

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 rework an
abandoned well. Use form 3160-3 (APD) for such proposals.5. Lease Serial No.
NMLC064894A

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.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
POKER LAKE UNIT 464H2. Name of Operator
BOPCO LPContact: KELLY KARDOS
E-Mail: kelly_kardos@xtoenergy.com9. API Well No.
30-015-436233a. Address
PO BOX 2760
MIDLAND, TX 797023b. Phone No. (include area code)
Ph: 432-620-437410. Field and Pool or Exploratory Area
PURPLE SAGE; WOLFCAMP

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

Sec 17 T25S R30E Mer NMP SESE 550FSL 715FEL
32.124473 N Lat, 103.897095 W Lon

11. County or Parish, State

EDDY COUNTY 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, LP requests approval of the following changes to the original APD:

Directional Drill Plan
Drilling Program
C102
BOP/Choke Design
Flex Hose Variance

Please see attached....

9/20/2017: casing setting depth verified by Robert Salas (BLM)

Accepted for record - NMOCD

SEE ATTACHED FOR
CONDITIONS OF APPROVALNM OIL CONSERVATION
ARTESIA DISTRICT

NOV 22 2017

RECEIVED

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

Electronic Submission #387870 verified by the BLM Well Information System

For BOPCO LP, sent to the Carlsbad

Committed to AFMSS for processing by MUSTAFA HAQUE on 09/12/2017 ()

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 09/07/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Mustafa Haque

Title

Engineer

Date 11-08-2017

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

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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

(Instructions on page 2)

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43623	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp
⁴ Property Code	⁵ Property Name POKER LAKE UNIT	
⁷ OGRID No. 260737	⁸ Operator Name BOPCO, LP	⁶ Well Number 464H
		⁹ Elevation 3239'

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
P	17	25 S	30 E		550	SOUTH	715	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	29	25 S	30 E		200	SOUTH	2310	WEST	EDDY

¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-14262
--------------------------------------	-------------------------------	----------------------------------	------------------------------------

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.

	SURFACE LOCATION NAD 27 NME Y= 409,234.6 X= 635,198.8 LAT.= 32.124349°N LONG.= 103.896612°W FIRST TAKE POINT NAD 27 NME Y= 408,323.8 X= 632,875.9 LAT.= 32.121871°N LONG.= 103.904127°W	LAST TAKE POINT NAD 27 NME Y= 398,351.8 X= 632,928.1 LAT.= 32.094458°N LONG.= 103.904087°W BOTTOM HOLE LOCATION NAD 27 NME Y= 398,221.8 X= 632,928.9 LAT.= 32.094100°N LONG.= 103.904086°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. <i>Kelly Kardos</i> 9/7/17 Signature Date Kelly Kardos Printed Name kelly_kardos@xtoenergy.com E-mail Address																																								
	SURFACE LOCATION NAD 83 NME Y= 409,292.8 X= 676,383.6 LAT.= 32.124473°N LONG.= 103.897095°W FIRST TAKE POINT NAD 83 NME Y= 408,382.0 X= 674,060.7 LAT.= 32.121995°N LONG.= 103.904611°W	LAST TAKE POINT NAD 83 NME Y= 398,409.8 X= 674,113.2 LAT.= 32.094582°N LONG.= 103.904569°W BOTTOM HOLE LOCATION NAD 83 NME Y= 398,279.8 X= 674,114.0 LAT.= 32.094225°N LONG.= 103.904568°W																																									
	CORNER COORDINATES TABLE NAD 27 NME <table border="1"> <tr><td>A - Y= 408,641.0 N, X= 631,903.3 E</td><td>A - Y= 408,699.2 N, X= 673,088.1 E</td></tr> <tr><td>B - Y= 408,658.7 N, X= 633,242.1 E</td><td>B - Y= 408,716.9 N, X= 674,426.9 E</td></tr> <tr><td>C - Y= 405,983.3 N, X= 631,913.2 E</td><td>C - Y= 406,041.4 N, X= 673,098.1 E</td></tr> <tr><td>D - Y= 405,999.7 N, X= 633,250.8 E</td><td>D - Y= 406,057.8 N, X= 674,435.7 E</td></tr> <tr><td>E - Y= 403,325.1 N, X= 631,923.1 E</td><td>E - Y= 403,383.2 N, X= 673,108.1 E</td></tr> <tr><td>F - Y= 403,340.8 N, X= 633,259.4 E</td><td>F - Y= 403,398.9 N, X= 674,444.4 E</td></tr> <tr><td>G - Y= 400,669.1 N, X= 631,940.6 E</td><td>G - Y= 400,727.1 N, X= 673,125.6 E</td></tr> <tr><td>H - Y= 400,683.8 N, X= 633,276.4 E</td><td>H - Y= 400,741.8 N, X= 674,461.5 E</td></tr> <tr><td>I - Y= 398,011.2 N, X= 631,958.0 E</td><td>I - Y= 398,069.2 N, X= 673,143.1 E</td></tr> <tr><td>J - Y= 398,025.4 N, X= 633,293.5 E</td><td>J - Y= 398,083.4 N, X= 674,478.7 E</td></tr> </table>	A - Y= 408,641.0 N, X= 631,903.3 E		A - Y= 408,699.2 N, X= 673,088.1 E	B - Y= 408,658.7 N, X= 633,242.1 E	B - Y= 408,716.9 N, X= 674,426.9 E	C - Y= 405,983.3 N, X= 631,913.2 E	C - Y= 406,041.4 N, X= 673,098.1 E	D - Y= 405,999.7 N, X= 633,250.8 E	D - Y= 406,057.8 N, X= 674,435.7 E	E - Y= 403,325.1 N, X= 631,923.1 E	E - Y= 403,383.2 N, X= 673,108.1 E	F - Y= 403,340.8 N, X= 633,259.4 E	F - Y= 403,398.9 N, X= 674,444.4 E	G - Y= 400,669.1 N, X= 631,940.6 E	G - Y= 400,727.1 N, X= 673,125.6 E	H - Y= 400,683.8 N, X= 633,276.4 E	H - Y= 400,741.8 N, X= 674,461.5 E	I - Y= 398,011.2 N, X= 631,958.0 E	I - Y= 398,069.2 N, X= 673,143.1 E	J - Y= 398,025.4 N, X= 633,293.5 E	J - Y= 398,083.4 N, X= 674,478.7 E	CORNER COORDINATES TABLE NAD 83 NME <table border="1"> <tr><td>A - Y= 408,641.0 N, X= 631,903.3 E</td><td>A - Y= 408,699.2 N, X= 673,088.1 E</td></tr> <tr><td>B - Y= 408,658.7 N, X= 633,242.1 E</td><td>B - Y= 408,716.9 N, X= 674,426.9 E</td></tr> <tr><td>C - Y= 405,983.3 N, X= 631,913.2 E</td><td>C - Y= 406,041.4 N, X= 673,098.1 E</td></tr> <tr><td>D - Y= 405,999.7 N, X= 633,250.8 E</td><td>D - Y= 406,057.8 N, X= 674,435.7 E</td></tr> <tr><td>E - Y= 403,325.1 N, X= 631,923.1 E</td><td>E - Y= 403,383.2 N, X= 673,108.1 E</td></tr> <tr><td>F - Y= 403,340.8 N, X= 633,259.4 E</td><td>F - Y= 403,398.9 N, X= 674,444.4 E</td></tr> <tr><td>G - Y= 400,669.1 N, X= 631,940.6 E</td><td>G - Y= 400,727.1 N, X= 673,125.6 E</td></tr> <tr><td>H - Y= 400,683.8 N, X= 633,276.4 E</td><td>H - Y= 400,741.8 N, X= 674,461.5 E</td></tr> <tr><td>I - Y= 398,011.2 N, X= 631,958.0 E</td><td>I - Y= 398,069.2 N, X= 673,143.1 E</td></tr> <tr><td>J - Y= 398,025.4 N, X= 633,293.5 E</td><td>J - Y= 398,083.4 N, X= 674,478.7 E</td></tr> </table>	A - Y= 408,641.0 N, X= 631,903.3 E	A - Y= 408,699.2 N, X= 673,088.1 E	B - Y= 408,658.7 N, X= 633,242.1 E	B - Y= 408,716.9 N, X= 674,426.9 E	C - Y= 405,983.3 N, X= 631,913.2 E	C - Y= 406,041.4 N, X= 673,098.1 E	D - Y= 405,999.7 N, X= 633,250.8 E	D - Y= 406,057.8 N, X= 674,435.7 E	E - Y= 403,325.1 N, X= 631,923.1 E	E - Y= 403,383.2 N, X= 673,108.1 E	F - Y= 403,340.8 N, X= 633,259.4 E	F - Y= 403,398.9 N, X= 674,444.4 E	G - Y= 400,669.1 N, X= 631,940.6 E	G - Y= 400,727.1 N, X= 673,125.6 E	H - Y= 400,683.8 N, X= 633,276.4 E	H - Y= 400,741.8 N, X= 674,461.5 E	I - Y= 398,011.2 N, X= 631,958.0 E	I - Y= 398,069.2 N, X= 673,143.1 E	J - Y= 398,025.4 N, X= 633,293.5 E	J - Y= 398,083.4 N, X= 674,478.7 E
	A - Y= 408,641.0 N, X= 631,903.3 E	A - Y= 408,699.2 N, X= 673,088.1 E																																									
B - Y= 408,658.7 N, X= 633,242.1 E	B - Y= 408,716.9 N, X= 674,426.9 E																																										
C - Y= 405,983.3 N, X= 631,913.2 E	C - Y= 406,041.4 N, X= 673,098.1 E																																										
D - Y= 405,999.7 N, X= 633,250.8 E	D - Y= 406,057.8 N, X= 674,435.7 E																																										
E - Y= 403,325.1 N, X= 631,923.1 E	E - Y= 403,383.2 N, X= 673,108.1 E																																										
F - Y= 403,340.8 N, X= 633,259.4 E	F - Y= 403,398.9 N, X= 674,444.4 E																																										
G - Y= 400,669.1 N, X= 631,940.6 E	G - Y= 400,727.1 N, X= 673,125.6 E																																										
H - Y= 400,683.8 N, X= 633,276.4 E	H - Y= 400,741.8 N, X= 674,461.5 E																																										
I - Y= 398,011.2 N, X= 631,958.0 E	I - Y= 398,069.2 N, X= 673,143.1 E																																										
J - Y= 398,025.4 N, X= 633,293.5 E	J - Y= 398,083.4 N, X= 674,478.7 E																																										
A - Y= 408,641.0 N, X= 631,903.3 E	A - Y= 408,699.2 N, X= 673,088.1 E																																										
B - Y= 408,658.7 N, X= 633,242.1 E	B - Y= 408,716.9 N, X= 674,426.9 E																																										
C - Y= 405,983.3 N, X= 631,913.2 E	C - Y= 406,041.4 N, X= 673,098.1 E																																										
D - Y= 405,999.7 N, X= 633,250.8 E	D - Y= 406,057.8 N, X= 674,435.7 E																																										
E - Y= 403,325.1 N, X= 631,923.1 E	E - Y= 403,383.2 N, X= 673,108.1 E																																										
F - Y= 403,340.8 N, X= 633,259.4 E	F - Y= 403,398.9 N, X= 674,444.4 E																																										
G - Y= 400,669.1 N, X= 631,940.6 E	G - Y= 400,727.1 N, X= 673,125.6 E																																										
H - Y= 400,683.8 N, X= 633,276.4 E	H - Y= 400,741.8 N, X= 674,461.5 E																																										
I - Y= 398,011.2 N, X= 631,958.0 E	I - Y= 398,069.2 N, X= 673,143.1 E																																										
J - Y= 398,025.4 N, X= 633,293.5 E	J - Y= 398,083.4 N, X= 674,478.7 E																																										
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. 06-06-2017 Date of Survey Signature and Seal of Professional Surveyor: MARK DILLON HARP 23786 Certificate Number RR 2017050745																																											

