

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.

Serial No.
NMNM120898

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

7. If Unit or CA/Agreement, Name and/or No.
NMNM071016X8. Well Name and No.
POKER LAKE UNIT 18 BD 102H9. API Well No.
30-015-4489110. Field and Pool or Exploratory Area
PURPLE SAGE; WOLFCAMP11. 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 APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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 to make the following changes to the approved APD:

1. Change well name fr/Poker Lake Unit 18 Brushy Draw 102H to Poker Lake Unit 18 BD 103H
2. Change well location fr/2310'FNL & 1275'FWL to 2310'FNL & 1305'FWL. -- No surface disturbance will occur with this change.
3. Drilling Program
4. Directional Program

Attachments:

1. C-102 & Supplement
2. Drilling Program
3. Directional Survey

Surface Good 10-30-2018 BR

10/30/2018: Engineering review completed by m Hague

RECEIVED

NOV 06 2018

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

Electronic Submission #434073 verified by the BLM Well Information System
For BOPCO, L.P., sent to the Carlsbad
Committed to AFMSS for processing by ZOTA STEVENS on 09/13/2018 ()

DISTRICT II-ARTESIA O.C.D.

Name (Printed/Typed) STEPHANIE RABADUE

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 09/06/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

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

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 **

Rw 11-19-18

Additional data for EC transaction #434073 that would not fit on the form

32. Additional remarks, continued

4. BOP/CM/FH

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 **NM OIL CONSERVATION** Form C-102
Energy, Minerals & Natural Resources Department **ARTESIA DISTRICT** Revised August 1, 2011
OIL CONSERVATION DIVISION **NOV 06 2018** Submit one copy to appropriate District Office
1220 South St. Francis Dr.
Santa Fe, NM 87505 **RECEIVED** ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-44891	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp
⁴ Property Code 324273 322451	⁵ Property Name POKER LAKE UNIT 18 BD	⁶ Well Number 103H
⁷ OGRID No. 260737	⁸ Operator Name BOPCO, L.P.	⁹ Elevation 3168'

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
2	18	25 S	30 E		2,310	NORTH	1,305	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
N	19	25 S	30 E		200	SOUTH	1,430	WEST	EDDY

¹² Dedicated Acres 482.62	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.

GRID AZ.=169°31'33" HORIZ. DIST.=709.97' GRID AZ.=179°38'37" HORIZ. DIST.=7426.39'	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 411,609.7 X= 626,491.8 LAT.= 32.130972°N LONG.= 103.924708°W FIRST TAKE POINT NAD 27 NME Y= 410,911.6 X= 626,620.9 LAT.= 32.129052°N LONG.= 103.924299°W CORNER COORDINATES TABLE NAD 27 NME A - Y= 411,260.5 N, X= 626,533.3 E B - Y= 411,266.7 N, X= 627,877.5 E C - Y= 408,601.2 N, X= 626,548.3 E D - Y= 408,608.3 N, X= 627,892.5 E E - Y= 405,943.0 N, X= 626,563.0 E F - Y= 405,951.0 N, X= 627,904.5 E G - Y= 403,285.0 N, X= 626,577.4 E H - Y= 403,292.6 N, X= 627,916.6 E CORNER COORDINATES TABLE NAD 83 NME A - Y= 411,318.8 N, X= 667,717.9 E B - Y= 411,325.0 N, X= 669,062.2 E C - Y= 408,659.4 N, X= 667,733.0 E D - Y= 408,666.5 N, X= 669,077.2 E E - Y= 406,001.2 N, X= 667,747.8 E F - Y= 406,009.2 N, X= 669,089.3 E G - Y= 403,343.1 N, X= 667,762.3 E H - Y= 403,350.7 N, X= 669,101.5 E LAST TAKE POINT NAD 27 NME Y= 403,615.5 X= 626,666.1 LAT.= 32.108994°N LONG.= 103.924243°W BOTTOM HOLE LOCATION NAD 27 NME Y= 403,485.5 X= 626,666.9 LAT.= 32.108637°N LONG.= 103.924242°W	GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y= 411,668.0 X= 667,676.5 LAT.= 32.131096°N LONG.= 103.925192°W FIRST TAKE POINT NAD 83 NME Y= 410,969.9 X= 667,805.6 LAT.= 32.129176°N LONG.= 103.924784°W LAST TAKE POINT NAD 83 NME Y= 403,673.6 X= 667,851.0 LAT.= 32.109119°N LONG.= 103.924727°W BOTTOM HOLE LOCATION NAD 83 NME Y= 403,543.6 X= 667,851.8 LAT.= 32.108761°N LONG.= 103.924726°W	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. Signature: <u>Stephanie Rabadue</u> Date: <u>08/23/2018</u> Printed Name: <u>Stephanie Rabadue</u> E-mail Address: <u>stephanie_rabadue@xtoenergy.com</u>
	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. 7-26-2018 Date of Survey Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number AI/JC 2017050636		

RVP 11-19-18

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

XTO Energy Inc.
PLU 18 Brushy Draw 103H
Projected TD: 18475' MD / 10653' TVD
SHL: 2310' FNL & 1305' FWL , Section 18, T25S, R30E
BHL: 200' FSL & 1430' FWL , Section 19, T25S, 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	720'	Water
Top of Salt	1035'	Water
Base of Salt	3307'	Water
Delaware	3490'	Water
Bone Spring	7218'	Water/Oil/Gas
1st Bone Spring Ss	8242'	Water/Oil/Gas
2nd Bone Spring Ss	9047'	Water/Oil/Gas
3rd Bone Spring Ss	10140'	Water/Oil/Gas
Wolfcamp A	10673'	Water/Oil/Gas
Target/Land Curve	10653'	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 @ 885' and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 9510' with a DV tool @ 960', and cement will be circulated to surface. An 8-3/4 inch curve and lateral hole will be drilled to TD, where 5-1/2 inch casing will be set and cemented 500 feet into the previous casing.

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 885'	13-3/8"	54.5	STC	J-55	New	1.26	2.79	17.69
12-1/4"	0' – 9510'	9-5/8"	40	BTC	HCL-80	New	1.53	1.92	2.20
8-3/4"	0' – 18475'	5-1/2"	20	BTC	P-110	New	1.33	1.82	1.85

- 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:

Permanent Wellhead – GE RSH Multibowl System

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.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

4. Cement Program

Surface Casing: 13-3/8", 54.5 New J-55, STC casing to be set at +/- 885'

Lead: 430 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", 40 New HCL-80, BTC casing to be set at +/- 9510'

First Stage

Lead: 2670 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 @ 960' (100' below the surface shoe).

