

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

ATS-15-548
FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

OCD Hobbs
OCT 13 2015
RECEIVED

5. Lease Serial No.
NMNM016353
6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
Cazador Federal #1H

9. API Well No.

10. Field and Pool, or Exploratory
WC-025 G-06 S253306M; Bone Spring

11. Sec., T. R. M. or Blk. and Survey or Area
D-28-T24S-R32E

12. County or Parish
Lea

13. State
NM

1a. Type of work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator XTO Energy, Inc

3a. Address 500 W. Illinois St. Ste 100
Midland, Texas 79701

3b. Phone No. (include area code)
432-620-6714

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 100' FNL & 370' FWL, D-28-T24S-R32E
At proposed prod. zone 200' FNL & 418' FWL, D-21-T24S-R32E

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

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

16. No. of acres in lease
1720

17. Spacing Unit dedicated to this well
160

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

19. Proposed Depth
MD: 15720'
TVD: 10773'

20. BLM/BIA Bond No. on file
UTB000138

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3529'

22. Approximate date work will start*
08/01/2015

23. Estimated duration
45 Days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature
Stephanie Rabadue
Title
Regulatory Analyst

Name (Printed/Typed)
Stephanie Rabadue

Date
03/19/2015

Approved by (Signature)
Steve Caffey
Title
FIELD MANAGER

Name (Printed/Typed)
Office
CARLSBAD FIELD OFFICE

Date
OCT - 8 2015

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

OCT 15 2015

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

HOBBS OCD

OCT 13 2015

RECEIVED

XTO Energy Inc.
Cazador Federal 1H
Projected TD: 15720' MD / 10773' TVD
SHL: 100' FNL & 370' FWL, SECTION 28, T24S, R32E
BHL: 200' FNL & 685' FWL, SECTION 21, T24S, R32E
Lea County, NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

A. Permian

2. ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Formation	Well Depth (TVD)	Water / Oil / Gas
Rustler	822'	Water
Top of Salt	1127'	
Base of Salt	4439'	
Delaware	4676'	Water
Brushy Canyon	7156'	Water/Oil/Gas
Bone Spring	8584'	Water/Oil/Gas
1 st Bone Spring Ss	9730'	Water/Oil/Gas
2 nd Bone Spring Ss	10324'	Water/Oil/Gas
Target/Land Curve	10773'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

*** Groundwater depth 200' (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" casing @ 900' above the salt and circulating cement back to surface. The salt will be isolated by setting 9-5/8" casing at 4675' and circulating cement to surface. An 8-3/4" curve and lateral hole will be drilled to MD/TD and 5-1/2" casing with sliding frac sleeves will be set at TD and cemented back 500' into the 9-5/8" casing shoe.

3. CASING PROGRAM:

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' - 900'	13-3/8"	48#	STC	H-40	New	4.33	1.80	7.45
12-1/4"	0' - 3500'	9-5/8"	36#	LTC	J-55	New	1.72	1.19	2.69
	3500' - 4675'	9-5/8"	40#	LTC	J-55	New	1.93	1.42	11.06
8-3/4"	0' - 15720'	5-1/2"	17#	BTC	P-110	New	1.12	1.48	2.13

WELLHEAD:

- A. Starting Head: 13-5/8" 3000 psi top flange x 13-3/8" SOW bottom
- B. 'B' Section/ Drilling Spool: 13-5/8" 3000psi bottom flange x 11" 5M top flange
- C. Tubing Head: 11" 5000psi bottom flange x 7-1/16" 10,000psi top flange

4. CEMENT PROGRAM:

- A. **Surface Casing:** 13-3/8", 48#, NEW H-40, STC casing to be set at $\pm 900'$.

Lead: 20 bbls FW, then 495 sx ExtendaCem-CZ (mixed at 13.7 ppg, 1.68 ft³/sk, 8.72 gal/sx wtr)

Tail: 300 sx HalCem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft³/sk, 6.39 gal/sx wtr)

***All volumes 100% excess in open hole. Cement to surface.

- B. **Intermediate Casing:** 9-5/8", 36#/40#, NEW J-55, LTC casing to be set at $\pm 4675'$.

Lead: 20 bbls FW, then 1390 sx EconoCem-HLC + 5% salt + 5 lbm/sk Kol-Seal (mixed at 12.9 ppg, 1.88 ft³/sk, 9.61 gal/sx wtr)

Tail: 250 sx HalCem-C (mixed at 14.8 ppg, 1.33 ft³/sk, 6.34 gal/sx wtr)

***All volumes 100% excess in open hole. Cement to surface.

- C. **Production Casing:** 5-1/2", 17#, NEW P-110, BTC casing to be set at $\pm 15720'$. Casing will be cemented and will include sliding sleeves for the completion.

Lead: 20 bbls FW, then 625 sx Tuned Light + 0.5 lbm/sk CFR-3 + 1.5 lbm/sk salt + 0.1% HR601 (mixed at 10.5 ppg, 2.69 ft³/sk, 12.26 gal/sx wtr)

Tail: 1295 sx VersaCem PBHS2 + 0.5% LAP-1 + 0.25 lbm/sk D-air 5000 + 0.2% HR 601 + 0.4% CFR-3 + 1 pps Salt (mixed at 13.2 ppg, 1.61 ft³/sk, 8.38 gal/sx wtr)

***All volumes 30% excess in open hole. Planned top of cement 500' into intermediate casing shoe

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. Max bottom hole pressure should not exceed 5050 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.