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

BOPCO, LP

Poker Lake Unit 464H

Projected TD: 22997' MD / 11979' TVD

SHL: 550' FSL & 715' FEL , Section 17, T25S, R30E

BHL: 200' FSL & 2310' FWL , Section 29, T25S, R30E

Eddy 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	860'	Water
Top of Salt	1108'	Water
Base of Salt	3757'	Water
Delaware	3787'	Water
Bone Spring	7576'	Water/Oil/Gas
1st Bone Spring Ss	8515'	Water/Oil/Gas
2nd Bone Spring Ss	9380'	Water/Oil/Gas
3rd Bone Spring Ss	10414'	Water/Oil/Gas
Wolfcamp	10834'	Water/Oil/Gas
Target/Land Curve	11979'	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 @ 1080' (28' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 3790' and circulating cement to surface. An 8-3/4 inch vertical and curve hole will be drilled and 7 inch casing run and cemented 500' into the 9-5/8 inch casing. A 6-1/8 inch curve and lateral hole will be drilled to MD/TD and 4-1/2 inch liner will be set at TD and cemented back 250' into the 7 inch casing shoe.

3. Casing Design ➡

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 1080'	13-3/8"	48#	STC	H-40	New	3.50	1.56	6.21
12-1/4"	0' – 3790'	9-5/8"	36#	LTC	J-55	New	1.13	1.69	3.32
8-3/4"	0' – 12350'	7"	29#	LTC	P-110	New	1.18	1.43	2.23
6-1/8"	11484' – 22997'	4-1/2"	13.5#	BTC	P-110	New	1.12	1.50	1.95

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 9-5/8" & 4-1/2" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

WELLHEAD:

A. Starting Head: 13-3/8" SOW bottom x 13-5/8" 3M top flange

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

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Manufacturer will witness installation of test plug for initial test.

- Operator will test the 9-5/8" casing to 70% of casing burst before drilling out.

4. Cement Program

Surface Casing: 13-3/8", 48# New H-40, STC casing to be set at +/- 1080'

Lead: 570 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

Tail: 300 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

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

Intermediate Casing: 9-5/8", 36# New J-55, LTC casing to be set at +/- 3790'

Lead: 1090 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

2nd Intermediate Casing: 7", 29# New P-110, LTC casing to be set at +/- 12350'

Lead: 1130 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)

Tail: 60 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

Production Casing: 4-1/2", 13.5# New P-110, BTC casing to be set at +/- 22997'

Tail: 970 sxs VersaCem (mixed at 13.2 ppg, 1.1484 ft3/sx, 8.38 gal/sx water)

Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

Flow cement. SEE COA

5. Pressure Control Equipment

The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum ^{10M} ~~5M~~ Hydril and a 13-5/8" minimum ^{10M} ~~5M~~ Double Ram BOP. MASP should not exceed 5151 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" ^{10M} ~~5M~~ bradenhead and flange, the BOP test will be limited to ⁵⁰⁰⁰ ~~5000~~ psi. When nipping up on the 9-5/8", the BOP will be tested to a minimum of ¹⁵⁰⁰ ~~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.

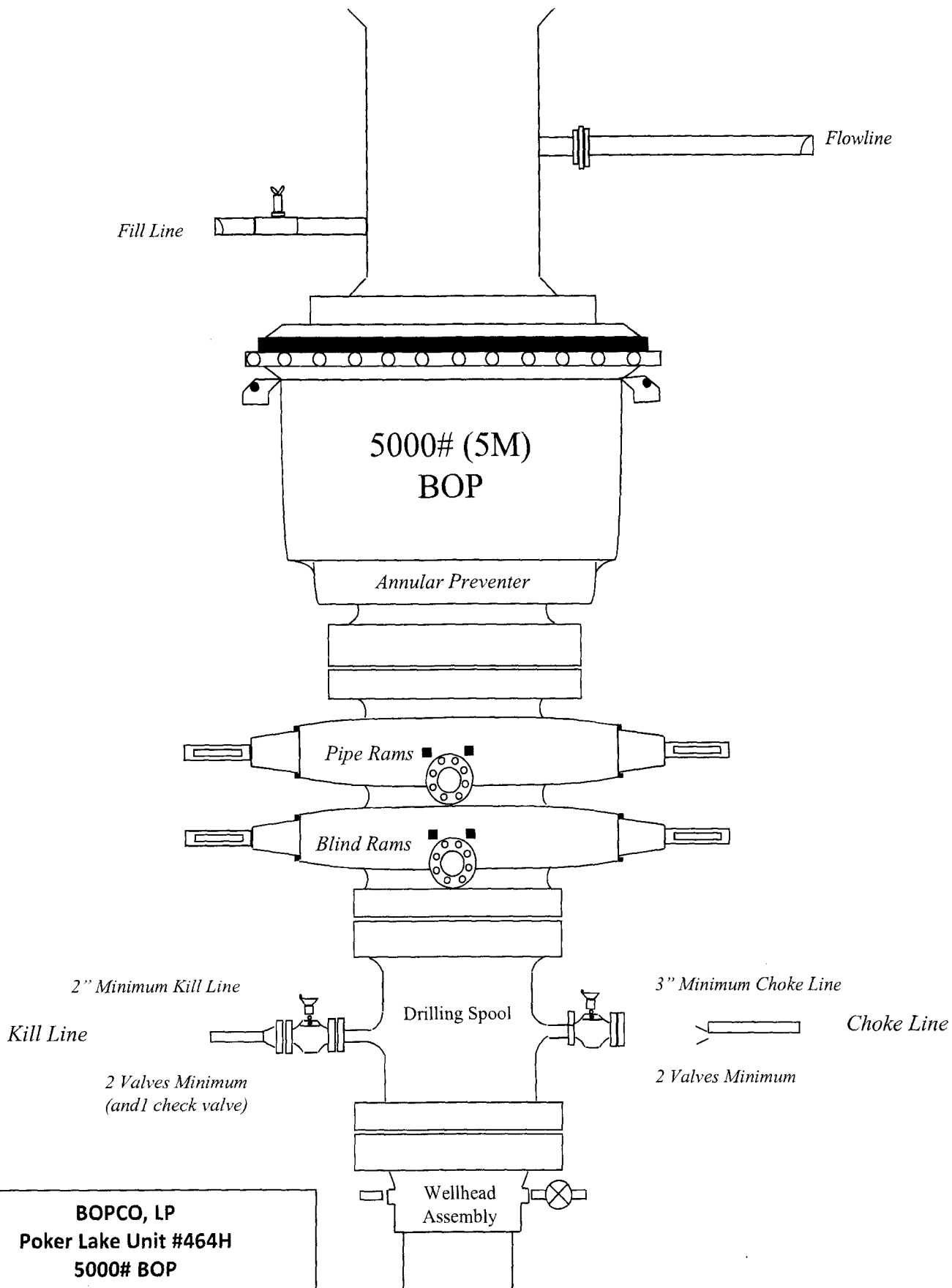
A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

