

DEC 9 2015

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

15-662

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. SHL:NMNM 053229/BHL:State Lease	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator XTO Energy, Inc		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. Lago Real Federal #3H	
3b. Phone No. (include area code) 432-620-6714		9. API Well No. 30-015-43514	
4. Location of Well (Report location clearly and in accordance with any State requirements*) At surface 2470'FSL & 1980'FEL, J-29-24S-29E At proposed prod. zone 2510'FNL & 1980'FEL, G-32-24S-29E		10. Field and Pool, or Exploratory Willow Lake; Bone Spring, SE	
14. Distance in miles and direction from nearest town or post office* 6 MI SE Of Malaga, New Mexico		11. Sec., T. R. M. or Blk. and Survey or Area J-29-24S-29E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 170'		12. County or Parish Eddy	
16. No. of acres in lease 280		13. State NM	
17. Spacing Unit dedicated to this well 160			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1320' to Lago Real Federal #4H		20. BLM/BIA Bond No. on file UTB000138	
19. Proposed Depth TVD: 8561' MD: 13,294'			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2936'		22. Estimated duration 40 Days	
22. Approximate date work will start*			

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 <i>Stephanie Rabadue</i>		Name (Printed/Typed) Stephanie Rabadue		Date 05/03/2015	
Title Regulatory Analyst					
Approved by (Signature) <i>/S/ STEPHEN J. CAFFEY</i>		Name (Printed/Typed)		Date DEC 04 2015	
Title FOR FIELD MANAGER		Office BLM-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)

Witness Surface Casing* (Instructions on page 2)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Carlsbad Controlled Water Basin

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED



Certification

May 3, 2015

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
575-234-5972

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed in conformity with this APD package and terms and conditions under which it is approved. I also certify that I, or XTO Energy, Inc., am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 3rd Day of May, 2015.

Thank you,

Stephanie Rabadue

Stephanie Rabadue
Regulatory Analyst

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, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-43514	Pool Code 96217	Pool Name Willow Lake; Bone Spring, &
Property Code 315721	Property Name LAGO REAL FEDERAL	Well Number 3H
OGRID No. 005380	Operator Name XTO ENERGY	Elevation 2936'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	29	24-S	29-E		2470	SOUTH	1980	EAST	EDDY

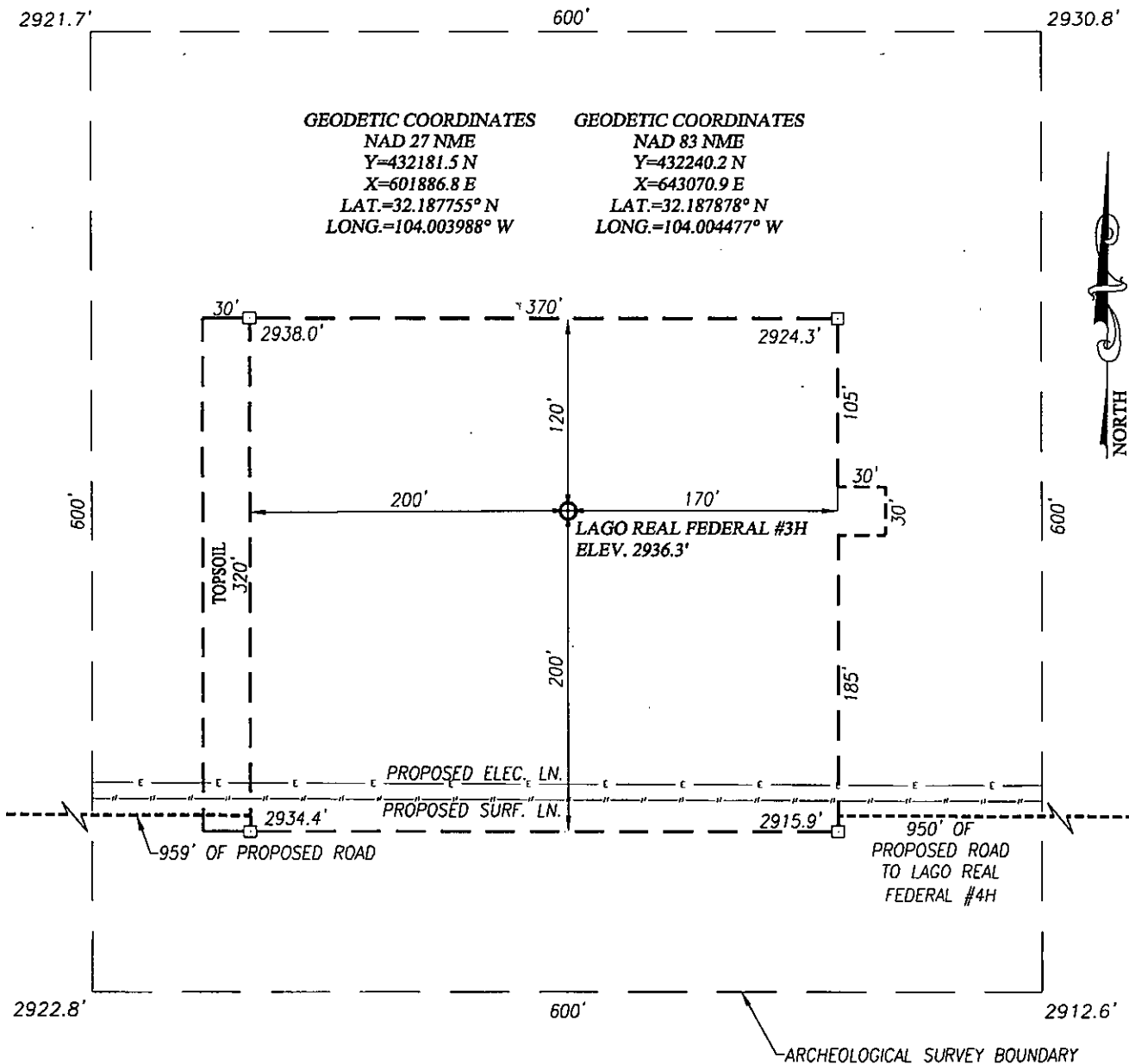
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	32	24-S	29-E		2510	NORTH	1980	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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

	<p>SCALE: 1"=2000'</p> <p>GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=432181.5 N X=601886.8 E LAT.=32.187755° N LONG.=104.003988° W FIRST TAKE POINT Y=431481.7 N X=601888.9 E LAT.=32.185831° N LONG.=104.003989° W</p> <p>CORNER COORDINATES TABLE NAD 27 NME A - Y=432374.0 N, X=601222.9 E B - Y=432365.8 N, X=602544.4 E C - Y=429713.8 N, X=601233.4 E D - Y=429710.3 N, X=602552.7 E E - Y=427059.1 N, X=601249.0 E F - Y=427057.0 N, X=602565.3 E</p> <p>CORNER COORDINATES TABLE NAD 83 NME A - Y=432432.7 N, X=642407.1 E B - Y=432424.5 N, X=643728.6 E C - Y=429772.4 N, X=642417.6 E D - Y=429769.0 N, X=643736.9 E E - Y=427117.7 N, X=642433.3 E F - Y=427115.5 N, X=643749.6 E</p> <p>GEODETIC COORDINATES NAD 27 NME LAST TAKE POINT Y=427402.6 N X=601900.9 E LAT.=32.174618° N LONG.=104.003990° W BOTTOM HOLE LOCATION Y=427202.6 N X=601901.5 E LAT.=32.174068° N LONG.=104.003990° W</p>	<p>GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y=432240.2 N X=643070.9 E LAT.=32.187878° N LONG.=104.004477° W FIRST TAKE POINT Y=431540.3 N X=643073.0 E LAT.=32.185954° N LONG.=104.004477° W</p> <p>GEODETIC COORDINATES NAD 83 NME LAST TAKE POINT Y=427461.2 N X=643085.1 E LAT.=32.174741° N LONG.=104.004478° W BOTTOM HOLE LOCATION Y=427261.2 N X=643085.7 E LAT.=32.174191° N LONG.=104.004478° W</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Stephanie Rabadue</i> 5/3/15 Signature Date</p> <p><i>Stephanie Rabadue</i> Printed Name</p> <p><i>Stephanie.rabadue@xtoenergy.com</i> E-mail Address</p>
	<p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>NOVEMBER 15, 2014</p> <p>Date of Survey</p> <p>Signature of Professional Surveyor: <i>Ronald J. Eidson</i> 3230</p> <p>Certification Number: 12641 Ronald J. Eidson 3239</p> <p>ACK JWSC W.O.: 14.11.1178</p>		

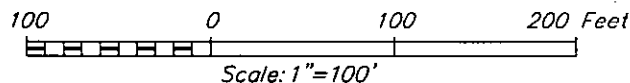


NOTE:

- 1) SEE "LOCATION VERIFICATION MAP" FOR PROPOSED ROAD LOCATION.
- 2) PROPOSED PIPELINE AND ELECTRICAL LINE SHOWN HEREON HAVE BEEN SURVEYED.

DIRECTIONS TO LAGO REAL FEDERAL #3H:

FROM THE INTERSECTION OF U.S. HWY. 285 (PECOS HWY.) AND CO. RD. 720 (DUARTE RD.), GO EAST ON CO. RD. 720 APPROX. 1.3 MILES. TURN RIGHT AND FOLLOW CO. RD. 748 (MCDONALD RD.) APPROX. 2.9 MILES. TURN RIGHT AND FOLLOW MEANDERING ROAD APPROX. 1.9 MILES TO MALAGA 30 FEDERAL COM #2H AND BEGINNING ROAD LATH AT SOUTHEAST CORNER OF PAD. FOLLOW PROPOSED ROAD SURVEY NORTHEAST APPROX. 1014 FEET TO THE SOUTHWEST CORNER OF THE #1H PAD, THEN EAST X-ING PAD. FOLLOW ROAD & PAD STAKES EAST 2279 FEET TO THIS PAD.



XTO ENERGY

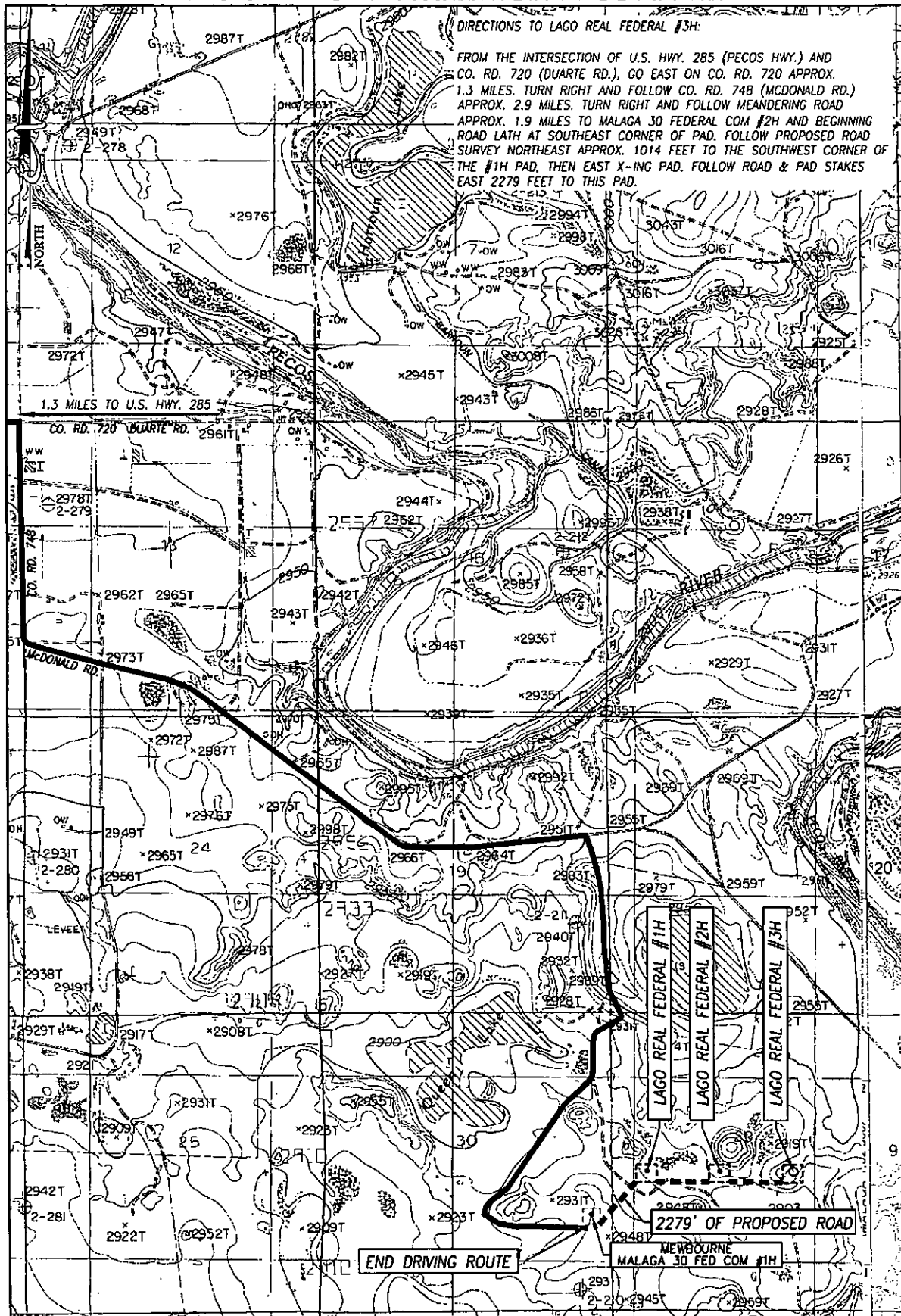
LAGO REAL FEDERAL #3H WELL
 LOCATED 2470 FEET FROM THE SOUTH LINE
 AND 1980 FEET FROM THE EAST LINE OF SECTION 32,
 TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO

Survey Date: 11/15/14	CAD Date: 12/11/14	Drawn By: ACK
W.O. No.: 14111178	Rev: .	Rel. W.O.: Sheet 1 of 1



PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO HOBBS, N.M. 88240
 (575) 393-3117 www.jwsc.biz
 TBPLS# 10021000

LOCATION VERIFICATION MAP



DIRECTIONS TO LAGO REAL FEDERAL #3H:

FROM THE INTERSECTION OF U.S. HWY. 285 (PECOS HWY.) AND CO. RD. 720 (DUARTE RD.), GO EAST ON CO. RD. 720 APPROX. 1.3 MILES. TURN RIGHT AND FOLLOW CO. RD. 748 (MCDONALD RD.) APPROX. 2.9 MILES. TURN RIGHT AND FOLLOW MEANDERING ROAD APPROX. 1.9 MILES TO MALAGA 30 FEDERAL COM #2H AND BEGINNING ROAD LATH AT SOUTHEAST CORNER OF PAD. FOLLOW PROPOSED ROAD SURVEY NORTHEAST APPROX. 1014 FEET TO THE SOUTHWEST CORNER OF THE #1H PAD, THEN EAST X-ING PAD. FOLLOW ROAD & PAD STAKES EAST 2279 FEET TO THIS PAD.

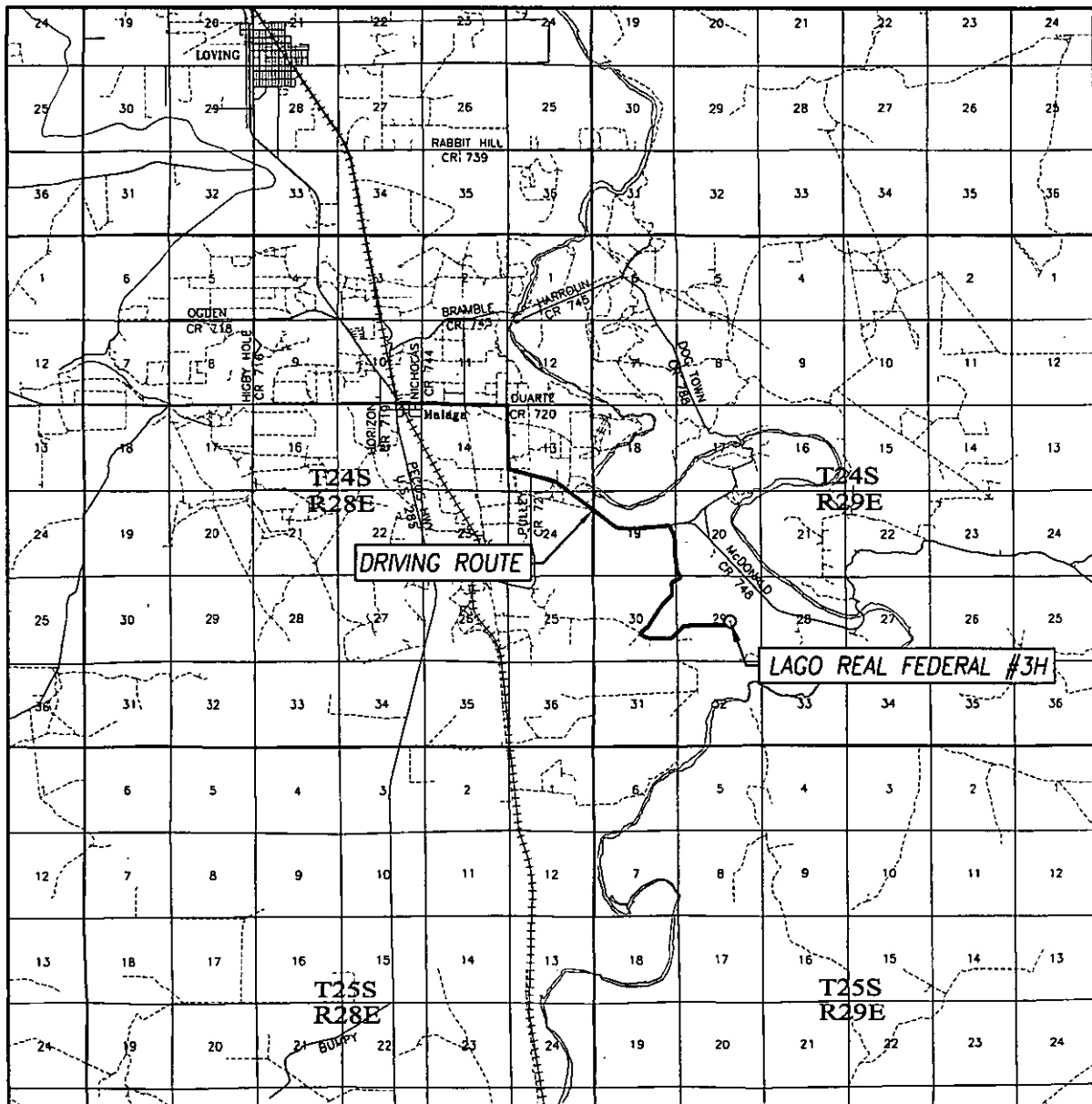
SEC. 29 TWP. 24-S RGE. 29-E
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 2470' FSL & 1980' FEL
ELEVATION 2936'
OPERATOR XTO ENERGY
LEASE LAGO REAL FEDERAL
U.S.G.S. TOPOGRAPHIC MAP
MALAGA, N.M. SURVEY N.M.P.M.

SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALAGA, N.M. - 10'
SUPPLEMENTAL INTERVAL: 5'

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TBPLS# 10021000

VICINITY MAP



SCALE: 1" = 2 MILES

DRIVING ROUTE: SEE LOCATION VERIFICATION MAP

SEC. 29 TWP. 24-S RGE. 29-E

SURVEY N.M.P.M.


COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2470' FSL & 1980' FEL

ELEVATION 2936'

OPERATOR XTO ENERGY

LEASE LAGO REAL FEDERAL



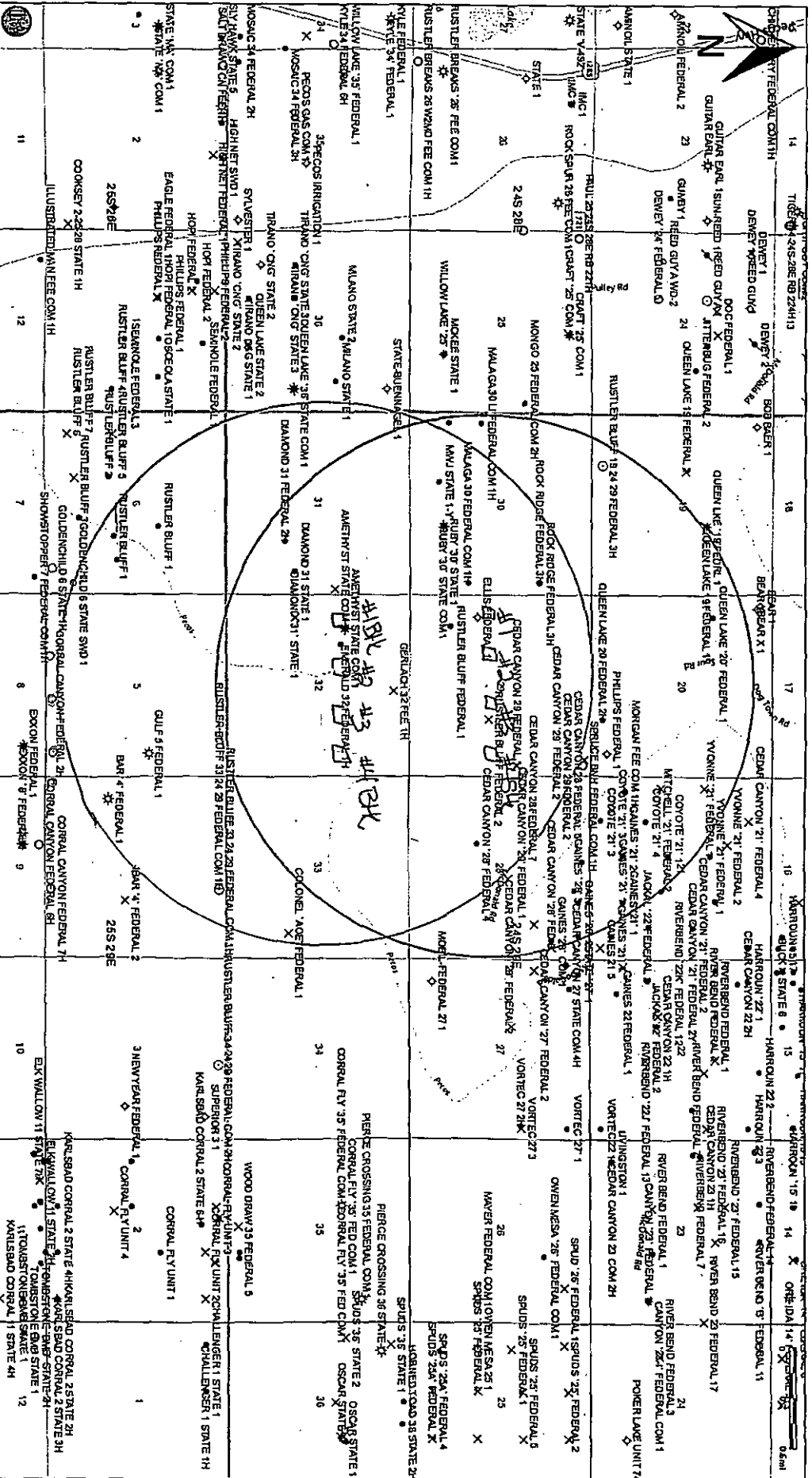
PROVIDING SURVEYING SERVICES
SINCE 1946

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TBPLS# 10021000

Lago Real Federal

1-Mile Radius Map



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

XTO Energy Inc.
Lago Real Federal 3H
Projected TD: 13294' MD / 8561' TVD
SHL: 2470' FSL & 1980' FEL, SECTION 29, T24S, R29E
BHL: 2510' FNL & 1980' FEL, SECTION 32, T24S, R29E
Eddy County, NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

A. Quaternary

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

Formation	Well Depth (TVD)	Water / Oil / Gas
Rustler	281'	Water
Top of Salt	661'	
Base of Salt	2641'	
Delaware	2854'	Water
Cherry Canyon	3760'	Water
Brushy Canyon	5332'	Water/Oil/Gas
Bone Spring	6584'	Water/Oil/Gas
1 st Bone Spring Ss	7534'	Water/Oil/Gas
2 nd Bone Spring Ss	8339'	Water/Oil/Gas
Target/Land Curve	8561'	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" casing @ 625' above the salt and circulating cement back to surface. The salt will be isolated by setting 9-5/8" casing at 2825' 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 up to the 9-5/8" casing shoe.

*See
COA*

3. CASING PROGRAM:

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' - 625' 340'	13-3/8"	48#	STC	H-40	New	5.77	2.59	10.73
12-1/4"	0' - 2825'	9-5/8"	36#	LTC	J-55	New	2.82	1.35	4.45
8-3/4"	0' - 13294'	5-1/2"	17#	BTC	P-110	New	1.12	1.87	2.51

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" 3000 psi bottom flange x 11" 5,000 psi top flange
- C. Tubing Head: 11" 5000 psi bottom flange x 7-1/16" 10,000 psi top flange

4. CEMENT PROGRAM:

- A. Surface Casing: 13-3/8", 48#, NEW H-40, STC casing to be set at $\pm 625'$.
360

640 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#, NEW J-55, LTC casing to be set at $\pm 2825'$.

Lead: 20 bbls FW, then 770 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 $\pm 13294'$. Casing will be cemented and will include sliding sleeves for the completion.

Lead: 20 bbls FW, then 630 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: 1195 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 4000 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 CWA
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 625' 200'	17-1/2"	FW/Native	8.4-8.8	35-40	NC
625' to 2825'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
2825' to 13294'	8-3/4"	FW / Cut Brine / Poly-Sweeps	8.4-9.0	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:

- 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 @ 2825'.
Catch 20' samples from 2825' to landing point
Catch 30' samples from landing point to TD/MD.

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

See
COA

9. ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS:

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.

XTO Energy Inc.