See COA
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 900'	17-1/2"	FW/Native	8.4 - 8.8	35 - 40	NC
900' to 4675'	12-1/4"	Brine/Gel Sweeps	9.8 - 10.2	30 - 32	NC
4675' to 15720'	8-3/4"	FW / Cut Brine / Poly-Sweeps	8.6 - 9.0	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:

- See COA*
- 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) on @ 4675'.
Catch 20' samples from 4675' to TD

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from KOP to intermediate casing shoe.

9. ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS:

See COA

None anticipated. BHT of 160 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.

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.



SECTION DETAILS

Sec	MD	Inc	Asi	TVD	+N-S	+E-W	Deg	TFace	Vsect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	10200.04	0.00	0.00	10200.04	0.00	0.00	0.00	0.00	0.00		KOP, Start 10.00°/100' Build
3	11190.04	90.00	3.03	10773.00	572.16	30.24	10.00	3.03	572.96		LP, Hold 90.00° Inc
4	15720.32	90.00	3.03	10773.00	5195.00	274.10	0.00	0.00	5193.24	BHL, Cazador Fed 1H	TD at 15720.32

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
BHL Cazador Fed 1H	10773.00	5195.00	274.10	440571.50	700364.50	32° 12' 34.51813 N	103° 41' 7.84770 W	Point
TP1 Cazador Fed 1H	10773.00	800.30	42.30	436185.60	700132.70	32° 11' 51.13201 N	103° 41' 10.85279 W	Point
TP2 Cazador Fed 1H	10773.00	5056.00	267.20	440441.50	700357.60	32° 12' 33.23209 N	103° 41' 7.93713 W	Point

- plan hits target center
 - plan hits target center
 - plan misses target center by 0.03ust at 15590.14ust MD (10773.00 TVD, 5056.00 N, 267.23 E)

Map System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone Name: New Mexico East 3001

Local Origin: Well 1H, Grid North

Latitude: 32° 11' 43.21493 N
 Longitude: 103° 41' 11.40108 W

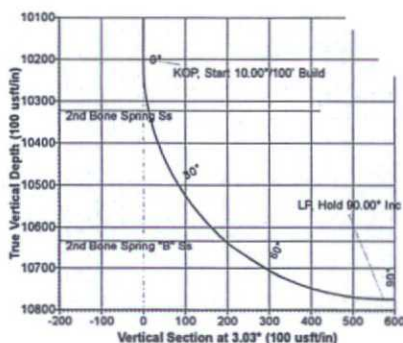
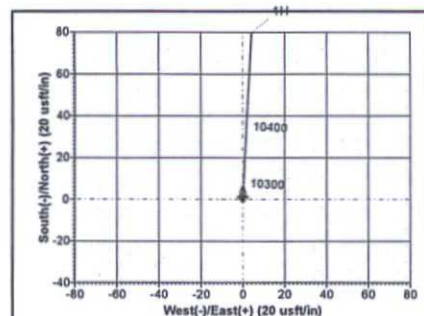
Grid East: 700090.40
 Grid North: 435385.50
 Scale Factor: 1.000

Geomagnetic Model: IGRF2015
 Sample Date: 09-Feb-15
 Magnetic Declination: 7.26°
 Dip Angle from Horizontal: 60.05°
 Magnetic Field Strength: 48150

To convert a Magnetic Direction to a Grid Direction, Add 6.91°
 To convert a Magnetic Direction to a True Direction, Add 7.26° East
 To convert a True Direction to a Grid Direction, Subtract 0.34°