Second Stage

Lead: 200 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, ft³/sx, 9.61 gal/sx water)

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

Production Casing: 5-1/2", 20 New P-110, BTC casing to be set at +/- 18475'

Lead: 50 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft³/sx, 12.26 gal/sx water)

Tail: 1840 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 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. MASP should not exceed 3750 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" 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nipping up on the 9-5/8", the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M 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 885'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
885' to 9510'	12-1/4"	OBM	9.8-10.2	30-32	NC
9510' to 18475'	8-3/4"	FW / Cut Brine / Polymer	10.7 - 11	28-40	NC - 20

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

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) in surface section

Open hole logging will not be done on this well.

9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 150 to 170 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 6094 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.

Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with Oil based mud. A 9.8ppg-10.2ppg Oil based 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 Poker Lake Unit 18 BD 103H Rev1 RM 21Aug18 Proposal Geodetic Report (Def Plan)



Report Date: August 22, 2018 - 09:29 AM
Client: XTO Energy
Field: NM Eddy County (NAD 27)
Structure / Slot: XTO Poker Lake Unit 18 BD 103H / XTO Poker Lake Unit 18 BD 103H
Well: XTO Poker Lake Unit 18 BD 103H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: XTO Poker Lake Unit 18 BD 103H Rev1 RM 21Aug18
Survey Date: August 07, 2018
Tort / AHD / DDI / ERD Ratio: 99.530 * / 8249.962 ft / 6.154 / 0.774
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 7' 51.49965", W 103° 55' 28.94838"
Location Grid N/E Y/X: N 411609.700 RUS, E 626491.800 RUS
CRS Grid Convergence Angle: 0.2173 *
Grid Scale Factor: 0.99962742
Version / Patch: 2.10.740.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 178.765 * (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3191.000 ft above MSL
Seabed / Ground Elevation: 3168.000 ft above MSL
Magnetic Declination: 8.902 *
Total Gravity Field Strength: 998.4421mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47942.656 nT
Magnetic Dip Angle: 59.855 *
Declination Date: August 21, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.2173 *
Total Corr Mag North->Grid North: 6.6852 *
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	
SHL	0.00	0.00	90.00	0.00	-3191.00	0.00	0.00	0.00	N/A	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	100.00	0.00	90.00	100.00	-3061.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	200.00	0.00	90.00	200.00	-2991.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	300.00	0.00	90.00	300.00	-2891.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	400.00	0.00	90.00	400.00	-2791.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	500.00	0.00	90.00	500.00	-2691.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	600.00	0.00	90.00	600.00	-2591.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	700.00	0.00	90.00	700.00	-2491.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	720.00	0.00	90.00	720.00	-2471.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	800.00	0.00	90.00	800.00	-2381.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
Rustler	900.00	0.00	90.00	900.00	-2291.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1000.00	0.00	90.00	1000.00	-2191.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1035.00	0.00	90.00	1035.00	-2158.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1100.00	0.00	90.00	1100.00	-2091.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
Salado (Top of Salt)	1200.00	0.00	90.00	1200.00	-1991.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1300.00	0.00	90.00	1300.00	-1891.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1400.00	0.00	90.00	1400.00	-1791.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1500.00	0.00	90.00	1500.00	-1691.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1600.00	0.00	90.00	1600.00	-1591.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1700.00	0.00	90.00	1700.00	-1491.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1800.00	0.00	90.00	1800.00	-1391.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	1900.00	0.00	90.00	1900.00	-1291.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2000.00	0.00	90.00	2000.00	-1191.