HALLIBURTON

Sperry Drilling

Project: Eddy County, NM (NAD27)
Site: Lago Real Federal
Well: Lago Real Federal 3H
Wellbore: Wellbore #1
Plan: Plan #1
Rig: Noram 25

SURFACE LOCATION

US State Plane 1927 (Exact solution)
New Mexico East 3001
Elevation: GL 2936' + KB 25' @ 2961.00usft (Noram 25)
Northing Easting Latitude Longitude
432181.50 601886.80 32° 11' 15.919 N 104° 0' 14.359 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

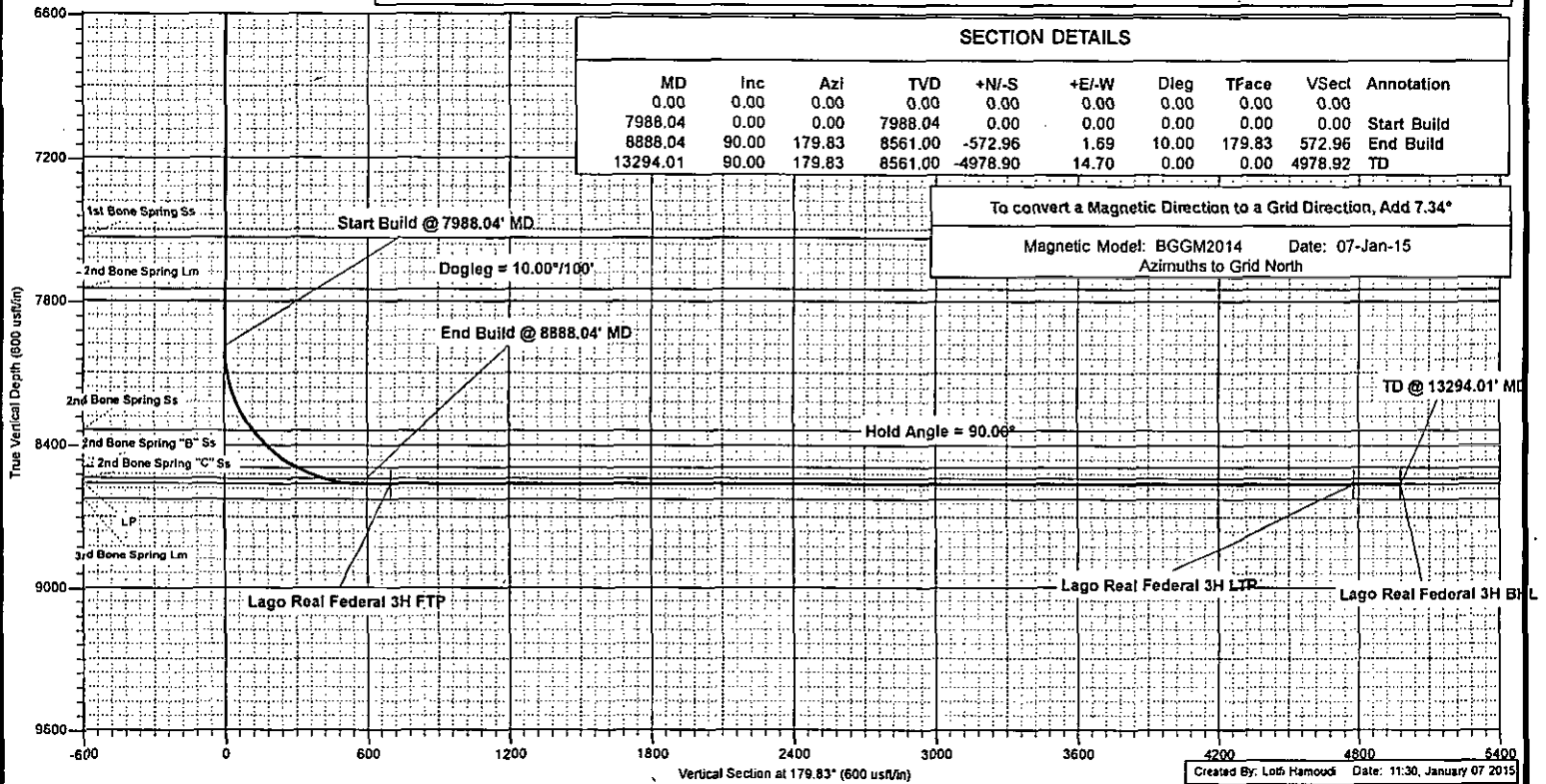
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Lago Real Federal 3H BHL	8561.00	-4978.90	14.70	427202.60	601901.50	32° 10' 26.846 N	104° 0' 14.365 W
Lago Real Federal 3H FTP	8561.00	-4999.80	2.10	431481.70	601888.90	32° 11' 8.893 N	104° 0' 14.359 W
Lago Real Federal 3H LTP	8561.00	-4778.90	14.10	427402.60	601900.90	32° 10' 26.625 N	104° 0' 14.365 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7988.04	0.00	0.00	7988.04	0.00	0.00	0.00	0.00	0.00	Start Build
8888.04	90.00	179.83	8561.00	-572.96	1.69	10.00	179.83	572.96	End Build
13294.01	90.00	179.83	8561.00	-4978.90	14.70	0.00	0.00	4978.92	TD

To convert a Magnetic Direction to a Grid Direction, Add 7.34°

Magnetic Model: BGGM2014 Date: 07-Jan-15
Azimuths to Grid North



Project: Eddy County, NM (NAD27)
 Site: Lago Real Federal
 Well: Lago Real Federal 3H
 Wellbore: Wellbore #1
 Plan: Plan #1
 Rig: Noram 25

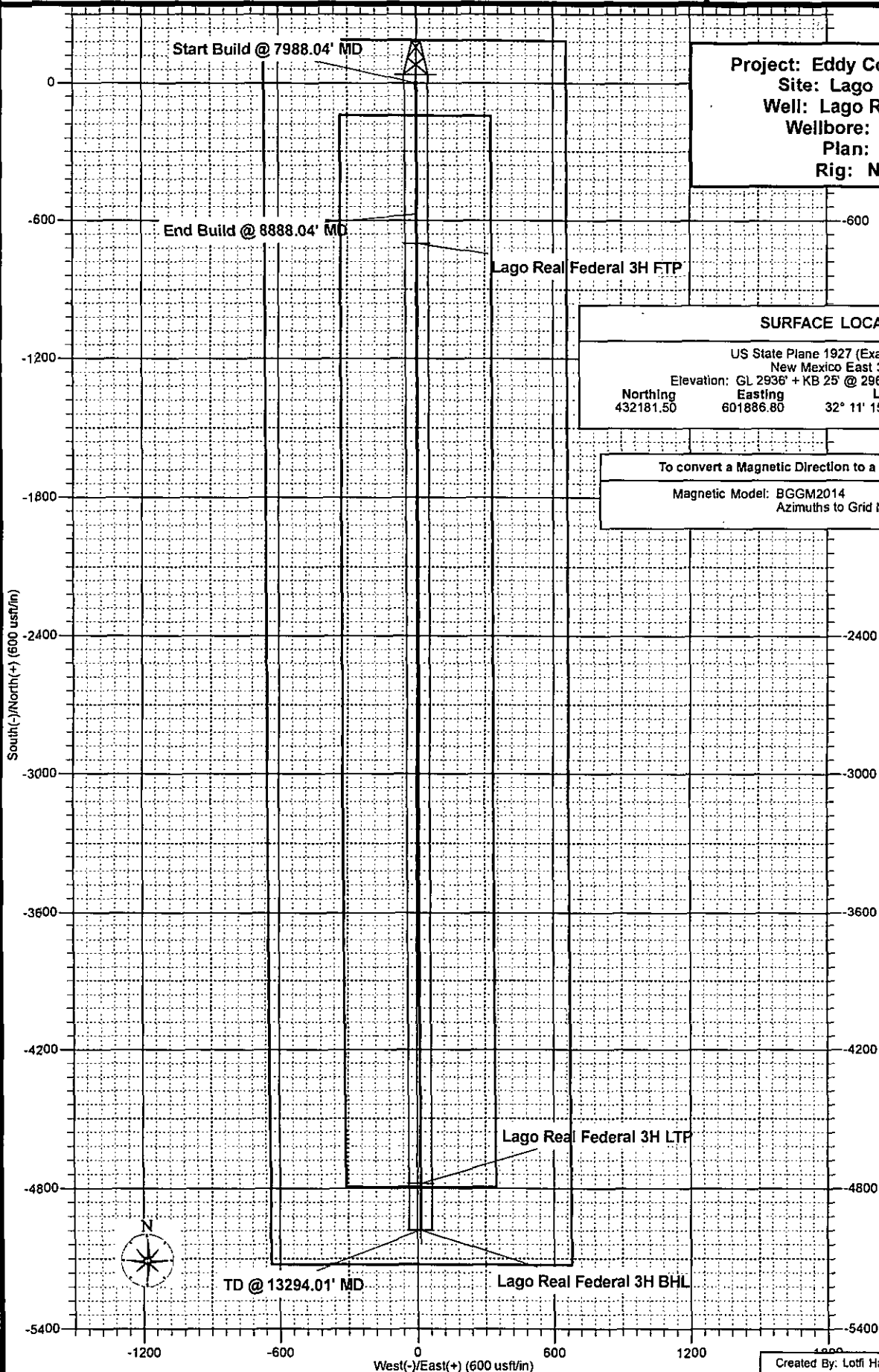
SURFACE LOCATION

US State Plane 1927 (Exact solution)
 New Mexico East 3001
 Elevation: GL 2936' + KB 25' @ 2961.00usft (Noram 25)

Northing	Easting	Latitude	Longitude
432181.50	601886.80	32° 11' 15.919 N	104° 0' 14.359 W

To convert a Magnetic Direction to a Grid Direction, Add 7.34°

Magnetic Model: BGGM2014 Date: 07-Jan-15
 Azimuths to Grid North



XTO Energy Inc.

Eddy County, NM (NAD27)

Lago Real Federal

Lago Real Federal 3H

Wellbore #1

Plan: Plan #1

Sperry Drilling Services Proposal Report

07 January, 2015

Well Coordinates: 432,181.50 N, 601,886.80 E (32° 11' 15.92" N, 104° 00' 14.36" W)

Ground Level: 2,936.00 usft

Local Coordinate Origin: Centered on Well Lago Real Federal 3H

Viewing Datum: GL 2936' + KB 25' @ 2961.00usft (Noram 25)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet

Version: 5000.1 Build: 72

HALLIBURTON

HALLIBURTON**Plan Report for Lago Real Federal 3H - Plan #1**

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)	Toolface Azimuth (°)
0.00	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	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281.00	0.00	0.00	281.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler										
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
661.00	0.00	0.00	661.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt										
700.00	0.00	0.00	700.00	0.00	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	0.00
900.00	0.00	0.00	900.00	0.00	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	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	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	0.00
1,400.00	0.00	0.00	1,400.00	0.00	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	0.00
1,600.00	0.00	0.00	1,600.00	0.00	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	0.00
1,800.00	0.00	0.00	1,800.00	0.00	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	0.00
2,000.00	0.00	0.00	2,000.00	0.00	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	0.00
2,200.00	0.00	0.00	2,200.00	0.00	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	0.00
2,400.00	0.00	0.00	2,400.00	0.00	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	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,641.00	0.00	0.00	2,641.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt										
2,700.00	0.00	0.00	2,700.00	0.00	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	0.00
2,854.00	0.00	0.00	2,854.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware										
2,900.00	0.00	0.00	2,900.00	0.00	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	0.00
3,100.00	0.00	0.00	3,100.00	0.00	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	0.00
3,300.00	0.00	0.00	3,300.00	0.00	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	0.00
3,500.00	0.00	0.00	3,500.00	0.00	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	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,760.00	0.00	0.00	3,760.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon										
3,800.00	0.00	0.00	3,800.00	0.00	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	0.00
4,000.00	0.00	0.00	4,000.00	0.00	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	0.00
4,200.00	0.00	0.00	4,200.00	0.00	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	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	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	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HALLIBURTON**Plan Report for Lago Real Federal 3H - Plan #1**