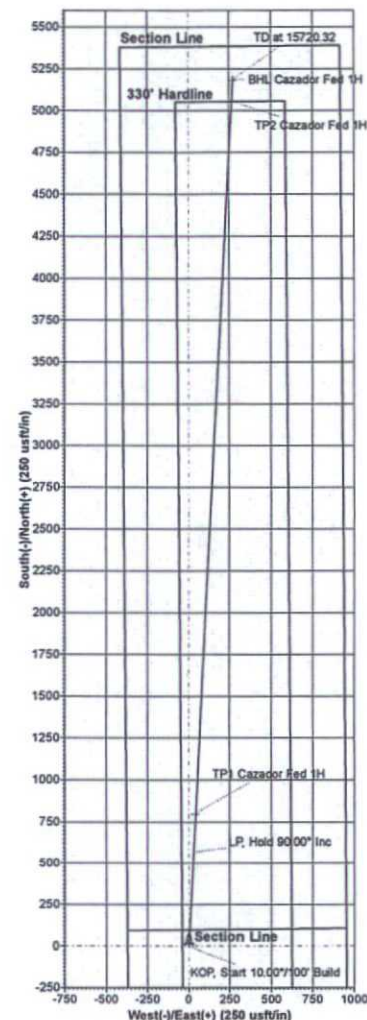
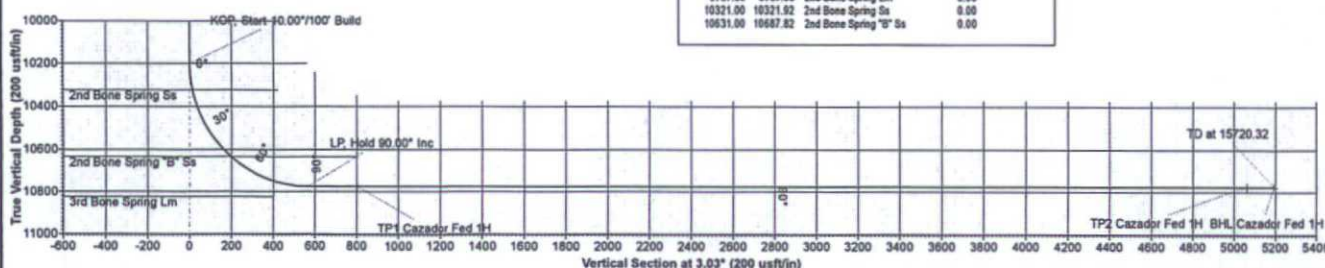
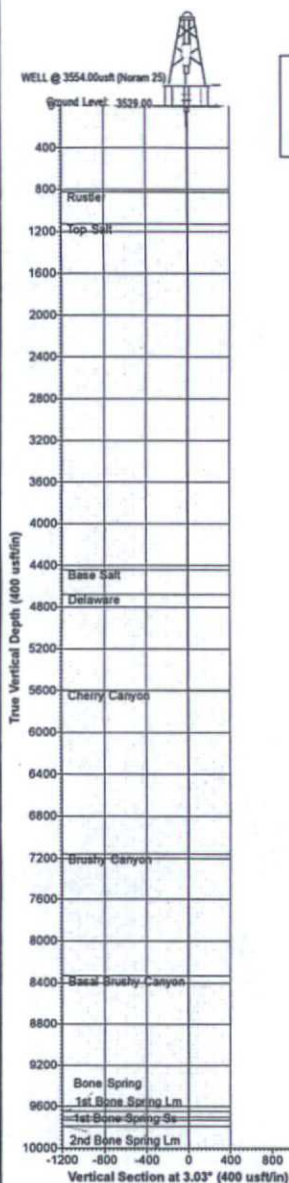
WELL DETAILS

+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	435385.50	700090.40	32° 11' 43.21493 N	103° 41' 11.40108 W



FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
819.00	819.00	Rustler	0.00	
1124.00	1124.00	Top Salt	0.00	
4436.00	4436.00	Base Salt	0.00	
4673.00	4673.00	Delaware	0.00	
5589.00	5589.00	Cherry Canyon	0.00	
7153.00	7153.00	Brushy Canyon	0.00	
8331.00	8331.00	Basal Brushy Canyon	0.00	
9641.00	9641.00	1st Bone Spring Lm	0.00	
9698.00	9698.00	Bone Spring	0.00	
9727.00	9727.00	1st Bone Spring Ss	0.00	
9787.00	9787.00	2nd Bone Spring Lm	0.00	
10321.00	10321.00	2nd Bone Spring Ss	0.00	
10631.00	10667.82	2nd Bone Spring 'B' Ss	0.00	



XTOENERGY

XTO Energy Inc

Lea County, NM (NAD27)

Cazador Federal

1H

WB#1

Plan: Plan#1 020915

Standard Planning Report

09 February, 2015



Phoenix
Planning Report



XTOENERGY

Database: Compass 5000 GCR
Company: XTO Energy Inc
Project: Lea County, NM (NAD27)
Site: Cazador Federal
Well: 1H
Wellbore: WB#1
Design: Plan#1 020915

Local Co-ordinate Reference: Well 1H
TVD Reference: WELL @ 3554.00usft (Noram 25)
MD Reference: WELL @ 3554.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD27)		
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	Cazador Federal				
Site Position:		Northing:	435,385.50 usft	Latitude:	32° 11' 43.21493 N
From: Map		Easting:	700,090.40 usft	Longitude:	103° 41' 11.40108 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.34 °

Well	1H					
Well Position	+N/-S	0.00 usft	Northing:	435,385.50 usft	Latitude:	32° 11' 43.21493 N
	+E/-W	0.00 usft	Easting:	700,090.40 usft	Longitude:	103° 41' 11.40108 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,529.00 usft

Wellbore	WB#1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/9/2015	7.26	60.05	48,150

Design	Plan#1 020915				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	3.03	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,200.04	0.00	0.00	10,200.04	0.00	0.00	0.00	0.00	0.00	0.00	
11,100.04	90.00	3.03	10,773.00	572.16	30.24	10.00	10.00	0.00	3.03	
15,720.32	90.00	3.03	10,773.00	5,186.00	274.10	0.00	0.00	0.00	0.00	BHL Cazador Fed 1H

Database: Compass 5000 GCR
 Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Cazador Federal
 Well: 1H
 Wellbore: WB#1
 Design: Plan#1 020915

Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 3554.00usft (Noram 25)
 MD Reference: WELL @ 3554.00usft (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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
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
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
819.00	0.00	0.00	819.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,124.00	0.00	0.00	1,124.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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
3,400.00	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
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,436.00	0.00	0.00	4,436.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00

Database: Compass 5000 GCR
 Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Cazador Federal
 Well: 1H
 Wellbore: WB#1
 Design: Plan#1 020915

Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 3554.00usft (Noram 25)
 MD Reference: WELL @ 3554.00usft (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)
4,673.00	0.00	0.00	4,673.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,589.00	0.00	0.00	5,589.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,153.00	0.00	0.00	7,153.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,331.00	0.00	0.00	8,331.00	0.00	0.00	0.00	0.00	0.00	0.00
Basal Brushy Canyon									
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00