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2100.00	0.00	90.00	2100.00	-1091.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2200.00	0.00	90.00	2200.00	-991.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2300.00	0.00	90.00	2300.00	-891.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2400.00	0.00	90.00	2400.00	-791.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2500.00	0.00	90.00	2500.00	-691.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2600.00	0.00	90.00	2600.00	-591.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2700.00	0.00	90.00	2700.00	-491.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2800.00	0.00	90.00	2800.00	-391.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	2900.00	0.00	90.00	2900.00	-291.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"	
	Nudge 2"/100' DLS	3000.00	0.00	90.00	3000.00	-191.00	0.00	0.00	0.00	0.00	411609.70	626491.80	N 32° 7' 51.50"	W 103° 55' 28.95"
		3100.00	2.00	90.00	3099.98	-91.02	0.04	0.00	1.75	2.00	411609.70	626493.55	N 32° 7' 51.50"	W 103° 55' 28.93"
Hold Nudge	3200.00	4.00	90.00	3199.84	8.84	0.15	0.00	6.88	2.00	411609.70	626498.78	N 32° 7' 51.50"	W 103° 55' 28.87"	
	3238.25	4.77	90.00	3237.98	46.98	0.21	0.00	9.80	2.00	411609.70	626501.70	N 32° 7' 51.50"	W 103° 55' 28.83"	
Base of Salt	3300.00	4.77	90.00	3298.51	108.51	0.32	0.00	15.03	0.00	411609.70	626506.83	N 32° 7' 51.50"	W 103° 55' 28.77"	
	3307.51	4.77	90.00	3307.00	118.00	0.34	0.00	15.68	0.00	411609.70	626507.45	N 32° 7' 51.50"	W 103° 55' 28.77"	
Delaware (Bell Canyon)	3400.00	4.77	90.00	3399.17	208.17	0.50	0.00	23.34	0.00	411609.70	626515.14	N 32° 7' 51.50"	W 103° 55' 28.68"	
	3491.15	4.77	90.00	3490.00	299.00	0.87	0.00	30.91	0.00	411609.70	626522.71	N 32° 7' 51.50"	W 103° 55' 28.59"	
Cherry Canyon	3500.00	4.77	90.00	3498.82	307.82	0.68	0.00	31.64	0.00	411609.70	626523.44	N 32° 7' 51.50"	W 103° 55' 28.58"	
	3600.00	4.77	90.00	3598.48	407.48	0.86	0.00	39.95	0.00	411609.70	626531.75	N 32° 7' 51.50"	W 103° 55' 28.48"	
	3700.00	4.77	90.00	3698.13	507.13	1.04	0.00	48.26	0.00	411609.70	626540.05	N 32° 7' 51.50"	W 103° 55' 28.39"	
	3800.00	4.77	90.00	3797.78	606.78	1.22	0.00	56.57	0.00	411609.70	626548.36	N 32° 7' 51.50"	W 103° 55' 28.29"	
	3900.00	4.77	90.00	3897.44	706.44	1.40	0.00	64.87	0.00	411609.70	626556.67	N 32° 7' 51.50"	W 103° 55' 28.19"	
	4000.00	4.77	90.00	3997.09	806.09	1.58	0.00	73.18	0.00	411609.70	626564.97	N 32° 7' 51.50"	W 103° 55' 28.10"	
	4100.00	4.77	90.00	4096.75	905.75	1.76	0.00	81.49	0.00	411609.70	626573.28	N 32° 7' 51.50"	W 103° 55' 28.00"	
	4200.00	4.77	90.00	4196.40	1005.40	1.93	0.00	89.79	0.00	411609.70	626581.59	N 32° 7' 51.50"	W 103° 55' 27.90"	
	4300.00	4.77	90.00	4296.06	1105.06	2.11	0.00	98.10	0.00	411609.70	626589.89	N 32° 7' 51.50"	W 103° 55' 27.81"	
	4375.20	4.77	90.00	4371.00	1182.00	2.25	0.00	104.35	0.00	411609.70	626596.14	N 32° 7' 51.50"	W 103° 55' 27.73"	
Drop to Vertical 2"/100' DLS	4400.00	4.77	90.00	4395.71	1204.71	2.29	0.00	106.41	0.00	411609.70	626598.20	N 32° 7' 51.50"	W 103° 55' 27.71"	
	4500.00	4.77	90.00	4495.36	1304.36	2.47	0.00	114.71	0.00	411609.70	626606.51	N 32° 7' 51.50"	W 103° 55' 27.61"	
Hold Vertical	4504.65	4.77	90.00	4500.00	1309.00	2.48	0.00	115.10	0.00	411609.70	626606.89	N 32° 7' 51.50"	W 103° 55' 27.61"	
	4600.00	2.86	90.00	4595.13	1404.13	2.82	0.00	121.44	2.00	411609.70	626613.23	N 32° 7' 51.50"	W 103° 55' 27.54"	
	4700.00	0.86	90.00	4695.08	1504.08	2.89	0.00	124.68	2.00	411609.70	626616.47	N 32° 7' 51.48"	W 103° 55' 27.50"	
	4742.90	0.00	90.00	4737.98	1546.98	2.89	0.00	125.00	2.00	411609.70	626616.79	N 32° 7' 51.48"	W 103° 55' 27.49"	
	4800.00	0.00	90.00	4795.07	1604.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	4900.00	0.00	90.00	4895.07	1704.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5000.00	0.00	90.00	4995.07	1804.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5100.00	0.00	90.00	5095.07	1904.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5200.00	0.00	90.00	5195.07	2004.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5300.00	0.00	90.00	5295.07	2104.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
Brushy Canyon	5400.00	0.00	90.00	5395.07	2204.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5500.00	0.00	90.00	5495.07	2304.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5600.00	0.00	90.00	5595.07	2404.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5700.00	0.00	90.00	5695.07	2504.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5800.00	0.00	90.00	5795.07	2604.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103° 55' 27.49"	
	5900.00	0.00	90.00	5895.07	2704.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32° 7' 51.49"	W 103°	

