

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

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.

FEB 06 2018

SUBMIT IN TRIPLICATE - Other instructions on page 2

RECEIVED

5. Lease Serial No. NMNM87274
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No. SEVERUS 31 FEDERAL COM 3H
9. API Well No. 30-025-43417-00-X1
10. Field and Pool or Exploratory Area WC-025 G08 S213304D
11. County or Parish, State LEA COUNTY, NM

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	
2. Name of Operator XTO ENERGY INCORPORATED	Contact: STEPHANIE RABADUE
3a. Address 500 W ILLINOIS STREET SUITE 100 MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 432.620.6714
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 30 T20S R34E SESW 240FSL 1750FWL	

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.

XTO Energy, Inc respectfully requests the following changes to the original approved APD:

- SHL move 147' North from original loc after adding additional wells to the drill island in May 2017.
- Extend the lateral.

An updated C-102 and drilling program is attached for this well.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**Carlsbad Field Office
OCD Hobbs**

14. I hereby certify that the foregoing is true and correct. Electronic Submission #397199 verified by the BLM Well Information System For XTO ENERGY INCORPORATED, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 12/18/2017 (18PP0374SE)	
Name (Printed/Typed) STEPHANIE RABADUE	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 12/07/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>ZOTA STEVENS</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>02/01/2018</u>
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 Hobbs

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)

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

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 FEB 06 2018

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

HOBBS OCD

RECEIVED

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-43417	Pool Code 97895	Pool Name WC-025 G-08 52133040, Bone Spring
Property Code 316800	Property Name SEVERUS 31 FEDERAL COM	Well Number 3H
OGRID No. 065380	Operator Name XTO ENERGY	Elevation 3687'

Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	30	20-S	34-E		387	SOUTH	1750	WEST	LEA

Bottom Hole Location If Different From Surface									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
5	5	21-S	33-E		2401.2	NORTH	330	WEST	LEA
Dedicated Acres 200	Joint or Infill	Consolidation Code	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

CORNER COORDINATES TABLE

NAD 27 NME

A - Y= 561067.8 N, X= 724944.7 E
B - Y= 561080.6 N, X= 726265.6 E
C - Y= 559748.6 N, X= 724954.5 E
D - Y= 559761.2 N, X= 726275.9 E
E - Y= 554462.8 N, X= 724985.8 E
F - Y= 554471.1 N, X= 726309.1 E
G - Y= 554464.1 N, X= 725198.2 E
H - Y= 554472.4 N, X= 726513.7 E
I - Y= 551859.0 N, X= 725217.4 E
J - Y= 551866.9 N, X= 726533.5 E

CORNER COORDINATES TABLE

NAD 83 NME

A - Y= 561129.9 N, X= 766125.8 E
B - Y= 561142.7 N, X= 767446.8 E
C - Y= 559810.7 N, X= 766135.7 E
D - Y= 559823.3 N, X= 767457.1 E
E - Y= 554524.7 N, X= 766167.1 E
F - Y= 554533.0 N, X= 767490.5 E
G - Y= 554526.0 N, X= 766379.6 E
H - Y= 554534.3 N, X= 767695.1 E
I - Y= 551920.8 N, X= 766398.8 E
J - Y= 551928.7 N, X= 767714.9 E

