AIS-16-509

HOBBS OCD – OCD Hobbs

R-111-POTASH

Form 3160-3
(August 2007)

SEP 12 2016

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. SHL: NMNM087274/BHL:NM041769
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name
2. Name of Operator XTO Energy, Inc (5380)	7. If Unit or CA Agreement, Name and No.
3a. Address 500 W. Illinois St Ste 100 Midland, Texas 79701	8. Lease Name and Well No. Severus 31 Federal Com 3H (316800)
3b. Phone No. *(include area code)* 432-620-6714	9. API Well No. 30-025-43477
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface 240'FSL & 1750'FWL, Sec 30-20S-34E At proposed prod. zone 330'FNL & 1788'FWL, Sec 31-20S-34E	10. Field and Pool, or Exploratory WC-025 G-08 S213304D; Bone Spring (97895)
	11. Sec., T. R. M. or Blk. and Survey or Area N-30-20S-34E
14. Distance in miles and direction from nearest town or post office* 28 Miles Southwest of Hobbs, NM	12. County or Parish ~~Eddy~~ LEA / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 240'	16. No. of acres in lease 640.32 / 17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1190' to Severus #2H	19. Proposed Depth TVD: 11,345' MD: 16,349' / 20. BLM/BIA Bond No. on file UTB000138
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3688'	22. Approximate date work will start* / 23. Estimated duration 90 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:

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

25. Signature Stephanie Rabadue	Name *(Printed/Typed)* Stephanie Rabadue	Date 01/08/2016
Title Regulatory Analyst		
Approved by *(Signature)* /s/George MacDonell	Name *(Printed/Typed)*	Date SEP 8 – 2016
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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)

Capitan Controlled Water Basin

KZ
09/12/16

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

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

XTO Energy Inc.
Severus 31 Federal COM 3H
Projected TD: 16349' MD / 11345' TVD
SHL: 240' FSL & 1750' FWL, SECTION 30, T20S, R34E
BHL: 200' FSL & 2110' FWL, SECTION 31, T20S, R34E
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	1541'	Water
Top of Salt	1675'	
Base of Salt	3042'	
Yates	3340'	Water
Seven Rivers	3574'	Water
Delaware	5834'	Water
Brushy Canyon	7013'	Water/Oil/Gas
Bone Spring	8677'	Water/Oil/Gas
1st Bone Spring Ss	9678'	Water/Oil/Gas
2nd Bone Spring Ss	10198'	Water/Oil/Gas
3rd Bone Spring Ss	11042'	Water/Oil/Gas
Target/Land Curve	11255'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 270'.

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 @ 1645' (30' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8" casing at 5450' and circulating cement to surface. An 8-3/4" curve and lateral hole will be drilled to MD/TD and 5-1/2" casing will be set at TD and cemented back up to the ~~9-5/8" casing shoe~~. surface

3. **CASING PROGRAM:**

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 1645'	13-3/8"	54.5#	STC	J-55	New	4.2	1.47	5.73
12-1/4"	0' – 5450'	9-5/8"	40#	LTC	J-55	New	1.68	1.22	2.39
8-3/4"	0' – 16349'	5-1/2"	17#	BTC	P-110	New	1.12	1.41	2.04

WELLHEAD:

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

4. CEMENT PROGRAM: See COA

A. **Surface Casing:** 13-3/8", 54.5#, NEW J-55, STC casing to be set at ± 1645'.

Lead: 20 bbls FW, then 1115 sx ExtendaCem-CZ (mixed at 13.7 ppg, 1.68 ft^3/sk, 8.72 gal/sx wtr)

Tail: 310 sx HalCem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft^3/sk, 6.39 gal/sx wtr)
***All volumes 100% excess in open hole. Cement to surface.

B. **Intermediate Casing:** 9-5/8", 40#, NEW J-55, LTC casing to be set at ± 5450'.

First Stage

Lead: 20 bbls FW, then 435 sx EconoCem-HLC + 5% salt + 5 lbm/sk Kol-Seal (mixed at 12.9 ppg, 1.88 ft^3/sk, 9.61 gal/sx wtr)

Tail: 240 sx HalCem-C (mixed at 14.8 ppg, 1.33 ft^3/sk, 6.34 gal/sx wtr)
***All volumes 100% excess in open hole

If losses are severe, a DV Tool will be placed at + / - 3649' (75' into Seven Rivers).