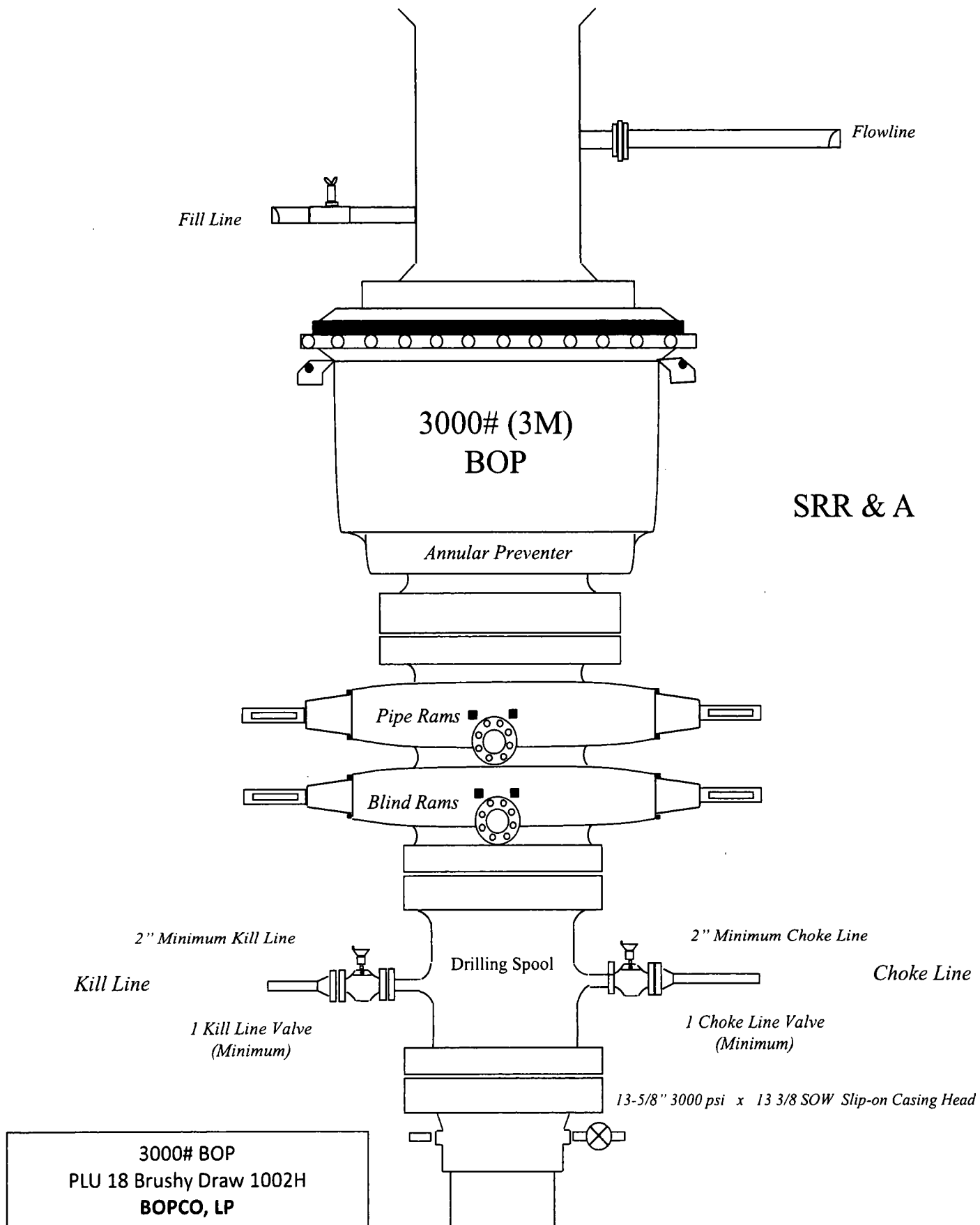
Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7200.00	0.00	90.00	7195.07	4004.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Bone Spring	7222.93	0.00	90.00	7218.00	4027.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Bone Spring	7235.93	0.00	90.00	7231.00	4040.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Lime	7300.00	0.00	90.00	7295.07	4104.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	7400.00	0.00	90.00	7395.07	4204.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	7500.00	0.00	90.00	7495.07	4304.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	7600.00	0.00	90.00	7595.07	4404.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	7700.00	0.00	90.00	7695.07	4504.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	7800.00	0.00	90.00	7795.07	4604.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	7900.00	0.00	90.00	7895.07	4704.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8000.00	0.00	90.00	7995.07	4804.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8100.00	0.00	90.00	8095.07	4904.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8200.00	0.00	90.00	8195.07	5004.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
1st Bone Spring	8245.93	0.00	90.00	8242.00	5051.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Sand	8300.00	0.00	90.00	8295.07	5104.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8400.00	0.00	90.00	8395.07	5204.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8500.00	0.00	90.00	8495.07	5304.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8600.00	0.00	90.00	8595.07	5404.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
2nd Bone	8625.93	0.00	90.00	8621.00	5430.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Spring Lime	8700.00	0.00	90.00	8695.07	5504.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8800.00	0.00	90.00	8795.07	5604.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	8900.00	0.00	90.00	8895.07	5704.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9000.00	0.00	90.00	8995.07	5804.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
2nd Bone	9051.93	0.00	90.00	9047.00	5856.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Spring Sand	9100.00	0.00	90.00	9095.07	5904.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9200.00	0.00	90.00	9195.07	6004.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9300.00	0.00	90.00	9295.07	6104.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Int Casing	9317.93	0.00	90.00	9313.00	6122.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
3rd Bone Spring													
Lime	9400.00	0.00	90.00	9395.07	6204.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9500.00	0.00	90.00	9495.07	6304.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9600.00	0.00	90.00	9595.07	6404.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Harkey Sand	9691.93	0.00	90.00	9687.00	6495.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9700.00	0.00	90.00	9695.07	6504.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9800.00	0.00	90.00	9795.07	6604.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
	9900.00	0.00	90.00	9895.07	6704.07	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Lower 3rd Bone	9936.93	0.00	90.00	9934.00	6743.00	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
Spring Lime													
KOP - Build	9941.73	0.00	90.00	9936.80	6745.80	2.69	0.00	125.00	0.00	411609.70	626616.79	N 32 7 51.49	W 103 55 27.49
8"/100' DLS	10000.00	4.66	179.65	9995.01	6804.01	5.06	-2.37	125.02	8.00	411607.33	626616.81	N 32 7 51.47	W 103 55 27.49
Lower 3rd Bone	10005.01	5.08	179.65	10000.00	6809.00	5.49	-2.79	125.02	8.00	411606.91	626616.81	N 32 7 51.47	W 103 55 27.49
