	7.23	3.82
FTP(JRU DI 1 161H)									
9,700.00	65.64	79.20	9,148.98	2,065.06	524.18	528.43	8.00	7.25	3.73
9,750.00	69.28	81.00	9,168.14	2,072.99	569.66	573.93	8.00	7.28	3.60
9,800.00	72.94	82.72	9,184.33	2,079.68	616.49	620.76	8.00	7.31	3.43
9,850.00	76.61	84.36	9,197.46	2,085.10	664.41	668.70	8.00	7.34	3.29
9,900.00	80.29	85.96	9,207.47	2,089.22	713.22	717.52	8.00	7.36	3.20
9,950.00	83.98	87.52	9,214.31	2,092.03	762.66	766.96	8.00	7.38	3.13
10,000.00	87.67	89.07	9,217.95	2,093.52	812.49	816.80	8.00	7.39	3.08
10,026.51	89.63	89.88	9,218.57	2,093.76	838.99	843.30	8.00	7.39	3.07
10,100.00	89.63	89.88	9,219.05	2,093.91	912.48	916.79	0.00	0.00	0.00
10,200.00	89.63	89.88	9,219.69	2,094.12	1,012.48	1,016.79	0.00	0.00	0.00
10,300.00	89.63	89.88	9,220.34	2,094.33	1,112.48	1,116.78	0.00	0.00	0.00
10,400.00	89.63	89.88	9,220.98	2,094.54	1,212.47	1,216.78	0.00	0.00	0.00
10,500.00	89.63	89.88	9,221.63	2,094.75	1,312.47	1,316.78	0.00	0.00	0.00
10,600.00	89.63	89.88	9,222.27	2,094.96	1,412.47	1,416.78	0.00	0.00	0.00
10,700.00	89.63	89.88	9,222.92	2,095.17	1,512.47	1,516.78	0.00	0.00	0.00
10,800.00	89.63	89.88	9,223.57	2,095.38	1,612.47	1,616.77	0.00	0.00	0.00
10,900.00	89.63	89.88	9,224.21	2,095.59	1,712.46	1,716.77	0.00	0.00	0.00