SECOND TAKE POINT
NAD 27 NME
Y= 552195.6 N
X= 725544.8 E
LAT.= 32.515967° N
LONG.= 103.601638° W

SECOND TAKE POINT
NAD 83 NME
Y= 552257.4 N
X= 766726.3 E
LAT.= 32.516090° N
LONG.= 103.602128° W

BOTTOM HOLE LOCATION
NAD 27 NME
Y= 552065.6 N
X= 725545.8 E
LAT.= 32.515610° N
LONG.= 103.601638° W

BOTTOM HOLE LOCATION
NAD 83 NME
Y= 552127.4 N
X= 766727.2 E
LAT.= 32.515733° N
LONG.= 103.602128° W

GEODETIC COORDINATES

NAD 27 NME
SURFACE LOCATION
Y= 560139.6 N
X= 725374.8 E
LAT.= 32.537805° N
LONG.= 103.602013° W

NAD 83 NME
SURFACE LOCATION
Y= 560201.6 N
X= 766555.9 E
LAT.= 32.537928° N
LONG.= 103.602504° W

FIRST TAKE POINT
NAD 27 NME
Y= 559423.8 N
X= 725492.5 E
LAT.= 32.535836° N
LONG.= 103.601647° W

FIRST TAKE POINT
NAD 83 NME
Y= 559485.9 N
X= 766673.7 E
LAT.= 32.535959° N
LONG.= 103.602137° W

OPERATOR CERTIFICATION

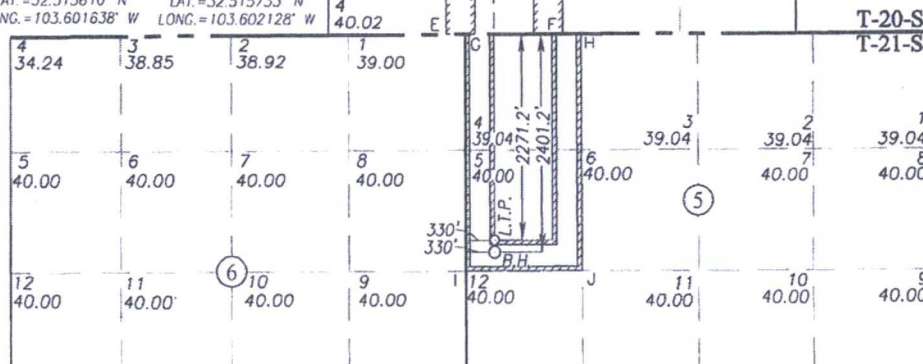
I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant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

Stephanie Rabadue
Signature Date
Stephanie Rabadue
Printed Name
Stephanie - rabadue@xtoenergy.com
E-mail Address

SURVEYOR CERTIFICATION

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

JUNE 2, 2017
Date of Survey
Signature of Professional Surveyor:
Ronald J. Eidson
REGISTERED PROFESSIONAL SURVEYOR
3239
Certificate Number
Jary G. Eidson 12641
Ronald J. Eidson 3239
ACK REL. W.O.: 17130033 JWSC W.O.: 17.11.0390



SCALE: 1"=2000'

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

XTO Energy Inc.
Severus 31 Federal Com 3H
Projected TD: 19119' MD / 11284' TVD
SHL: 387' FSL & 1750' FWL , Section 30, T20S, R34E
BHL: 2401.2' FNL & 330' FWL , Section 5, T21S, R33E
Lea 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	1552'	Water
Top of Salt	1919'	Water
Base of Salt	3167'	Water
Delaware	5595'	Water
Bone Spring	8667'	Water/Oil/Gas
1st Bone Spring Ss	9668'	Water/Oil/Gas
2nd Bone Spring Ss	10184'	Water/Oil/Gas
3rd Bone Spring Ss	11049'	Water/Oil/Gas
Target/Land Curve	11284'	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 @ 1660' (100' into the Rustler) and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 5700'. A DV tool will be set @ 1760' (100' below the surface shoe). Cement will be circulated 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 to surface.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 1660'	13-3/8"	54.5#	STC	J-55	New	1.54	1.49	6.45
12-1/4"	0' – 5700'	9-5/8"	36#	LTC	J-55	New	1.18	1.13	2.21
8-3/4" x 8-1/2"	0' – 19119'	5-1/2"	17#	BTC	P-110	New	1.12	1.37	2.26

- 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", 54.5# New J-55, STC casing to be set at +/- 1660'

Lead: 1010 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft³/sx, 10.13 gal/sx water)

Tail: 300 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

Intermediate Casing: 9-5/8", 36# New J-55, LTC casing to be set at +/- 5700'

First Stage

Lead: 1140 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

If losses are severe, a DV tool will be set @ 1760' (100' below the surface shoe).