Spring Shale	10100.00	12.66	179.65	10083.79	6902.79	20.11	-17.42	125.11	8.00	411592.28	626616.90	N 32 7 51.32	W 103 55 27.49
3rd Bone Spring	10147.76	18.48	179.65	10140.00	6949.00	32.12	-29.43	125.18	8.00	411580.27	626616.97	N 32 7 51.20	W 103 55 27.49
Sand	10200.00	20.66	179.65	10189.51	6998.51	48.75	-46.06	125.29	8.00	411563.64	626617.08	N 32 7 51.04	W 103 55 27.49
	10300.00	28.66	179.65	10280.32	7089.32	80.44	-87.76	125.54	8.00	411521.95	626617.33	N 32 7 50.83	W 103 55 27.49
	10400.00	36.66	179.65	10364.44	7173.44	144.36	-141.88	125.88	8.00	411468.03	626617.67	N 32 7 50.09	W 103 55 27.49
	10500.00	44.66	179.65	10440.23	7249.23	209.46	-206.78	126.28	8.00	411402.93	626618.07	N 32 7 49.45	W 103 55 27.49
3rd Bone Spring	10552.21	48.84	179.65	10478.00	7285.00	247.48	-244.81	126.51	8.00	411364.91	626618.30	N 32 7 49.07	W 103 55 27.49
Red Hills Sand	10600.00	52.66	179.65	10506.23	7315.23	284.47	-281.80	126.74	8.00	411327.92	626618.53	N 32 7 48.71	W 103 55 27.49
Wolfcamp	10680.78	57.52	179.65	10541.00	7350.00	334.29	-331.63	127.05	8.00	411278.09	626618.84	N 32 7 48.21	W 103 55 27.49
	10700.00	60.66	179.65	10561.14	7370.14	367.94	-365.28	127.25	8.00	411244.45	626619.04	N 32 7 47.88	W 103 55 27.49
Wolfcamp X	10701.76	60.80	179.65	10562.00	7371.00	369.47	-366.81	127.26	8.00	411242.92	626619.05	N 32 7 47.87	W 103 55 27.49
Sand	10800.00	68.66	179.65	10603.90	7412.90	458.23	-455.58	127.81	8.00	411154.15	626619.60	N 32 7 46.99	W 103 55 27.49
Wolfcamp Y	10862.22	73.64	179.65	10624.00	7433.00	517.09	-514.45	128.17	8.00	411059.29	626619.96	N 32 7 46.40	W 103 55 27.49
Sand	10900.00	76.66	179.65	10633.68	7442.68	553.60	-550.96	128.40	8.00	411058.78	626620.19	N 32 7 46.04	W 103 55 27.49
	11000.00	84.66	179.65	10649.89	7458.89	652.18	-649.55	129.01	8.00	411060.20	626620.80	N 32 7 45.07	W 103 55 27.49
Landing Point	11066.73	90.00	179.65	10653.00	7462.00	718.81	-716.18	129.42	8.00	411063.57	626621.21	N 32 7 44.41	W 103 55 27.49
	11100.00	90.00	179.65	10653.00	7462.00	752.07	-749.45	129.62	0.00	411060.30	626621.41	N 32 7 44.08	W 103 55 27.49
	11200.00	90.00	179.65	10653.00	7462.00	852.06	-849.45	130.24	0.00	411076.31	626622.03	N 32 7 43.09	W 103 55 27.49
	11300.00	90.00	179.65	10653.00	7462.00	952.05	-949.45	130.86	0.00	411066.32	626622.65	N 32 7 42.10	W 103 55 27.49
	11400.00	90.00	179.65	10653.00	7462.00	1052.04	-1049.45	131.47	0.00	411056.33	626623.26	N 32 7 41.11	W 103 55 27.49
	11500.00	90.00	179.65	10653.00	7462.00	1152.03	-1149.45	132.09	0.00	411046.34	626623.88	N 32 7 40.12	W 103 55 27.49
	11600.00	90.00	179.65	10653.00	7462.00	1252.01	-1249.44	132.71	0.00	411036.35	626624.50	N 32 7 39.13	W 103 55 27.49
	11700.00	90.00	179.65	10653.00	7462.00	1352.00	-1349.44	133.32	0.00	411026.36	626625.11	N 32 7 38.14	W 103 55 27.49
	11800.00	90.00	179.65	10653.00	7462.00	1451.99	-1449.44	133.94	0.00	411016.37	626625.73	N 32 7 37.15	W 103 55 27.49
	11900.00	90.00	179.65	10653.00	7462.00	1551.98	-1549.44	134.56	0.00	411006.38	626626.35	N 32 7 36.16	W 103 55 27.49
	12000.00	90.00	179.65	10653.00	7462.00	1651.97	-1649.44	135.17	0.00	410996.39	626626.96	N 32 7 35.17	W 103 55 27.49
	12100.00	90.00	179.65	10653.00	7462.00	1751.96	-1749.44	135.79	0.00	410986.40	626627.58	N 32 7 34.18	W 103 55 27.49
	12200.00	90.00	179.65	10653.00	7462.00	1851.94	-1849.43	136.41	0.00	410976.40	626628.20	N 32 7 33.19	W 103 55 27.49
	12300.00	90.00	179.65	10653.00	7462.00	1951.93	-1949.43	137.03	0.00	410966.41	626628.81	N 32 7 32.20	W 103 55 27.49
	12400.00	90.00	179.65	10653.00	7462.00	2051.92	-2049.43	137.64	0.00	410956.42	626629.43	N 32 7 31.21	W 103 55 27.49
	12500.00	90.00	179.65	10653.00	7462.00	2151.91	-2149.43	138.26	0.00	410946.43	626630.05	N 32 7 30.22	W 103 55 27.49
	12600.00	90.00	179.65	10653.00	7462.00	2251							