Database: Compass 5000 GCR
 Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Cazador Federal
 Well: 1H
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 Design: Plan#1 020915

Local Co-ordinate Reference: Well 1H
 TVD Reference: WELL @ 3554.00usft (Noram 25)
 MD Reference: WELL @ 3554.00usft (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)
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,641.00	0.00	0.00	9,641.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Lm									
9,698.00	0.00	0.00	9,698.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring									
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,727.00	0.00	0.00	9,727.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Ss									
9,787.00	0.00	0.00	9,787.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Lm									
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00
10,200.00	0.00	0.00	10,200.00	0.00	0.00	0.00	0.00	0.00	0.00
10,200.04	0.00	0.00	10,200.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Start 10.00°/100' Build									
10,300.00	10.00	3.03	10,299.49	8.69	0.46	8.70	10.00	10.00	0.00
10,321.92	12.19	3.03	10,321.00	12.90	0.68	12.91	10.00	10.00	0.00
2nd Bone Spring Ss									
10,400.00	20.00	3.03	10,395.97	34.49	1.82	34.54	10.00	10.00	0.00
10,500.00	30.00	3.03	10,486.48	76.63	4.05	76.74	10.00	10.00	0.00
10,600.00	40.00	3.03	10,568.30	133.83	7.07	134.02	10.00	10.00	0.00
10,687.82	48.78	3.03	10,631.00	195.12	10.31	195.39	10.00	10.00	0.00
2nd Bone Spring "B" Ss									
10,700.00	50.00	3.03	10,638.93	204.35	10.80	204.64	10.00	10.00	0.00
10,800.00	60.00	3.03	10,696.22	286.04	15.12	286.44	10.00	10.00	0.00
10,900.00	70.00	3.03	10,738.43	376.43	18.90	376.96	10.00	10.00	0.00
11,000.00	80.00	3.03	10,764.29	472.76	24.99	473.42	10.00	10.00	0.00
11,100.00	90.00	3.03	10,773.00	572.12	30.24	572.92	10.00	10.00	0.00
11,100.04	90.00	3.03	10,773.00	572.16	30.24	572.96	10.00	10.00	0.00
LP, Hold 90.00° Inc									
11,200.00	90.00	3.03	10,773.00	671.98	35.52	672.92	0.00	0.00	0.00
11,300.00	90.00	3.03	10,773.00	771.84	40.79	772.92	0.00	0.00	0.00
11,400.00	90.00	3.03	10,773.00	871.70	46.07	872.92	0.00	0.00	0.00
11,500.00	90.00	3.03	10,773.00	971.56	51.35	972.92	0.00	0.00	0.00
11,600.00	90.00	3.03	10,773.00	1,071.42	56.63	1,072.92	0.00	0.00	0.00
11,700.00	90.00	3.03	10,773.00	1,171.28	61.91	1,172.92	0.00	0.00	0.00
11,800.00	90.00	3.03	10,773.00	1,271.14	67.18	1,272.92	0.00	0.00	0.00
11,900.00	90.00	3.03	10,773.00	1,371.00	72.46	1,372.92	0.00	0.00	0.00
12,000.00	90.00	3.03	10,773.00	1,470.86	77.74	1,472.92	0.00	0.00	0.00
12,100.00	90.00	3.03	10,773.00	1,570.72	83.02	1,572.92	0.00	0.00	0.00
12,200.00	90.00	3.03	10,773.00	1,670.58	88.30	1,672.92	0.00	0.00	0.00
12,300.00	90.00	3.03	10,773.00	1,770.44	93.57	1,772.92	0.00	0.00	0.00
12,400.00	90.00	3.03	10,773.00	1,870.31	98.85	1,872.92	0.00	0.00	0.00
12,500.00	90.00	3.03	10,773.00	1,970.17	104.13	1,972.92	0.00	0.00	0.00
12,600.00	90.00	3.03	10,773.00	2,070.03	109.41	2,072.92	0.00	0.00	0.00
12,700.00	90.00	3.03	10,773.00	2,169.89	114.69	2,172.92	0.00	0.00	0.00
12,800.00	90.00	3.03	10,773.00	2,269.75	119.96	2,272.92	0.00	0.00	0.00
12,900.00	90.00	3.03	10,773.00	2,369.61	125.24	2,372.92	0.00	0.00	0.00