Second Stage

Lead: 20 bbls FW, then 725 sx EconoCem-HLC + 5% salt + 5 lbm/sk Kol-Seal (mixed at 12.9 ppg, 1.88 ft^3/sk, 9.61 gal/sx wtr)

Tail: 240 sx HalCem-C (mixed at 14.8 ppg, 1.33 ft^3/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 ± 16349'. Casing will be cemented back into the 9 5/8" intermediate casing.

Lead: 20 bbls FW, then 596 sx Tuned Light + 0.5 lbm/sk CFR-3 + 1.5 lbm/sk salt + 0.1% HR601 (mixed at 10.5 ppg, 2.69 ft^3/sk, 12.26 gal/sx wtr)

Low cement - See COA

Tail: 1329 sx VersaCem PBHS2 + 0.5% LAP-2 + 0.25 lbm/sk D-air 5000 + 0.2% HR 601 (mixed at 13.2 ppg, 1.59 ft^3/sk, 8.29 gal/sx wtr)
***All volumes 30% excess in open hole. ~~Planned top of cement 500' into intermediate casing shoe~~ TOC ~ surface due to R-111-P Potash

5. PRESSURE CONTROL EQUIPMENT: See COA

The blow out preventer equipment (BOP) for this well consists of a 13-5/8" ~~3M~~ 5M Hydril and a 13-5/8" ~~3M~~ 5M Double Ram BOP. Max bottom hole pressure should not exceed 5309 psi.

All BOP testing will be done by an independent service company. When nippling up on the 13-5/8" ~~3M~~ 5M bradenhead and flange, pressure testing BOP will be limited to ~~3000~~ 5000psi. When nippling up on the 9-5/8", pressure testing BOP will be limited to ~~3000~~ 5000psi. All BOP tests will include a low pressure test as per BLM regulations. The ~~3M~~ 5M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function 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 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 1645'	17-1/2"	FW/Native	8.5 - 8.8	35 - 40	NC
1645' to 5450'	12-1/4"	Brine/Gel Sweeps	9.8 - 10.2	30 - 32	NC
5450' to 16349'	8-3/4"	FW / Cut Brine / Poly-Sweeps	8.6 - 9.0	28 - 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: See COA

Mud Logger: Mud Logging Unit (2 man) on @ 5450'.

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from kick-off point to intermediate casing shoe.

9. ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS: See COA

None anticipated. Max bottom hole pressure should not exceed 5309 psi. BHT of 175 F is anticipated. ~~No H2S~~ H_2S might be present - See COA 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 is possible in the intermediate hole section but is not expected to be a serious problem in this area. Losses will be treated with LCM as needed. 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.