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)	Toolface Azimuth (°)
4,800.00	0.00	0.00	4,800.00	0.00	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	0.00
5,000.00	0.00	0.00	5,000.00	0.00	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	0.00
5,200.00	0.00	0.00	5,200.00	0.00	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	0.00
5,332.00	0.00	0.00	5,332.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon										
5,400.00	0.00	0.00	5,400.00	0.00	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	0.00
5,600.00	0.00	0.00	5,600.00	0.00	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	0.00
5,800.00	0.00	0.00	5,800.00	0.00	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	0.00
6,000.00	0.00	0.00	6,000.00	0.00	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	0.00
6,200.00	0.00	0.00	6,200.00	0.00	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	0.00
6,332.00	0.00	0.00	6,332.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basal Brushy Canyon										
6,400.00	0.00	0.00	6,400.00	0.00	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	0.00
6,584.00	0.00	0.00	6,584.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring										
6,600.00	0.00	0.00	6,600.00	0.00	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	0.00
6,800.00	0.00	0.00	6,800.00	0.00	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	0.00
7,000.00	0.00	0.00	7,000.00	0.00	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	0.00
7,200.00	0.00	0.00	7,200.00	0.00	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	0.00
7,400.00	0.00	0.00	7,400.00	0.00	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	0.00
7,534.00	0.00	0.00	7,534.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Ss										
7,600.00	0.00	0.00	7,600.00	0.00	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	0.00
7,749.00	0.00	0.00	7,749.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Lm										
7,800.00	0.00	0.00	7,800.00	0.00	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	0.00
7,988.04	0.00	0.00	7,988.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build @ 7988.04' MD - Dogleg = 10.00°/100'										
8,000.00	1.20	180.01	8,000.00	-0.12	0.00	0.12	10.00	10.00	0.00	180.01
8,050.00	6.20	180.01	8,049.88	-3.35	0.00	3.35	10.00	10.00	0.00	0.00
8,100.00	11.20	180.01	8,099.29	-10.90	0.00	10.90	10.00	10.00	0.00	0.00
8,150.00	16.20	180.01	8,147.85	-22.74	0.00	22.74	10.00	10.00	0.00	0.00
8,200.00	21.20	180.01	8,195.20	-38.76	0.00	38.76	10.00	10.00	0.00	0.00
8,250.00	26.20	180.01	8,240.97	-58.85	-0.01	58.85	10.00	10.00	0.00	0.00
8,300.00	31.20	180.01	8,284.81	-82.85	-0.01	82.85	10.00	10.00	0.00	0.00
8,350.00	36.20	180.01	8,326.40	-110.58	-0.01	110.58	10.00	10.00	0.00	0.00
8,365.77	37.77	180.01	8,339.00	-120.07	-0.01	120.07	10.00	10.00	0.00	0.00
2nd Bone Spring Ss										
8,400.00	41.20	180.01	8,365.41	-141.83	-0.02	141.83	10.00	10.00	0.00	0.00
8,450.00	46.20	180.01	8,401.55	-176.36	-0.02	176.36	10.00	10.00	0.00	0.00
8,500.00	51.20	180.01	8,434.54	-213.91	-0.02	213.91	10.00	10.00	0.00	0.00
8,550.00	56.20	180.01	8,464.14	-254.19	-0.03	254.19	10.00	10.00	0.00	0.00
8,600.00	61.20	180.01	8,490.11	-296.90	-0.03	296.90	10.00	10.00	0.00	0.00

HALLIBURTON**Plan Report for Lago Real Federal 3H - Plan #1**

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)	Toolface Azimuth (°)
8,603.95	61.59	180.01	8,492.00	-300.36	-0.03	300.36	10.00	10.00	0.00	0.00
2nd Bone Spring "B" Ss										
8,650.00	66.20	180.01	8,512.26	-341.70	-0.04	341.70	10.00	10.00	0.00	0.00
8,700.00	71.20	180.01	8,530.42	-388.27	-0.04	388.27	10.00	10.00	0.00	0.00
8,728.75	74.07	180.01	8,539.00	-415.71	-0.05	415.71	10.00	10.00	0.00	0.00
2nd Bone Spring "C" Ss										
8,750.00	76.20	180.01	8,544.45	-436.25	-0.05	436.25	10.00	10.00	0.00	0.00
8,800.00	81.20	180.01	8,554.25	-485.26	-0.05	485.26	10.00	10.00	0.00	0.00
8,850.00	86.20	180.01	8,559.74	-534.94	-0.06	534.94	10.00	10.00	0.00	0.00
8,888.04	90.00	180.01	8,561.00	-572.96	-0.06	572.96	10.00	10.00	0.00	0.00
End Build @ 8888.04' MD - Hold Angle = 90.00° - LP										
8,900.00	90.00	180.01	8,561.00	-584.92	-0.06	584.92	0.00	0.00	0.00	0.00
9,000.00	90.00	180.01	8,561.00	-684.92	-0.08	684.92	0.00	0.00	0.00	0.00
9,014.89	90.00	180.01	8,561.00	-699.80	-0.08	699.80	0.00	0.00	0.00	0.00
Lago Real Federal 3H FTP										
9,100.00	90.00	180.01	8,561.00	-784.92	-0.09	784.92	0.00	0.00	0.00	0.00
9,200.00	90.00	180.01	8,561.00	-884.92	-0.10	884.92	0.00	0.00	0.00	0.00
9,300.00	90.00	180.01	8,561.00	-984.92	-0.11	984.92	0.00	0.00	0.00	0.00
9,400.00	90.00	180.01	8,561.00	-1,084.92	-0.12	1,084.92	0.00	0.00	0.00	0.00
9,500.00	90.00	180.01	8,561.00	-1,184.92	-0.13	1,184.92	0.00	0.00	0.00	0.00
9,600.00	90.00	180.01	8,561.00	-1,284.92	-0.14	1,284.92	0.00	0.00	0.00	0.00
9,700.00	90.00	180.01	8,561.00	-1,384.92	-0.15	1,384.92	0.00	0.00	0.00	0.00
9,800.00	90.00	180.01	8,561.00	-1,484.92	-0.16	1,484.92	0.00	0.00	0.00	0.00
9,900.00	90.00	180.01	8,561.00	-1,584.92	-0.17	1,584.92	0.00	0.00	0.00	0.00
10,000.00	90.00	180.01	8,561.00	-1,684.92	-0.19	1,684.92	0.00	0.00	0.00	0.00
10,100.00	90.00	180.01	8,561.00	-1,784.92	-0.20	1,784.92	0.00	0.00	0.00	0.00
10,200.00	90.00	180.01	8,561.00	-1,884.92	-0.21	1,884.92	0.00	0.00	0.00	0.00
10,300.00	90.00	180.01	8,561.00	-1,984.92	-0.22	1,984.92	0.00	0.00	0.00	0.00
10,400.00	90.00	180.01	8,561.00	-2,084.92	-0.23	2,084.92	0.00	0.00	0.00	0.00
10,500.00	90.00	180.01	8,561.00	-2,184.92	-0.24	2,184.92	0.00	0.00	0.00	0.00
10,600.00	90.00	180.01	8,561.00	-2,284.92	-0.25	2,284.92	0.00	0.00	0.00	0.00
10,700.00	90.00	180.01	8,561.00	-2,384.92	-0.26	2,384.92	0.00	0.00	0.00	0.00
10,800.00	90.00	180.01	8,561.00	-2,484.92	-0.27	2,484.92	0.00	0.00	0.00	0.00
10,900.00	90.00	180.01	8,561.00	-2,584.92	-0.28	2,584.92	0.00	0.00	0.00	0.00
11,000.00	90.00	180.01	8,561.00	-2,684.92	-0.29	2,684.92	0.00	0.00	0.00	0.00
11,100.00	90.00	180.01	8,561.00	-2,784.92	-0.31	2,784.92	0.00	0.00	0.00	0.00
11,200.00	90.00	180.01	8,561.00	-2,884.92	-0.32	2,884.92	0.00	0.00	0.00	0.00
11,300.00	90.00	180.01	8,561.00	-2,984.92	-0.33	2,984.92	0.00	0.00	0.00	0.00
11,400.00	90.00	180.01	8,561.00	-3,084.92	-0.34	3,084.92	0.00	0.00	0.00	0.00
11,500.00	90.00	180.01	8,561.00	-3,184.92	-0.35	3,184.92	0.00	0.00	0.00	0.00
11,600.00	90.00	180.01	8,561.00	-3,284.92	-0.36	3,284.92	0.00	0.00	0.00	0.00
11,700.00	90.00	180.01	8,561.00	-3,384.92	-0.37	3,384.92	0.00	0.00	0.00	0.00
11,800.00	90.00	180.01	8,561.00	-3,484.92	-0.38	3,484.92	0.00	0.00	0.00	0.00
11,900.00	90.00	180.01	8,561.00	-3,584.92	-0.39	3,584.92	0.00	0.00	0.00	0.00
12,000.00	90.00	180.01	8,561.00	-3,684.92	-0.40	3,684.92	0.00	0.00	0.00	0.00
12,100.00	90.00	180.01	8,561.00	-3,784.92	-0.42	3,784.92	0.00	0.00	0.00	0.00
12,200.00	90.00	180.01	8,561.00	-3,884.92	-0.43	3,884.92	0.00	0.00	0.00	0.00
12,300.00	90.00	180.01	8,561.00	-3,984.92	-0.44	3,984.92	0.00	0.00	0.00	0.00
12,400.00	90.00	180.01	8,561.00	-4,084.92	-0.45	4,084.92	0.00	0.00	0.00	0.00
12,500.00	90.00	180.01	8,561.00	-4,184.92	-0.46	4,184.92	0.00	0.00	0.00	0.00
12,600.00	90.00	180.01	8,561.00	-4,284.92	-0.47	4,284.92	0.00	0.00	0.00	0.00
12,700.00	90.00	180.01	8,561.00	-4,384.92	-0.48	4,384.92	0.00	0.00	0.00	0.00
12,800.00	90.00	180.01	8,561.00	-4,484.92	-0.49	4,484.92	0.00	0.00	0.00	0.00
12,900.00	90.00	180.01	8,561.00	-4,584.92	-0.50	4,584.92	0.00	0.00	0.00	0.00
13,000.00	90.00	180.01	8,561.00	-4,684.92	-0.51	4,684.92	0.00	0.00	0.00	0.00
13,094.01	90.00	180.01	8,561.00	-4,778.92	-0.52	4,778.92	0.00	0.00	0.00	0.00
Lago Real Federal 3H LTP										
13,100.00	90.00	180.01	8,561.00	-4,784.92	-0.53	4,784.92	0.00	0.00	0.00	0.00
13,200.00	90.00	180.01	8,561.00	-4,884.92	-0.54	4,884.92	0.00	0.00	0.00	0.00

Plan Report for Lago Real Federal 3H - Plan #1

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)	Toolface Azimuth (°)
13,294.01	90.00	180.01	8,561.00	-4,978.92	-0.55	4,978.92	0.00	0.00	0.00	0.00
TD @ 13294.01' MD - Lago Real Federal 3H BHL										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
7,988.04	7,988.04	0.00	0.00	Start Build @ 7988.04' MD
7,988.04	7,988.04	0.00	0.00	Dogleg = 10.00°/100'
8,888.04	8,561.00	-572.96	-0.06	End Build @ 8888.04' MD
8,888.04	8,561.00	-572.96	-0.06	Hold Angle = 90.00°
13,294.01	8,561.00	-4,978.92	-0.55	TD @ 13294.01' MD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	+E/-W (usft)	Start TVD (usft)
TD	No Target (Freehand)	180.01	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	13,294.01	Plan #1	MWD+SC

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
281.00	281.00	Rustler			
661.00	661.00	Top Salt			
2,641.00	2,641.00	Base Salt			
2,854.00	2,854.00	Delaware			
3,760.00	3,760.00	Cherry Canyon			
5,332.00	5,332.00	Brushy Canyon			
6,332.00	6,332.00	Basal Brushy Canyon			
6,584.00	6,584.00	Bone Spring			
7,534.00	7,534.00	1st Bone Spring Ss			
7,749.00	7,749.00	2nd Bone Spring Lm			
8,365.77	8,339.00	2nd Bone Spring Ss			
8,603.95	8,492.00	2nd Bone Spring "B" Ss			
8,728.75	8,539.00	2nd Bone Spring "C" Ss			
8,888.04	8,561.00	LP			

Plan Report for Lago Real Federal 3H - Plan #1

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Lago Real Federal 3H LTP	8,561.00	-4,778.92	-0.53	Point
Lago Real Federal 3H BHL	8,561.00	-4,978.92	-0.55	Rectangle
Lago Real Federal 3H FTP	8,561.00	-699.80	-0.04	Point

North Reference Sheet for Lago Real Federal - Lago Real Federal 3H - Wellbore #1

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

Vertical Depths are relative to GL 2936' + KB 25' @ 2961.00usft (Noram 25). Northing and Easting are relative to Lago Real Federal 3H

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 -104.33°, 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: 0.99992098

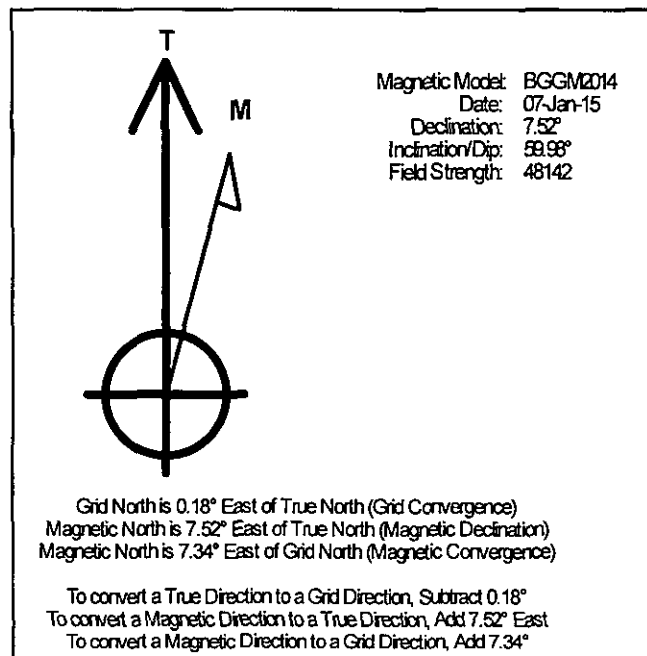
Grid Coordinates of Well: 432,181.50 usft N, 601,886.80 usft E

Geographical Coordinates of Well: 32° 11' 15.92" N, 104° 00' 14.36" W

Grid Convergence at Surface is: 0.18°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,294.01usft
the Bottom Hole Displacement is 4,978.92usft in the Direction of 180.01° (True).