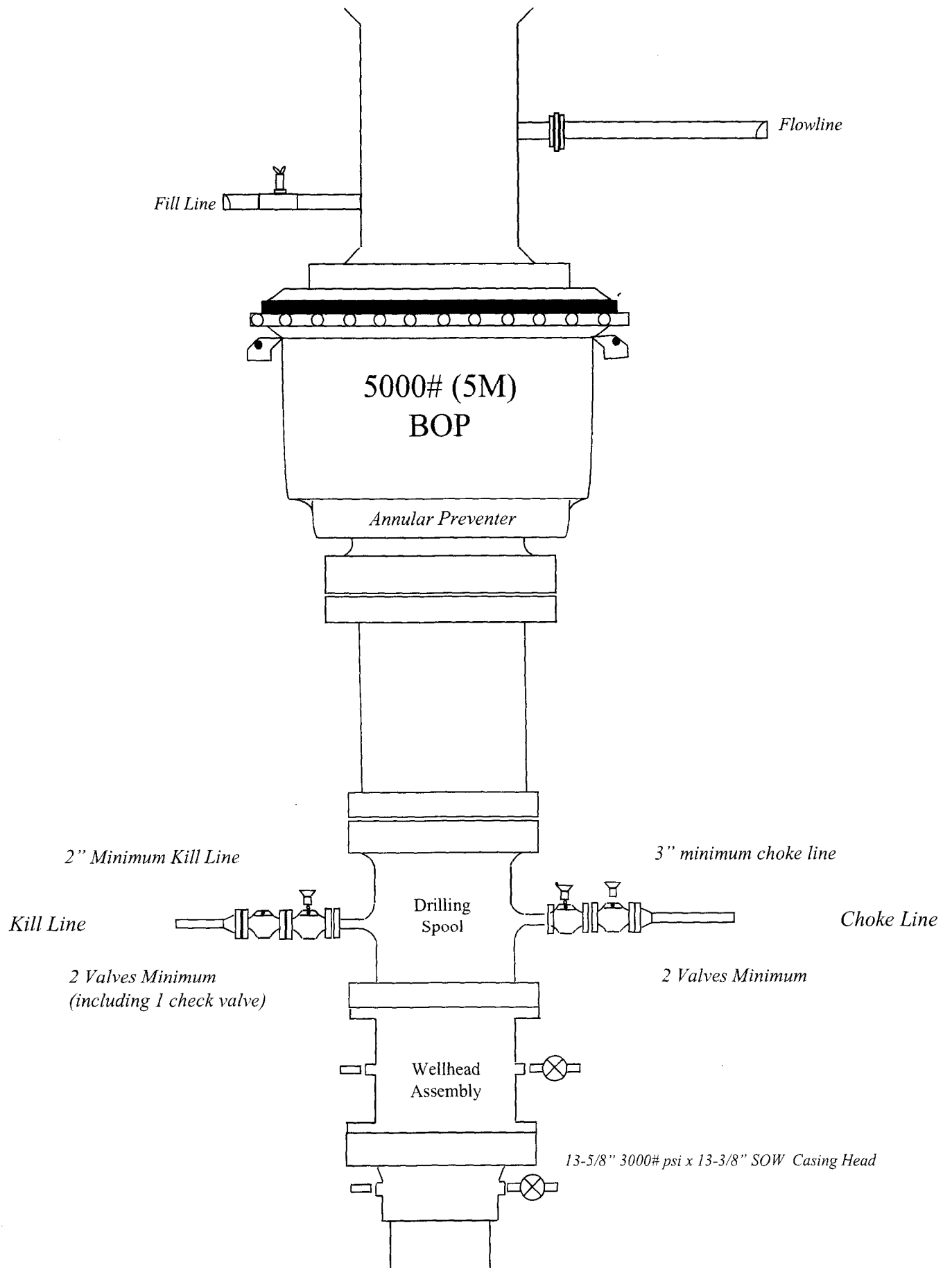
6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 1080'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
1080' to 3790'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
3790' to 12350'	8-3/4"	FW / Cut Brine	8.6-9.5	29-32	NC - 20
12350' to 22997'	6-1/8"	FW / Cut Brine / Polymer	12.2-12.5	32-50	20-Aug

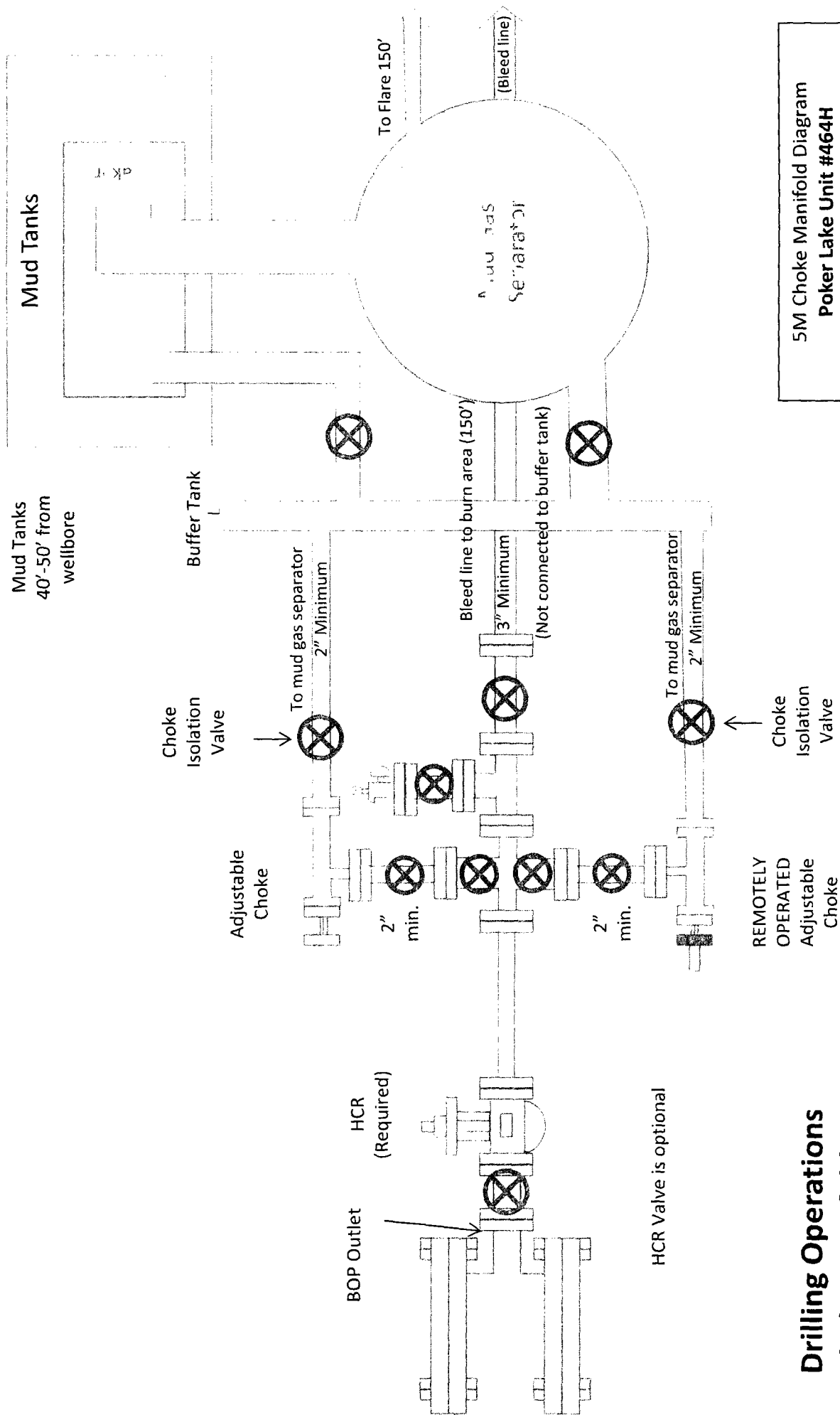
The necessary mud products for weight addition and fluid loss control will be on location at all times.

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.





BOPCO, LP
Poker Lake Unit #464H
5000# BOP



5M Choke Manifold Diagram
Poker Lake Unit #464H
 BOPCO, LP

Drilling Operations
Choke Manifold
5M Service

XTO Energy Inc.

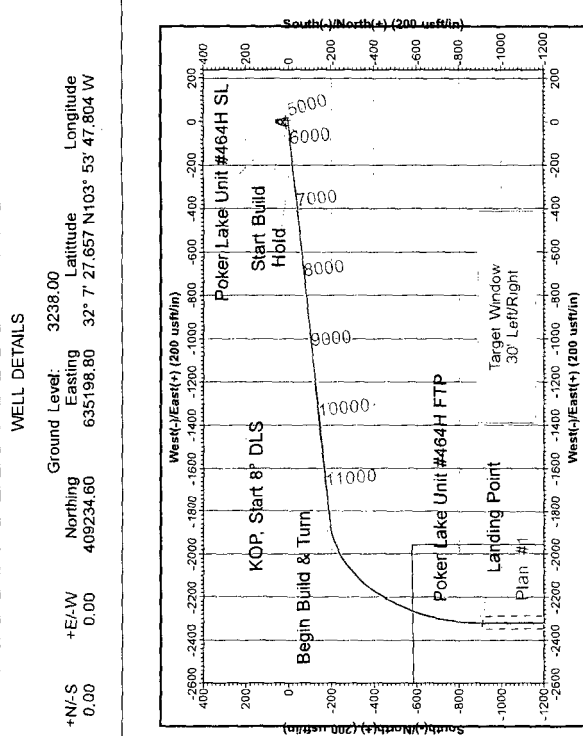
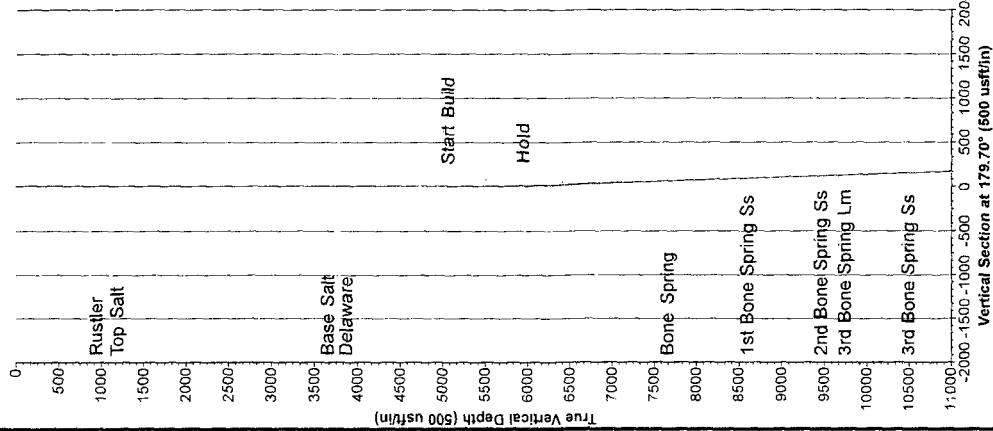
Project: Eddy County, NM (NAD27)
 Site: Poker Lake Unit
 Well: Poker Lake Unit #464H
 Wellbore: Wellbore #1
 Design: Plan #1
 Rig: TBD