Database: Compass 5000 GCR
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Site: Cazador Federal
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Local Co-ordinate Reference: Well 1H
TVD Reference: WELL @ 3554.00usft (Noram 25)
MD Reference: WELL @ 3554.00usft (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)
13,000.00	90.00	3.03	10,773.00	2,469.47	130.52	2,472.92	0.00	0.00	0.00
13,100.00	90.00	3.03	10,773.00	2,569.33	135.80	2,572.92	0.00	0.00	0.00
13,200.00	90.00	3.03	10,773.00	2,669.19	141.08	2,672.92	0.00	0.00	0.00
13,300.00	90.00	3.03	10,773.00	2,769.05	146.35	2,772.92	0.00	0.00	0.00
13,400.00	90.00	3.03	10,773.00	2,868.91	151.63	2,872.92	0.00	0.00	0.00
13,500.00	90.00	3.03	10,773.00	2,968.77	156.91	2,972.92	0.00	0.00	0.00
13,600.00	90.00	3.03	10,773.00	3,068.63	162.19	3,072.92	0.00	0.00	0.00
13,700.00	90.00	3.03	10,773.00	3,168.49	167.47	3,172.92	0.00	0.00	0.00
13,800.00	90.00	3.03	10,773.00	3,268.35	172.75	3,272.92	0.00	0.00	0.00
13,900.00	90.00	3.03	10,773.00	3,368.21	178.02	3,372.92	0.00	0.00	0.00
14,000.00	90.00	3.03	10,773.00	3,468.07	183.30	3,472.92	0.00	0.00	0.00
14,100.00	90.00	3.03	10,773.00	3,567.94	188.58	3,572.92	0.00	0.00	0.00
14,200.00	90.00	3.03	10,773.00	3,667.80	193.86	3,672.92	0.00	0.00	0.00
14,300.00	90.00	3.03	10,773.00	3,767.66	199.14	3,772.92	0.00	0.00	0.00
14,400.00	90.00	3.03	10,773.00	3,867.52	204.41	3,872.92	0.00	0.00	0.00
14,500.00	90.00	3.03	10,773.00	3,967.38	209.69	3,972.92	0.00	0.00	0.00
14,600.00	90.00	3.03	10,773.00	4,067.24	214.97	4,072.92	0.00	0.00	0.00
14,700.00	90.00	3.03	10,773.00	4,167.10	220.25	4,172.92	0.00	0.00	0.00
14,800.00	90.00	3.03	10,773.00	4,266.96	225.53	4,272.92	0.00	0.00	0.00
14,900.00	90.00	3.03	10,773.00	4,366.82	230.80	4,372.92	0.00	0.00	0.00
15,000.00	90.00	3.03	10,773.00	4,466.68	236.08	4,472.92	0.00	0.00	0.00
15,100.00	90.00	3.03	10,773.00	4,566.54	241.36	4,572.92	0.00	0.00	0.00
15,200.00	90.00	3.03	10,773.00	4,666.40	246.64	4,672.92	0.00	0.00	0.00
15,300.00	90.00	3.03	10,773.00	4,766.26	251.92	4,772.92	0.00	0.00	0.00
15,400.00	90.00	3.03	10,773.00	4,866.12	257.19	4,872.92	0.00	0.00	0.00
15,500.00	90.00	3.03	10,773.00	4,965.98	262.47	4,972.92	0.00	0.00	0.00
15,600.00	90.00	3.03	10,773.00	5,065.84	267.75	5,072.92	0.00	0.00	0.00
15,700.00	90.00	3.03	10,773.00	5,165.71	273.03	5,172.92	0.00	0.00	0.00
15,720.32	90.00	3.03	10,773.00	5,186.00	274.10	5,193.24	0.00	0.00	0.00
TD at 15720.32									

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
BHL Cazador Fed 1H - plan hits target center - Point	0.00	0.00	10,773.00	5,186.00	274.10	440,571.50	700,364.50	32° 12' 34.51813 N	103° 41' 7.84770 W
TP2 Cazador Fed 1H - plan misses target center by 0.03usft at 15590.14usft MD (10773.00 TVD, 5056.00 N, 267.23 E) - Point	0.00	0.00	10,773.00	5,056.00	267.20	440,441.50	700,357.60	32° 12' 33.23209 N	103° 41' 7.93713 W
TP1 Cazador Fed 1H - plan hits target center - Point	0.00	0.00	10,773.00	800.30	42.30	436,185.80	700,132.70	32° 11' 51.13202 N	103° 41' 10.85279 W

Phoenix
Planning Report



XTOENERGY

Database: Compass 5000 GCR
Company: XTO Energy Inc
Project: Lea County, NM (NAD27)
Site: Cazador Federal
Well: 1H
Wellbore: WB#1
Design: Plan#1 020915

Local Co-ordinate Reference: Well 1H
TVD Reference: WELL @ 3554.00usft (Noram 25)
MD Reference: WELL @ 3554.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
819.00	819.00	Rustler		0.00		
1,124.00	1,124.00	Top Salt		0.00		
4,436.00	4,436.00	Base Salt		0.00		
4,673.00	4,673.00	Delaware		0.00		
5,589.00	5,589.00	Cherry Canyon		0.00		
7,153.00	7,153.00	Brushy Canyon		0.00		
8,331.00	8,331.00	Basal Brushy Canyon		0.00		
9,641.00	9,641.00	1st Bone Spring Lm		0.00		
9,698.00	9,698.00	Bone Spring		0.00		
9,727.00	9,727.00	1st Bone Spring Ss		0.00		
9,787.00	9,787.00	2nd Bone Spring Lm		0.00		
10,321.92	10,321.00	2nd Bone Spring Ss		0.00		
10,687.82	10,631.00	2nd Bone Spring "B" Ss		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
10,200.04	10,200.04	0.00	0.00	KOP, Start 10.00°/100' Build	
11,100.04	10,773.00	572.16	30.24	LP, Hold 90.00° Inc	
15,720.32	10,773.00	5,186.00	274.10	TD at 15720.32	