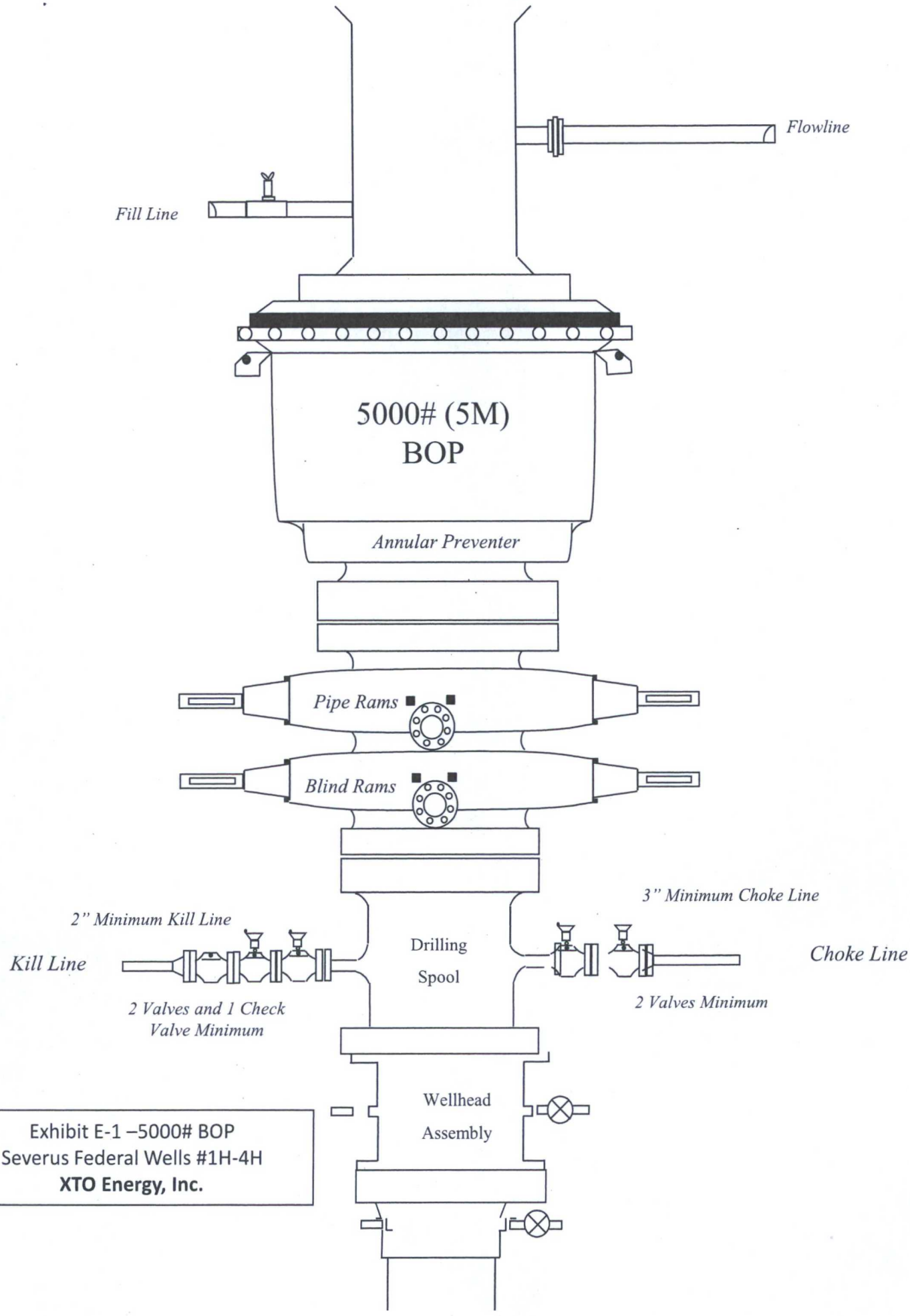