GE 3238 + 26.5 KB @ 3264.50usft (TBD)
 Ground Level: 3238.00



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

Azimuths to Grid North
 True North: -0.23°
 Magnetic North: 6.92°
 Magnetic Field
 Strength: 50.00
 Dip Angle: 50.00
 Date: 9/1/2017
 Model: BGM2017



WELL DETAILS

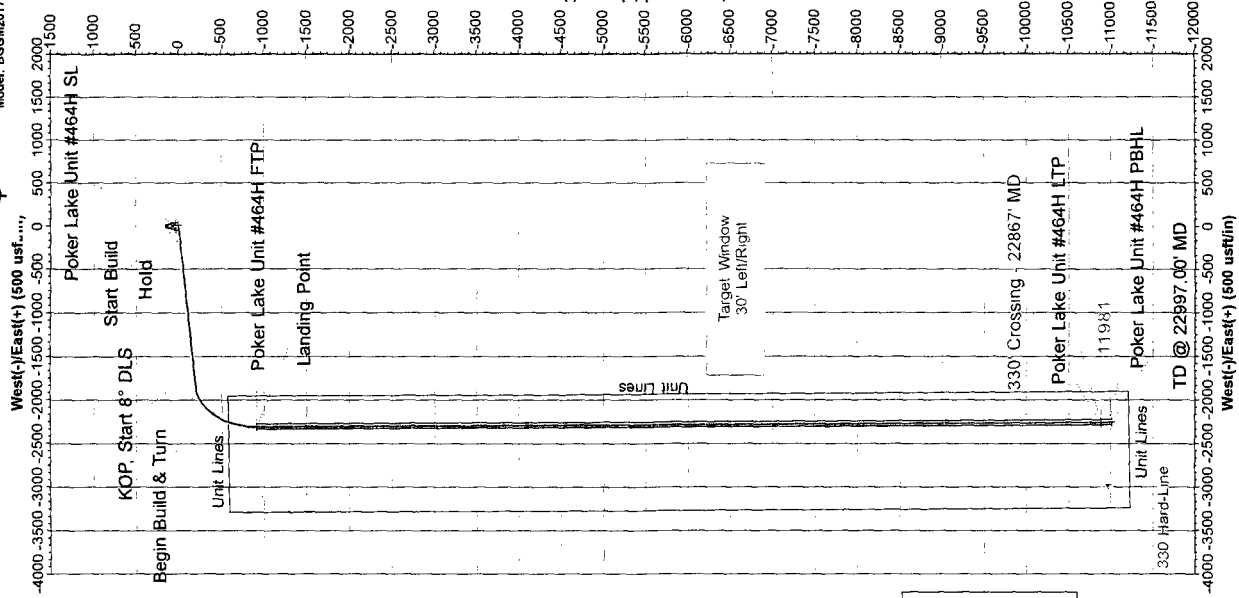
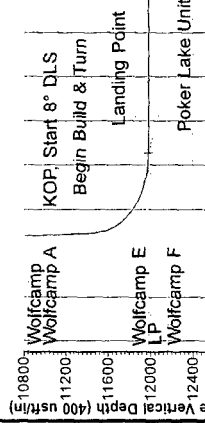
+N/-S +E/-W Northing Easting Ground Level: 3238.00 Latitude Longitude
 0.00 0.00 409234.60 635198.80 32° 7' 27.657 N 103° 53' 47.804 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build
5559.01	0.00	0.00	5559.01	0.00	0.00	0.00	0.00	Hold
6459.01	18.00	264.00	6444.28	-14.66	-139.44	2.00	13.93	KOP, Start 8° DLS
11484.01	18.00	284.00	11233.34	-176.97	-1683.75	0.00	168.15	Begin Build & Turn
11821.51	45.00	264.00	11508.45	-195.23	-1857.51	8.00	185.50	Landing Point
12896.20	90.00	179.70	11980.50	-912.14	-2323.43	8.00	899.96	TD @ 22997.00' MD
22997.00	90.00	179.70	11980.50	-11012.80	-2269.90	0.00	11000.76	

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Poker Lake Unit #464H SL	0.00	0.00	0.00	409234.60	32° 7' 27.657 N	103° 53' 47.804 W
330' Crossing - 22867' MD	11980.50	-10882.80	-2270.59	398351.80	32° 5' 40.048 N	103° 54' 14.711 W
Poker Lake Unit #464H FTP	11980.50	-910.80	-2322.90	408323.80	32° 7' 18.736 N	103° 54' 14.858 W
Poker Lake Unit #464H LTP	11980.50	-10882.80	-2270.70	398351.80	32° 5' 40.048 N	103° 54' 14.712 W
Poker Lake Unit #464H PBHL	11980.50	-11012.80	-2269.90	398221.80	32° 5' 38.761 N	103° 54' 14.709 W



HALLIBURTON

TD @ 22997.00' MD

Poker Lake Unit #464H LTP

Poker Lake Unit #464H PBHL

TD @ 22997.00' MD

Poker Lake Unit #464H FTP

Vertical Section at 179.70' (400 usft/in)

XTO Energy Inc.
Eddy County, NM (NAD27) Poker Lake Unit
API#
Poker Lake Unit #464H

Wellbore #1
Plan: Plan #1

Sperry Drilling Services

Combo Report

01 September, 2017

Well Coordinates: 32° 07' 27.66" N
103° 53' 47.80" W

NAD 1927 (NADCON CONUS)
New Mexico East 3001
409,234.60 N
635,198.80 E

Ground Level: 3,238.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Centered on Well Poker Lake Unit #464H
GE 3238 + 26.5 KB @ 3264.50usft (TBD)
N

Grid

API US Survey Feet

Version: 5000.1 Build: 81D

Report Version: Midcon Combo v1.11

HALLIBURTON

TBD

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
0.00	0.00	0.00	-3,264.50	0.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
100.00	0.00	0.00	-3,164.50	100.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
200.00	0.00	0.00	-3,064.50	200.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
300.00	0.00	0.00	-2,964.50	300.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
400.00	0.00	0.00	-2,864.50	400.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
500.00	0.00	0.00	-2,764.50	500.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
600.00	0.00	0.00	-2,664.50	600.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
700.00	0.00	0.00	-2,564.50	700.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
800.00	0.00	0.00	-2,464.50	800.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
900.00	0.00	0.00	-2,364.50	900.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,000.00	0.00	0.00	-2,264.50	1,000.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,100.00	0.00	0.00	-2,164.50	1,100.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,200.00	0.00	0.00	-2,064.50	1,200.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,300.00	0.00	0.00	-1,964.50	1,300.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,400.00	0.00	0.00	-1,864.50	1,400.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,500.00	0.00	0.00	-1,764.50	1,500.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,600.00	0.00	0.00	-1,664.50	1,600.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,700.00	0.00	0.00	-1,564.50	1,700.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,800.00	0.00	0.00	-1,464.50	1,800.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
1,900.00	0.00	0.00	-1,364.50	1,900.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,000.00	0.00	0.00	-1,264.50	2,000.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,100.00	0.00	0.00	-1,164.50	2,100.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,200.00	0.00	0.00	-1,064.50	2,200.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,300.00	0.00	0.00	-964.50	2,300.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,400.00	0.00	0.00	-864.50	2,400.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,500.00	0.00	0.00	-764.50	2,500.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,600.00	0.00	0.00	-664.50	2,600.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,700.00	0.00	0.00	-564.50	2,700.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,800.00	0.00	0.00	-464.50	2,800.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
2,900.00	0.00	0.00	-364.50	2,900.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,000.00	0.00	0.00	-264.50	3,000.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,100.00	0.00	0.00	-164.50	3,100.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,200.00	0.00	0.00	-64.50	3,200.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,300.00	0.00	0.00	35.50	3,300.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,400.00	0.00	0.00	135.50	3,400.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,500.00	0.00	0.00	235.50	3,500.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,600.00	0.00	0.00	335.50	3,600.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,700.00	0.00	0.00	435.50	3,700.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,800.00	0.00	0.00	535.50	3,800.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
3,900.00	0.00	0.00	635.50	3,900.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,000.00	0.00	0.00	735.50	4,000.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
4,100.00	0.00	0.00	835.50	4,100.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,200.00	0.00	0.00	935.50	4,200.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,300.00	0.00	0.00	1,035.50	4,300.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,400.00	0.00	0.00	1,135.50	4,400.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,500.00	0.00	0.00	1,235.50	4,500.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,600.00	0.00	0.00	1,335.50	4,600.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,700.00	0.00	0.00	1,435.50	4,700.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,800.00	0.00	0.00	1,535.50	4,800.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
4,900.00	0.00	0.00	1,635.50	4,900.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,000.00	0.00	0.00	1,735.50	5,000.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,100.00	0.00	0.00	1,835.50	5,100.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,200.00	0.00	0.00	1,935.50	5,200.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,300.00	0.00	0.00	2,035.50	5,300.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,400.00	0.00	0.00	2,135.50	5,400.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,500.00	0.00	0.00	2,235.50	5,500.00	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,559.01	0.00	0.00	2,294.51	5,559.01	0.00 N	0.00 E	409,234.60	635,198.80	0.00	0.00	
5,600.00	0.82	264.00	2,335.50	5,600.00	0.03 S	0.29 W	409,234.57	635,198.51	2.00	0.03	
5,700.00	2.82	264.00	2,435.44	5,699.94	0.36 S	3.45 W	409,234.24	635,195.35	2.00	0.34	
5,800.00	4.82	264.00	2,535.22	5,799.72	1.06 S	10.07 W	409,233.54	635,188.73	2.00	1.01	
5,900.00	6.82	264.00	2,634.70	5,899.20	2.12 S	20.16 W	409,232.48	635,178.64	2.00	2.01	
6,000.00	8.82	264.00	2,733.76	5,998.26	3.54 S	33.69 W	409,231.06	635,165.11	2.00	3.36	
6,100.00	10.82	264.00	2,832.29	6,096.79	5.32 S	50.65 W	409,229.28	635,148.15	2.00	5.06	
6,200.00	12.82	264.00	2,930.17	6,194.67	7.46 S	71.02 W	409,227.14	635,127.78	2.00	7.09	
6,300.00	14.82	264.00	3,027.27	6,291.77	9.96 S	94.78 W	409,224.64	635,104.02	2.00	9.46	
6,400.00	16.82	264.00	3,123.47	6,387.97	12.81 S	121.89 W	409,221.79	635,076.91	2.00	12.17	
6,459.01	18.00	264.00	3,179.78	6,444.28	14.66 S	139.44 W	409,219.94	635,059.36	2.00	13.93	
6,500.00	18.00	264.00	3,218.76	6,483.26	15.98 S	152.04 W	409,218.62	635,046.76	0.00	15.18	
6,600.00	18.00	264.00	3,313.87	6,578.37	19.21 S	182.77 W	409,215.39	635,016.03	0.00	18.25	
6,700.00	18.00	264.00	3,408.97	6,673.47	22.44 S	213.51 W	409,212.16	634,985.29	0.00	21.32	
6,800.00	18.00	264.00	3,504.08	6,768.58	25.67 S	244.24 W	409,208.93	634,954.56	0.00	24.39	
6,900.00	18.00	264.00	3,599.18	6,863.68	28.90 S	274.97 W	409,205.70	634,923.83	0.00	27.46	
7,000.00	18.00	264.00	3,694.29	6,958.79	32.13 S	305.70 W	409,202.47	634,893.10	0.00	30.53	
7,100.00	18.00	264.00	3,789.40	7,053.90	35.36 S	336.44 W	409,199.24	634,862.36	0.00	33.60	
7,200.00	18.00	264.00	3,884.50	7,149.00	38.59 S	367.17 W	409,196.01	634,831.63	0.00	36.67	
7,300.00	18.00	264.00	3,979.61	7,244.11	41.82 S	397.90 W	409,192.78	634,800.90	0.00	39.74	
7,400.00	18.00	264.00	4,074.71	7,339.21	45.05 S	428.63 W	409,189.55	634,770.17	0.00	42.81	
7,500.00	18.00	264.00	4,169.82	7,434.32	48.28 S	459.37 W	409,186.32	634,739.43	0.00	45.88	
7,600.00	18.00	264.00	4,264.92	7,529.42	51.51 S	490.10 W	409,183.09	634,708.70	0.00	48.94	
7,700.00	18.00	264.00	4,360.03	7,624.53	54.74 S	520.83 W	409,179.86	634,677.97	0.00	52.01	
7,800.00	18.00	264.00	4,455.14	7,719.64	57.97 S	551.56 W	409,176.63	634,647.24	0.00	55.08	
7,900.00	18.00	264.00	4,550.24	7,814.74	61.20 S	582.30 W	409,173.40	634,616.50	0.00	58.15	