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11,000.00	89.63	89.88	9,224.86	2,095.80	1,812.46	1,816.77	0.00	0.00	0.00
11,100.00	89.63	89.88	9,225.50	2,096.01	1,912.46	1,916.77	0.00	0.00	0.00
11,200.00	89.63	89.88	9,226.15	2,096.22	2,012.46	2,016.77	0.00	0.00	0.00
11,300.00	89.63	89.88	9,226.79	2,096.43	2,112.45	2,116.76	0.00	0.00	0.00
11,400.00	89.63	89.88	9,227.44	2,096.64	2,212.45	2,216.76	0.00	0.00	0.00
11,500.00	89.63	89.88	9,228.09	2,096.84	2,312.45	2,316.76	0.00	0.00	0.00
11,600.00	89.63	89.88	9,228.73	2,097.05	2,412.45	2,416.76	0.00	0.00	0.00
11,700.00	89.63	89.88	9,229.38	2,097.26	2,512.44	2,516.75	0.00	0.00	0.00
11,800.00	89.63	89.88	9,230.02	2,097.47	2,612.44	2,616.75	0.00	0.00	0.00
11,900.00	89.63	89.88	9,230.67	2,097.68	2,712.44	2,716.75	0.00	0.00	0.00
12,000.00	89.63	89.88	9,231.31	2,097.89	2,812.44	2,816.75	0.00	0.00	0.00
12,100.00	89.63	89.88	9,231.96	2,098.10	2,912.44	2,916.75	0.00	0.00	0.00
12,200.00	89.63	89.88	9,232.61	2,098.31	3,012.43	3,016.74	0.00	0.00	0.00
12,300.00	89.63	89.88	9,233.25	2,098.52	3,112.43	3,116.74	0.00	0.00	0.00
12,400.00	89.63	89.88	9,233.90	2,098.73	3,212.43	3,216.74	0.00	0.00	0.00
12,500.00	89.63	89.88	9,234.54	2,098.94	3,312.43	3,316.74	0.00	0.00	0.00
12,600.00	89.63	89.88	9,235.19	2,099.15	3,412.42	3,416.74	0.00	0.00	0.00
12,700.00	89.63	89.88	9,235.84	2,099.36	3,512.42	3,516.73	0.00	0.00	0.00
12,800.00	89.63	89.88	9,236.48	2,099.57	3,612.42	3,616.73	0.00	0.00	0.00
12,900.00	89.63	89.88	9,237.13	2,099.78	3,712.42	3,716.73	0.00	0.00	0.00
13,000.00	89.63	89.88	9,237.77	2,099.99	3,812.41	3,816.73	0.00	0.00	0.00
13,100.00	89.63	89.88	9,238.42	2,100.20	3,912.41	3,916.73	0.00	0.00	0.00
13,200.00	89.63	89.88	9,239.06	2,100.41	4,012.41	4,016.72	0.00	0.00	0.00
13,300.00	89.63	89.88	9,239.71	2,100.61	4,112.41	4,116.72	0.00	0.00	0.00
13,400.00	89.63	89.88	9,240.36	2,100.82	4,212.41	4,216.72	0.00	0.00	0.00
13,500.00	89.63	89.88	9,241.00	2,101.03	4,312.40	4,316.72	0.00	0.00	0.00
13,600.00	89.63	89.88	9,241.65	2,101.24	4,412.40	4,416.72	0.00	0.00	0.00
13,700.00	89.63	89.88	9,242.29	2,101.45	4,512.40	4,516.71	0.00	0.00	0.00
13,800.00	89.63	89.88	9,242.94	2,101.66	4,612.40	4,616.71	0.00	0.00	0.00
13,900.00	89.63	89.88	9,243.58	2,101.87	4,712.39	4,716.71	0.00	0.00	0.00
14,000.00	89.63	89.88	9,244.23	2,102.08	4,812.39	4,816.71	0.00	0.00	0.00
14,100.00	89.63	89.88	9,244.88	2,102.29	4,912.39	4,916.70	0.00	0.00	0.00
14,200.00	89.63	89.88	9,245.52	2,102.50	5,012.39	5,016.70	0.00	0.00	0.00
14,300.00	89.63	89.88	9,246.17	2,102.71	5,112.38	5,116.70	0.00	0.00	0.00
14,400.00	89.63	89.88	9,246.81	2,102.92	5,212.38	5,216.70	0.00	0.00	0.00
14,500.00	89.63	89.88	9,247.46	2,103.13	5,312.38	5,316.70	0.00	0.00	0.00
14,600.00	89.63	89.88	9,248.10	2,103.34	5,412.38	5,416.69	0.00	0.00	0.00
14,700.00	89.63	89.88	9,248.75	2,103.55	5,512.38	5,516.69	0.00	0.00	0.00
14,800.00	89.63	89.88	9,249.40	2,103.76	5,612.37	5,616.69	0.00	0.00	0.00
14,900.00	89.63	89.88	9,250.04	2,103.97	5,712.37	5,716.69	0.00	0.00	0.00
15,000.00	89.63	89.88	9,250.69	2,104.18	5,812.37	5,816.69	0.00	0.00	0.00