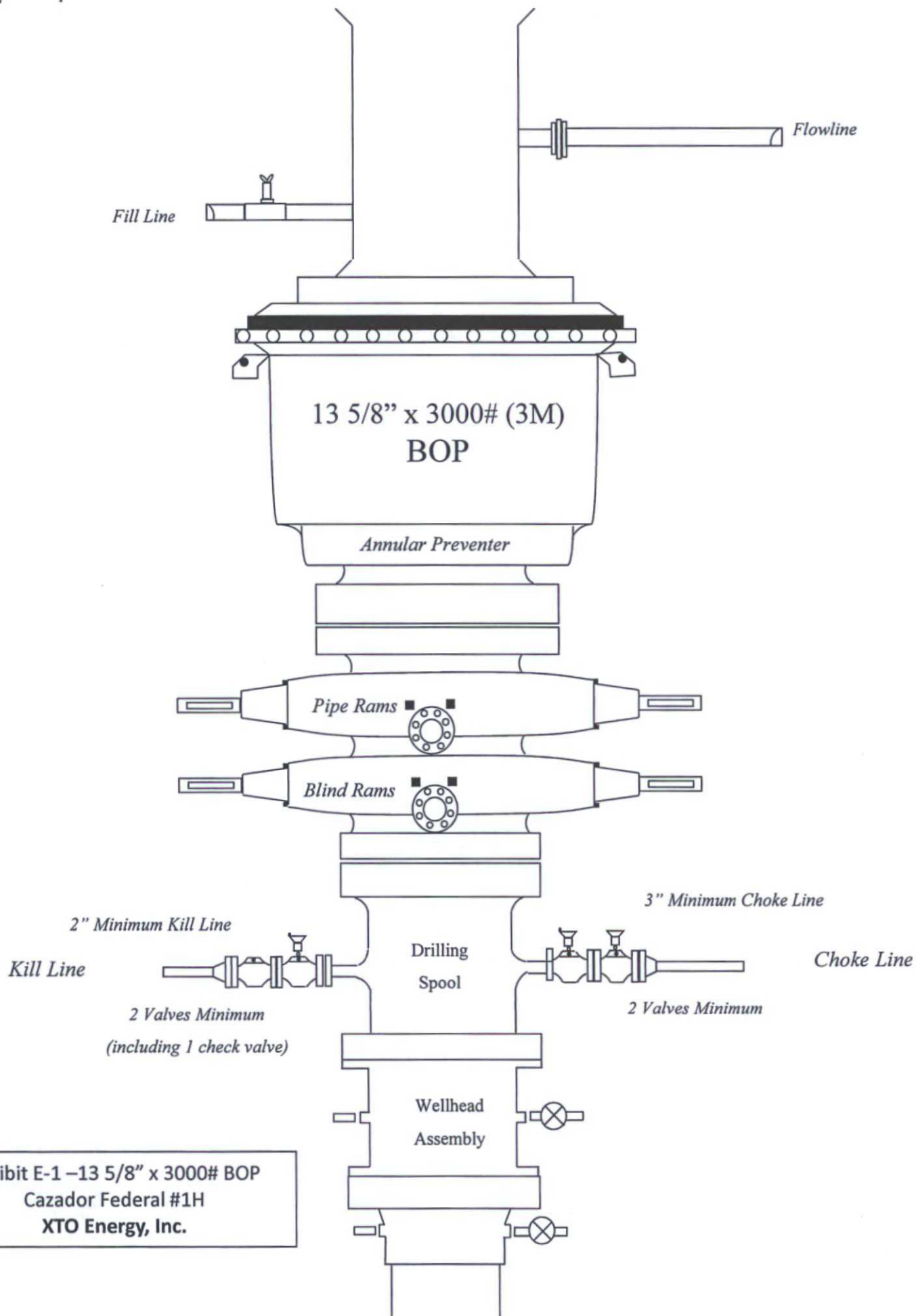


Exhibit E-1 - 13 5/8" x 3000# BOP
Cazador Federal #1H
XTO Energy, Inc.