Second Stage

Lead: 620 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, ft³/sx, 9.61 gal/sx water)

Tail: 180 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, ft³/sx, 6.39 gal/sx water)

Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Production Casing: 5-1/2", 17# New P-110, BTC casing to be set at +/- 19119'

Lead: 1240 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft³/sx, 12.26 gal/sx water)

Tail: 1670 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

5. Pressure Control Equipment

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 2974 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 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 1660'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
1660' to 5700'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
5700' to 19119'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer	9 - 9.3	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.

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) below intermediate casing.

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 155 to 175 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 2974 psi.

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.

**HOBBS OCD**

FEB 06 2018

RECEIVED**5D Plan Report**

XTO Energy

Field Name: *XTO Lea Co, NM (NAD 27 NME)*
Site Name: *Severus 31 Federal Com 3H*
Well Name: *Severus 31 Federal Com 3H*
Plan: *P1:V4*

29 November 2017





Severus 31 Federal Com 3H

Field Name: XTO Lea Co, NM (NAD 27 NME)	Map Units: US ft		Company Name: XTO Energy	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD27 / New Mexico East			
	Comment:			
Site: Severus 31 Federal Com 3H	Units: US ft	North Reference: Grid	Convergence Angle: 0.39	
	Position:	Northing: 560139.60 US ft	Latitude: 32° 32' 16.10"	
		Easting: 725374.80 US ft	Longitude: -103° 36' 7.25"	
	Elevation above MSL:3687.00 US ft		Comment:	
Slot: Severus 31 Federal Com 3H	Position (Relative to Site Centre)			
	+N/-S: 0.00 US ft	Northing: 560139.60 US ft	Latitude: 32°32'16.10"	
	+E/-W: 0.00 US ft	Easting: 725374.80 US ft	Longitude: -103°36'7.25"	
	Elevation above MSL: 3687.00 US ft		Comment:	
Well: Severus 31 Federal Com 3H	Type:Main well	UWI:	Plan:P1:V4	
	File Number:	Comment:		
	Closure Distance:8075.81US ft	Closure Azimuth:178.79°		
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: -0.00 US ft	+E/-W: -0.00 US ft	Az: 179.58°	
	Magnetic Parameters:			
	Model: bggm2017	Field Strength: 48161.7nT	Declination: 6.99°	Dip: 60.33°
				Date: 25/Nov/2017

Drill floor: Plan: P1:V4

Rig Height (Kelly Bushing): Elevation above MSL: 30.00us ft **Inclination:** 0.00° **Azimuth:** 0.00°
3717.00us ft

Target set: SEVERUS 31-5 FED COM 3H Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (USFt)	Easting (USFt)	C.Pt.Distance (US ft)	Comment
FTP	Cylinder	11284.00	-715.80	117.70	559423.80	725492.50	1.59	
LTP	Cylinder	0.00	-7944.00	170.00	552195.60	725544.80	7945.82	
PBHL	Cuboid	11395.00	-8074.00	171.00	552065.60	725545.80	0.00	

Casing Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
5450.00	0.00	0.00	5450.00	-0.00	-0.00	560139.60	725374.80	9 5/8 in

Wellpath created using minimum curvature.

5D Plan Report

Tie Point:
MD: 0.00USFt **Inclination:** 0.00° **Azimuth:** 0.00° **TVD:** 0.00USFt **North Offset:** - **East Offset:** -
 0.00° 0.00USFt 0.00USFt

Salient Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	
5450.00	0.00	0.00	5450.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	9 5/8 in
10690.00	0.00	0.00	10690.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	KOP
10990.00	30.00	153.00	10976.48	68.65	-68.40	34.85	10.00	0.00	10.00	Build/Turn
11616.15	89.15	179.58	11283.44	572.89	-572.06	116.48	9.45	4.25	10.00	LP
19119.12	89.15	179.58	11395.00	8075.04	-8074.00	171.00	0.00	0.00	0.00	3H PBHL

Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
100.00	0.00	0.00	100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
200.00	0.00	0.00	200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
300.00	0.00	0.00	300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
400.00	0.00	0.00	400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
500.00	0.00	0.00	500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
600.00	0.00	0.00	600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
700.00	0.00	0.00	700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
800.00	0.00	0.00	800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
900.00	0.00	0.00	900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1000.00	0.00	0.00	1000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1100.00	0.00	0.00	1100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1200.00	0.00	0.00	1200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1300.00	0.00	0.00	1300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1400.00	0.00	0.00	1400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1500.00	0.00	0.00	1500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1600.00	0.00	0.00	1600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1700.00	0.00	0.00	1700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1800.00	0.00	0.00	1800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
1900.00	0.00	0.00	1900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2000.00	0.00	0.00	2000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2100.00	0.00	0.00	2100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2200.00	0.00	0.00	2200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2300.00	0.00	0.00	2300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2400.00	0.00	0.00	2400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2500.00	0.00	0.00	2500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2600.00	0.00	0.00	2600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2700.00	0.00	0.00	2700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2800.00	0.00	0.00	2800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
2900.00	0.00	0.00	2900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3000.00	0.00	0.00	3000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3100.00	0.00	0.00	3100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3200.00	0.00	0.00	3200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3300.00	0.00	0.00	3300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3400.00	0.00	0.00	3400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3500.00	0.00	0.00	3500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3600.00	0.00	0.00	3600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3700.00	0.00	0.00	3700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3800.00	0.00	0.00	3800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
3900.00	0.00	0.00	3900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4000.00	0.00	0.00	4000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4100.00	0.00	0.00	4100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4200.00	0.00	0.00	4200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4300.00	0.00	0.00	4300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4400.00	0.00	0.00	4400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	
4500.00	0.00	0.00	4500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4600.00	0.00	0.00	4600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4700.00	0.00	0.00	4700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4800.00	0.00	0.00	4800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
4900.00	0.00	0.00	4900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5000.00	0.00	0.00	5000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5100.00	0.00	0.00	5100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5200.00	0.00	0.00	5200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5300.00	0.00	0.00	5300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5400.00	0.00	0.00	5400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5450.00	0.00	0.00	5450.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	9 5/8 in
5500.00	0.00	0.00	5500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5600.00	0.00	0.00	5600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5700.00	0.00	0.00	5700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5800.00	0.00	0.00	5800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
5900.00	0.00	0.00	5900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6000.00	0.00	0.00	6000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6100.00	0.00	0.00	6100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6200.00	0.00	0.00	6200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6300.00	0.00	0.00	6300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6400.00	0.00	0.00	6400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6500.00	0.00	0.00	6500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6600.00	0.00	0.00	6600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6700.00	0.00	0.00	6700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6800.00	0.00	0.00	6800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
6900.00	0.00	0.00	6900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7000.00	0.00	0.00	7000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7100.00	0.00	0.00	7100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7200.00	0.00	0.00	7200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7300.00	0.00	0.00	7300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7400.00	0.00	0.00	7400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7500.00	0.00	0.00	7500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7600.00	0.00	0.00	7600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7700.00	0.00	0.00	7700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7800.00	0.00	0.00	7800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
7900.00	0.00	0.00	7900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8000.00	0.00	0.00	8000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8100.00	0.00	0.00	8100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8200.00	0.00	0.00	8200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8300.00	0.00	0.00	8300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8400.00	0.00	0.00	8400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8500.00	0.00	0.00	8500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8600.00	0.00	0.00	8600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8700.00	0.00	0.00	8700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8800.00	0.00	0.00	8800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
8900.00	0.00	0.00	8900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9000.00	0.00	0.00	9000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9100.00	0.00	0.00	9100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9200.00	0.00	0.00	9200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9300.00	0.00	0.00	9300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9400.00	0.00	0.00	9400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9500.00	0.00	0.00	9500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9600.00	0.00	0.00	9600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9700.00	0.00	0.00	9700.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9800.00	0.00	0.00	9800.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
9900.00	0.00	0.00	9900.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
10000.00	0.00	0.00	10000.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
10100.00	0.00	0.00	10100.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
10200.00	0.00	0.00	10200.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	