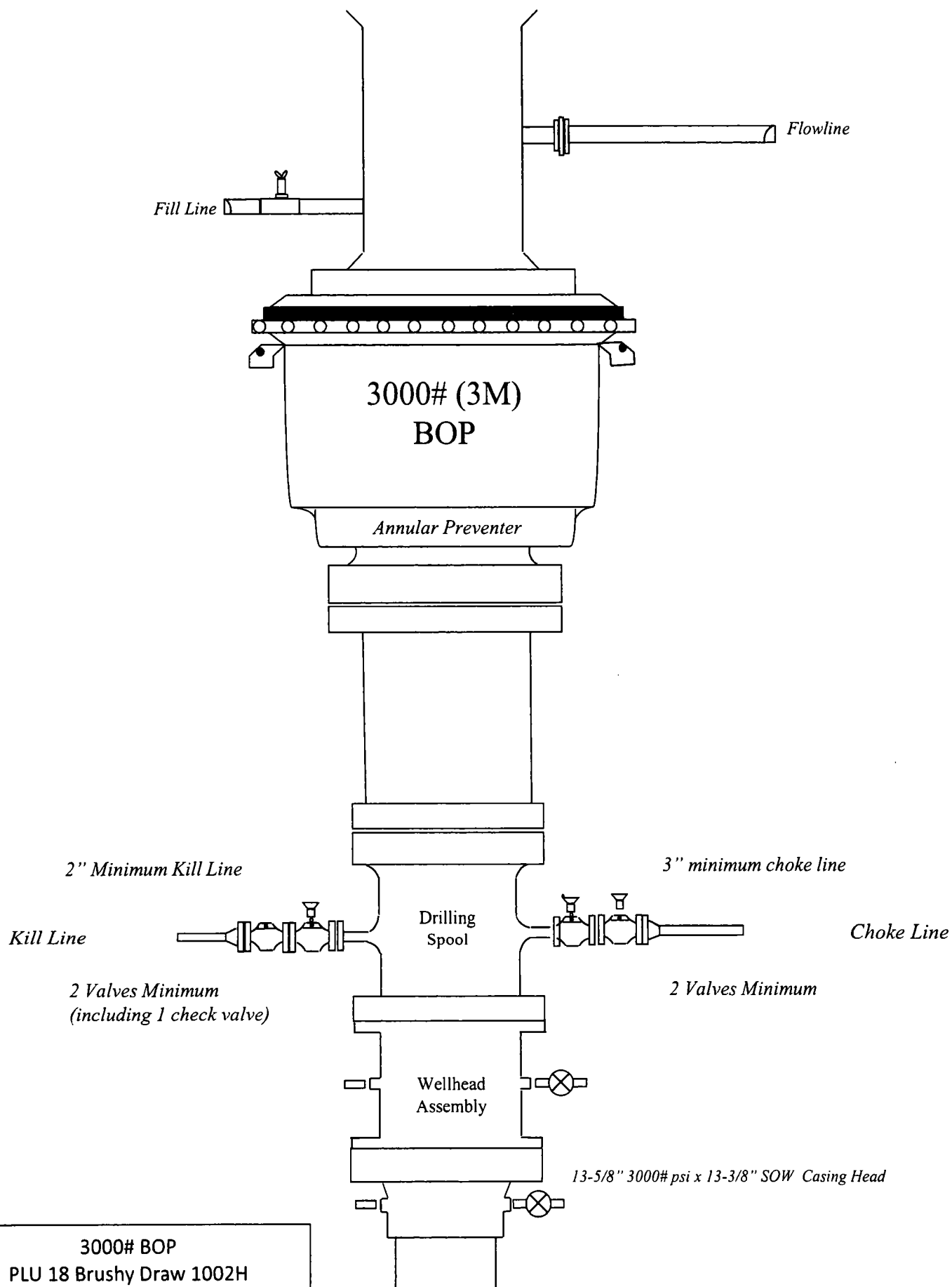
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVD95 (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	15800.00	90.00	179.65	10653.00	7462.00	5451.52	-5449.36	158.61	0.00	406160.74	626650.40	N 32 6 57.57	W 103 55 27.34
	15900.00	90.00	179.65	10653.00	7462.00	5551.51	-5549.36	159.23	0.00	406060.75	626651.02	N 32 6 56.58	W 103 55 27.34
	16000.00	90.00	179.65	10653.00	7462.00	5651.49	-5649.36	159.85	0.00	405960.76	626651.63	N 32 6 55.59	W 103 55 27.34
	16100.00	90.00	179.65	10653.00	7462.00	5751.48	-5749.36	160.48	0.00	405860.77	626652.25	N 32 6 54.60	W 103 55 27.34
	16200.00	90.00	179.65	10653.00	7462.00	5851.47	-5849.36	161.08	0.00	405760.78	626652.87	N 32 6 53.61	W 103 55 27.33
	16300.00	90.00	179.65	10653.00	7462.00	5951.46	-5949.36	161.70	0.00	405660.79	626653.48	N 32 6 52.62	W 103 55 27.33
	16400.00	90.00	179.65	10653.00	7462.00	6051.45	-6049.35	162.31	0.00	405560.80	626654.10	N 32 6 51.63	W 103 55 27.33
	16500.00	90.00	179.65	10653.00	7462.00	6151.43	-6149.35	162.93	0.00	405460.81	626654.72	N 32 6 50.64	W 103 55 27.33
	16600.00	90.00	179.65	10653.00	7462.00	6251.42	-6249.35	163.55	0.00	405360.82	626655.33	N 32 6 49.65	W 103 55 27.32
	16700.00	90.00	179.65	10653.00	7462.00	6351.41	-6349.35	164.16	0.00	405260.83	626655.95	N 32 6 48.66	W 103 55 27.32
	16800.00	90.00	179.65	10653.00	7462.00	6451.40	-6449.35	164.78	0.00	405160.84	626656.57	N 32 6 47.67	W 103 55 27.32
	16900.00	90.00	179.65	10653.00	7462.00	6551.39	-6549.34	165.40	0.00	405060.84	626657.18	N 32 6 46.68	W 103 55 27.31
	17000.00	90.00	179.65	10653.00	7462.00	6651.38	-6649.34	166.01	0.00	404960.85	626657.80	N 32 6 45.69	W 103 55 27.31
	17100.00	90.00	179.65	10653.00	7462.00	6751.36	-6749.34	166.63	0.00	404860.86	626658.42	N 32 6 44.70	W 103 55 27.31
	17200.00	90.00	179.65	10653.00	7462.00	6851.35	-6849.34	167.25	0.00	404760.87	626659.03	N 32 6 43.72	W 103 55 27.31
	17300.00	90.00	179.65	10653.00	7462.00	6951.34	-6949.34	167.86	0.00	404660.88	626659.65	N 32 6 42.73	W 103 55 27.30
	17400.00	90.00	179.65	10653.00	7462.00	7051.33	-7049.33	168.48	0.00	404560.89	626660.27	N 32 6 41.74	W 103 55 27.30
	17500.00	90.00	179.65	10653.00	7462.00	7151.32	-7149.33	169.10	0.00	404460.90	626660.88	N 32 6 40.75	W 103 55 27.30
	17600.00	90.00	179.65	10653.00	7462.00	7251.30	-7249.33	169.71	0.00	404360.91	626661.50	N 32 6 39.76	W 103 55 27.29
	17700.00	90.00	179.65	10653.00	7462.00	7351.29	-7349.33	170.33	0.00	404260.92	626662.12	N 32 6 38.77	W 103 55 27.29
	17800.00	90.00	179.65	10653.00	7462.00	7451.28	-7449.33	170.95	0.00	404160.93	626662.73	N 32 6 37.78	W 103 55 27.29
	17900.00	90.00	179.65	10653.00	7462.00	7551.27	-7549.32	171.56	0.00	404060.94	626663.35	N 32 6 36.79	W 103 55 27.29
	18000.00	90.00	179.65	10653.00	7462.00	7651.26	-7649.32	172.18	0.00	403960.95	626663.97	N 32 6 35.80	W 103 55 27.28
	18100.00	90.00	179.65	10653.00	7462.00	7751.25	-7749.32	172.80	0.00	403860.96	626664.58	N 32 6 34.81	W 103 55 27.28
	18200.00	90.00	179.65	10653.00	7462.00	7851.23	-7849.32	173.41	0.00	403760.97	626665.20	N 32 6 33.82	W 103 55 27.28
	18300.00	90.00	179.65	10653.00	7462.00	7951.22	-7949.32	174.03	0.00	403660.98	626665.82	N 32 6 32.83	W 103 55 27.28
	18400.00	90.00	179.65	10653.00	7462.00	8051.21	-8049.32	174.65	0.00	403560.98	626666.43	N 32 6 31.84	W 103 55 27.27
XTO Poker Lake Unit 18 BD 103H - BHL	18475.49	90.00	179.65	10653.00	7462.00	8126.69	-8124.81	175.11	0.00	403485.50	626666.90	N 32 6 31.09	W 103 55 27.27