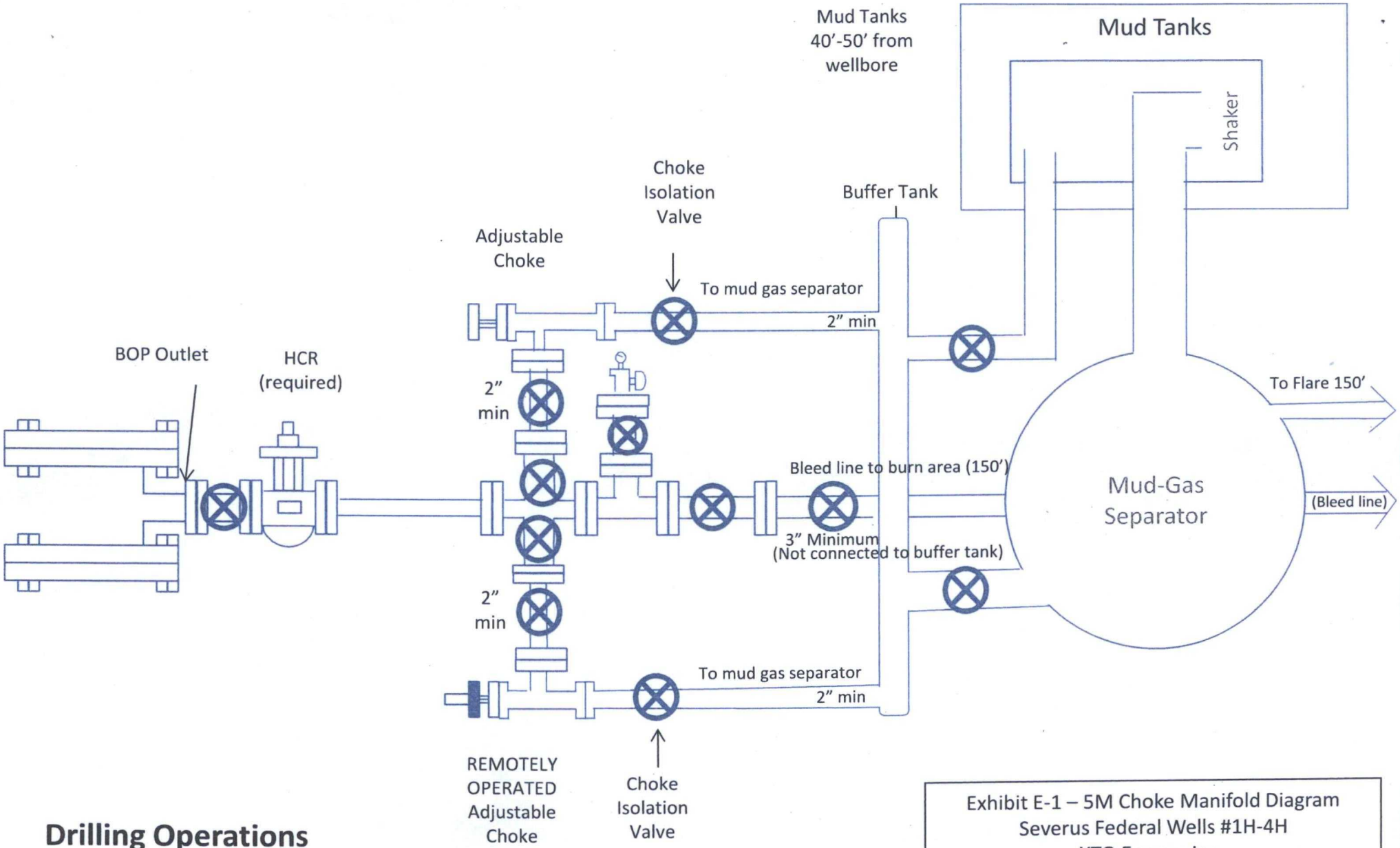