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Easting (usft)	Map Coordinates Northing (usft)	Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
8,000.00	18.00	264.00	4,645.35	7,909.85	64.43 S	613.03 W	409,170.17	634,585.77	0.00	61.22	
8,100.00	18.00	264.00	4,740.45	8,004.95	67.66 S	643.76 W	409,166.94	634,555.04	0.00	64.29	
8,200.00	18.00	264.00	4,835.56	8,100.06	70.89 S	674.49 W	409,163.71	634,524.31	0.00	67.36	
8,300.00	18.00	264.00	4,930.66	8,195.16	74.12 S	705.23 W	409,160.48	634,493.57	0.00	70.43	
8,400.00	18.00	264.00	5,025.77	8,290.27	77.35 S	735.96 W	409,157.25	634,462.84	0.00	73.50	
8,500.00	18.00	264.00	5,120.88	8,385.38	80.58 S	766.69 W	409,154.02	634,432.11	0.00	76.57	
8,600.00	18.00	264.00	5,215.98	8,480.48	83.81 S	797.42 W	409,150.79	634,401.38	0.00	79.64	
8,700.00	18.00	264.00	5,311.09	8,575.59	87.04 S	828.16 W	409,147.56	634,370.64	0.00	82.71	
8,800.00	18.00	264.00	5,406.19	8,670.69	90.27 S	858.89 W	409,144.33	634,339.91	0.00	85.77	
8,900.00	18.00	264.00	5,501.30	8,765.80	93.50 S	889.62 W	409,141.10	634,309.18	0.00	88.84	
9,000.00	18.00	264.00	5,596.40	8,860.90	96.73 S	920.35 W	409,137.87	634,278.45	0.00	91.91	
9,100.00	18.00	264.00	5,691.51	8,956.01	99.96 S	951.08 W	409,134.64	634,247.72	0.00	94.98	
9,200.00	18.00	264.00	5,786.61	9,051.11	103.19 S	981.82 W	409,131.41	634,216.98	0.00	98.05	
9,300.00	18.00	264.00	5,881.72	9,146.22	106.42 S	1,012.55 W	409,128.18	634,186.25	0.00	101.12	
9,400.00	18.00	264.00	5,976.83	9,241.33	109.65 S	1,043.28 W	409,124.95	634,155.52	0.00	104.19	
9,500.00	18.00	264.00	6,071.93	9,336.43	112.88 S	1,074.01 W	409,121.72	634,124.79	0.00	107.26	
9,600.00	18.00	264.00	6,167.04	9,431.54	116.11 S	1,104.75 W	409,118.49	634,094.05	0.00	110.33	
9,700.00	18.00	264.00	6,262.14	9,526.64	119.34 S	1,135.48 W	409,115.26	634,063.32	0.00	113.40	
9,800.00	18.00	264.00	6,357.25	9,621.75	122.57 S	1,166.21 W	409,112.03	634,032.59	0.00	116.47	
9,900.00	18.00	264.00	6,452.35	9,716.85	125.80 S	1,196.94 W	409,108.80	634,001.86	0.00	119.54	
10,000.00	18.00	264.00	6,547.46	9,811.96	129.03 S	1,227.68 W	409,105.57	633,971.12	0.00	122.60	
10,100.00	18.00	264.00	6,642.57	9,907.07	132.26 S	1,258.41 W	409,102.34	633,940.39	0.00	125.67	
10,200.00	18.00	264.00	6,737.67	10,002.17	135.49 S	1,289.14 W	409,099.11	633,909.66	0.00	128.74	
10,300.00	18.00	264.00	6,832.78	10,097.28	138.72 S	1,319.87 W	409,095.88	633,878.93	0.00	131.81	
10,400.00	18.00	264.00	6,927.88	10,192.38	141.95 S	1,350.61 W	409,092.65	633,848.19	0.00	134.88	
10,500.00	18.00	264.00	7,022.99	10,287.49	145.18 S	1,381.34 W	409,089.42	633,817.46	0.00	137.95	
10,600.00	18.00	264.00	7,118.09	10,382.59	148.41 S	1,412.07 W	409,086.19	633,786.73	0.00	141.02	
10,700.00	18.00	264.00	7,213.20	10,477.70	151.64 S	1,442.80 W	409,082.96	633,756.00	0.00	144.09	
10,800.00	18.00	264.00	7,308.31	10,572.81	154.87 S	1,473.54 W	409,079.73	633,725.26	0.00	147.16	
10,900.00	18.00	264.00	7,403.41	10,667.91	158.10 S	1,504.27 W	409,076.50	633,694.53	0.00	150.23	
11,000.00	18.00	264.00	7,498.52	10,763.02	161.34 S	1,535.00 W	409,073.26	633,663.80	0.00	153.30	
11,100.00	18.00	264.00	7,593.62	10,858.12	164.57 S	1,565.73 W	409,070.03	633,633.07	0.00	156.36	
11,200.00	18.00	264.00	7,688.73	10,953.23	167.80 S	1,596.47 W	409,066.80	633,602.33	0.00	159.43	
11,300.00	18.00	264.00	7,783.83	11,048.33	171.03 S	1,627.20 W	409,063.57	633,571.60	0.00	162.50	
11,400.00	18.00	264.00	7,878.94	11,143.44	174.26 S	1,657.93 W	409,060.34	633,540.87	0.00	165.57	
11,484.01	18.00	264.00	7,958.84	11,223.34	176.97 S	1,683.75 W	409,057.63	633,515.05	0.00	168.15	
11,500.00	19.28	264.00	7,973.99	11,238.49	177.50 S	1,688.83 W	409,057.10	633,509.97	8.00	168.66	
11,550.00	23.28	264.00	8,020.57	11,285.07	179.40 S	1,706.87 W	409,055.20	633,491.93	8.00	170.46	
11,600.00	27.28	264.00	8,065.77	11,330.27	181.63 S	1,728.10 W	409,052.97	633,470.70	8.00	172.58	
11,650.00	31.28	264.00	8,109.38	11,373.88	184.19 S	1,752.42 W	409,050.41	633,446.38	8.00	175.01	
11,700.00	35.28	264.00	8,151.17	11,415.67	187.05 S	1,779.70 W	409,047.55	633,419.10	8.00	177.73	