Magnetic Convergence at surface is: -7.34° (7 January 2015, , BGGM2014)



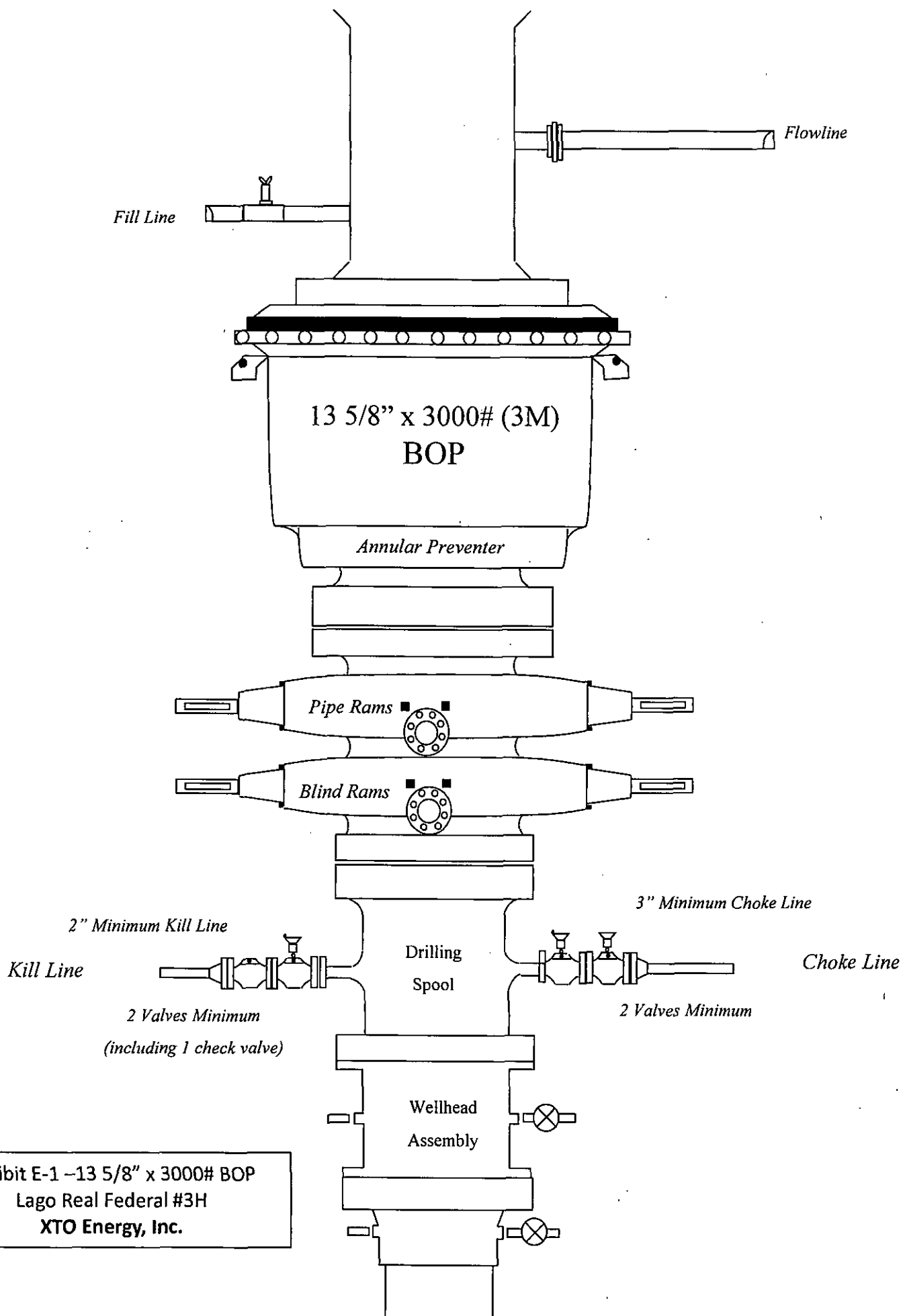


Exhibit E-1 -13 5/8" x 3000# BOP
Lago Real Federal #3H
XTO Energy, Inc.

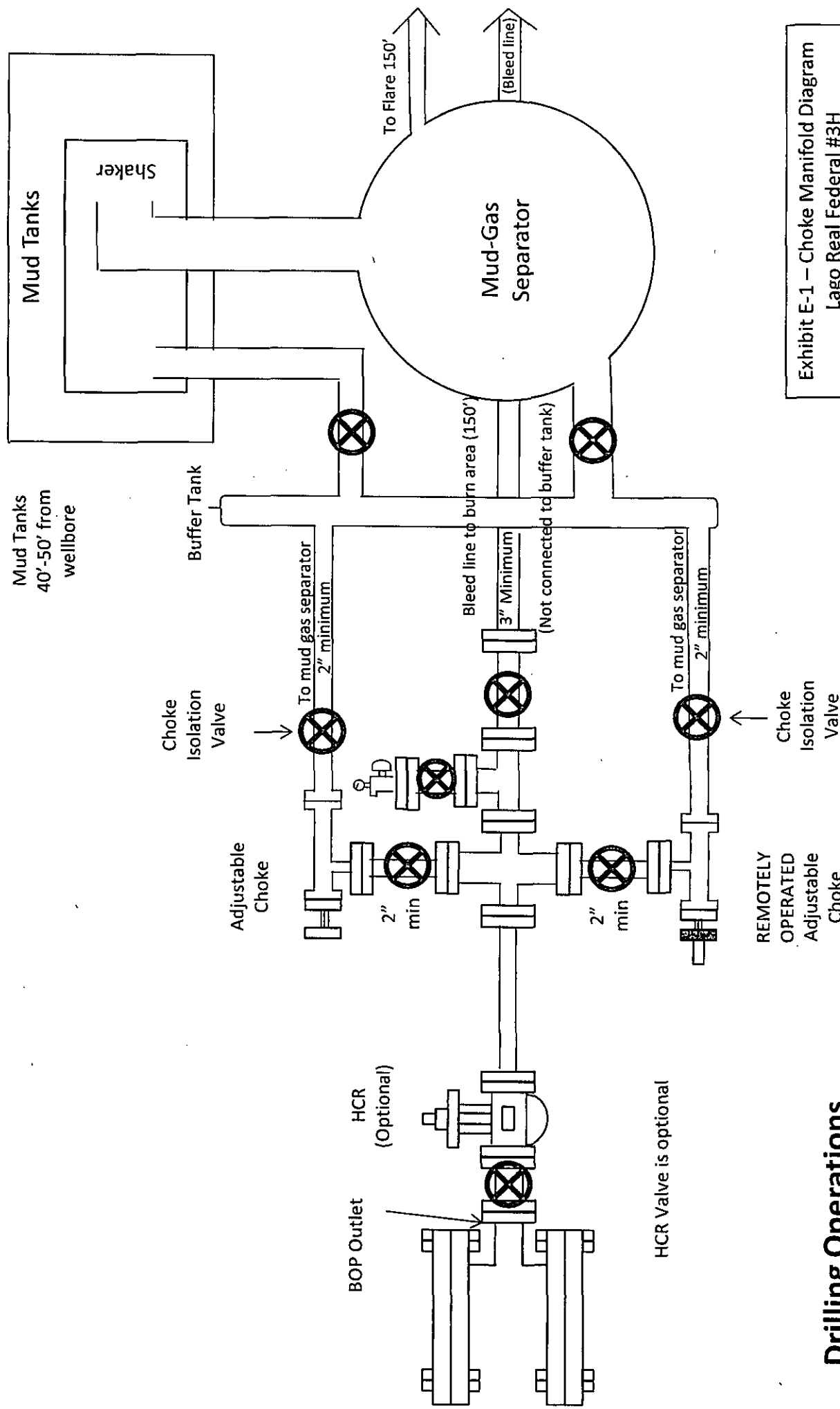
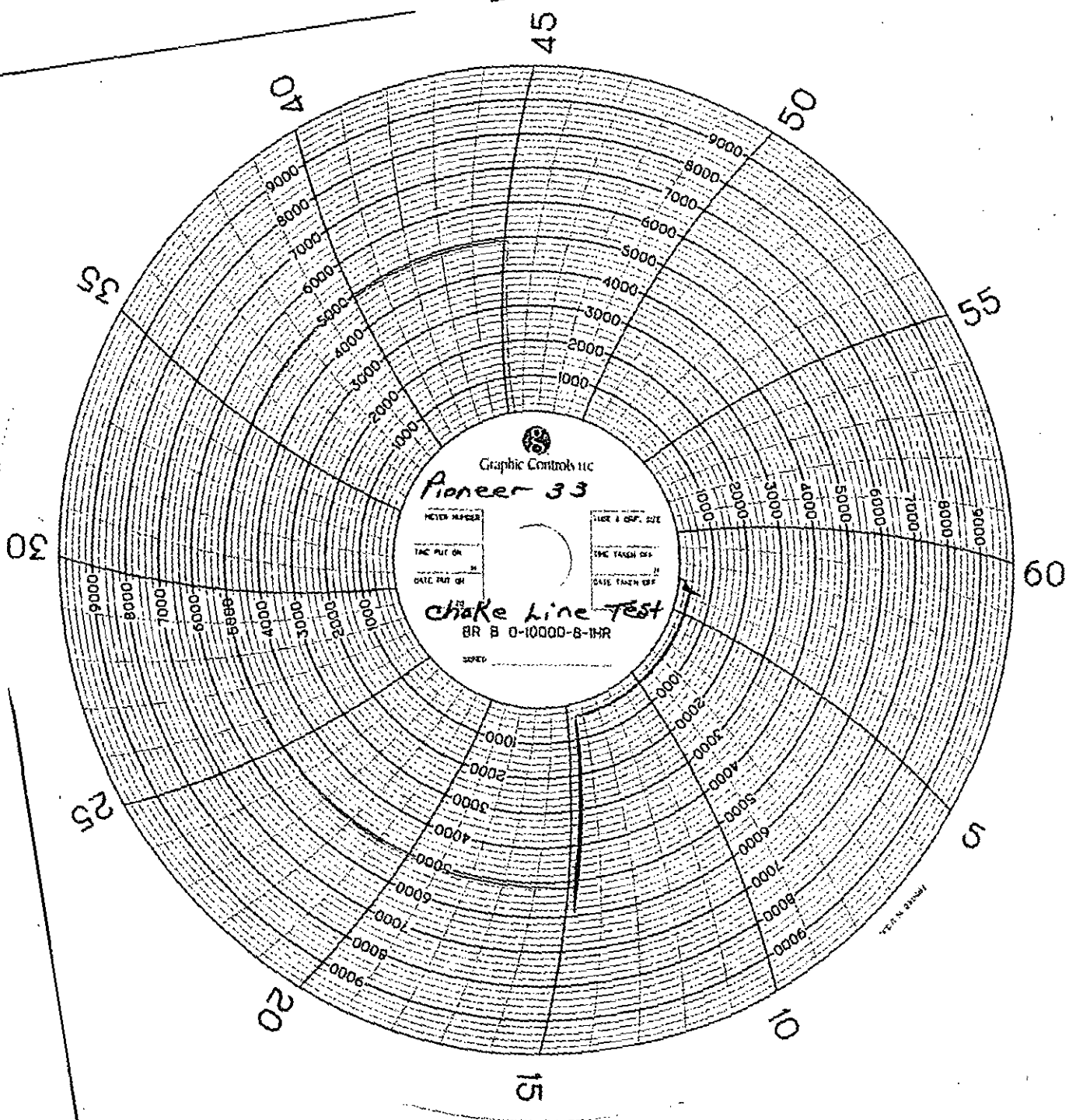
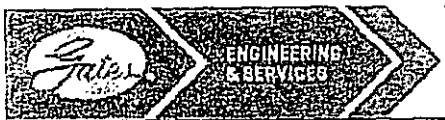


Exhibit E-1 – Choke Manifold Diagram
 Lago Real Federal #3H
 XTO Energy, Inc..