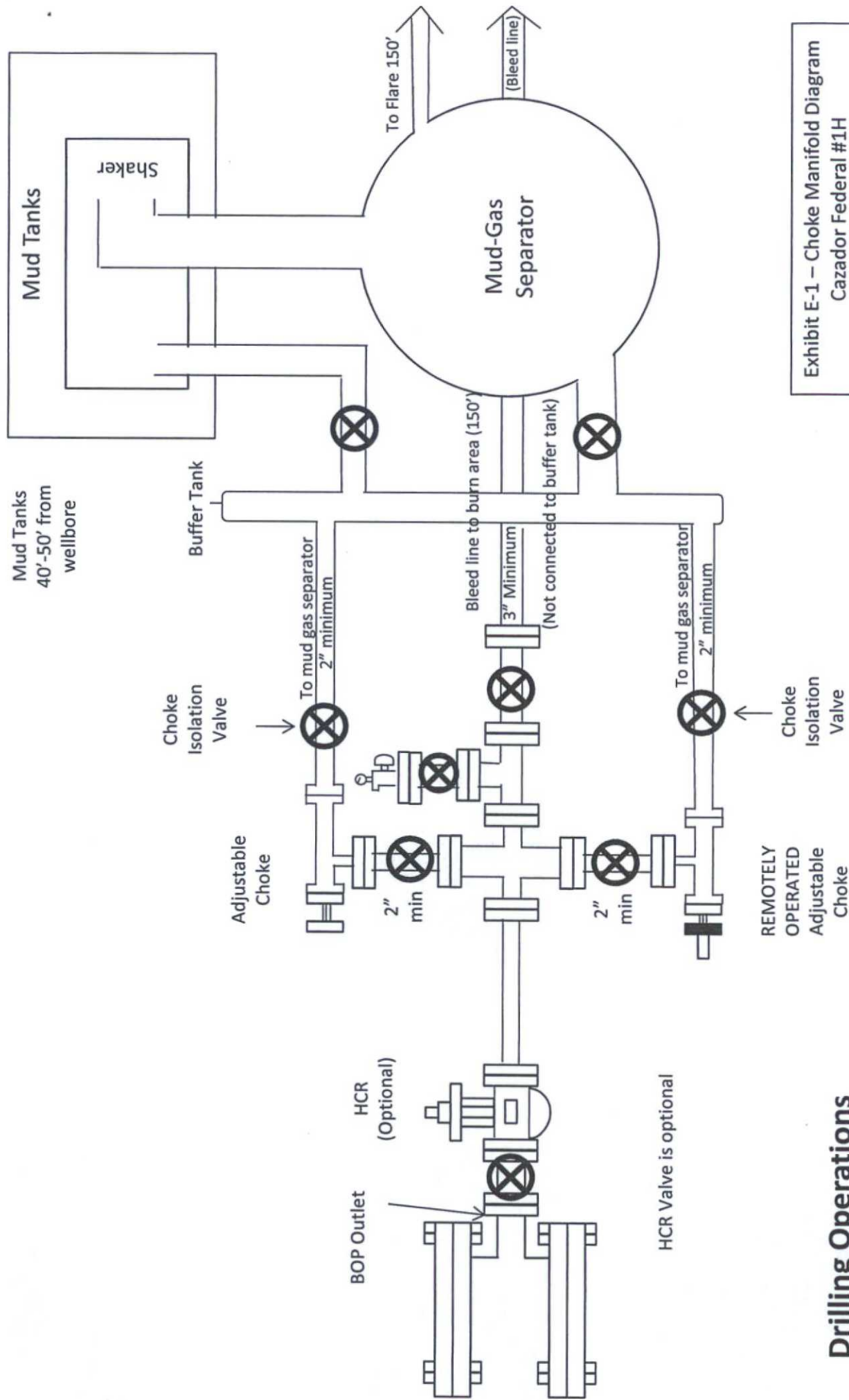
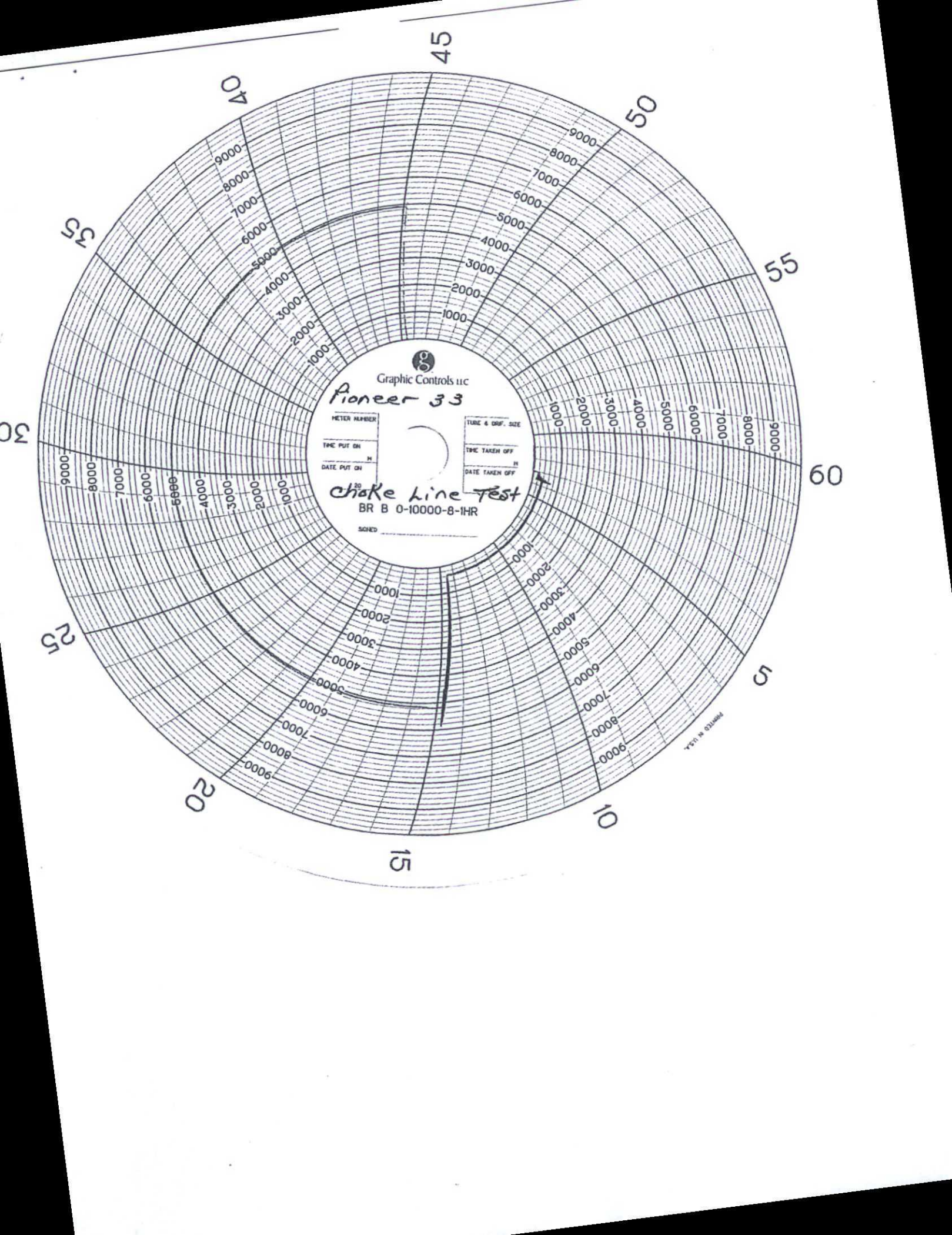


Exhibit E-1 – Choke Manifold Diagram
 Cazador Federal #1H
 XTO Energy, Inc..