15,100.00	89.63	89.88	9,251.33	2,104.38	5,912.37	5,916.68	0.00	0.00	0.00
15,200.00	89.63	89.88	9,251.98	2,104.59	6,012.36	6,016.68	0.00	0.00	0.00
15,300.00	89.63	89.88	9,252.63	2,104.80	6,112.36	6,116.68	0.00	0.00	0.00
15,400.00	89.63	89.88	9,253.27	2,105.01	6,212.36	6,216.68	0.00	0.00	0.00
15,500.00	89.63	89.88	9,253.92	2,105.22	6,312.36	6,316.68	0.00	0.00	0.00
15,600.00	89.63	89.88	9,254.56	2,105.43	6,412.35	6,416.67	0.00	0.00	0.00
15,700.00	89.63	89.88	9,255.21	2,105.64	6,512.35	6,516.67	0.00	0.00	0.00
15,800.00	89.63	89.88	9,255.85	2,105.85	6,612.35	6,616.67	0.00	0.00	0.00
15,900.00	89.63	89.88	9,256.50	2,106.06	6,712.35	6,716.67	0.00	0.00	0.00
16,000.00	89.63	89.88	9,257.15	2,106.27	6,812.35	6,816.67	0.00	0.00	0.00
16,100.00	89.63	89.88	9,257.79	2,106.48	6,912.34	6,916.66	0.00	0.00	0.00
16,200.00	89.63	89.88	9,258.44	2,106.69	7,012.34	7,016.66	0.00	0.00	0.00
16,300.00	89.63	89.88	9,259.08	2,106.90	7,112.34	7,116.66	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 MULTI User DB
Company: XTO Energy, Inc.
Project: Eddy County, NM (NAD 27)
Site: James Ranch Unit DI 1
Well: DI 1 161H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well DI 1 161H
TVD Reference: GE 3165' + KB 24' @ 3189.00usft (Noram 25)
MD Reference: GE 3165' + KB 24' @ 3189.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,400.00	89.63	89.88	9,259.73	2,107.11	7,212.34	7,216.66	0.00	0.00	0.00
16,500.00	89.63	89.88	9,260.37	2,107.32	7,312.33	7,316.65	0.00	0.00	0.00
16,600.00	89.63	89.88	9,261.02	2,107.53	7,412.33	7,416.65	0.00	0.00	0.00
16,700.00	89.63	89.88	9,261.67	2,107.74	7,512.33	7,516.65	0.00	0.00	0.00
16,800.00	89.63	89.88	9,262.31	2,107.94	7,612.33	7,616.65	0.00	0.00	0.00
16,900.00	89.63	89.88	9,262.96	2,108.15	7,712.32	7,716.65	0.00	0.00	0.00
17,000.00	89.63	89.88	9,263.60	2,108.36	7,812.32	7,816.64	0.00	0.00	0.00
17,100.00	89.63	89.88	9,264.25	2,108.57	7,912.32	7,916.64	0.00	0.00	0.00
17,200.00	89.63	89.88	9,264.89	2,108.78	8,012.32	8,016.64	0.00	0.00	0.00
17,300.00	89.63	89.88	9,265.54	2,108.99	8,112.32	8,116.64	0.00	0.00	0.00
17,400.00	89.63	89.88	9,266.19	2,109.20	8,212.31	8,216.64	0.00	0.00	0.00
17,500.00	89.63	89.88	9,266.83	2,109.41	8,312.31	8,316.63	0.00	0.00	0.00
17,600.00	89.63	89.88	9,267.48	2,109.62	8,412.31	8,416.63	0.00	0.00	0.00
17,700.00	89.63	89.88	9,268.12	2,109.83	8,512.31	8,516.63	0.00	0.00	0.00
17,800.00	89.63	89.88	9,268.77	2,110.04	8,612.30	8,616.63	0.00	0.00	0.00
17,900.00	89.63	89.88	9,269.42	2,110.25	8,712.30	8,716.63	0.00	0.00	0.00
18,000.00	89.63	89.88	9,270.06	2,110.46	8,812.30	8,816.62	0.00	0.00	0.00
18,100.00	89.63	89.88	9,270.71	2,110.67	8,912.30	8,916.62	0.00	0.00	0.00
18,200.00	89.63	89.88	9,271.35	2,110.88	9,012.29	9,016.62	0.00	0.00	0.00
18,306.51	89.63	89.88	9,272.04	2,111.10	9,118.80	9,123.13	0.00	0.00	0.00
LTP(JRU DI 1 161H)									
18,400.00	89.63	89.88	9,272.64	2,111.30	9,212.29	9,216.62	0.00	0.00	0.00
18,436.51	89.63	89.88	9,272.88	2,111.37	9,248.80	9,253.13	0.00	0.00	0.00
PBHL(JRU DI 1 161H)									