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.SK FLG	End Fitting 2 :	4 1/16 in.SK FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011S13D-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 :	

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

4 1/2" 304 SS 4' 11 1/2" 304 SS

HOSE ID: 2 1/2" LENGTH: 47' 11 1/2" RS: 151

WORKING PRESSURE: 5000

ASSEMBLY DATE: 6-14

TEST PRESSURE: 7500 RS: 151

GRADE: 20

TEST DATE: 6-14 SERIAL: 25613

TEST DATE: 6-14 SERIAL: 25613

TEST DATE: 6-14 SERIAL: 25613

TEST DATE: 6-14 SERIAL: 25613

TEST DATE: 6-14 SERIAL: 25613

NOON

NOON

NOON

NOON

NOON

NOON

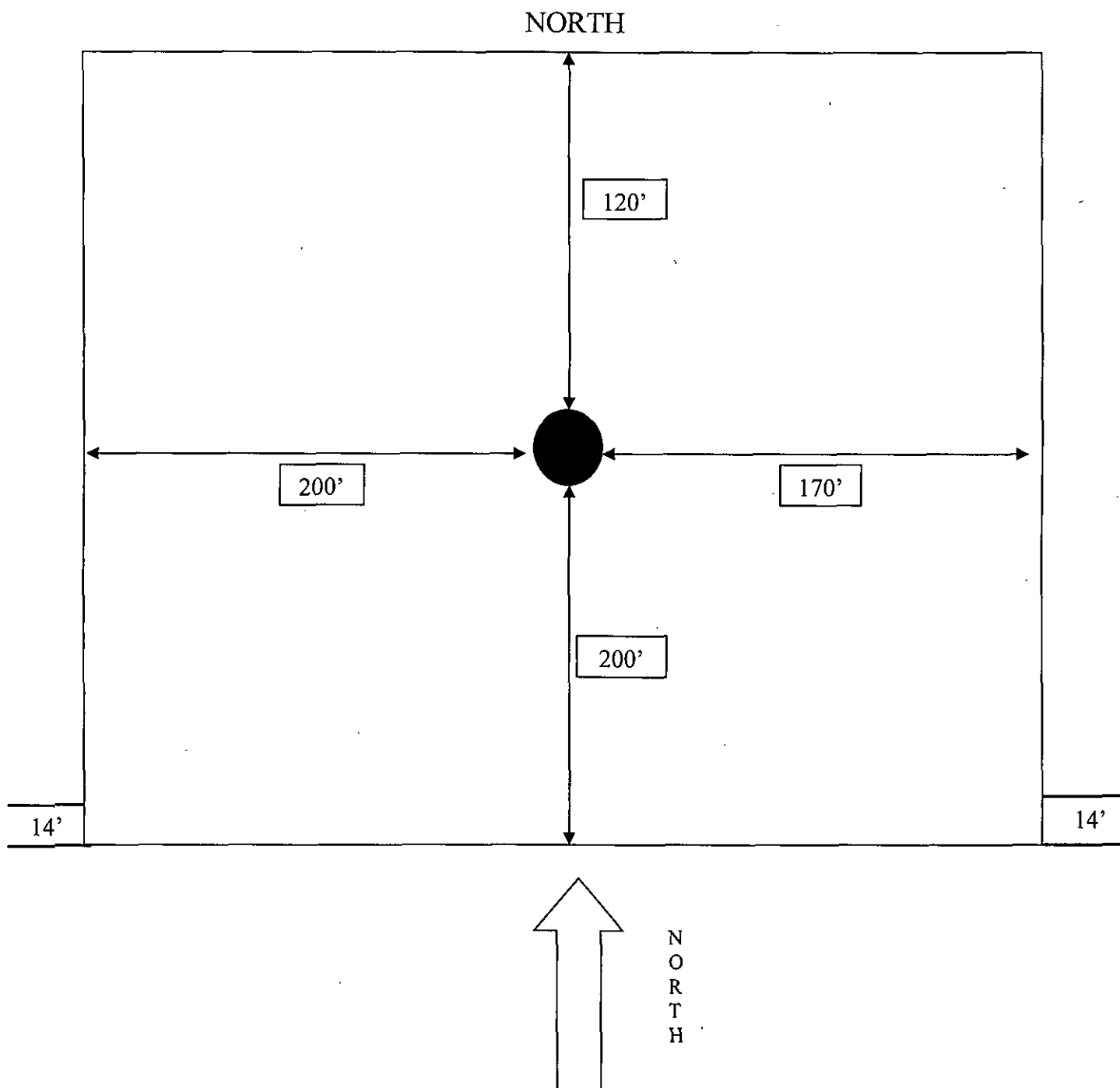
NOON

NOON

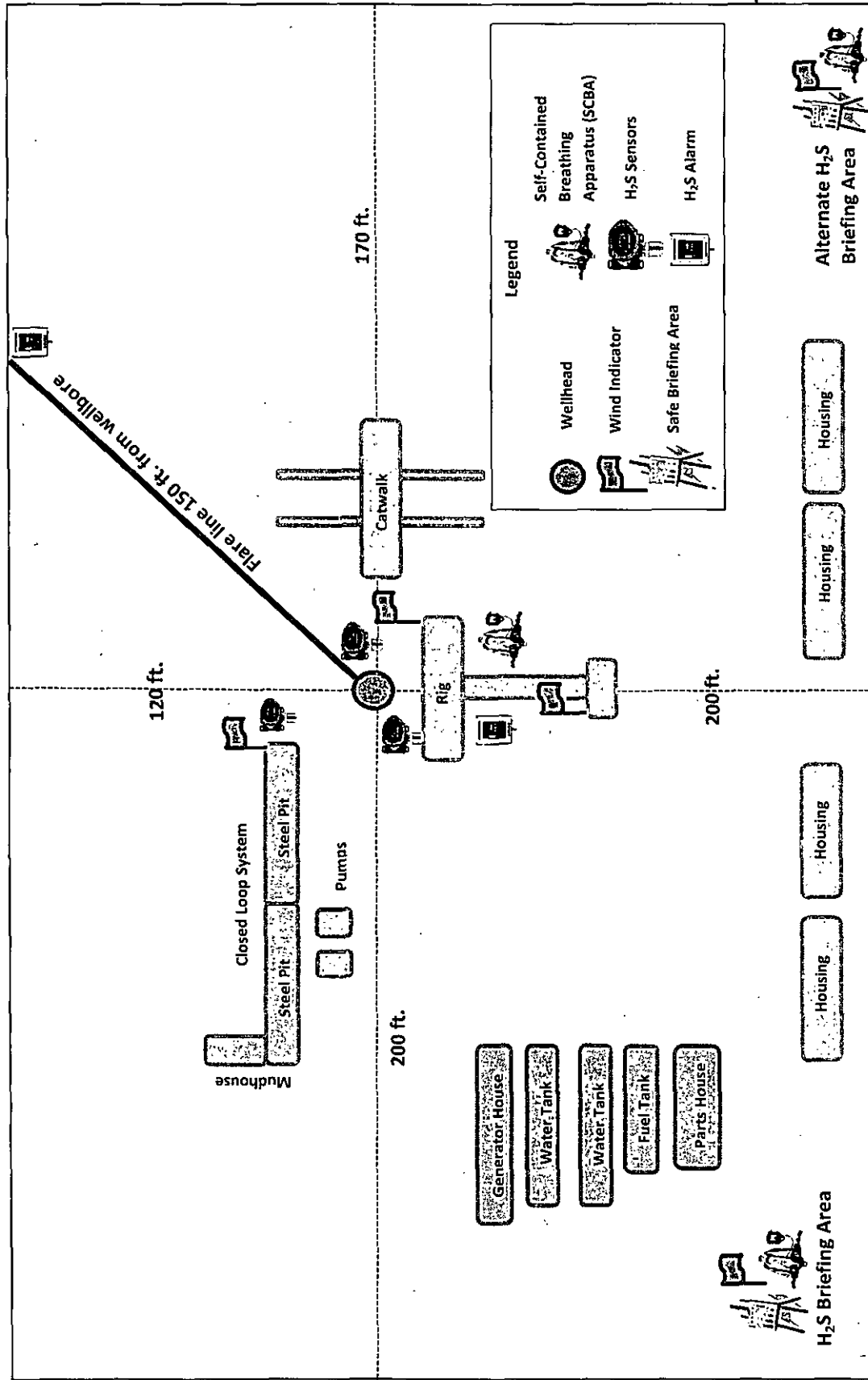
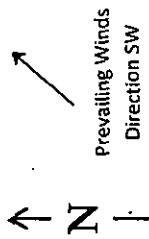
NOON

NOON

Rig Plat Only
LAGO REAL FEDERAL #3H
V-DOOR EAST



H2S Briefing Areas and Alarm Locations



Secondary
Egress

Access Road



May 3, 2015

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 Lago Real Federal #3H located in Section 29, T24S, R29E, in Lea County, New Mexico. As a precaution, I have attached an H₂S contingency plan along with a gas analysis of our well stream. If you need anything further, please contact me at the telephone number or email listed above.

Thank you,

A handwritten signature in cursive script that reads 'Stephanie Rabadue'.

Stephanie Rabadue
Regulatory Analyst



HYDROGEN SULFIDE (H₂S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - o Detection of H₂S, and
 - o Measures for protection against the gas,
 - o Equipment used for protection and emergency response.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

XTO Energy Inc's personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

EUNICE OFFICE – EDDY & LEA COUNTIES

EMSU @ Oil Center, NM, 8/10ths mile west of Hwy 8 on Hwy 175
Eunice, NM

575-394-2089

XTO ENERGY INC PERSONNEL:

Weston Turner, Drilling Engineer	817-201-6812
Bob Chance, Drilling Superintendent	432-296-3926
Jeff Raines, Construction Foreman	432-557-3159
Dudley McMinn, EH & S Manager	432-557-7976
Rick Wilson, Production Foreman	575-441-1147

SHERIFF DEPARTMENTS:

Eddy County	575-887-7551
Lea County	575-396-3611

NEW MEXICO STATE POLICE:

575-392-5588

FIRE DEPARTMENTS:

	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359

HOSPITALS:

	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359

AGENT NOTIFICATIONS:

Bureau of Land Management	575-393-3612
New Mexico Oil Conservation Division	575-393-6161
Mosaic Potash - Carlsbad	575-887-2871

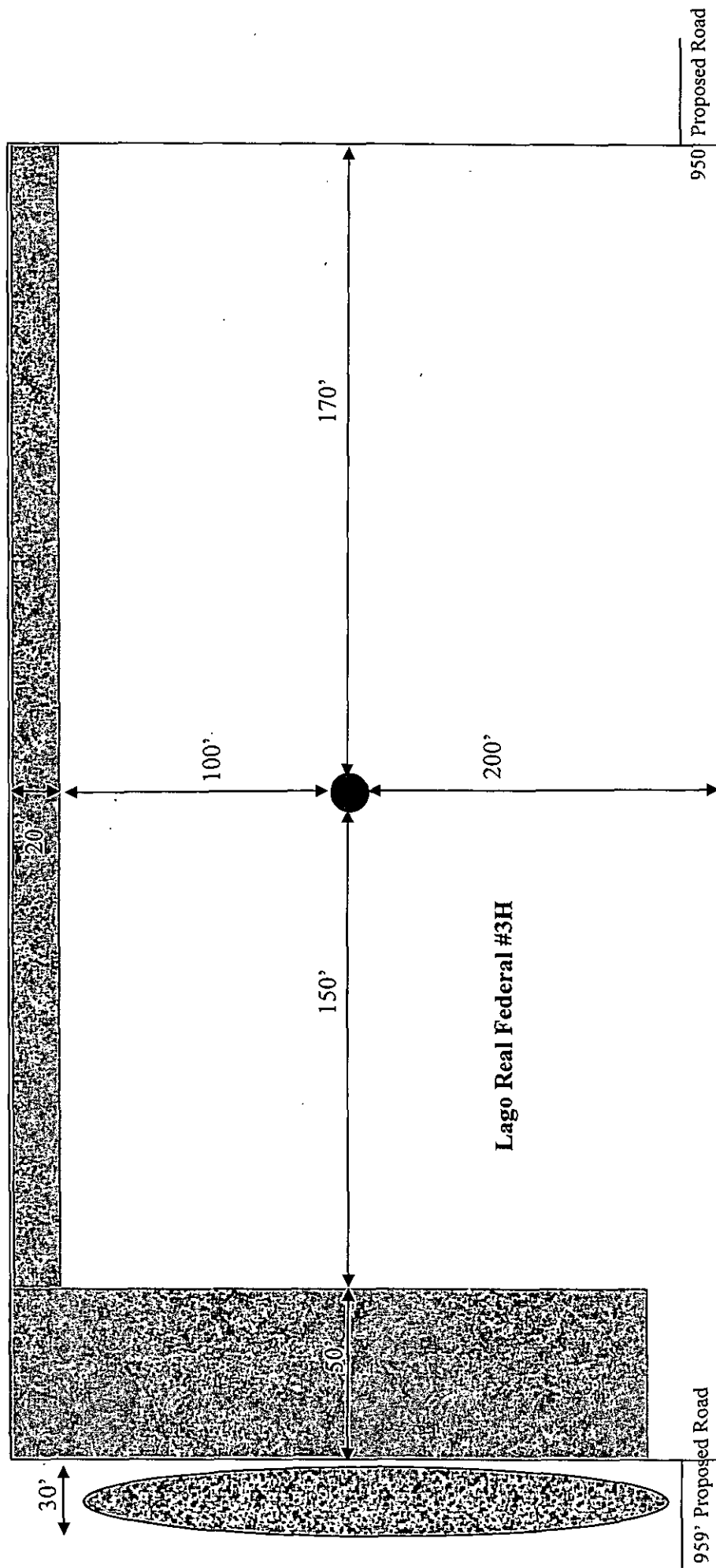
CONTRACTORS:

ABC Rental – Light Towers	575-394-3155
Bulldog Services – Trucking/Forklift	575-391-8543
Champion – Chemical	575-393-7726
Indian Fire & Safety	575-393-3093
Key – Dirt Contractor	575-393-3180
Key Tools – Light Towers	575-393-2415
Sweatt – Dirt Contractor	575-397-4541
RWI – Contract Gang	575-393-5305

Interim Reclamation Diagram

Lago Real Federal #3H

V-Door East



LEGEND

- | | | | |
|---|---------------------|---|--------------|
|  | Wellbore |  | Ditch & Berm |
|  | Interim Reclamation |  | Topsoil |

SURFACE USE PLAN

XTO Energy, Inc.