Survey Type: Def Plan

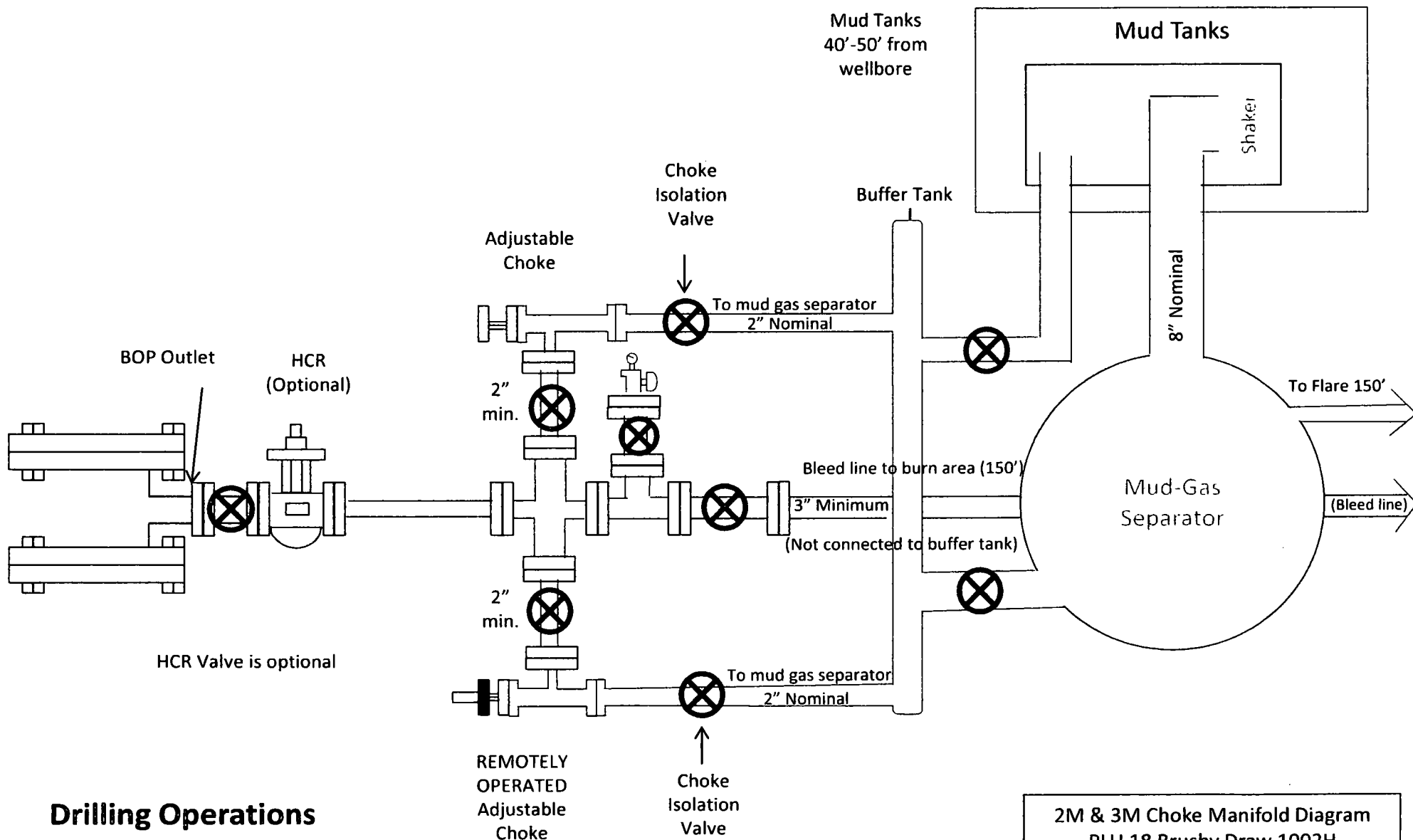
Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	23.000	1/100.000	17.500	13.375		NAL_MWD_1.0_DEG-Depth Only	Original Hole / XTO Poker Lake Unit 18 BD 103H Rev1 RM 21Aug18
	1	23.000	720.000	1/100.000	17.500	13.375		NAL_MWD_1.0_DEG	Original Hole / XTO Poker Lake Unit 18 BD 103H Rev1 RM
	1	720.000	18475.492	1/100.000	12.250	9.825		NAL_MWD_1.0_DEG	Original Hole / XTO Poker Lake Unit 18 BD 103H Rev1 RM





3000# BOP
PLU 18 Brushy Draw 1002H
BOPCO, LP



Drilling Operations Choke Manifold 2M & 3M Service

2M & 3M Choke Manifold Diagram
PLU 18 Brushy Draw 1002H
BOPCO, LP

Intent ☒ As Drilled ☐

API #
30-015-44891

Operator Name:
BOPCO, L.P.

Property Name:
Poker Lake Unit 18 BD

Well Number
103H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	18	25S	30E	2	2310	North	1305	West	Eddy
Latitude					Longitude			NAD	
32.131096					-103.925192			NAD83	

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
K	18	25S	30E		2310	South	1430	West	Eddy
Latitude					Longitude			NAD	
32.129176					-103.924784			NAD83	

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	19	25S	30E		330	South	1430	West	Eddy
Latitude					Longitude			NAD	
32.108761					-103.924726			NAD83	

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.