5D Plot Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	
10300.00	0.00	0.00	10300.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
10400.00	0.00	0.00	10400.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
10500.00	0.00	0.00	10500.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
10600.00	0.00	0.00	10600.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	
10690.00	0.00	0.00	10690.00	-0.00	-0.00	-0.00	560139.60	725374.80	0.00	KOP
10700.00	1.00	153.00	10700.00	0.08	-0.08	0.04	560139.52	725374.84	10.00	
10800.00	11.00	153.00	10799.33	9.41	-9.38	4.78	560130.22	725379.58	10.00	
10900.00	21.00	153.00	10895.33	34.03	-33.91	17.28	560105.69	725392.08	10.00	
10990.00	30.00	153.00	10976.48	68.65	-68.40	34.85	560071.20	725409.65	10.00	Build/Turn
11000.00	30.87	153.98	10985.10	73.20	-72.93	37.11	560066.67	725411.91	10.00	
11100.00	39.85	161.63	11066.61	126.95	-126.52	58.51	560013.08	725433.31	10.00	
11200.00	49.18	166.81	11137.86	194.50	-193.94	77.29	559945.66	725452.09	10.00	
11300.00	58.67	170.69	11196.70	273.80	-273.13	92.88	559866.47	725467.68	10.00	
11400.00	68.27	173.85	11241.32	362.44	-361.68	104.80	559777.92	725479.60	10.00	
11500.00	77.91	176.61	11270.37	457.72	-456.91	112.69	559682.69	725487.49	10.00	
11600.00	87.59	179.18	11282.98	556.75	-555.92	116.31	559583.68	725491.11	10.00	
11616.15	89.15	179.58	11283.44	572.89	-572.06	116.48	559567.54	725491.28	10.00	LP
11700.00	89.15	179.58	11284.69	656.74	-655.90	117.09	559483.70	725491.89	0.00	
11800.00	89.15	179.58	11286.17	756.73	-755.88	117.82	559383.72	725492.62	0.00	
11900.00	89.15	179.58	11287.66	856.71	-855.87	118.54	559283.73	725493.34	0.00	
12000.00	89.15	179.58	11289.15	956.70	-955.85	119.27	559183.75	725494.07	0.00	
12100.00	89.15	179.58	11290.63	1056.69	-1055.84	120.00	559083.76	725494.80	0.00	
12200.00	89.15	179.58	11292.12	1156.68	-1155.83	120.72	558983.77	725495.52	0.00	
12300.00	89.15	179.58	11293.61	1256.67	-1255.81	121.45	558883.79	725496.25	0.00	
12400.00	89.15	179.58	11295.10	1356.66	-1355.80	122.18	558783.80	725496.98	0.00	
12500.00	89.15	179.58	11296.58	1456.65	-1455.79	122.90	558683.81	725497.70	0.00	
12600.00	89.15	179.58	11298.07	1556.64	-1555.77	123.63	558583.83	725498.43	0.00	
12700.00	89.15	179.58	11299.56	1656.63	-1655.76	124.36	558483.84	725499.16	0.00	
12800.00	89.15	179.58	11301.04	1756.61	-1755.74	125.08	558383.86	725499.88	0.00	
12900.00	89.15	179.58	11302.53	1856.60	-1855.73	125.81	558283.87	725500.61	0.00	
13000.00	89.15	179.58	11304.02	1956.59	-1955.72	126.54	558183.88	725501.34	0.00	
13100.00	89.15	179.58	11305.50	2056.58	-2055.70	127.26	558083.90	725502.06	0.00	
13200.00	89.15	179.58	11306.99	2156.57	-2155.69	127.99	557983.91	725502.79	0.00	
13300.00	89.15	179.58	11308.48	2256.56	-2255.68	128.72	557883.92	725503.52	0.00	
13400.00	89.15	179.58	11309.96	2356.55	-2355.66	129.44	557783.94	725504.24	0.00	
13500.00	89.15	179.58	11311.45	2456.54	-2455.65	130.17	557683.95	725504.97	0.00	
13600.00	89.15	179.58	11312.94	2556.53	-2555.64	130.90	557583.96	725505.70	0.00	
13700.00	89.15	179.58	11314.42	2656.52	-2655.62	131.62	557483.98	725506.42	0.00	
13800.00	89.15	179.58	11315.91	2756.50	-2755.61	132.35	557383.99	725507.15	0.00	
13900.00	89.15	179.58	11317.40	2856.49	-2855.59	133.08	557284.01	725507.88	0.00	
14000.00	89.15	179.58	11318.89	2956.48	-2955.58	133.80	557184.02	725508.60	0.00	
14100.00	89.15	179.58	11320.37	3056.47	-3055.57	134.53	557084.03	725509.33	0.00	
14200.00	89.15	179.58	11321.86	3156.46	-3155.55	135.26	556984.05	725510.06	0.00	
14300.00	89.15	179.58	11323.35	3256.45	-3255.54	135.98	556884.06	725510.78	0.00	
14400.00	89.15	179.58	11324.83	3356.44	-3355.53	136.71	556784.07	725511.51	0.00	
14500.00	89.15	179.58	11326.32	3456.43	-3455.51	137.44	556684.09	725512.24	0.00	
14600.00	89.15	179.58	11327.81	3556.42	-3555.50	138.16	556584.10	725512.96	0.00	