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL(JRU DI 1 161H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	502,575.30	639,381.00	32° 22' 51.189 N	103° 52' 54.607 W
FTP(JRU DI 1 161H) - plan misses target center by 93.22usft at 9685.24usft MD (9142.76 TVD, 2062.49 N, 511.04 E) - Point	0.00	0.00	9,219.00	2,093.40	467.20	504,668.70	639,848.20	32° 23' 11.885 N	103° 52' 49.055 W
LTP(JRU DI 1 161H) - plan hits target center - Point	0.00	0.01	9,272.04	2,111.10	9,118.80	504,686.40	648,499.80	32° 23' 11.687 N	103° 51' 8.160 W
PBHL(JRU DI 1 161H) - plan misses target center by 0.03usft at 18436.51usft MD (9272.88 TVD, 2111.37 N, 9248.80 E) - Rectangle (sides W60.00 H8,782.00 D0.00)	0.37	89.88	9,272.87	2,111.40	9,248.80	504,686.70	648,629.80	32° 23' 11.684 N	103° 51' 6.644 W

LEAM Drilling Systems LLC

Planning Report

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Company: XTO Energy, Inc.
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Site: James Ranch Unit DI 1
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Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well DI 1 161H
TVD Reference: GE 3165' + KB 24' @ 3189.00usft (Noram 25)
MD Reference: GE 3165' + KB 24' @ 3189.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
185.00	185.00	Rustler		0.37	89.88
554.00	554.00	Salado		0.37	89.88
3,362.00	3,362.00	B/Salt		0.37	89.88
3,542.00	3,542.00	Delaware		0.37	89.88
3,590.00	3,590.00	Bell		0.37	89.88
4,479.83	4,466.06	Cherry		0.37	89.88
4,692.38	4,666.10	B/Manzanita		0.37	89.88
6,157.96	6,019.36	Brushy		0.37	89.88
7,307.32	7,080.56	Basal Brushy		0.37	89.88
7,601.98	7,352.61	B/Brushy		0.37	89.88
7,621.47	7,370.62	Bone Spring		0.37	89.88
7,729.80	7,470.64	Avalon Sand		0.37	89.88
8,255.20	7,955.73	L/Avalon Shale		0.37	89.88
8,712.34	8,377.81	1st BS Sand		0.37	89.88
9,246.40	8,859.36	2nd BS LM		0.37	89.88
9,661.37	9,132.19	2nd BS Sand		0.37	89.88