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Eastings (usft)	Map Coordinates Northing (usft)	Eastings (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
11,750.00	39.28	264.00	8,190.94	11,455.44	190.22 S 1,809.81 W	409,044.38	633,388.99	8.00	180.74		
11,800.00	43.28	264.00	8,228.51	11,493.01	193.67 S 1,842.61 W	409,040.93	633,356.19	8.00	184.02		
11,821.51	45.00	264.00	8,243.95	11,508.45	195.23 S 1,857.51 W	409,039.37	633,341.29	8.00	185.50		
11,850.00	45.21	260.80	8,264.06	11,528.56	197.90 S 1,877.51 W	409,036.70	633,321.29	8.00	188.07		
11,900.00	45.78	255.24	8,299.12	11,563.62	205.31 S 1,912.36 W	409,029.29	633,286.44	8.00	195.29		
11,950.00	46.62	249.82	8,333.75	11,598.25	216.14 S 1,946.75 W	409,018.46	633,252.05	8.00	205.95		
12,000.00	47.70	244.57	8,367.76	11,632.26	230.35 S 1,980.52 W	409,004.25	633,218.28	8.00	219.98		
12,050.00	49.02	239.52	8,400.99	11,665.49	247.88 S 2,013.50 W	408,986.72	633,185.30	8.00	237.33		
12,100.00	50.55	234.67	8,433.29	11,697.79	268.62 S 2,045.52 W	408,965.98	633,153.28	8.00	257.91		
12,150.00	52.27	230.05	8,464.48	11,728.98	292.49 S 2,076.44 W	408,942.11	633,122.36	8.00	281.61		
12,200.00	54.16	225.65	8,494.44	11,758.94	319.36 S 2,106.10 W	408,915.24	633,092.70	8.00	308.33		
12,250.00	56.20	221.46	8,522.99	11,787.49	349.11 S 2,134.36 W	408,885.49	633,064.44	8.00	337.93		
12,300.00	58.38	217.47	8,550.02	11,814.52	381.58 S 2,161.08 W	408,853.02	633,037.72	8.00	370.26		
12,350.00	60.68	213.67	8,575.38	11,839.88	416.63 S 2,186.13 W	408,817.97	633,012.67	8.00	405.18		
12,400.00	63.08	210.05	8,598.95	11,863.45	454.08 S 2,209.39 W	408,780.52	632,989.41	8.00	442.51		
12,450.00	65.57	206.57	8,620.62	11,885.12	493.75 S 2,230.74 W	408,740.85	632,968.06	8.00	482.07		
12,500.00	68.13	203.23	8,640.27	11,904.77	535.45 S 2,250.08 W	408,699.15	632,948.72	8.00	523.66		
12,550.00	70.76	200.01	8,657.83	11,922.33	578.96 S 2,267.32 W	408,655.64	632,931.48	8.00	567.08		
12,600.00	73.45	196.90	8,673.19	11,937.69	624.09 S 2,282.37 W	408,610.51	632,916.43	8.00	612.13		
12,650.00	76.18	193.87	8,686.29	11,950.79	670.61 S 2,295.16 W	408,563.99	632,903.64	8.00	658.58		
12,700.00	78.94	190.91	8,697.07	11,961.57	718.29 S 2,305.62 W	408,516.31	632,893.18	8.00	706.21		
12,750.00	81.74	188.00	8,705.46	11,969.96	766.90 S 2,313.71 W	408,467.70	632,885.09	8.00	754.77		
12,800.00	84.55	185.14	8,711.42	11,975.92	816.21 S 2,319.39 W	408,418.39	632,879.41	8.00	804.05		
12,850.00	87.38	182.31	8,714.94	11,979.44	865.97 S 2,322.63 W	408,368.63	632,876.17	8.00	853.79		
12,896.20	90.00	179.70	8,716.00	11,980.50	912.14 S 2,323.43 W	408,322.46	632,875.37	8.00	899.96		
12,900.00	90.00	179.70	8,716.00	11,980.50	915.94 S 2,323.41 W	408,318.66	632,875.39	0.00	903.76		
13,000.00	90.00	179.70	8,716.00	11,980.50	1,015.94 S 2,322.88 W	408,218.66	632,875.92	0.00	1,003.76		
13,100.00	90.00	179.70	8,716.00	11,980.50	1,115.94 S 2,322.35 W	408,118.66	632,876.45	0.00	1,103.76		
13,200.00	90.00	179.70	8,716.00	11,980.50	1,215.94 S 2,321.82 W	408,018.66	632,876.98	0.00	1,203.76		
13,300.00	90.00	179.70	8,716.00	11,980.50	1,315.93 S 2,321.29 W	407,918.67	632,877.51	0.00	1,303.76		
13,400.00	90.00	179.70	8,716.00	11,980.50	1,415.93 S 2,320.76 W	407,818.67	632,878.04	0.00	1,403.76		
13,500.00	90.00	179.70	8,716.00	11,980.50	1,515.93 S 2,320.23 W	407,718.67	632,878.57	0.00	1,503.76		
13,600.00	90.00	179.70	8,716.00	11,980.50	1,615.93 S 2,319.70 W	407,618.67	632,879.10	0.00	1,603.76		
13,700.00	90.00	179.70	8,716.00	11,980.50	1,715.93 S 2,319.17 W	407,518.67	632,879.63	0.00	1,703.76		
13,800.00	90.00	179.70	8,716.00	11,980.50	1,815.93 S 2,318.64 W	407,418.67	632,880.16	0.00	1,803.76		
13,900.00	90.00	179.70	8,716.00	11,980.50	1,915.93 S 2,318.11 W	407,318.67	632,880.69	0.00	1,903.76		
14,000.00	90.00	179.70	8,716.00	11,980.50	2,015.92 S 2,317.58 W	407,218.68	632,881.22	0.00	2,003.76		
14,100.00	90.00	179.70	8,716.00	11,980.50	2,115.92 S 2,317.05 W	407,118.68	632,881.75	0.00	2,103.76		
14,200.00	90.00	179.70	8,716.00	11,980.50	2,215.92 S 2,316.52 W	407,018.68	632,882.28	0.00	2,203.76		
14,300.00	90.00	179.70	8,716.00	11,980.50	2,315.92 S 2,315.99 W	406,918.68	632,882.81	0.00	2,303.76		
14,400.00	90.00	179.70	8,716.00	11,980.50	2,415.92 S 2,315.46 W	406,818.68	632,883.34	0.00	2,403.76		

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
14,500.00	90.00	179.70	8,716.00	11,980.50	2,515.92 S	2,314.93 W	406,718.68	632,883.87	0.00	2,503.76	
14,600.00	90.00	179.70	8,716.00	11,980.50	2,615.92 S	2,314.40 W	406,618.68	632,884.40	0.00	2,603.76	
14,700.00	90.00	179.70	8,716.00	11,980.50	2,715.91 S	2,313.87 W	406,518.69	632,884.93	0.00	2,703.76	
14,800.00	90.00	179.70	8,716.00	11,980.50	2,815.91 S	2,313.34 W	406,418.69	632,885.46	0.00	2,803.76	
14,900.00	90.00	179.70	8,716.00	11,980.50	2,915.91 S	2,312.81 W	406,318.69	632,885.99	0.00	2,903.76	
15,000.00	90.00	179.70	8,716.00	11,980.50	3,015.91 S	2,312.28 W	406,218.69	632,886.52	0.00	3,003.76	
15,100.00	90.00	179.70	8,716.00	11,980.50	3,115.91 S	2,311.75 W	406,118.69	632,887.05	0.00	3,103.76	
15,200.00	90.00	179.70	8,716.00	11,980.50	3,215.91 S	2,311.22 W	406,018.69	632,887.58	0.00	3,203.76	
15,300.00	90.00	179.70	8,716.00	11,980.50	3,315.91 S	2,310.69 W	405,918.69	632,888.11	0.00	3,303.76	
15,400.00	90.00	179.70	8,716.00	11,980.50	3,415.90 S	2,310.16 W	405,818.70	632,888.64	0.00	3,403.76	
15,500.00	90.00	179.70	8,716.00	11,980.50	3,515.90 S	2,309.63 W	405,718.70	632,889.17	0.00	3,503.76	
15,600.00	90.00	179.70	8,716.00	11,980.50	3,615.90 S	2,309.10 W	405,618.70	632,889.70	0.00	3,603.76	
15,700.00	90.00	179.70	8,716.00	11,980.50	3,715.90 S	2,308.57 W	405,518.70	632,890.23	0.00	3,703.76	
15,800.00	90.00	179.70	8,716.00	11,980.50	3,815.90 S	2,308.04 W	405,418.70	632,890.76	0.00	3,803.76	
15,900.00	90.00	179.70	8,716.00	11,980.50	3,915.90 S	2,307.51 W	405,318.70	632,891.29	0.00	3,903.76	
16,000.00	90.00	179.70	8,716.00	11,980.50	4,015.90 S	2,306.98 W	405,218.70	632,891.82	0.00	4,003.76	
16,100.00	90.00	179.70	8,716.00	11,980.50	4,115.89 S	2,306.45 W	405,118.71	632,892.35	0.00	4,103.76	
16,200.00	90.00	179.70	8,716.00	11,980.50	4,215.89 S	2,305.92 W	405,018.71	632,892.88	0.00	4,203.76	
16,300.00	90.00	179.70	8,716.00	11,980.50	4,315.89 S	2,305.39 W	404,918.71	632,893.41	0.00	4,303.76	
16,400.00	90.00	179.70	8,716.00	11,980.50	4,415.89 S	2,304.86 W	404,818.71	632,893.94	0.00	4,403.76	
16,500.00	90.00	179.70	8,716.00	11,980.50	4,515.89 S	2,304.33 W	404,718.71	632,894.47	0.00	4,503.76	
16,600.00	90.00	179.70	8,716.00	11,980.50	4,615.89 S	2,303.80 W	404,618.71	632,895.00	0.00	4,603.76	
16,700.00	90.00	179.70	8,716.00	11,980.50	4,715.89 S	2,303.27 W	404,518.71	632,895.53	0.00	4,703.76	
16,800.00	90.00	179.70	8,716.00	11,980.50	4,815.89 S	2,302.74 W	404,418.71	632,896.06	0.00	4,803.76	
16,900.00	90.00	179.70	8,716.00	11,980.50	4,915.88 S	2,302.21 W	404,318.72	632,896.59	0.00	4,903.76	
17,000.00	90.00	179.70	8,716.00	11,980.50	5,015.88 S	2,301.68 W	404,218.72	632,897.12	0.00	5,003.76	
17,100.00	90.00	179.70	8,716.00	11,980.50	5,115.88 S	2,301.15 W	404,118.72	632,897.65	0.00	5,103.76	
17,200.00	90.00	179.70	8,716.00	11,980.50	5,215.88 S	2,300.62 W	404,018.72	632,898.18	0.00	5,203.76	
17,300.00	90.00	179.70	8,716.00	11,980.50	5,315.88 S	2,300.09 W	403,918.72	632,898.71	0.00	5,303.76	
17,400.00	90.00	179.70	8,716.00	11,980.50	5,415.88 S	2,299.56 W	403,818.72	632,899.24	0.00	5,403.76	
17,500.00	90.00	179.70	8,716.00	11,980.50	5,515.88 S	2,299.03 W	403,718.72	632,899.77	0.00	5,503.76	
17,600.00	90.00	179.70	8,716.00	11,980.50	5,615.87 S	2,298.50 W	403,618.73	632,900.30	0.00	5,603.76	
17,700.00	90.00	179.70	8,716.00	11,980.50	5,715.87 S	2,297.97 W	403,518.73	632,900.83	0.00	5,703.76	
17,800.00	90.00	179.70	8,716.00	11,980.50	5,815.87 S	2,297.44 W	403,418.73	632,901.36	0.00	5,803.76	
17,900.00	90.00	179.70	8,716.00	11,980.50	5,915.87 S	2,296.91 W	403,318.73	632,901.89	0.00	5,903.76	
18,000.00	90.00	179.70	8,716.00	11,980.50	6,015.87 S	2,296.38 W	403,218.73	632,902.42	0.00	6,003.76	
18,100.00	90.00	179.70	8,716.00	11,980.50	6,115.87 S	2,295.85 W	403,118.73	632,902.95	0.00	6,103.76	
18,200.00	90.00	179.70	8,716.00	11,980.50	6,215.87 S	2,295.32 W	403,018.73	632,903.48	0.00	6,203.76	
18,300.00	90.00	179.70	8,716.00	11,980.50	6,315.86 S	2,294.79 W	402,918.74	632,904.01	0.00	6,303.76	
18,400.00	90.00	179.70	8,716.00	11,980.50	6,415.86 S	2,294.26 W	402,818.74	632,904.54	0.00	6,403.76	
18,500.00	90.00	179.70	8,716.00	11,980.50	6,515.86 S	2,293.73 W	402,718.74	632,905.07	0.00	6,503.76	