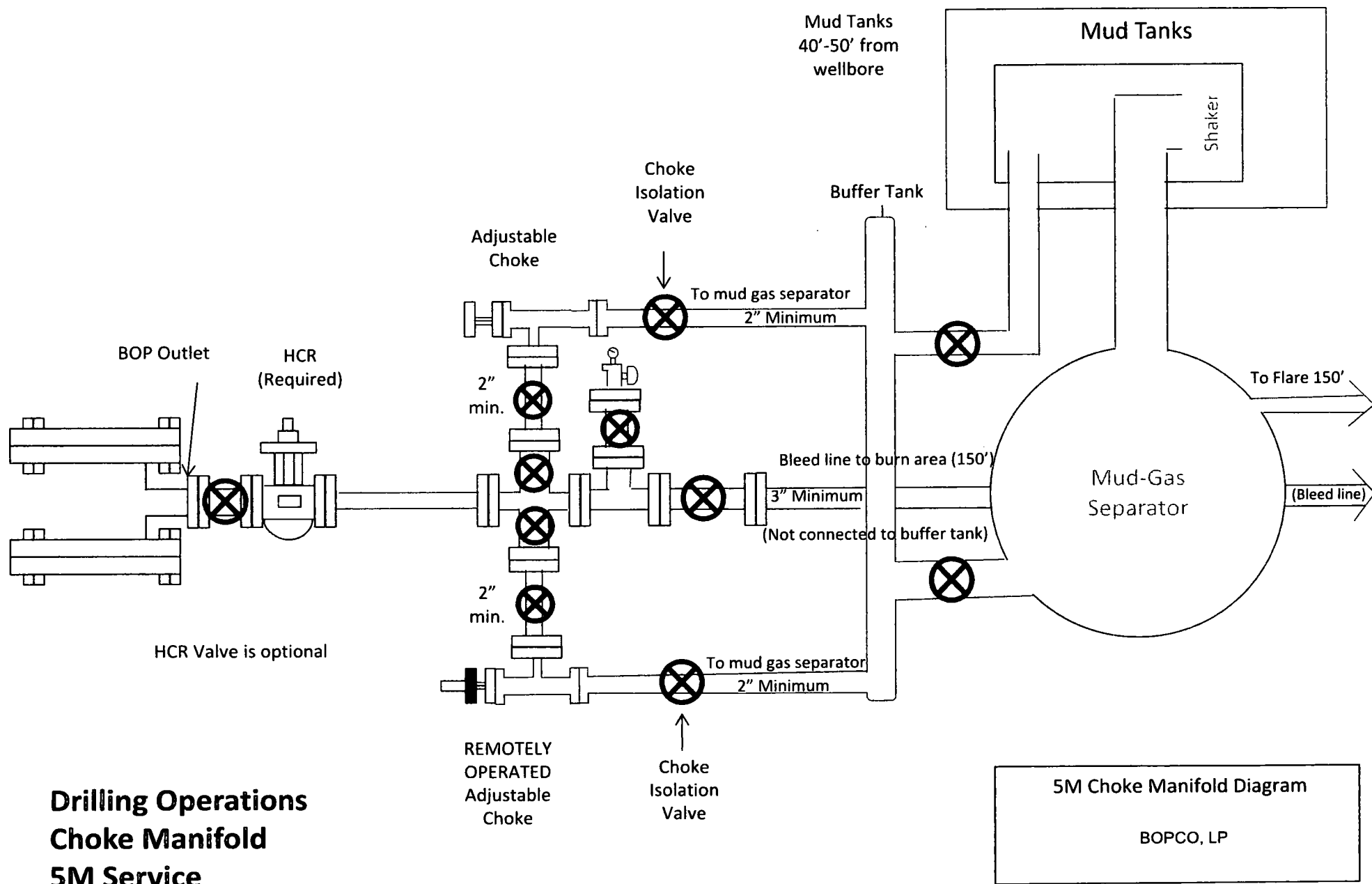
API #

Operator Name:

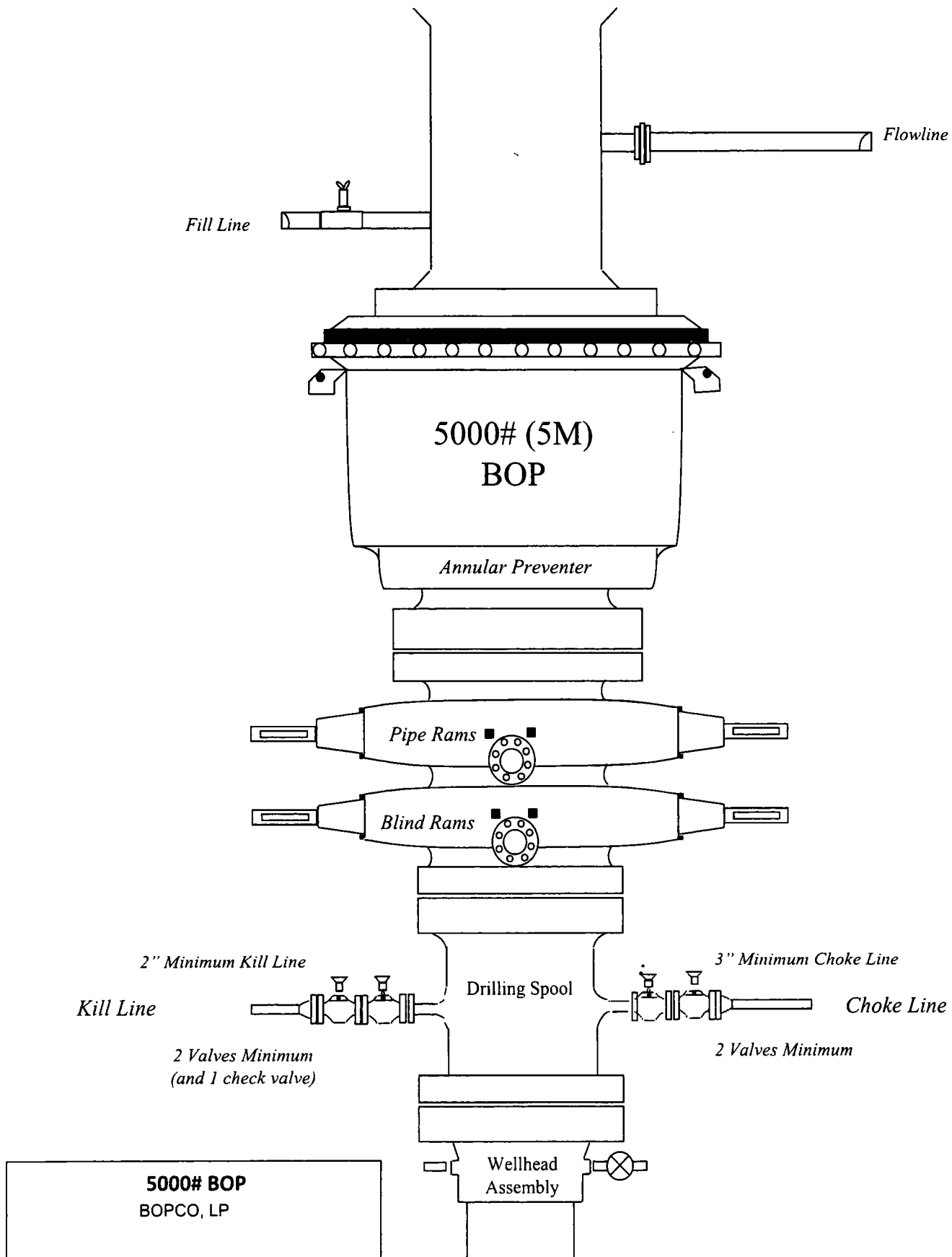
Property Name:

Well Number

KZ 06/29/2018



Drilling Operations
Choke Manifold
5M Service



PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO LP
LEASE NO.:	NM120898
WELL NAME & NO.:	103H – Poker Lake Unit 18 BD
SURFACE HOLE FOOTAGE:	2310'/N & 1305'/W
BOTTOM HOLE FOOTAGE:	200'/S & 1430'/W, sec. 19
LOCATION:	Sec. 18, T. 25 S, R. 30 E
COUNTY:	Eddy County

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

A. CASING

1. The 13-3/8 inch surface casing shall be set at approximately **885 feet** (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
- Cement as proposed. Operator shall provide method of verification.

MHH 10302018

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.