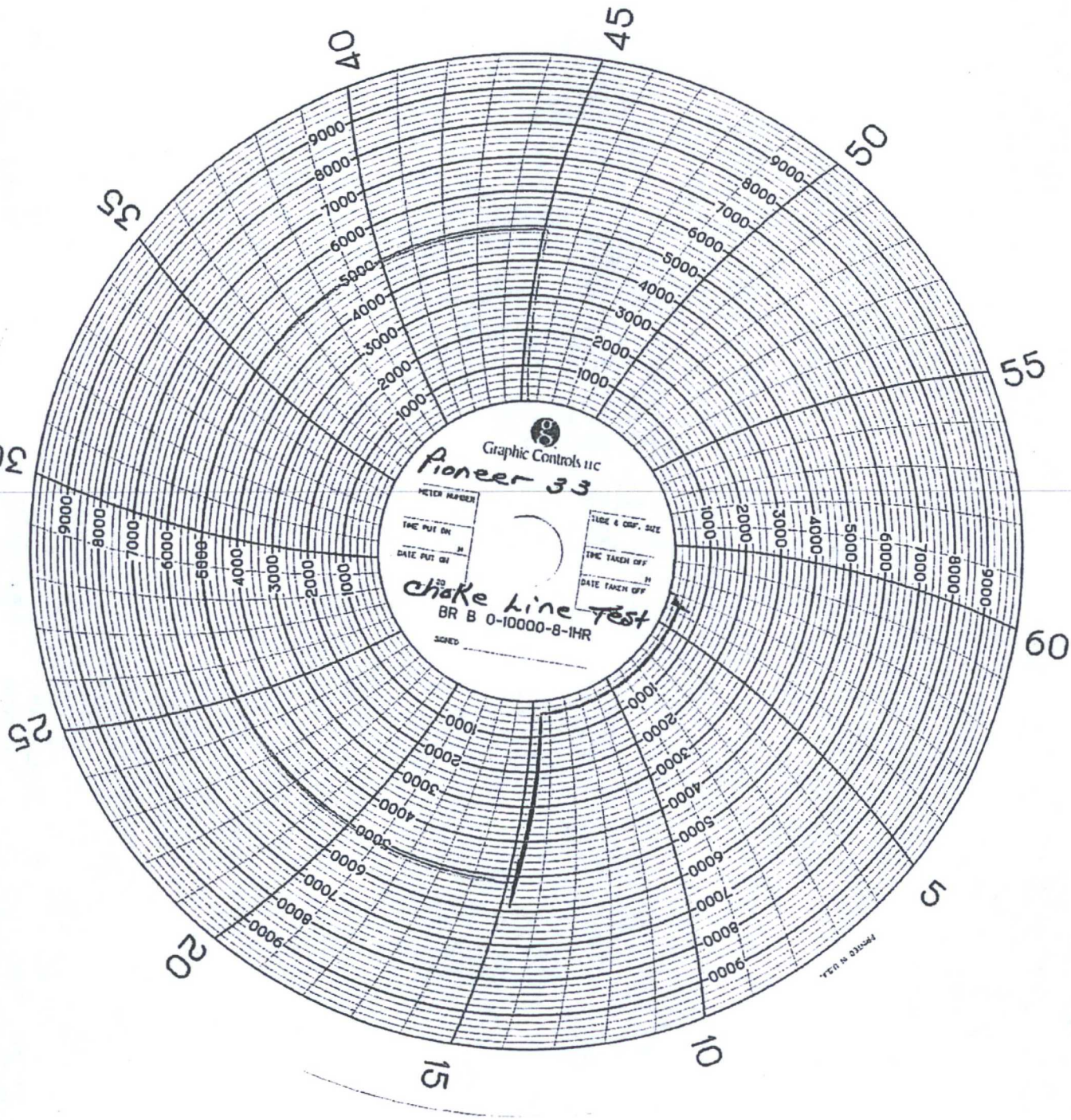