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
18,600.00	90.00	179.70	8,716.00	11,980.50	6,615.86 S	2,293.20 W	402,618.74	632,905.60	0.00	6,603.76	
18,700.00	90.00	179.70	8,716.00	11,980.50	6,715.86 S	2,292.67 W	402,518.74	632,306.13	0.00	6,703.76	
18,800.00	90.00	179.70	8,716.00	11,980.50	6,815.86 S	2,292.14 W	402,418.74	632,906.66	0.00	6,803.76	
18,900.00	90.00	179.70	8,716.00	11,980.50	6,915.86 S	2,291.61 W	402,318.74	632,907.19	0.00	6,903.76	
19,000.00	90.00	179.70	8,716.00	11,980.50	7,015.85 S	2,291.08 W	402,218.75	632,907.72	0.00	7,003.76	
19,100.00	90.00	179.70	8,716.00	11,980.50	7,115.85 S	2,290.55 W	402,118.75	632,908.25	0.00	7,103.76	
19,200.00	90.00	179.70	8,716.00	11,980.50	7,215.85 S	2,290.02 W	402,018.75	632,908.78	0.00	7,203.76	
19,300.00	90.00	179.70	8,716.00	11,980.50	7,315.85 S	2,289.49 W	401,918.75	632,909.31	0.00	7,303.76	
19,400.00	90.00	179.70	8,716.00	11,980.50	7,415.85 S	2,288.96 W	401,818.75	632,909.84	0.00	7,403.76	
19,500.00	90.00	179.70	8,716.00	11,980.50	7,515.85 S	2,288.43 W	401,718.75	632,910.37	0.00	7,503.76	
19,600.00	90.00	179.70	8,716.00	11,980.50	7,615.85 S	2,287.90 W	401,618.75	632,910.90	0.00	7,603.76	
19,700.00	90.00	179.70	8,716.00	11,980.50	7,715.84 S	2,287.37 W	401,518.76	632,911.43	0.00	7,703.76	
19,800.00	90.00	179.70	8,716.00	11,980.50	7,815.84 S	2,286.84 W	401,418.76	632,911.96	0.00	7,803.76	
19,900.00	90.00	179.70	8,716.00	11,980.50	7,915.84 S	2,286.31 W	401,318.76	632,912.49	0.00	7,903.76	
20,000.00	90.00	179.70	8,716.00	11,980.50	8,015.84 S	2,285.78 W	401,218.76	632,913.02	0.00	8,003.76	
20,100.00	90.00	179.70	8,716.00	11,980.50	8,115.84 S	2,285.25 W	401,118.76	632,913.55	0.00	8,103.76	
20,200.00	90.00	179.70	8,716.00	11,980.50	8,215.84 S	2,284.72 W	401,018.76	632,914.08	0.00	8,203.76	
20,300.00	90.00	179.70	8,716.00	11,980.50	8,315.84 S	2,284.19 W	400,918.76	632,914.61	0.00	8,303.76	
20,400.00	90.00	179.70	8,716.00	11,980.50	8,415.83 S	2,283.66 W	400,818.77	632,915.14	0.00	8,403.76	
20,500.00	90.00	179.70	8,716.00	11,980.50	8,515.83 S	2,283.13 W	400,718.77	632,915.67	0.00	8,503.76	
20,600.00	90.00	179.70	8,716.00	11,980.50	8,615.83 S	2,282.60 W	400,618.77	632,916.20	0.00	8,603.76	
20,700.00	90.00	179.70	8,716.00	11,980.50	8,715.83 S	2,282.07 W	400,518.77	632,916.73	0.00	8,703.76	
20,800.00	90.00	179.70	8,716.00	11,980.50	8,815.83 S	2,281.54 W	400,418.77	632,917.26	0.00	8,803.76	
20,900.00	90.00	179.70	8,716.00	11,980.50	8,915.83 S	2,281.01 W	400,318.77	632,917.79	0.00	8,903.76	
21,000.00	90.00	179.70	8,716.00	11,980.50	9,015.83 S	2,280.48 W	400,218.77	632,918.32	0.00	9,003.76	
21,100.00	90.00	179.70	8,716.00	11,980.50	9,115.82 S	2,279.95 W	400,118.78	632,918.85	0.00	9,103.76	
21,200.00	90.00	179.70	8,716.00	11,980.50	9,215.82 S	2,279.42 W	400,018.78	632,919.38	0.00	9,203.76	
21,300.00	90.00	179.70	8,716.00	11,980.50	9,315.82 S	2,278.89 W	399,918.78	632,919.91	0.00	9,303.76	
21,400.00	90.00	179.70	8,716.00	11,980.50	9,415.82 S	2,278.36 W	399,818.78	632,920.44	0.00	9,403.76	
21,500.00	90.00	179.70	8,716.00	11,980.50	9,515.82 S	2,277.83 W	399,718.78	632,920.97	0.00	9,503.76	
21,600.00	90.00	179.70	8,716.00	11,980.50	9,615.82 S	2,277.30 W	399,618.78	632,921.50	0.00	9,603.76	
21,700.00	90.00	179.70	8,716.00	11,980.50	9,715.82 S	2,276.77 W	399,518.78	632,922.03	0.00	9,703.76	
21,800.00	90.00	179.70	8,716.00	11,980.50	9,815.81 S	2,276.24 W	399,418.79	632,922.56	0.00	9,803.76	
21,900.00	90.00	179.70	8,716.00	11,980.50	9,915.81 S	2,275.71 W	399,318.79	632,923.09	0.00	9,903.76	
22,000.00	90.00	179.70	8,716.00	11,980.50	10,015.81 S	2,275.18 W	399,218.79	632,923.62	0.00	10,003.76	
22,100.00	90.00	179.70	8,716.00	11,980.50	10,115.81 S	2,274.65 W	399,118.79	632,924.15	0.00	10,103.76	
22,200.00	90.00	179.70	8,716.00	11,980.50	10,215.81 S	2,274.12 W	399,018.79	632,924.68	0.00	10,203.76	
22,300.00	90.00	179.70	8,716.00	11,980.50	10,315.81 S	2,273.59 W	398,918.79	632,925.21	0.00	10,303.76	
22,400.00	90.00	179.70	8,716.00	11,980.50	10,415.81 S	2,273.06 W	398,818.79	632,925.74	0.00	10,403.76	
22,500.00	90.00	179.70	8,716.00	11,980.50	10,515.81 S	2,272.53 W	398,718.79	632,926.27	0.00	10,503.76	
22,600.00	90.00	179.70	8,716.00	11,980.50	10,615.80 S	2,272.00 W	398,618.80	632,926.80	0.00	10,603.76	