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

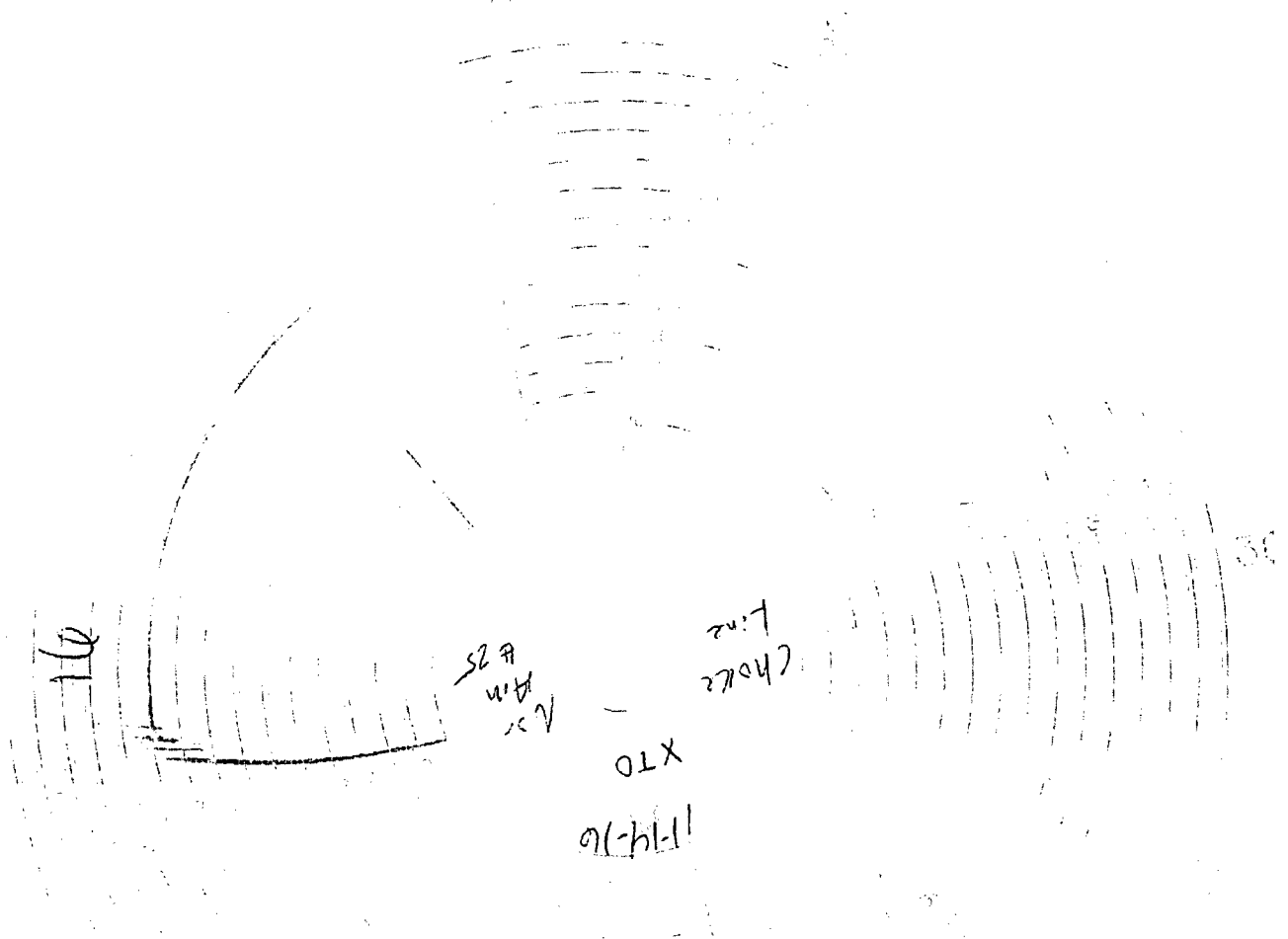
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

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:	NORMA
Product Description:	FDJ-042-08-1/16.5KFLGE/E LE		
End Fitting 1:	4 1/16 in. SK FLG	End Fitting 2:	4 1/16 in. SK FLG
Gates Part No.:	4774-6001	Assembly Code:	L33090011513D-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:	



2000

4.5% SKID 4 1/2 SKID

CLOSE ID. 200

LENGTH 425

CHD 1

GRADE 200

WORKING PRESSURE 5000

PSI

TEST PRESSURE 7500

SI

ASSEMBLY DATE 10-11

90

TEST DATE 10-14

SERIAL

6380960115130-042814-100

90

TEST DATE 10-14

SERIAL

6380960115130-042814-100

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TEST DATE 10-14

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6380960115130-042814-100

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6380960115130-042814-100

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6380960115130-042814-100

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PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NMNM-06808
WELL NAME & NO.:	James Ranch Unit DI 1 161H
SURFACE HOLE FOOTAGE:	1433' FNL & 1462' FEL
BOTTOM HOLE FOOTAGE	0660' FSL & 2440' FWL Sec. 14, T. 22 S., R 30 E.
LOCATION:	Section 21, T. 22 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

All previous COAs still apply except for the following:

A. 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 Rustler and Delaware.

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.

ON A THREE STRING DESIGN; 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 13-3/8 inch surface casing shall be set at approximately **536** 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.

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

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
☒ Cement to surface. If cement does not circulate see A.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.**
3. The minimum required fill of cement behind the 5 1/2 inch production casing is:
☒ Cement to surface. Operator shall provide method of verification. **Excess calculates to 1% - additional cement may be required.**

4. 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.
5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 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).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi**.
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**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- 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.

MHH 11032017