14700.00	89.15	179.58	11329.29	3656.40	-3655.48	138.89	556484.12	725513.69	0.00	
14800.00	89.15	179.58	11330.78	3756.39	-3755.47	139.62	556384.13	725514.42	0.00	
14900.00	89.15	179.58	11332.27	3856.38	-3855.46	140.34	556284.14	725515.14	0.00	
15000.00	89.15	179.58	11333.75	3956.37	-3955.44	141.07	556184.16	725515.87	0.00	
15100.00	89.15	179.58	11335.24	4056.36	-4055.43	141.80	556084.17	725516.60	0.00	
15200.00	89.15	179.58	11336.73	4156.35	-4155.42	142.52	555984.18	725517.32	0.00	
15300.00	89.15	179.58	11338.21	4256.34	-4255.40	143.25	555884.20	725518.05	0.00	
15400.00	89.15	179.58	11339.70	4356.33	-4355.39	143.98	555784.21	725518.78	0.00	
15500.00	89.15	179.58	11341.19	4456.32	-4455.38	144.70	555684.22	725519.50	0.00	
15600.00	89.15	179.58	11342.68	4556.31	-4555.36	145.43	555584.24	725520.23	0.00	
15700.00	89.15	179.58	11344.16	4656.29	-4655.35	146.16	555484.25	725520.96	0.00	
15800.00	89.15	179.58	11345.65	4756.28	-4755.33	146.88	555384.27	725521.68	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
15900.00	89.15	179.58	11347.14	4856.27	-4855.32	147.61	555284.28	725522.41	0.00	
16000.00	89.15	179.58	11348.62	4956.26	-4955.31	148.34	555184.29	725523.14	0.00	
16100.00	89.15	179.58	11350.11	5056.25	-5055.29	149.06	555084.31	725523.86	0.00	
16200.00	89.15	179.58	11351.60	5156.24	-5155.28	149.79	554984.32	725524.59	0.00	
16300.00	89.15	179.58	11353.08	5256.23	-5255.27	150.52	554884.33	725525.32	0.00	
16400.00	89.15	179.58	11354.57	5356.22	-5355.25	151.24	554784.35	725526.04	0.00	
16500.00	89.15	179.58	11356.06	5456.21	-5455.24	151.97	554684.36	725526.77	0.00	
16600.00	89.15	179.58	11357.54	5556.19	-5555.22	152.70	554584.38	725527.50	0.00	
16700.00	89.15	179.58	11359.03	5656.18	-5655.21	153.42	554484.39	725528.22	0.00	
16800.00	89.15	179.58	11360.52	5756.17	-5755.20	154.15	554384.40	725528.95	0.00	
16900.00	89.15	179.58	11362.00	5856.16	-5855.18	154.88	554284.42	725529.68	0.00	
17000.00	89.15	179.58	11363.49	5956.15	-5955.17	155.60	554184.43	725530.40	0.00	
17100.00	89.15	179.58	11364.98	6056.14	-6055.16	156.33	554084.44	725531.13	0.00	
17200.00	89.15	179.58	11366.47	6156.13	-6155.14	157.06	553984.46	725531.86	0.00	
17300.00	89.15	179.58	11367.95	6256.12	-6255.13	157.78	553884.47	725532.58	0.00	
17400.00	89.15	179.58	11369.44	6356.11	-6355.11	158.51	553784.49	725533.31	0.00	
17500.00	89.15	179.58	11370.93	6456.10	-6455.10	159.24	553684.50	725534.04	0.00	
17600.00	89.15	179.58	11372.41	6556.08	-6555.09	159.96	553584.51	725534.76	0.00	
17700.00	89.15	179.58	11373.90	6656.07	-6655.07	160.69	553484.53	725535.49	0.00	
17800.00	89.15	179.58	11375.39	6756.06	-6755.06	161.41	553384.54	725536.21	0.00	
17900.00	89.15	179.58	11376.87	6856.05	-6855.05	162.14	553284.55	725536.94	0.00	
18000.00	89.15	179.58	11378.36	6956.04	-6955.03	162.87	553184.57	725537.67	0.00	
18100.00	89.15	179.58	11379.85	7056.03	-7055.02	163.59	553084.58	725538.39	0.00	
18200.00	89.15	179.58	11381.33	7156.02	-7155.01	164.32	552984.59	725539.12	0.00	
18300.00	89.15	179.58	11382.82	7256.01	-7254.99	165.05	552884.61	725539.85	0.00	
18400.00	89.15	179.58	11384.31	7356.00	-7354.98	165.77	552784.62	725540.57	0.00	
18500.00	89.15	179.58	11385.79	7455.98	-7454.96	166.50	552684.64	725541.30	0.00	
18600.00	89.15	179.58	11387.28	7555.97	-7554.95	167.23	552584.65	725542.03	0.00	
18700.00	89.15	179.58	11388.77	7655.96	-7654.94	167.95	552484.66	725542.75	0.00	
18800.00	89.15	179.58	11390.26	7755.95	-7754.92	168.68	552384.68	725543.48	0.00	
18900.00	89.15	179.58	11391.74	7855.94	-7854.91	169.41	552284.69	725544.21	0.00	
19000.00	89.15	179.58	11393.23	7955.93	-7954.90	170.13	552184.70	725544.93	0.00	
19100.00	89.15	179.58	11394.72	8055.92	-8054.88	170.86	552084.72	725545.66	0.00	
19119.12	89.15	179.58	11395.00	8075.04	-8074.00	171.00	552065.60	725545.80	0.00	3H PBHL