Exhibit E-1 –5000# BOP
Severus Federal Wells #1H-4H
XTO Energy, Inc.



Drilling Operations
Choke Manifold

Exhibit E-1 – 5M Choke Manifold Diagram
Severus Federal Wells #1H-4H
XTO Energy, Inc..


Graphic Controls LLC
Pioneer 33
METER NUMBER
TIME PUT ON
DATE PUT ON
SLIDE & ORIF. SIZE
TIME TAKEN OFF
DATE TAKEN OFF
Choke Line Test
BR B 0-10000-8-1HR
SIGNED
40
45
50
55
60
5
10
15
20
25
30
35
1000
2000
3000
4000
5000
6000
7000
8000
9000

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

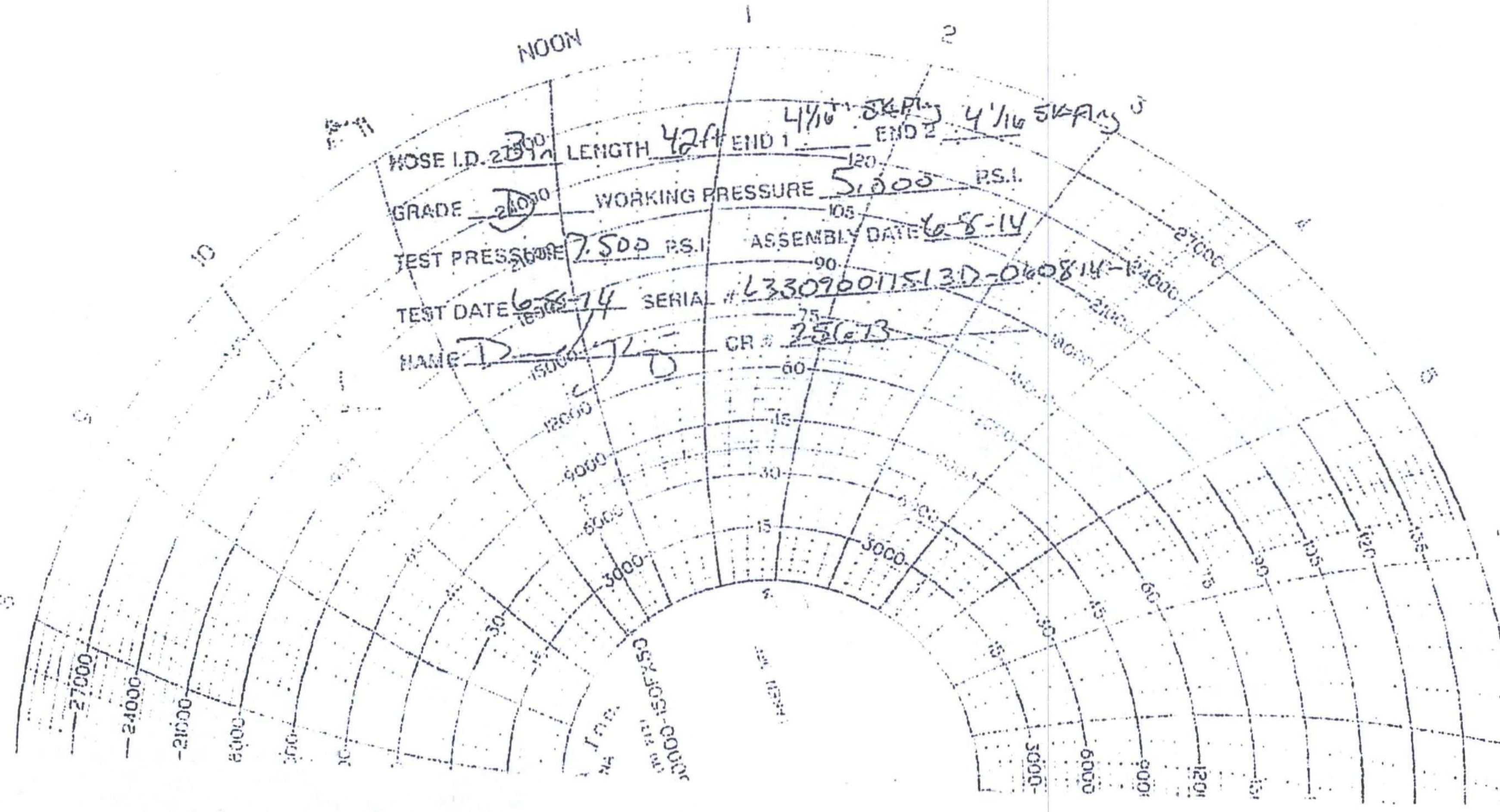
Product Description:	FD3.042.0R41/16.5KFLGE/E LE

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 :	