Drilling Operations Choke Manifold





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

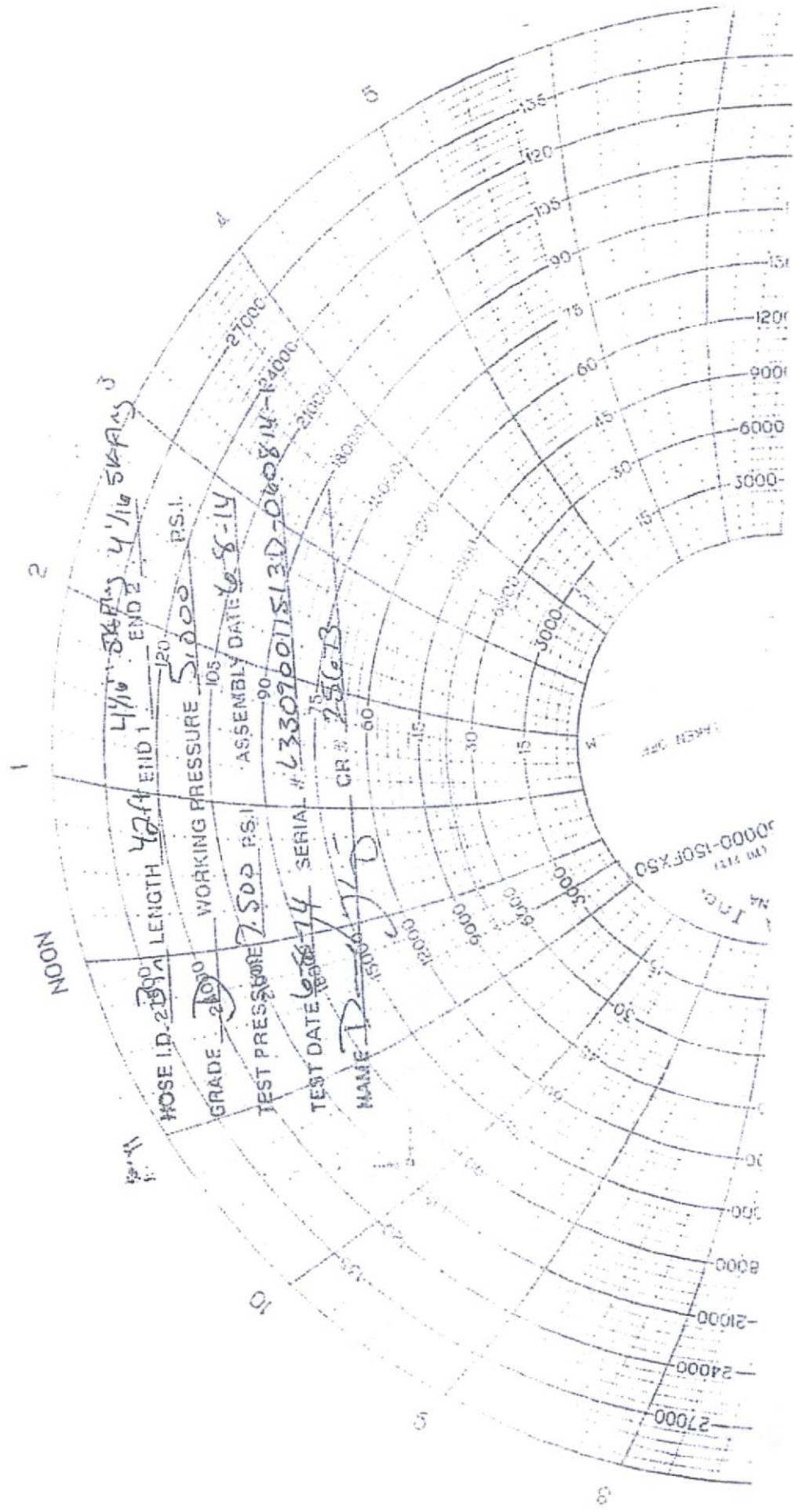
PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe@s@gates.com
WEB: www.gates.com

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:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	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 :	



NOON

1

2

4 1/2" S&F 3
END 1
END 2

1 1/2"

HOSE I.D. 2 1/2 LENGTH 42 ft

GRADE 200 WORKING PRESSURE 5100 PSI

TEST PRESSURE 7500 PSI

TEST DATE 6-14-74 SERIAL # 133096017513D-060814-14000

NAME D. J. D. CR # 25613

ASSEMBLY DATE 6-8-14

NA
Inch
10000-150FX50
(100 PSI)

1/2" INCH

EXHIBIT D F.2

Rig Plat Diagram Only – Dual Well Pad Layout

Outrider Federal #1H
V-Door West

Outrider Federal #1H Dual Pad