Formation Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)								
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)
Rustler	1552.00	0.00	0.00	1552.00	-0.00	-0.00	560139.60	725374.80
Salado	1919.00	0.00	0.00	1919.00	-0.00	-0.00	560139.60	725374.80
Base Salt	3167.00	0.00	0.00	3167.00	-0.00	-0.00	560139.60	725374.80
Yates	3339.00	0.00	0.00	3339.00	-0.00	-0.00	560139.60	725374.80
Seven Rivers	3572.00	0.00	0.00	3572.00	-0.00	-0.00	560139.60	725374.80
Capitan Reef	3725.00	0.00	0.00	3725.00	-0.00	-0.00	560139.60	725374.80
Base Capitan Reef (Delaware)	5595.00	0.00	0.00	5595.00	-0.00	-0.00	560139.60	725374.80
Base Manzanita (U Cherry Canyon)	5760.00	0.00	0.00	5760.00	-0.00	-0.00	560139.60	725374.80
Brushy Canyon	7001.00	0.00	0.00	7001.00	-0.00	-0.00	560139.60	725374.80
Bone Spring	8667.00	0.00	0.00	8667.00	-0.00	-0.00	560139.60	725374.80
Upper Avalon Shale	8827.00	0.00	0.00	8827.00	-0.00	-0.00	560139.60	725374.80
Lower Avalon Shale	9145.00	0.00	0.00	9145.00	-0.00	-0.00	560139.60	725374.80
1st Bone Spring Sand	9668.00	0.00	0.00	9668.00	-0.00	-0.00	560139.60	725374.80
1st Bone Spring Lower	9838.00	0.00	0.00	9838.00	-0.00	-0.00	560139.60	725374.80