LAGO REAL FEDERAL #3H

SHL: 2470'FSL & 1980'FEL, J-29-T24S-R29E

1st Take Point: 1770'FSL & 1980'FEL, J-29-T24S-R29E

2nd Take Point: 2310'FNL & 1980'FEL, J-32-T24S-R29E

BHL: 2510'FNL & 1980'FEL, J-32-T24S-R29E

Eddy County, NM

This plan is submitted with form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

- a. DIRECTIONS: From the intersection of US Hwy 285 and Co. Rd. #720 (Duarte Rd), go east on Co. Rd. 720 approximately 1.3 miles. Turn right and follow co. rd. 748 (McDonald Rd.) approximately 2.9 miles. Turn right and follow meandering road approximately 1.9 miles to Malaga 30 Federal Com #1H pad, from Southeast corner of pad follow proposed road survey Northeast approximately 1014 feet to the Southwest corner of the #1H pad, then East crossing the pad. Follow road stakes East 2279' to the #3H pad.
- b. See attached plats and maps provided by John West Surveying Company.
- c. The access route from Co. Rd #720 (Duarte Rd) to the well location is depicted on maps provided by John West Surveying. The route highlighted in red will be the access and no ROW is required for this well.
- d. Existing roads on the access route will be improved and maintained to the standard set forth in Section 2 of this Surface Use Plan of Operations.

2. NEW OR RECONSTRUCTED ACCESS ROADS:

- a. New Roads. There is a total of 950' of proposed new road staked from the Lago Real Federal #2H well pad to the Lago Real Federal #3H well pad.
- b. Anticipated Traffic. After well completion, travel to each well site will include one lease operator truck and two oil trucks per day until the Central Tank Battery is completed. Upon completion of the Central Tank Battery, one lease operator truck will continue to travel to each well site to monitor the working order of the wells and to check well equipment for proper operation. Two oil trucks will continue to travel to the Central Tank Battery only for oil hauling. Additional traffic will include one maintenance truck periodically throughout the year for pad upkeep and weed removal. Well service trips will include only the traffic necessary to work on the wells or provide chemical treatments periodically and as needed throughout the year.
- c. Routing. All equipment and vehicles will be confined to the travel routes laid out in Exhibit "A" unless otherwise approved by the BLM and applied for by XTO Energy.
- d. Road Dimensions. The maximum width of the driving surface of new roads will be 14 feet. The roads will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1 foot deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.



Level Ground Section

- e. Surface Material. Surface material will be native caliche. The average grade of all roads will be approximately 3%.
 - f. Fence Cuts: No
 - g. Fences: No
 - h. Cattle Guards: No
 - i. Turnouts: No
 - j. Culverts: No
 - k. Cuts and Fills: Not significant
 - l. Topsoil. Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
 - m. Maintenance. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route.
 - n. Drainage. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.
3. LOCATION OF EXISTING WELLS:
See attached map showing all wells within a one-mile radius.
4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
- a. Ancillary Facilities. No off-pad ancillary facilities are planned during the exploration phase including, but not limited to: campsites, airstrips or staging areas.
 - b. Production Facilities. A separate 350'x300' pad was staked with the BLM for construction and use as a Central Tank Battery (Lago Real Central Tank Battery). This pad is located in the SE/4 of Section 29-T24S-R29E of Eddy County, New Mexico [See Exhibit "D"] between the Lago Real Federal #1H & Lago Real Federal #2H proposed pads.
 - c. Facility Equipment. In the event all four wells on the lease are drilled, the facility pad is expected to contain: 2-1000bbl oil tanks, 2-1000bbl water tanks, 2-LACT meters, 1-flare scrubber, 1-gas scrubber, 1-compressor pad, 1-dehy pad and 2-heater treaters as well as additional equipment necessary to safe operations. This equipment list and the development of these facilities are variable and subject to the number of wells drilled,

production results based on well tests and geologic and market uncertainties. In the event that the planned 4 wells are not drilled, excess facility pad will be reduced in size and reclaimed with prior submission of appropriate 3160-5 sundry notices to the Bureau of Land Management.

- d. Flowlines. All oil and gas flowlines, including disposal flowlines, will go from the well sites to the Central Tank Battery (CTB) location following proposed road corridors as depicted in Exhibit "A". Total distance of each flowline will be approximately 4221'.
- e. Aboveground Structures. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'desert tan' that reduce the visual impacts of the built environment.
- f. Containment Berms. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas.
- g. Electrical. All electrical poles and lines will be placed within existing and proposed lease roads corridors. The electrical provider is anticipated to be Excel Energy. All electrical lines will be primary 12,740 volt to properly run expected production equipment.

5. LOCATION AND TYPE OF WATER SUPPLY:

The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck using the existing and proposed roads shown in the attached survey plats. If a commercial water well is nearby, a temporary, surface poly line, will be laid along existing roads or other ROW easements and the water pumped to the well. No water well will be drilled on the location.

6. SOURCE OF CONSTRUCTION MATERIALS:

- 7. Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.
- 8. Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche.

9. METHODS OF HANDLING WASTE DISPOSAL:

- a. Cuttings. The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site.
- b. Drilling Fluids. These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility.

- c. Produced Fluids. Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.
- d. Sewage. Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Garbage and Other Waste Materials. All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.
- f. Debris. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned and removed from the well location. No potential adverse materials or substances will be left on location.
- g. Hazardous Materials.
 - i. All drilling wastes identified as hazardous substances by the Comprehensive Environmental Response Compensation Liability Act (CERCLA) removed from the location and not reused at another drilling location will be disposed of at a hazardous waste facility approved by the U.S. Environmental Protection Agency (EPA).
 - ii. XTO Energy, Incorporated and its contractors will comply with all applicable Federal, State and local laws and regulations, existing or hereafter enacted promulgated, with regard to any hazardous material, as defined in this paragraph, that will be used, produced, transported or stored on the oil and gas lease. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the CERCLA of 1980, as amended, 42 U.S.C 9601 et seq., and its regulation. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the RCRA of 1976, as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous material also includes any nuclear or nuclear by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101 (14) U.S.C. 9601 (14) nor does the term include natural gas.
 - iii. No hazardous substances or wastes will be stored on the location after completion of the well.
 - iv. Chemicals brought to location will be on the Toxic Substance Control Act (TSCA) approved inventory list.
 - v. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessees (NTL) 3A will be reported to the BLM Carlsbad Field Office. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days.

10. ANCILLARY FACILITIES:

No campsite, airstrip or other facilities will be built as a result of the operation of this well. No staging areas are needed.

11. WELL SITE LAYOUT:

- a. The included 600'x600' map by John West Surveying shows the dimensions of the proposed well pad.
- b. The proposed well pad size will be 400'x320' including top soil storage (See Interim Reclamation Diagram & Maps from John West Surveying). There will be no reserve pit due to the well being drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.
- c. Topsoil will be stockpiled on the West side of the well site as requested by John Bell at onsite staking.
- d. John West Surveying Company's plat, Form C-102 and Exhibit D, show the direction of the pad at a V-Door East.
- e. A 600' x 600' area has been staked and flagged.
- f. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad and topsoil storage areas).

12. PLANS FOR SURFACE RECLAMATION:

Non-Commercial Well (Not Productive), Interim & Final Reclamation:

Definition: Reclamation includes disturbed areas where the original landform and a natural vegetative community will be restored and it is anticipated the site will not be disturbed for future development.

Reclamation Standards:

The portions of the pad not essential to production facilities or space required for workover operations will be reclaimed and seeded as per BLM requirements for interim reclamation.

All equipment and trash will be removed, and the surfacing material will be removed from the well pad and road and transported to the original caliche pit or used to maintain other roads. The location will then be ripped and seeded.

The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded

A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.

Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gully, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.

The site will be free of State-or County-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds will be controlled.

Seeding:

- Seedbed Preparation: Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.
- If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4-6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
- Seed Application. Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used.
- If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

13. SURFACE OWNERSHIP:

- a. The surface is owned by the Bureau of Land Management (BLM). The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.

14. OTHER INFORMATION:

- a. According to the Natural Resources Conservation Service's online database, the project area soil is Pajarito-Dune land complex, loamy sand, (PD). This soil supports grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout. The current vegetative community consists of grasses, mesquite, catclaw, creosote, forbs, acacia, horse creeper and prickly pear. There are some gypsum formations exposed on the surface.
- b. The Pecos River lies approximately 1.8 miles to the east.
- c. There are no dwellings within 2 miles of this location.
- d. A Class III Cultural Resources Examination has been completed by Boone Archaeological Services and the results will be forwarded to the BLM office.

15. BOND COVERAGE:

- a. Bond Coverage is Nationwide; Bond Number UTB000138.

OPERATORS REPRESENTATIVE:

The XTO Energy, Inc. representatives for ensuring compliance of the surface use plan are listed below:

Surface:

Jeff Raines
XTO Energy, Inc
500 W. Illinois St Ste 100
Midland, TX 79701
432-620-4349 (Office)

Jimie Scott
XTO Energy, Inc
500 W. Illinois St Ste 100
Midland, TX 79701
432-488-9955 (Cell)

Stephanie Rabadue
XTO Energy, Inc
500 W. Illinois St Ste 100
Midland, TX 79701
432-620-6714 (Office)

Drilling & Production:

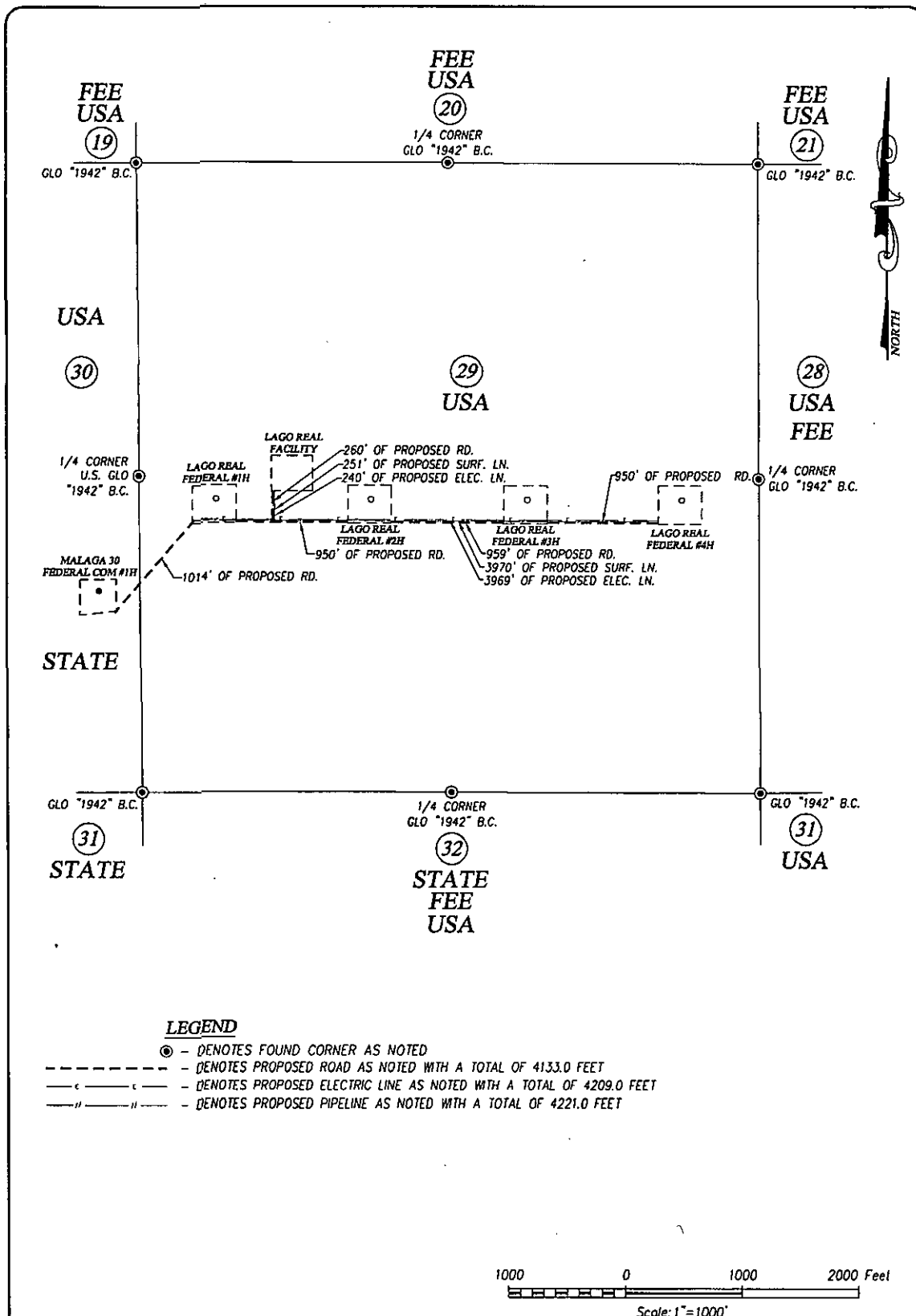
Weston Turner
XTO Energy, Inc.
500 W. Illinois St Ste 100
Midland, TX 79701
432-638-4380 (Office)

ONSITE PERFORMED: 11-12-2014

Location was good, v-door East, topsoil West, downsize North & West. Road into the Southwest corner from Lago Real Federal #2H pad.