Form PTC - 01 Rev.0 2



HOSE I.D. 3 in LENGTH 42 ft END 1 4 1/16" 5K Flg END 2 4 1/16 5K Flg

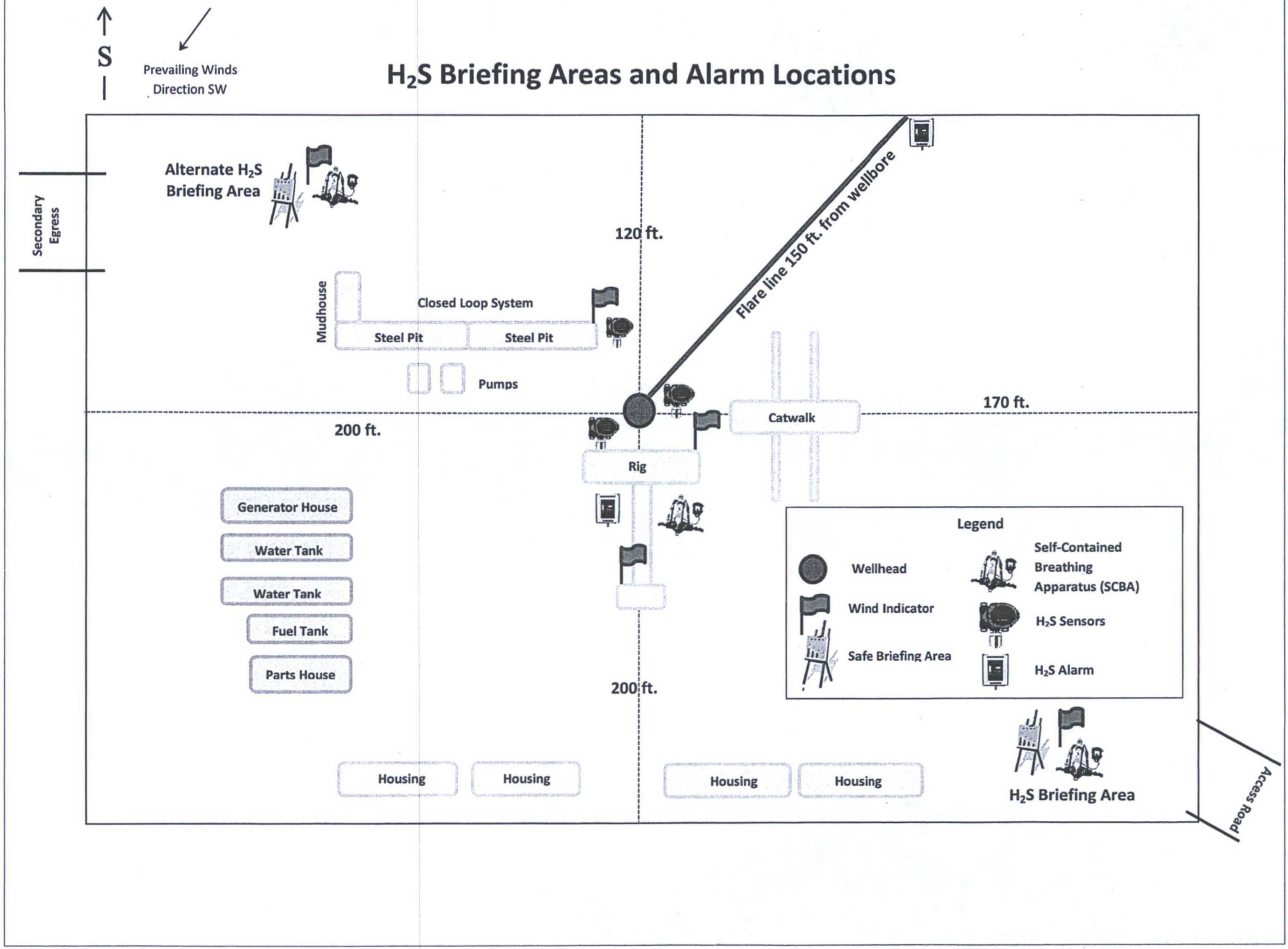
GRADE D WORKING PRESSURE 5,000 P.S.I.

TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14

TEST DATE 6-8-14 SERIAL # L3309600175130-060814-1

NAME D[illegible] CR # 25673

H_2S Briefing Areas and Alarm Locations



January 8, 2016

Stephanie Rabadue
XTO Energy Inc.
500 W. Illinois St., Ste. 100
Midland, TX 79701
432-620-6714
stephanie_rabadue@xtoenergy.com

Bureau of Land Management
620 E. Greene
Carlsbad, NM 88220
575-887-6544

Dear Sirs:

XTO Energy Inc. does not anticipate encountering H2S while drilling the Severus 31 Federal Com #3H located in Section 30, T20S, R34E, in Lea County, New Mexico. As a precaution, I have attached an H2S contingency plan. If you need anything further, please contact me at the telephone number or email listed above.

Thank you,

Stephanie Rabadue

Stephanie Rabadue
Regulatory Analyst