5D Plan Report

Formation Points: (Relative to Slot centre)(TVD relative to Kelly Bushing)								
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)
2nd Bone Spring A Lime	9955.00	0.00	0.00	9955.00	-0.00	-0.00	560139.60	725374.80
Second Bone Spring	10184.00	0.00	0.00	10184.00	-0.00	-0.00	560139.60	725374.80
2nd Bone Spring B Sand	10496.00	0.00	0.00	10496.00	-0.00	-0.00	560139.60	725374.80
Base 2nd Bone Spring B Sand	10651.00	0.00	0.00	10651.00	-0.00	-0.00	560139.60	725374.80
3rd Bone Spring Lime	10729.03	3.90	153.00	10729.00	-1.18	0.60	560138.42	725375.40
3rd Bone Spring Sand	11077.39	37.78	160.18	11049.00	-113.13	53.88	560026.47	725428.68
Red Hills Sand	11407.35	68.98	174.06	11244.00	-368.49	105.52	559771.11	725480.32

HOBBS OCD

FEB 06 2018

RECEIVED

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO ENERGY INC
LEASE NO.:	NMNM87274
WELL NAME & NO.:	SEVERUS 31 FED COM 3H
SURFACE HOLE FOOTAGE:	387' FSL & 1750' FWL
BOTTOM HOLE FOOTAGE:	2401.2' FNL & 330' FEL Sec. 5, T. 21 S., R 33 E.
LOCATION:	Section 030, T. 20 S., R 34 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

All COAs still apply except the following:

H2S	☐ Yes	☒ No	
Potash	☐ None	☒ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☒ Conventional	☐ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

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

- Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Additional cement maybe required.**
Excess calculates to 22%.

A. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **3000 (3M) psi**.

ZS 010518

13 3/8 Segment	surface csg in a #/ft	Grade	17 1/2 Coupling	inch hole. Coupling	Joint	Design Factors		SURFACE	
"A"	54.50	J 55	ST&C		5.73	Collapse	Burst	Length	Weight
"B"						1.5	0.9	1,645	89,653
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,193 Tail Cmt does not circ to sfc. Totals:									0
Comparison of Proposed to Minimum Required Cement Volumes									0
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
17 1/2	0.6946	1425	2292	1197	91	8.80	1766	2M	1.56
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.									

9 5/8	casing inside the	13 3/8	Design Factors				INTERMEDIATE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	36.00	J 55	LT&C	2.21	0.67	0.66	5,700	205,200	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	5,700	205,200	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		1645	overlap.	
Hole	Annular	1.Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
12 1/4	0.3132	look ↘	0	1886		10.20	2821	3M	0.81
D V Tool(s):			1760			sum of sx	Σ CuFt	Σ%excess	
t by stage % :		95	135			2230	3934	109	
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.62, b, c, d									
<0.70 a Problem!!									
ALT. COLLAPSE SF: 0.67*3 = 2.01. FILL 2/3RD CASING WITH FLUID WHILE DRILLING.									

5 1/2	casing inside the	9 5/8	Design Factors				PRODUCTION		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	Weight	
"A"	17.00	P 110	BUTT	2.82	1.5	2	10,690	181,730	
"B"	17.00	P 110	BUTT	7.94	1.29	2	8,429	143,293	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,352						Totals:	19,119	325,023	
B	would be:			45.55	1.40	if it were a vertical wellbore.			
No Pilot Hole Planned		MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC	
		19119	11395	11395	10690	89	10	11616	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		5700	overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
8 3/4	0.2526	2910	6024	4929	22	9.00			1.35
Class 'H' tail cmt yld > 1.20									