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates Northing (usft)	Easting (usft)	Map Coordinates Northing (usft)	Easting (usft)	Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
22,700.00	90.00	179.70	8,716.00	11,980.50	10,715.80	S 2,271.47 W	398,518.80	632,927.33	0.00	10,703.76	
22,800.00	90.00	179.70	8,716.00	11,980.50	10,815.80	S 2,270.94 W	398,418.80	632,927.86	0.00	10,803.76	
22,900.00	90.00	179.70	8,716.00	11,980.50	10,915.80	S 2,270.41 W	398,318.80	632,928.39	0.00	10,903.76	
22,997.00	90.00	179.70	8,716.00	11,980.50	11,012.80	S 2,269.90 W	398,221.80	632,928.90	0.00	11,000.76	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
5,559.01	5,559.01	0.00	0.00	Start Build
6,459.01	6,444.28	-14.66	-139.44	Hold
11,484.01	11,223.34	-176.97	-1,683.75	KOP, Start 8° DLS
11,821.51	11,508.45	-195.23	-1,857.51	Begin Build & Turn
12,896.20	11,980.50	-912.14	-2,323.43	Landing Point
22,997.00	11,980.50	-11,012.80	-2,269.90	TD @ 22997.00' MD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	+E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	179.70	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Plan #1	Survey/Plan	Survey Tool
0.00	22,996.94			Blind

HALLIBURTON

Plan Report for Poker Lake Unit #464H - Plan #1

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	TVDSS (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
861.50	861.50	-2,403.00	Rustler		0.0000	179.90
1,109.50	1,109.50	-2,155.00	Top Salt		0.0000	179.90
3,758.50	3,758.50	494.00	Base Salt		0.0000	179.90
3,788.50	3,788.50	524.00	Delaware		0.0000	179.90
7,650.55	7,577.50	4,313.00	Bone Spring		0.0000	179.90
8,637.87	8,516.50	5,252.00	1st Bone Spring Ss		0.0000	179.90
9,547.39	9,381.50	6,117.00	2nd Bone Spring Ss		0.0000	179.90
9,840.75	9,660.50	6,396.00	3rd Bone Spring Lm		0.0000	179.90
10,634.60	10,415.50	7,151.00	3rd Bone Spring Ss		0.0000	179.90
11,076.21	10,835.50	7,571.00	Wolfcamp		0.0000	179.90
11,230.78	10,982.50	7,718.00	Wolfcamp A		0.0000	179.90
12,582.27	11,932.50	8,668.00	Wolfcamp E		0.0000	179.90
12,896.20	11,980.50	8,716.00	LP		0.0000	179.90

HALLIBURTON

North Reference Sheet for Poker Lake Unit #464H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GE 3238 + 26.5 KB @ 3264.50usft (TBD). Northing and Easting are relative to Poker Lake Unit #464H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 0° 0' 0.000 N°

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99993003

Grid Coordinates of Well: 409,234.60 usft N, 635,198.80 usft E

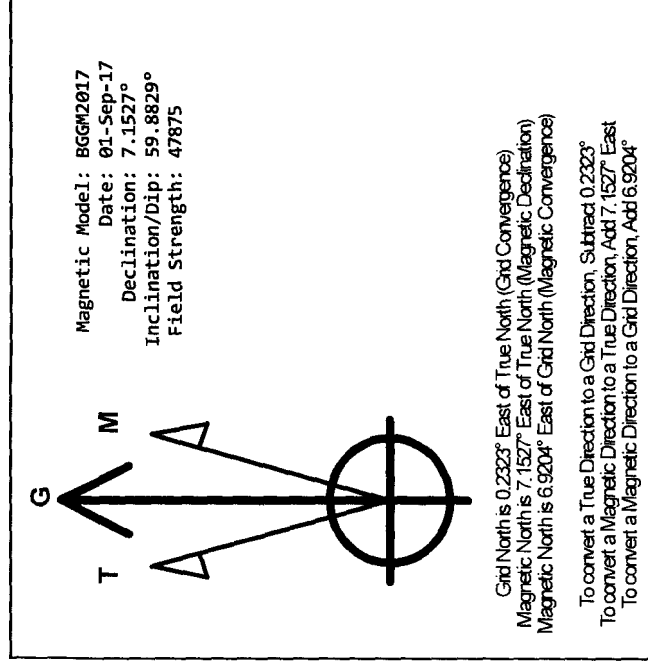
Geographical Coordinates of Well: 32° 07' 27.66" N, 103° 53' 47.80" W

Grid Convergence at Surface is: 0.2323°

Based upon Minimum Curvature type calculations, at a Measured Depth of 22,997.00usft

the Bottom Hole Displacement is 11,244.30usft in the Direction of 191.65° (Grid).

Magnetic Convergence at surface is: -6.9200° (1 September 2017, BGGM2017)





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

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

GRADE D PRESSURE TEST CERTIFICATE

Customer	AUSTIN DISTRIBUTING	Test Date	6/8/2014
Customer Ref.	PENDING	Hose Serial No.	D-060814-1
Invoice No.	201709	Created By:	NORMA
Product Description:	FDJ.D42.0R41/16.5KFLGE/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	

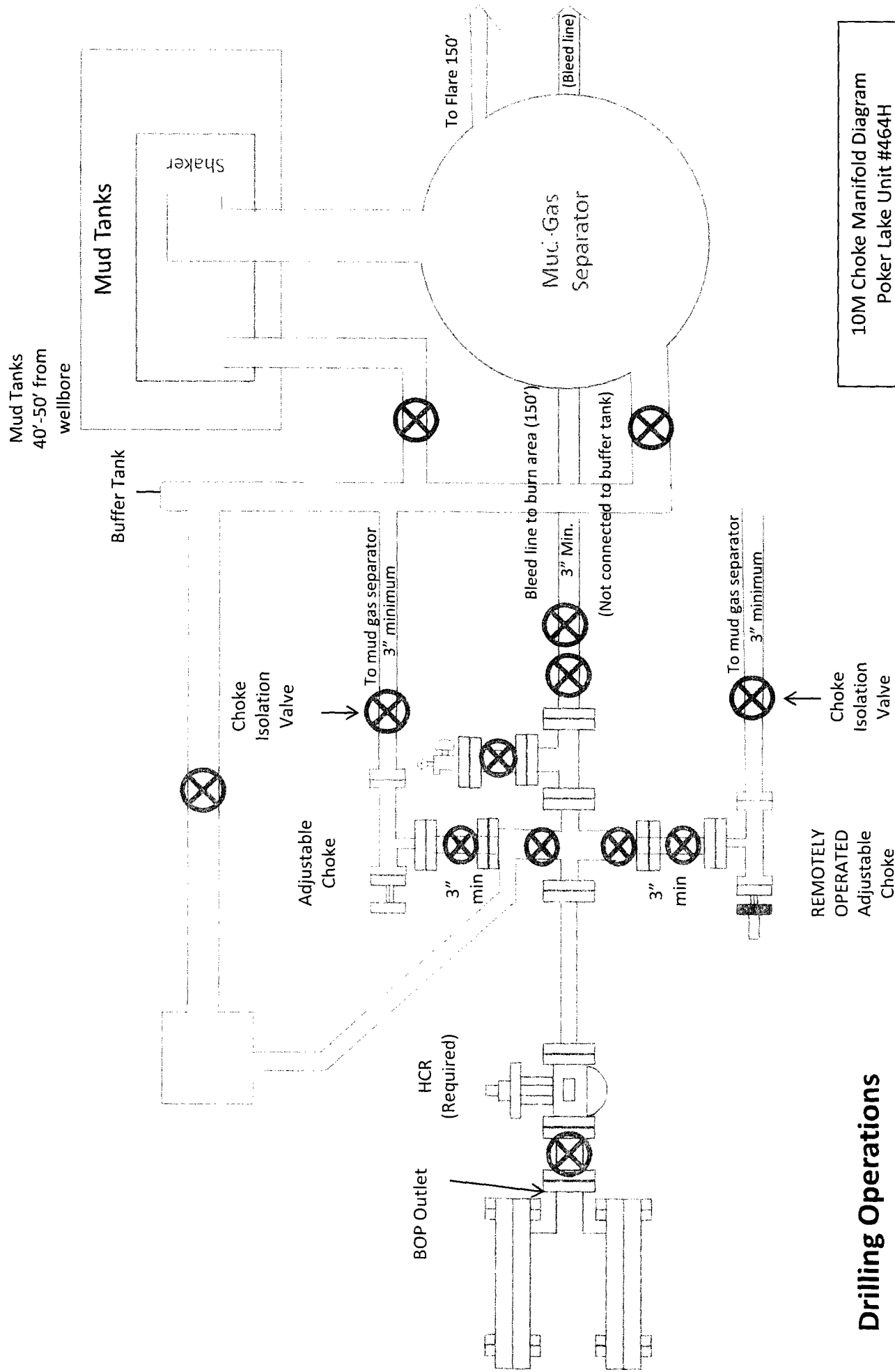
17-14-16

XTO

choke
line

163
Am
#25

16



10M Choke Manifold Diagram
 Poker Lake Unit #464H
 XTO Energy, Inc.

**Drilling Operations
 Choke Manifold
 10M Service**

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NMLC-064894A
WELL NAME & NO.:	Poker Lake Unit 464H
SURFACE HOLE FOOTAGE:	0550' FSL & 0715' FEL
BOTTOM HOLE FOOTAGE:	0200' FSL & 2310' FWL Sec. 29, T. 25 S., R 30 E.
LOCATION:	Section 17, T. 25 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

All previous COAs still apply except for the following:

A. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for 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.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Salado and Delaware.

Possibility of lost circulation in the Red beds, Rustler, and Delaware.

Abnormal pressure might be encountered upon entering third Bone Spring and subsequent formations.

1. The 13-3/8 inch surface casing shall be set at approximately 1080 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler,

and if salt is encountered, set casing at least 25 feet 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 is to include the lead cement slurry.**
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

☒ Cement to surface. If cement does not circulate see A.1.a, c-d above.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the 7 inch production casing is:

☒ Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification.

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the 4 1/2 inch production liner is:

- ☒ Cement should tie-back at least **100** feet into previous casing. Operator shall provide method of verification. **Excess calculates to 9% - additional cement will be required.**

5. 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.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.
2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9 5/8** inch intermediate casing shoe shall be **5000 (5M)** psi. **5M/10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7** inch production casing shoe shall be **10,000 (10M)** psi. **5M/10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
6. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
- b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
- c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Proposed mud weight may not be adequate for drilling through Wolfcamp.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

MHH 11082017