PRESET AT ON-SITE:

John Bell, Bureau of Land Management
Rebecca Hill, Boone Arch Surveying
Jimie Scott, Contract Representative for XTO Energy, Inc
John West Surveying Company



LEGEND

- - DENOTES FOUND CORNER AS NOTED
- - DENOTES PROPOSED ROAD AS NOTED WITH A TOTAL OF 4133.0 FEET
- - - - - DENOTES PROPOSED ELECTRIC LINE AS NOTED WITH A TOTAL OF 4209.0 FEET
- == - DENOTES PROPOSED PIPELINE AS NOTED WITH A TOTAL OF 4221.0 FEET

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

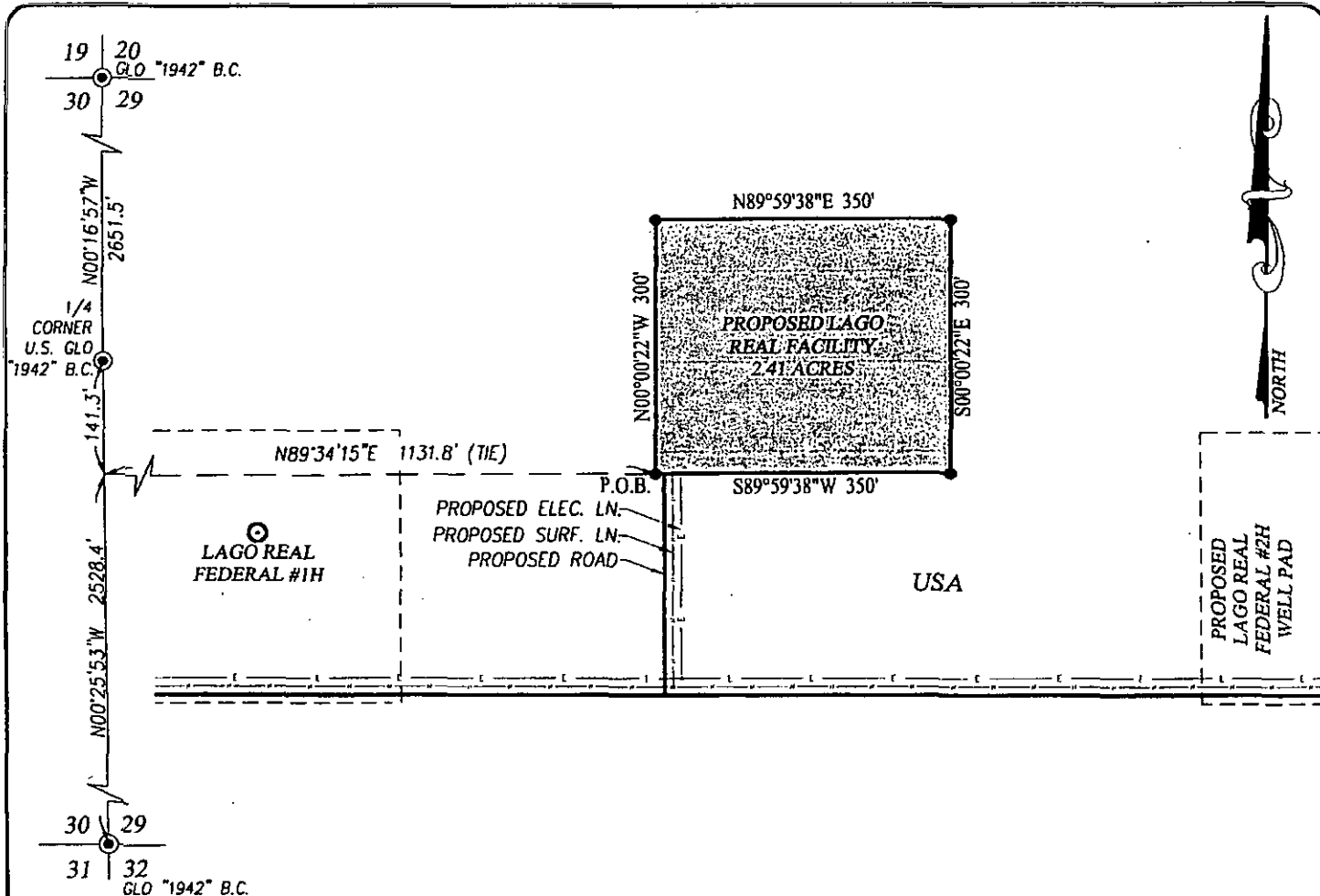


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XTO ENERGY

TOPOGRAPHIC MAP FOR THE LAGO REAL FEDERAL LEASE COVERING SECTION 29, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 11/24/14	CAD Date: 1/5/14	Drawn By: ACK
W.O. No.: 14111319	Rev. .	Rel. W.O.:
		Sheet 1 of 1



LEGEND

- DENOTES FOUND CORNER AS NOTED
- DENOTES SET SPIKE NAIL

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

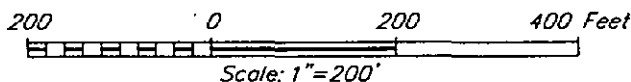
RONALD J. EIDSON

DATE: 11/24/14

DESCRIPTION:

A PROPOSED PAD SITUATED IN THE WEST HALF OF SECTION 29, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER WHICH LIES S00°25'53"E 141.3 FEET AND N89°34'15"E 1131.8 FEET FROM THE WEST 1/4 CORNER; THEN N00°00'22"W 300.0 FEET; THEN N89°59'38"E 350.0 FEET; THEN S00°00'22"E 300.0 FEET; THEN S89°59'38"W 350.0 FEET TO THE POINT OF BEGINNING AND CONTAINING 2.41 ACRES MORE OR LESS.



XTO ENERGY

SURVEY FOR THE LAGO REAL FACILITY SITUATED IN
THE W/2 OF SECTION 29, TOWNSHIP 24 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO

Survey Date: 11/24/14	CAD Date: 12/22/14	Drawn By: ACK
W.O. No.: 14111319	Rev.:	Rel. W.O.:
		Sheet 1 of 1



JOHN WEST SURVEYING COMPANY

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(575) 393-3117 www.jwsc.biz

TBPLS# 10021000

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy
LEASE NO.:	NM53229
WELL NAME & NO.:	3H-Lago Real Federal
SURFACE HOLE FOOTAGE:	2470'/S & 1980'/E
BOTTOM HOLE FOOTAGE:	2510'/N & 1980'/E
LOCATION:	Section 29, T. 24 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Cave/Karst
 - Communitization Agreement
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Cement Requirements
 - H2S Requirements
 - Logging Requirements
 - Pressure Control Requirements
 - Waste Material and Fluids
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave and Karst:

****** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:

Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Communitization Agreement:

1. The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
2. If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
3. In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.
4. Com shall be included in the Well Name to designate the associated Communitization Agreement. Operator shall submit a Sundry to add "Com" to the well name.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS**Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

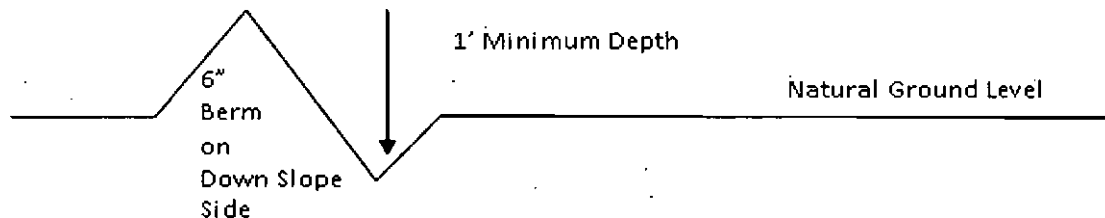
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and inslaping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

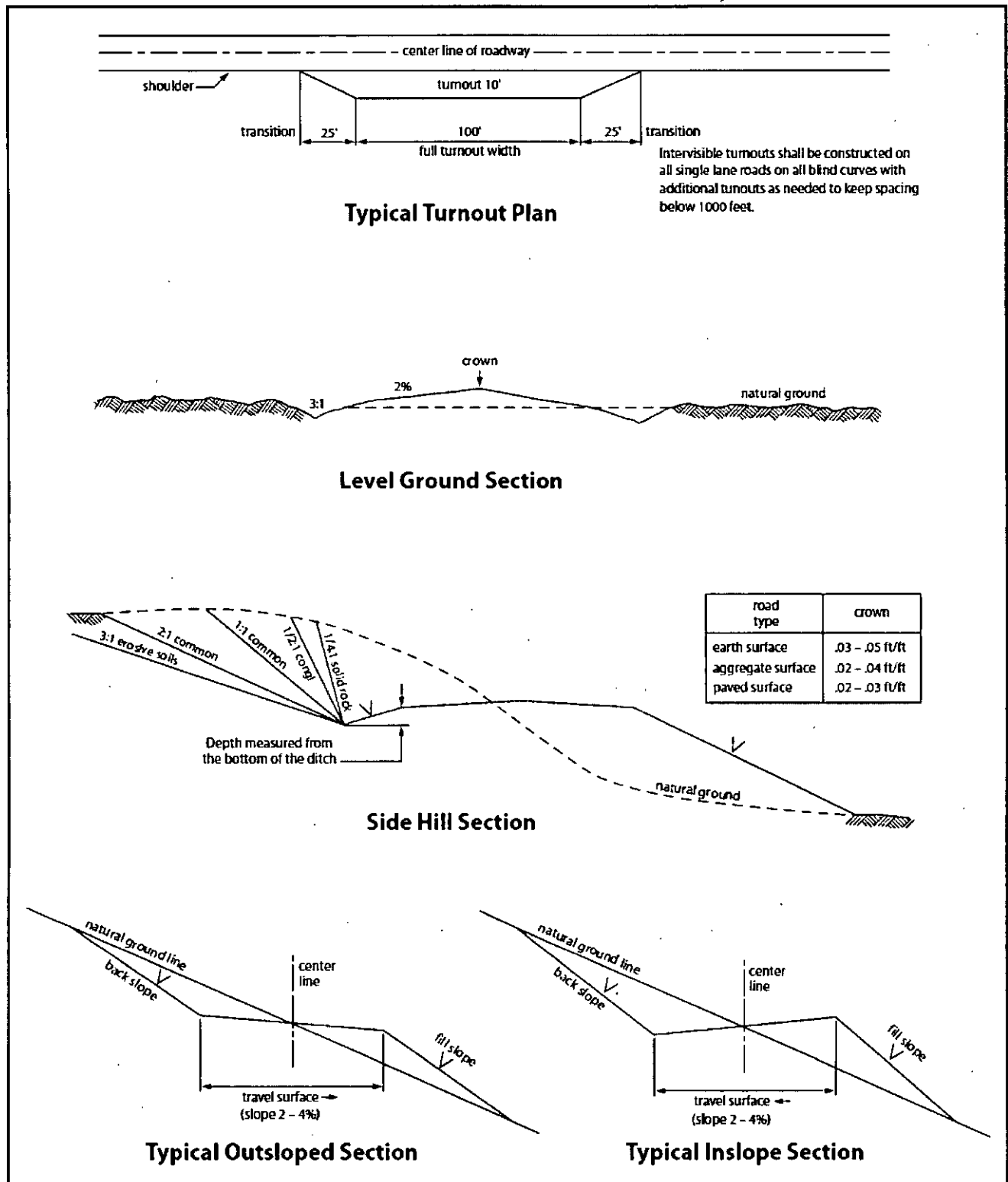


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. 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. **DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.**

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

Risks:

Medium Cave/ Karst Occurrence

Possibility of water flows in the Castile and in the Salado.

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

- 6
1. The 13 3/8 inch surface casing shall be set at approximately 360 feet **(in a competent bedrock; 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.
 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 B.1.a, c-d above. **If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

Centralizers required through the curve and a minimum of one every other joint.

3. The minimum required fill of cement behind the 7 inch production casing is:
 - ☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification.
4. 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.

C. 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 **3000 (3M)** psi.
4. 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**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- 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.

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.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing
 - (2) Earth-disturbing and earth-moving work
 - (3) Blasting
 - (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event; and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of 20 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of dune areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will

be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to

the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land

shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (<i>Setaria macrostachya</i>)	1.0
Green Sprangletop (<i>Leptochloa dubia</i>)	2.0
Sideoats Grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed