OCD Artesia

Form 3160-3
(August 2007)

HIGH CAVE/KARST

SECRETARY'S POTASH

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 25 2016

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. SHL: NM556859/BHL: NM554221
	6. If Indian, Allotee or Tribe Name
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	7. If Unit or CA Agreement, Name and No. 891014168X
	8. Lease Name and Well No. Nash Unit 55H
2. Name of Operator XTO Energy, Inc	9. API Well No. 30-015-43864
3a. Address 500 W. Illinois St Ste 100 Midland, Texas 79701	3b. Phone No. *(include area code)* 432-620-6714
	10. Field and Pool, or Exploratory Nash Draw; Delaware-BS AV SD
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface 2011'FNL & 559'FWL At proposed prod. zone 1720'FNL & 128'FWL, Sec 14-23S-29E	11. Sec., T. R. M. or Blk. and Survey or Area B-13-23S-29E
14. Distance in miles and direction from nearest town or post office* 8 Miles East of Loving, NM	12. County or Parish Eddy / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 559'	16. No. of acres in lease SHL: 560 BHL: 960 / 17. Spacing Unit dedicated to this well 280
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 189'	19. Proposed Depth TVD: 6800' MD: 14,500' / 20. BLM/BIA Bond No. on file UTB000138
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2984'	22. Approximate date work will start* 12/4/2015 / 23. Estimated duration 90 Days

24. Attachments

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

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

25. Signature Stephanie Rabadue	Name *(Printed/Typed)* Stephanie Rabadue	Date 09/29/2015
Title Regulatory Analyst		
Approved by *(Signature)* /s/George MacDonell	Name *(Printed/Typed)*	Date JUL 18 2016
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

BD 7-25-16

Carlsbad Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

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

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 25 2016
RECEIVED

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-43864	47545	Nash Draw; Delaware - BS AV SD

Property Code	Property Name	Well Number
303152	NASH UNIT	55H

OGRID No.	Operator Name	Elevation
005380	XTO ENERGY	2984'

Surface Location

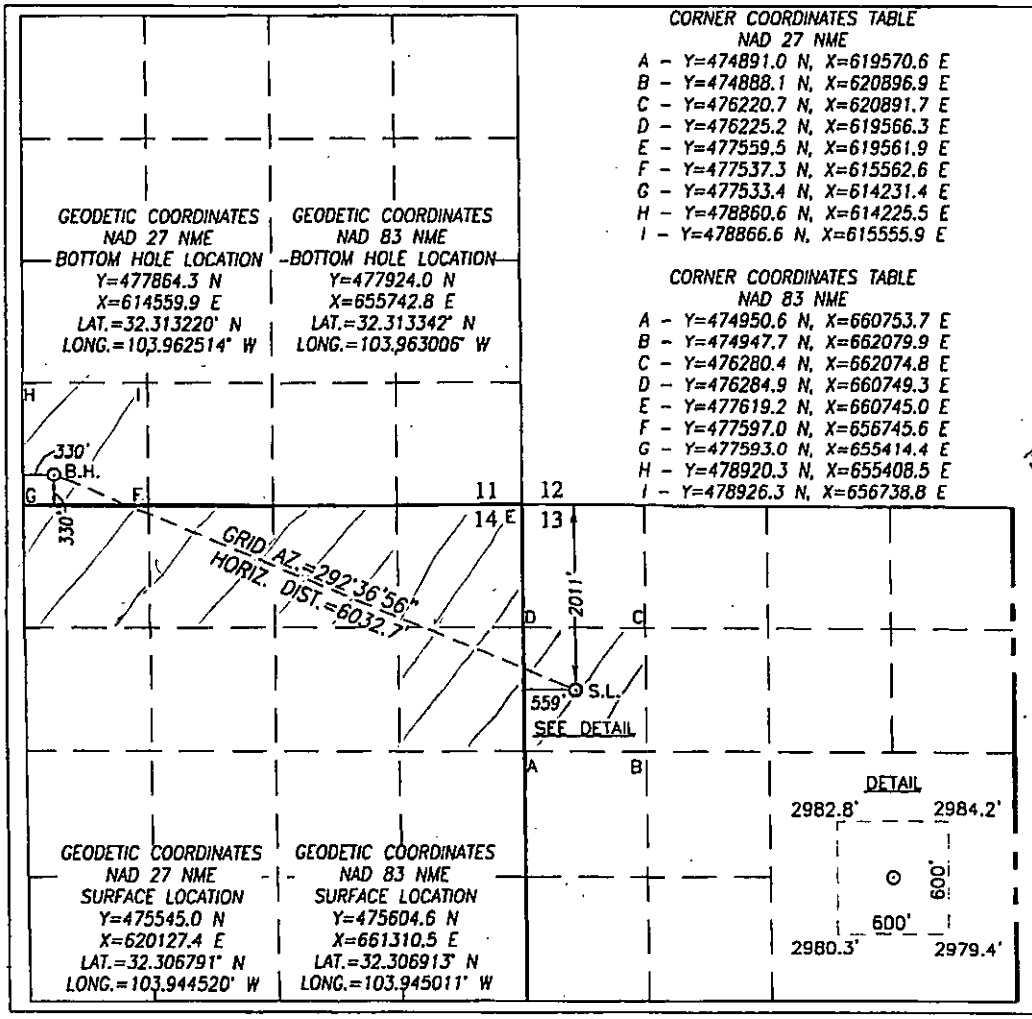
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	13	23-S	29-E		2011	NORTH	559	WEST	EDDY

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
M	11	23-S	29-E		330	SOUTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
280			

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



CORNER COORDINATES TABLE
NAD 27 NME
A - Y=474891.0 N, X=619570.6 E
B - Y=474888.1 N, X=620896.9 E
C - Y=476220.7 N, X=620891.7 E
D - Y=476225.2 N, X=619566.3 E
E - Y=477559.5 N, X=619561.9 E
F - Y=477537.3 N, X=615562.6 E
G - Y=477533.4 N, X=614231.4 E
H - Y=478860.6 N, X=614225.5 E
I - Y=478866.6 N, X=615555.9 E

CORNER COORDINATES TABLE
NAD 83 NME
A - Y=474950.6 N, X=660753.7 E
B - Y=474947.7 N, X=662079.9 E
C - Y=476280.4 N, X=662074.8 E
D - Y=476284.9 N, X=660749.3 E
E - Y=477619.2 N, X=660745.0 E
F - Y=477597.0 N, X=656745.6 E
G - Y=477593.0 N, X=655414.4 E
H - Y=478920.3 N, X=655408.5 E
I - Y=478926.3 N, X=656738.8 E

OPERATOR CERTIFICATION

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.

Stephanie Rabadue 6-23-14
Signature Date

Stephanie Rabadue
Printed Name

stephanie_rabadue@xtoenergy.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MAY 13, 2014
Date of Survey

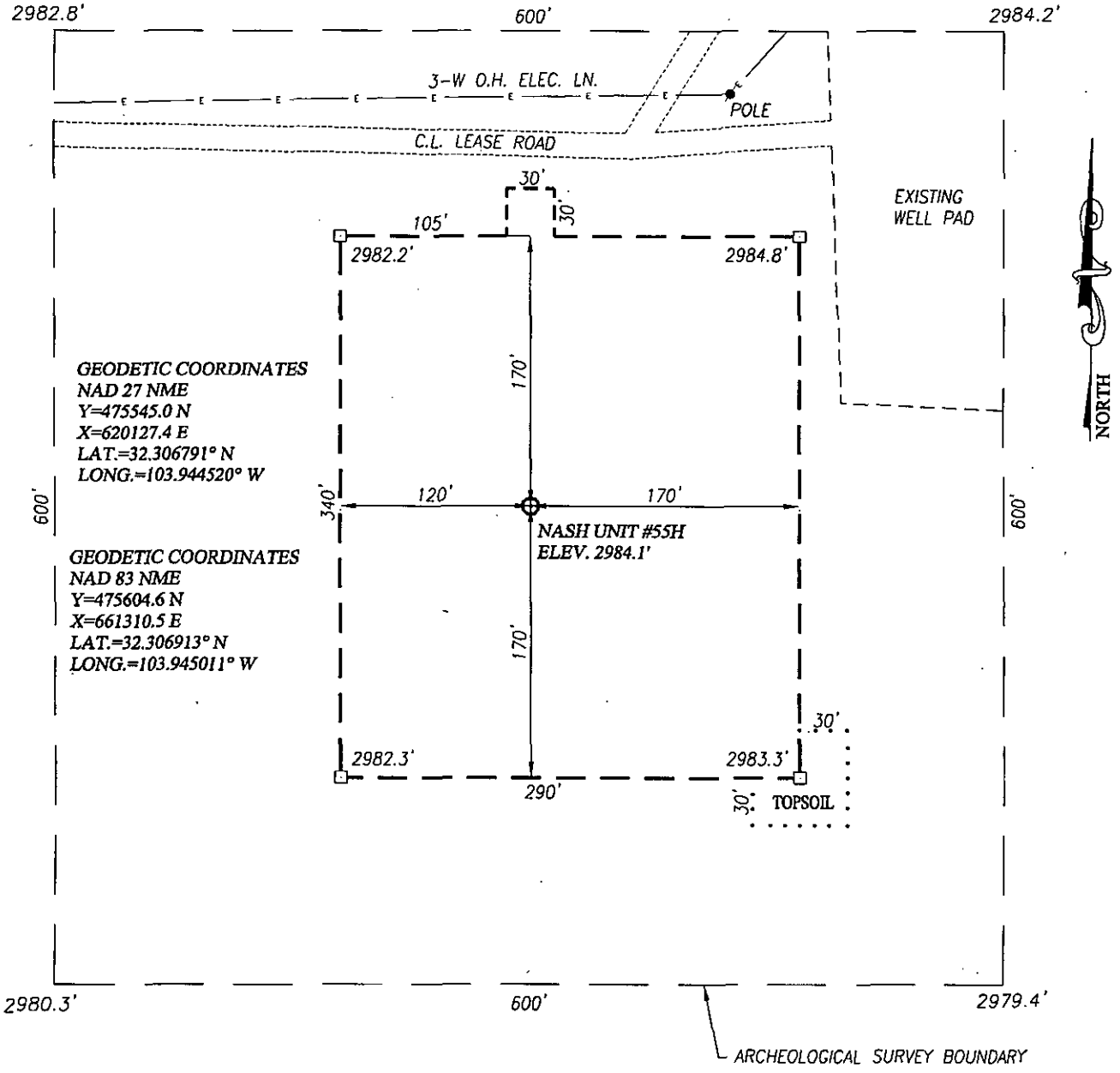
Signature & Seal of Professional Surveyor:

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

Ronald J. Eidson 6/18/2014

Certificate Number: Gary G. Eidson 12641
Ronald J. Eidson 3239

ACK REV. 6/17/14 JWSC W.O.: 14.11.0143



100 0 100 200 Feet

Scale: 1"=100'

DIRECTIONS TO NASH UNIT #55H:

FROM THE INTERSECTION OF ST. HIGHWAY 128 AND CO. RD. 793 (RAWHIDE ROAD), GO SOUTH ON RAWHIDE ROAD APPROX. 2.8 MILES. TURN RIGHT AND GO WEST APPROX. 1.0 MILE. THE LOCATION STAKE IS 228 FEET SOUTH.

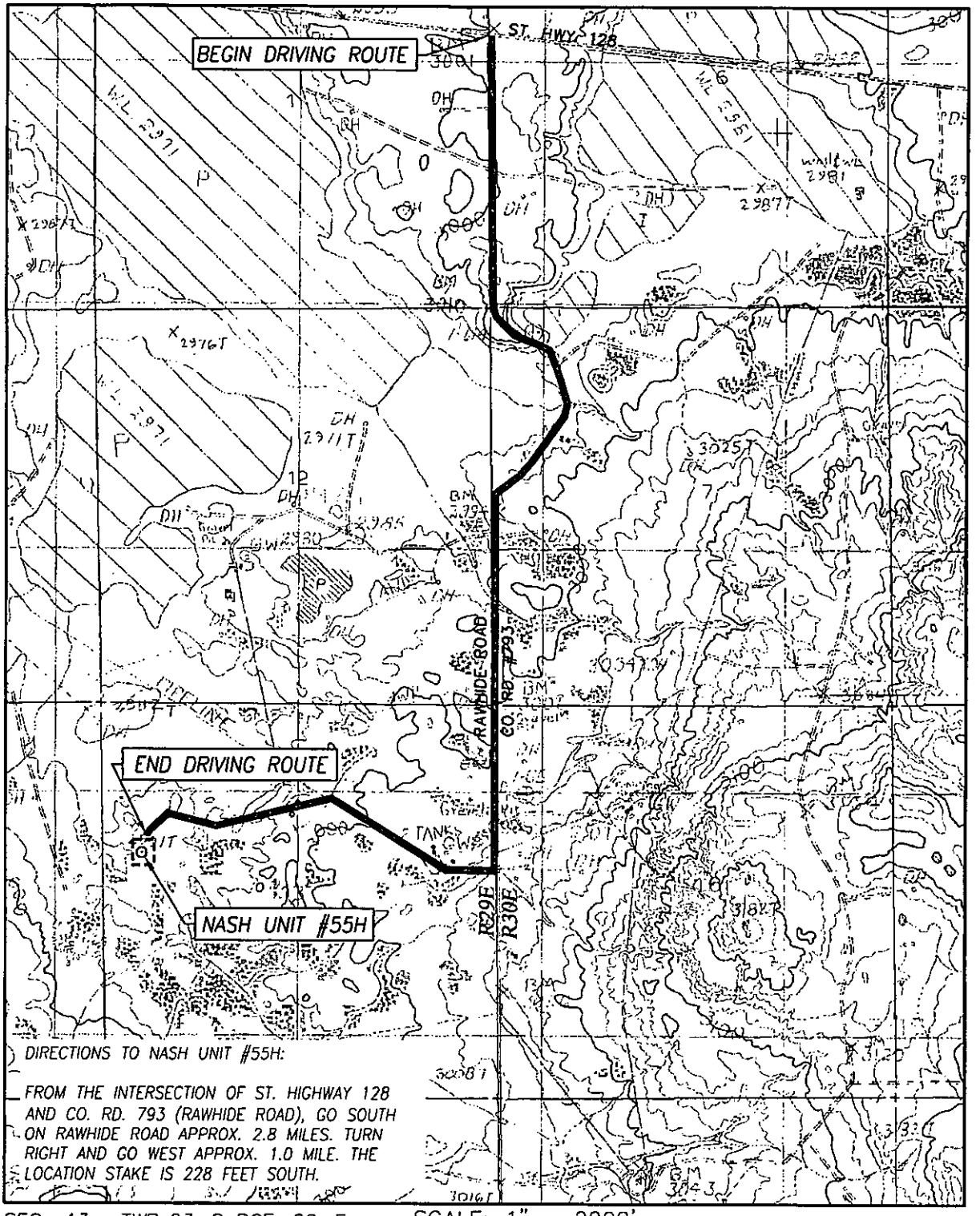
XTO ENERGY

NASH UNIT #55H WELL
LOCATED 2011 FEET FROM THE NORTH LINE
AND 559 FEET FROM THE WEST LINE OF SECTION 13,
TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

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

Survey Date: 5/13/14	CAD Date: 6/5/14	Drawn By: ACK
W.O. No.: 14110143	Rev: 6/17/14	Rel. W.O.:	Sheet 1 of 1

LOCATION VERIFICATION MAP



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FROM THE INTERSECTION OF ST. HIGHWAY 128 AND CO. RD. 793 (RAWHIDE ROAD), GO SOUTH ON RAWHIDE ROAD APPROX. 2.8 MILES. TURN RIGHT AND GO WEST APPROX. 1.0 MILE. THE LOCATION STAKE IS 228 FEET SOUTH.

SEC. 13 TWP. 23-S RGE. 29-E
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 2011' FNL & 559' FWL
ELEVATION 2984'
OPERATOR XTO ENERGY
LEASE NASH UNIT
U.S.G.S. TOPOGRAPHIC MAP
REMUDA BASIN, N.M. SURVEY N.M.P.M.

SCALE: 1" = 2000'

CONTOUR INTERVAL:
REMUDA BASIN, N.M. – 10'

PROVIDING SURVEYING SERVICES
SINCE 1946
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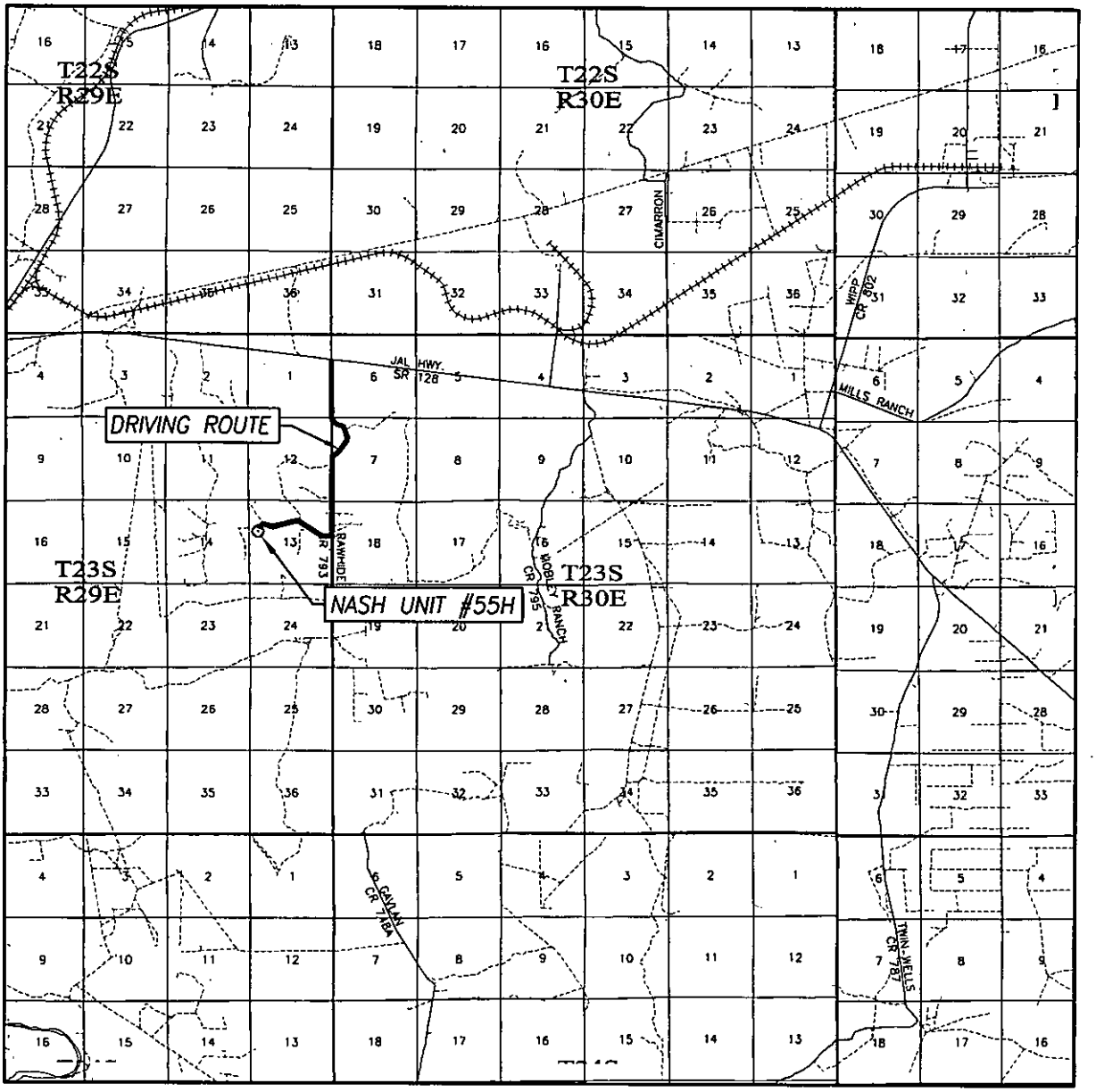
VICINITY MAP



SCALE: 1" = 2 MILES
DRIVING ROUTE: SEE LOCATION VERIFICATION MAP

SEC. 13 TWP. 23-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2011' FNL & 559' FWL

ELEVATION 2984'

OPERATOR XTO ENERGY

LEASE NASH UNIT

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

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

XTO Energy Inc.
Nash Unit #55
Projected TD: 12455' MD / 6687' TVD
SHL: 2011' FNL & 559' FWL, SECTION 13, T23S, R29E
BHL: 330' FSL & 330' FWL, SECTION 11, T23S, R29E
Eddy County, NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

A. Salado

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

Formation	Well Depth (TVD)	Water / Oil / Gas
Rustler	24'	Water
Top of Salt	285'	Water
Base of Salt	2902'	Water
Delaware	3116'	Water/Oil/Gas
Cherry Canyon	3972'	Water/Oil/Gas
Brushy Canyon Top	5534'	Water/Oil/Gas
Basal Brushy Canyon	6574'	Water/Oil/Gas
Brushy Canyon E5 Zone	6761'	Water/Oil/Gas
Target/Land Curve	6792'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 50'.

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 @ 260' above the salt and circulating cement back to surface. Potash/fresh water sands will be protected by setting 9-5/8" casing at 2950' and circulating cement to surface. The Brushy Canyon intervals will be isolated by setting 7" casing near the end of the directional curve at 7100' +/- and cementing back to surface. A 6-1/8" lateral hole will be drilled to MD/TD and a 4-1/2" cemented liner with sliding frac sleeves will be run for completion.

3. CASING PROGRAM: – See COA

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 260'	13-3/8"	48#	STC	H-40	New	6.92	6.22	25.80
12-1/4"	0' – ~~2950'~~ 3100	9-5/8"	36#	LTC	J-55	New	2.76	1.29	4.27
8-3/4"	0' – 7100'	7"	26#	LTC	HCP-110	New	3.52	2.31	3.76
6-1/8"	6750' – 12455'	4-1/2"	11.6#	BTC	P-110	New	1.13	2.42	4.22

See COA

WELLHEAD:

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

4. CEMENT PROGRAM:

A. **Surface Casing:** 13-3/8", 48#, NEW H-40, STC casing to be set at ± 260'.

265 sx HalCem-C + 2% CaCl (mixed at 14.80 ppg, 1.35 cu ft/sx, 6.39 gal/sx wtr)
Compr Strengths: 12 hr – 950 psi 24 hr – 1425 psi
*** 100% open hole excess. Cement to surface.

In the event that loss circulation is encountered while drilling the surface hole (i.e. Nash #39H, #40H, #41H), an alternate cementing procedure will be to pump 150 sx Thixotropic + 10 pps CalSeal + 10 pps Gilsonite + 2% CaCl (14 ppg, 1.7 cu ft/sx) Compr Strengths 12 hr – 468 psi 24 hr – 739 psi followed by 200 sx HalCem C + 2% CaCl (properties above) Run temp survey to locate top of cement, top out with 1" to surface with the required amount of "Thixotropic" cement. This procedure to be coordinated and communicated with the designated BLM representative.

B. **1st Interm. Casing:** 9-5/8", 36#, NEW J-55, LTC casing to be set at ± 2950'.

Lead: 20 bbls FW, then 765 sx EconoCem + 5% salt + 5% Kol-Seal (mixed at 12.8 ppg, 1.92 ft^3/sk, 9.96 gal/sx wtr)
Compr Strengths: 12 hr – 397 psi 24 hr – 802 psi

Tail: 250 sx HalCem-C (mixed at 14.8 ppg, 1.33 ft^3/sk, 6.34 gal/sx wtr)
Compr Strengths: 12 hr – 984 psi 24 hr – 1650 psi
*** 100% open hole excess. Cement to surface.

C. **2nd Interm. Casing:** 7", 26#, NEW HCP-110, LTC casing to be set at ± 7100'

Stage 1

Lead: 135 sx Tuned Light + 0.25 pps Poly-E-Flake + 0.5 pps CFR-3 (mixed at 10.2ppg, 3.09 cuft/sx, 15.19 gal/sx wtr)
Compr Strengths: 12 hr – 149 psi 24 hr – 586 psi.

Tail (Csg Shoe Cmt): 160 sx HalCem-H + 0.5% LAP-1 + 0.25% CFR-3 + 5 pps Kol-Seal + 0.25 pps D-air 5000 (15.8 ppg, 1.18 cuft/sx, 4.8 gal/sx wtr)
Compr Strengths: 12 hr – 1500 psi 24 hr – 2296 psi
*** 50% open hole excess. Cement to 4400' (base of waterflow area)

Cement to be pumped down the 7" x 9-5/8" annulus to eliminate and isolate the water flow area – cement to fill from 4400' to surface.

Lead: 500 sx EconoCem + 5% Salt (mixed at 12.8 ppg, 1.89 cuft/sx, 10.17 gal/sx wtr)
Compr Strengths: 12 hr – 431 psi 24 hr – 745 psi

Tail: 50 sx HalCem (mixed at 14.8 ppg, 1.33 cuft/sx, 6.34 gal/sx wtr)
Compr Strengths: 12 hr – 1270 psi 24 hr – 1670 psi

D. **Production Casing:** 4.5", 11.6#, NEW P-110, BTC liner to be set at ± 12455' (liner top to be set at ± 6750'). Liner will be cemented and will include sliding sleeves for the completion.

435 sx VersaCem PBHS2 + 0.5% LAP-2 + 0.25 lbm/sk D-air 5000 + 0.2% HR 601 (mixed at 13.2 ppg, 1.59 ft^3/sk, 8.29 gal/sx wtr)
Compr Strengths: 12 hr – 1375 psi 24 hr – 2285 psi
***30% open hole excess. Cement to top of liner.

5. PRESSURE CONTROL EQUIPMENT: - See COA

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

All BOP testing will be done by an independent service company. When nippling up on the 13-5/8" 3M bradenhead and flange, pressure testing BOP will be limited to 3000psi. When nippling up on the 9-5/8", pressure testing BOP will be limited to 3000psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

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

See COA

6. PROPOSED MUD CIRCULATION SYSTEM:

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 260'	17-1/2"	FW/Native	8.5 - 8.8	35 - 40	NC
260' to ~~2950'~~ 3100 +/-	12-1/4"	Brine/Gel Sweeps	9.8 - 10.2	30 - 32	NC
~~2950'~~ 3100 to 7100'	8-3/4"	Cut Brine/ Poly-Sweeps	9.2 - 9.6	29 - 32	NC - 30
7100' to 12455'	6-1/8"	Cut Brine/Poly-Starch	8.6 - 9	32 - 38	NC - 30

See COA

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

Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with brine solution. A 9.8ppg - 10.2ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location when drilling below the 13-3/8" casing.

8. LOGGING, CORING AND TESTING PROGRAM: See COA

Mud Logger: Mud Logging Unit (2 man) on @ 2950'.
Catch 10' samples from 2950' to TD
Send 1 set of dry samples to Midland Sample Library.

9. ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS:

None anticipated. BHT of 175 F is anticipated. H2S can be present from 4600 – TD. 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.

11. SPECIAL INSTRUCTIONS:

A. Reports should be filled out on the XTO Drilling Report form, and the Casing/Cementing Detail Forms provided.

B. WOC a minimum of 24 hours before drilling out shoe joint on surface and intermediate casing strings. Use minimal WOB and RPM until drill collars are below the shoe joints.

C. Function test BOP blind rams each trip and pipe rams each day. Strap out of hole for logging and/or casing jobs.

D. A trash trailer will be provided on each location. Keep trash picked up and the location as clean as possible. All drilling line, oil filters, etc. should be hauled away at the Drilling Contractor's expense. At the conclusion of drilling operations, the contents of the trash trailer will be disposed of into a commercial sanitary landfill.

XTO Energy Inc.

HALLIBURTON
Sperry Drilling

Project: Eddy County, NM (NAD27)
Site: Nash Unit
Well: Nash Unit No 55H
Wellbore: Wellbore #1
Plan: Plan #1
Rig: Pioneer 33

XTO ENERGY

SURFACE LOCATION

US State Plane 1927 (Exact solution)
New Mexico East 3001
Elevation: GL 2984' + KB 17' @ 3001.00usft (Pioneer 33)

Northing	Easting	Latitude	Longitude
475545.00	620127.40	32° 18' 24.447 N	103° 56' 40.272 W

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

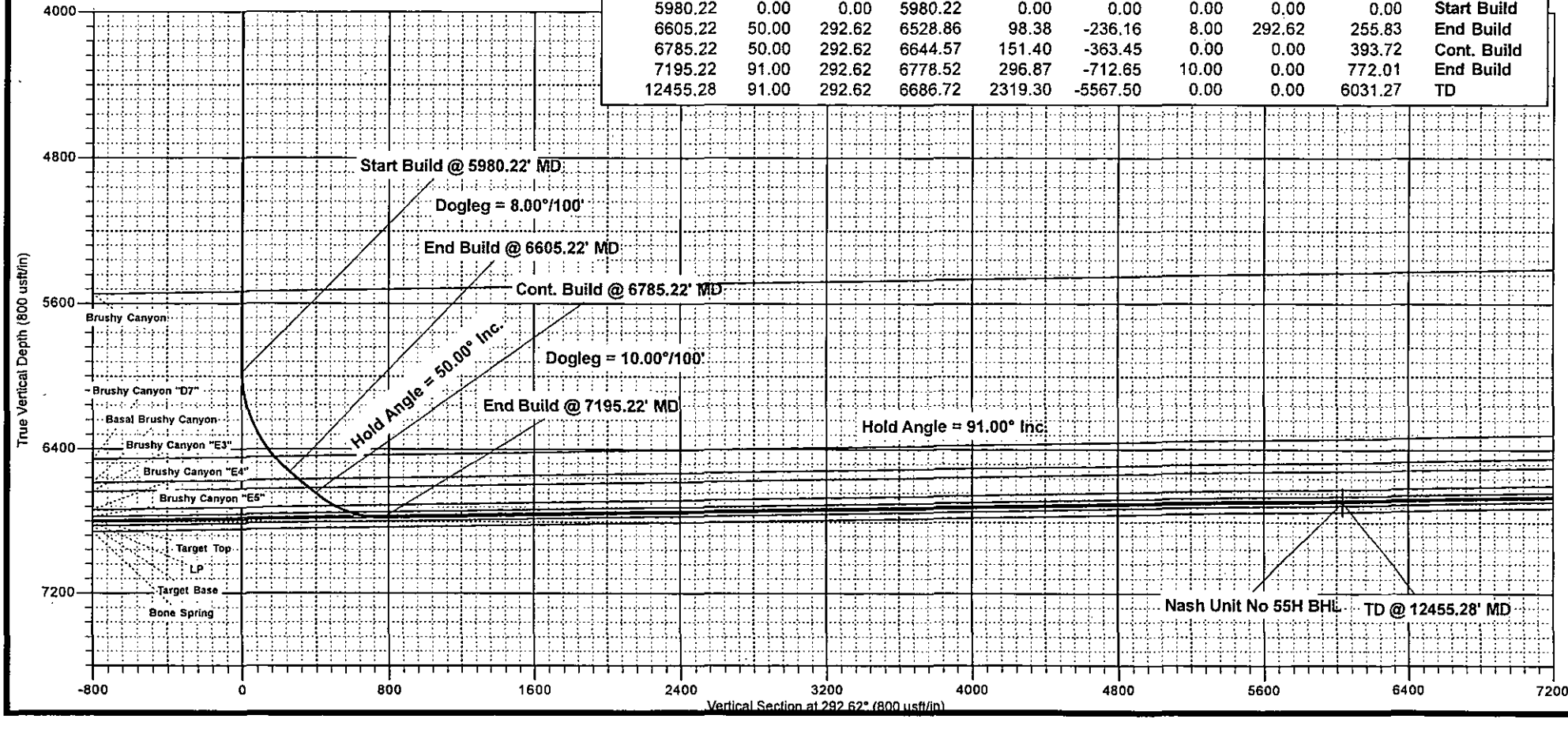
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Nash Unit No 55H BHL	6686.72	2319.30	-5567.50	477864.30	614559.90	32° 18' 47.594 N	103° 57' 45.050 W

To convert a Magnetic Direction to a Grid Direction, Add 7.35°

Magnetic Model: BGGM2014 Date: 20-Jun-14
Azimuths to Grid North

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	
5980.22	0.00	0.00	5980.22	0.00	0.00	0.00	0.00	0.00	Start Build
6605.22	50.00	292.62	6528.86	98.38	-236.16	8.00	292.62	255.83	End Build
6785.22	50.00	292.62	6644.57	151.40	-363.45	0.00	0.00	393.72	Cont. Build
7195.22	91.00	292.62	6778.52	296.87	-712.65	10.00	0.00	772.01	End Build
12455.28	91.00	292.62	6686.72	2319.30	-5567.50	0.00	0.00	6031.27	TD



XTO Energy Inc.

HALLIBURTON | Sperry Drilling

Project: Eddy County, NM (NAD27)
Site: Nash Unit
Well: Nash Unit No 55H
Wellbore: Wellbore #1
Plan: Plan #1
Rig: Pioneer 33

SURFACE LOCATION

US State Plane 1927 (Exact solution)
New Mexico East 3001
Elevation: GL 2984' + KB 17' @ 3001.00usft (Pioneer 33)

Northing	Easting	Latitude	Longitude
475545.00	620127.40	32° 18' 24.447 N	103° 56' 40.272 W

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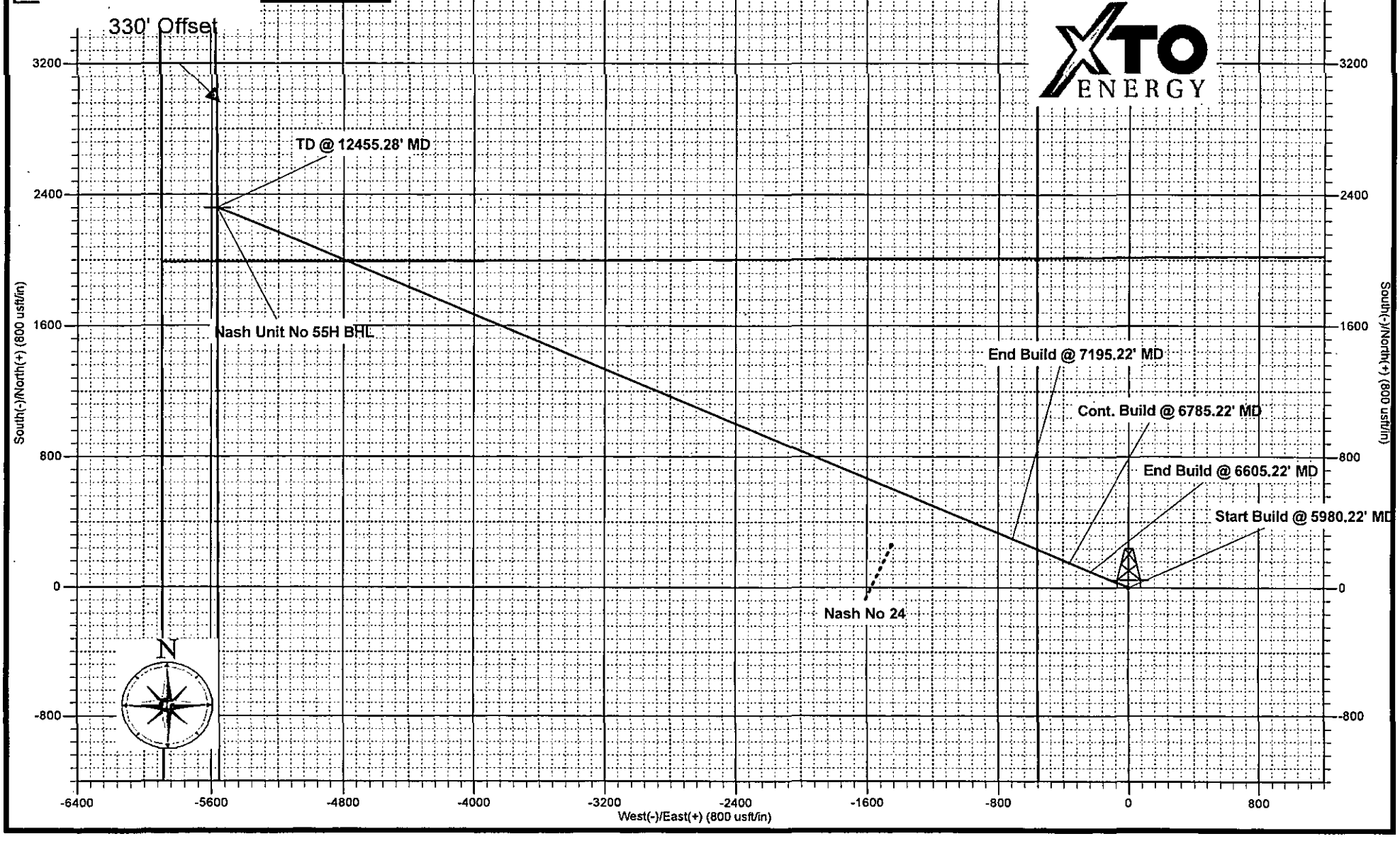
Magnetic Model: BGGM2014 Date: 20-Jun-14
Azimuths to Grid North



XTO Energy Inc.

Eddy County, NM (NAD27)
Nash Unit
Nash Unit No 55H

Wellbore #1

Plan: Plan #1

Sperry Drilling Services
Proposal Report

20 June, 2014

Well Coordinates: 475,545.00 N, 620,127.40 E (32° 18' 24.45" N, 103° 56' 40.27" W)
Ground Level: 2,984.00 usft

Local Coordinate Origin:	Centered on Well Nash Unit No 55H
Viewing Datum:	GL 2984' + KB 17' @ 3001.00usft (Pioneer 33)
TVDs to System:	N
North Reference:	Grid
Unit System:	API - US Survey Feet

Version: 5000.1 Build: 65

HALLIBURTON

Plan Report for Nash Unit No 55H - 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
2,902.00	0.00	0.00	2,902.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt										
3,116.00	0.00	0.00	3,116.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware										
3,972.00	0.00	0.00	3,972.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon										
5,534.00	0.00	0.00	5,534.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon										
5,980.22	0.00	0.00	5,980.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build @ 5980.22' MD - Dogleg = 8.00°/100'										
6,000.00	1.58	292.62	6,000.00	0.10	-0.25	0.27	8.00	8.00	0.00	292.62
6,100.00	9.58	292.62	6,099.44	3.84	-9.22	9.99	8.00	8.00	0.00	0.00
6,200.00	17.58	292.62	6,196.57	12.87	-30.88	33.46	8.00	8.00	0.00	0.00
6,300.00	25.58	292.62	6,289.48	27.00	-64.81	70.21	8.00	8.00	0.00	0.00
6,400.00	33.58	292.62	6,376.38	45.97	-110.35	119.54	8.00	8.00	0.00	0.00
6,482.14	40.15	292.62	6,442.05	64.91	-155.81	168.79	8.00	8.00	0.00	0.00
Brushy Canyon "D7"										
6,500.00	41.58	292.62	6,455.56	69.40	-166.60	180.48	8.00	8.00	0.00	0.00
6,600.00	49.58	292.62	6,525.49	96.85	-232.48	251.84	8.00	8.00	0.00	0.00
6,605.22	50.00	292.62	6,528.86	98.38	-236.16	255.83	8.00	8.00	0.00	0.00
End Build @ 6605.22' MD - Hold Angle = 50.00° Inc.										
6,667.21	50.00	292.62	6,568.71	116.64	-279.99	303.32	0.00	0.00	0.00	0.00
Basal Brushy Canyon										
6,700.00	50.00	292.62	6,589.78	126.30	-303.18	328.44	0.00	0.00	0.00	0.00
6,740.36	50.00	292.62	6,615.73	138.19	-331.72	359.35	0.00	0.00	0.00	0.00
Brushy Canyon "E3"										
6,785.22	50.00	292.62	6,644.57	151.40	-363.45	393.72	0.00	0.00	0.00	0.00
Cont. Build @ 6785.22' MD - Dogleg = 10.00°/100'										
6,800.00	51.48	292.62	6,653.92	155.80	-374.01	405.16	10.00	10.00	0.00	0.00
6,900.00	61.48	292.62	6,709.07	187.82	-450.87	488.42	10.00	10.00	0.00	0.00
6,911.15	62.59	292.62	6,714.30	191.61	-459.96	498.28	10.00	10.00	0.00	0.00
Brushy Canyon "E4"										
7,000.00	71.48	292.62	6,748.93	223.04	-535.40	580.00	10.00	10.00	0.00	0.00
7,005.90	72.07	292.62	6,750.78	225.19	-540.57	585.60	10.00	10.00	0.00	0.00
Brushy Canyon "E5"										
7,082.78	79.76	292.62	6,769.48	253.84	-609.35	660.11	10.00	10.00	0.00	0.00
Target Top										
7,100.00	81.48	292.62	6,772.29	260.38	-625.04	677.10	10.00	10.00	0.00	0.00
7,194.75	90.95	292.62	6,778.53	296.69	-712.21	771.54	10.00	10.00	0.00	0.00
LP										
7,195.22	91.00	292.62	6,778.52	296.87	-712.65	772.01	10.00	10.00	0.00	0.00
End Build @ 7195.22' MD - Hold Angle = 91.00° Inc.										
7,200.00	91.00	292.62	6,778.44	298.71	-717.06	776.79	0.00	0.00	0.00	0.00
7,300.00	91.00	292.62	6,776.70	337.16	-809.35	876.77	0.00	0.00	0.00	0.00
7,400.00	91.00	292.62	6,774.95	375.61	-901.65	976.76	0.00	0.00	0.00	0.00
7,500.00	91.00	292.62	6,773.21	414.06	-993.95	1,076.74	0.00	0.00	0.00	0.00
7,600.00	91.00	292.62	6,771.46	452.51	-1,086.24	1,176.73	0.00	0.00	0.00	0.00
7,700.00	91.00	292.62	6,769.72	490.95	-1,178.54	1,276.71	0.00	0.00	0.00	0.00
7,800.00	91.00	292.62	6,767.97	529.40	-1,270.84	1,376.70	0.00	0.00	0.00	0.00
7,900.00	91.00	292.62	6,766.22	567.85	-1,363.13	1,476.68	0.00	0.00	0.00	0.00
8,000.00	91.00	292.62	6,764.48	606.30	-1,455.43	1,576.67	0.00	0.00	0.00	0.00
8,100.00	91.00	292.62	6,762.73	644.75	-1,547.73	1,676.65	0.00	0.00	0.00	0.00
8,200.00	91.00	292.62	6,760.99	683.20	-1,640.02	1,776.63	0.00	0.00	0.00	0.00
8,300.00	91.00	292.62	6,759.24	721.65	-1,732.32	1,876.62	0.00	0.00	0.00	0.00
8,400.00	91.00	292.62	6,757.50	760.10	-1,824.61	1,976.60	0.00	0.00	0.00	0.00
8,500.00	91.00	292.62	6,755.75	798.54	-1,916.91	2,076.59	0.00	0.00	0.00	0.00

Plan Report for Nash Unit No 55H - 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 (°)
8,600.00	91.00	292.62	6,754.01	836.99	-2,009.21	2,176.57	0.00	0.00	0.00	0.00
8,700.00	91.00	292.62	6,752.26	875.44	-2,101.50	2,276.56	0.00	0.00	0.00	0.00
8,800.00	91.00	292.62	6,750.52	913.89	-2,193.80	2,376.54	0.00	0.00	0.00	0.00
8,900.00	91.00	292.62	6,748.77	952.34	-2,286.10	2,476.53	0.00	0.00	0.00	0.00
9,000.00	91.00	292.62	6,747.03	990.79	-2,378.39	2,576.51	0.00	0.00	0.00	0.00
9,100.00	91.00	292.62	6,745.28	1,029.24	-2,470.69	2,676.50	0.00	0.00	0.00	0.00
9,200.00	91.00	292.62	6,743.54	1,067.68	-2,562.99	2,776.48	0.00	0.00	0.00	0.00
9,300.00	91.00	292.62	6,741.79	1,106.13	-2,655.28	2,876.47	0.00	0.00	0.00	0.00
9,400.00	91.00	292.62	6,740.05	1,144.58	-2,747.58	2,976.45	0.00	0.00	0.00	0.00
9,500.00	91.00	292.62	6,738.30	1,183.03	-2,839.88	3,076.44	0.00	0.00	0.00	0.00
9,600.00	91.00	292.62	6,736.56	1,221.48	-2,932.17	3,176.42	0.00	0.00	0.00	0.00
9,700.00	91.00	292.62	6,734.81	1,259.93	-3,024.47	3,276.41	0.00	0.00	0.00	0.00
9,800.00	91.00	292.62	6,733.07	1,298.38	-3,116.77	3,376.39	0.00	0.00	0.00	0.00
9,900.00	91.00	292.62	6,731.32	1,336.83	-3,209.06	3,476.38	0.00	0.00	0.00	0.00
10,000.00	91.00	292.62	6,729.57	1,375.27	-3,301.36	3,576.36	0.00	0.00	0.00	0.00
10,100.00	91.00	292.62	6,727.83	1,413.72	-3,393.66	3,676.35	0.00	0.00	0.00	0.00
10,200.00	91.00	292.62	6,726.08	1,452.17	-3,485.95	3,776.33	0.00	0.00	0.00	0.00
10,300.00	91.00	292.62	6,724.34	1,490.62	-3,578.25	3,876.31	0.00	0.00	0.00	0.00
10,400.00	91.00	292.62	6,722.59	1,529.07	-3,670.55	3,976.30	0.00	0.00	0.00	0.00
10,500.00	91.00	292.62	6,720.85	1,567.52	-3,762.84	4,076.28	0.00	0.00	0.00	0.00
10,600.00	91.00	292.62	6,719.10	1,605.97	-3,855.14	4,176.27	0.00	0.00	0.00	0.00
10,700.00	91.00	292.62	6,717.36	1,644.42	-3,947.43	4,276.25	0.00	0.00	0.00	0.00
10,800.00	91.00	292.62	6,715.61	1,682.86	-4,039.73	4,376.24	0.00	0.00	0.00	0.00
10,900.00	91.00	292.62	6,713.87	1,721.31	-4,132.03	4,476.22	0.00	0.00	0.00	0.00
11,000.00	91.00	292.62	6,712.12	1,759.76	-4,224.32	4,576.21	0.00	0.00	0.00	0.00
11,100.00	91.00	292.62	6,710.38	1,798.21	-4,316.62	4,676.19	0.00	0.00	0.00	0.00
11,200.00	91.00	292.62	6,708.63	1,836.66	-4,408.92	4,776.18	0.00	0.00	0.00	0.00
11,300.00	91.00	292.62	6,706.89	1,875.11	-4,501.21	4,876.16	0.00	0.00	0.00	0.00
11,400.00	91.00	292.62	6,705.14	1,913.56	-4,593.51	4,976.15	0.00	0.00	0.00	0.00
11,500.00	91.00	292.62	6,703.40	1,952.01	-4,685.81	5,076.13	0.00	0.00	0.00	0.00
11,600.00	91.00	292.62	6,701.65	1,990.45	-4,778.10	5,176.12	0.00	0.00	0.00	0.00
11,700.00	91.00	292.62	6,699.91	2,028.90	-4,870.40	5,276.10	0.00	0.00	0.00	0.00
11,800.00	91.00	292.62	6,698.16	2,067.35	-4,962.70	5,376.09	0.00	0.00	0.00	0.00
11,900.00	91.00	292.62	6,696.42	2,105.80	-5,054.99	5,476.07	0.00	0.00	0.00	0.00
12,000.00	91.00	292.62	6,694.67	2,144.25	-5,147.29	5,576.06	0.00	0.00	0.00	0.00
12,100.00	91.00	292.62	6,692.92	2,182.70	-5,239.59	5,676.04	0.00	0.00	0.00	0.00
12,200.00	91.00	292.62	6,691.18	2,221.15	-5,331.88	5,776.03	0.00	0.00	0.00	0.00
12,300.00	91.00	292.62	6,689.43	2,259.60	-5,424.18	5,876.01	0.00	0.00	0.00	0.00
12,400.00	91.00	292.62	6,687.69	2,298.04	-5,516.48	5,975.99	0.00	0.00	0.00	0.00
12,455.28	91.00	292.62	6,686.72	2,319.30	-5,567.50	6,031.27	0.00	0.00	0.00	0.00

TD @ 12455.28' MD - Nash Unit No 55H BHL

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,980.22	5,980.22	0.00	0.00	Start Build @ 5980.22' MD
5,980.22	5,980.22	0.00	0.00	Dogleg = 8.00°/100'
6,605.22	6,528.86	98.38	-236.16	End Build @ 6605.22' MD
6,605.22	6,528.86	98.38	-236.16	Hold Angle = 50.00° Inc.
6,785.22	6,644.56	151.40	-363.44	Cont. Build @ 6785.22' MD
6,785.22	6,644.57	151.40	-363.45	Dogleg = 10.00°/100'
7,195.22	6,778.52	296.87	-712.64	End Build @ 7195.22' MD
7,195.22	6,778.52	296.87	-712.65	Hold Angle = 91.00° Inc.
12,455.28	6,686.72	2,319.30	-5,567.50	TD @ 12455.28' MD

Plan Report for Nash Unit No 55H - Plan #1

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
TD	No Target (Freehand)	292.62	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	12,455.28	Plan #1	MWD

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,902.00	2,902.00	Base Salt		-1.00	292.62
3,116.00	3,116.00	Delaware		-1.00	292.62
3,972.00	3,972.00	Cherry Canyon		-1.00	292.62
5,534.00	5,534.00	Brushy Canyon		-1.00	292.62
6,482.14	6,445.00	Brushy Canyon "D7"		-1.00	292.62
6,667.21	6,574.00	Basal Brushy Canyon		-1.00	292.62
6,740.36	6,622.00	Brushy Canyon "E3"		-1.00	292.62
6,911.15	6,723.00	Brushy Canyon "E4"		-1.00	292.62
7,005.90	6,761.00	Brushy Canyon "E5"		-1.00	292.62
7,082.78	6,781.00	Target Top		-1.00	292.62
7,194.75	6,792.00	LP		-1.00	292.62

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Nash Unit No 55H BHL	6,686.72	2,319.30	-5,567.50	Point

North Reference Sheet for Nash Unit - Nash Unit No 55H - Wellbore #1

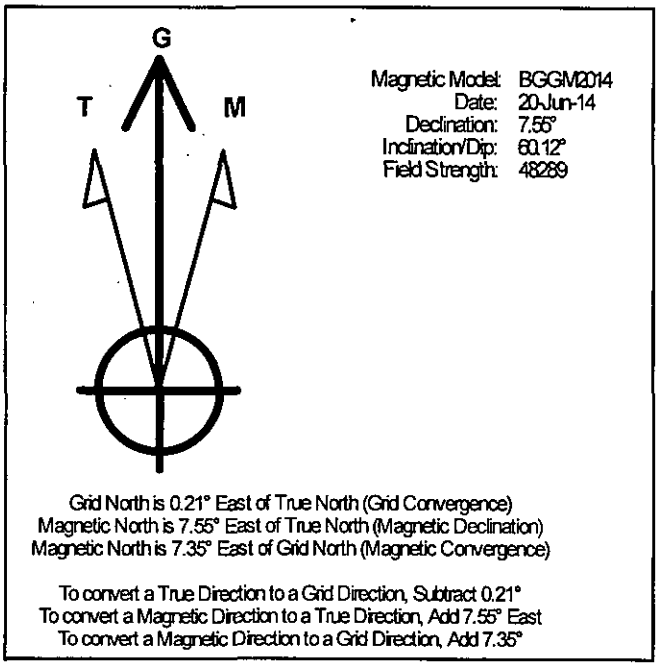
All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to GL 2984' + KB 17' @ 3001.00usft (Pioneer 33). Northing and Easting are relative to Nash Unit No 55H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

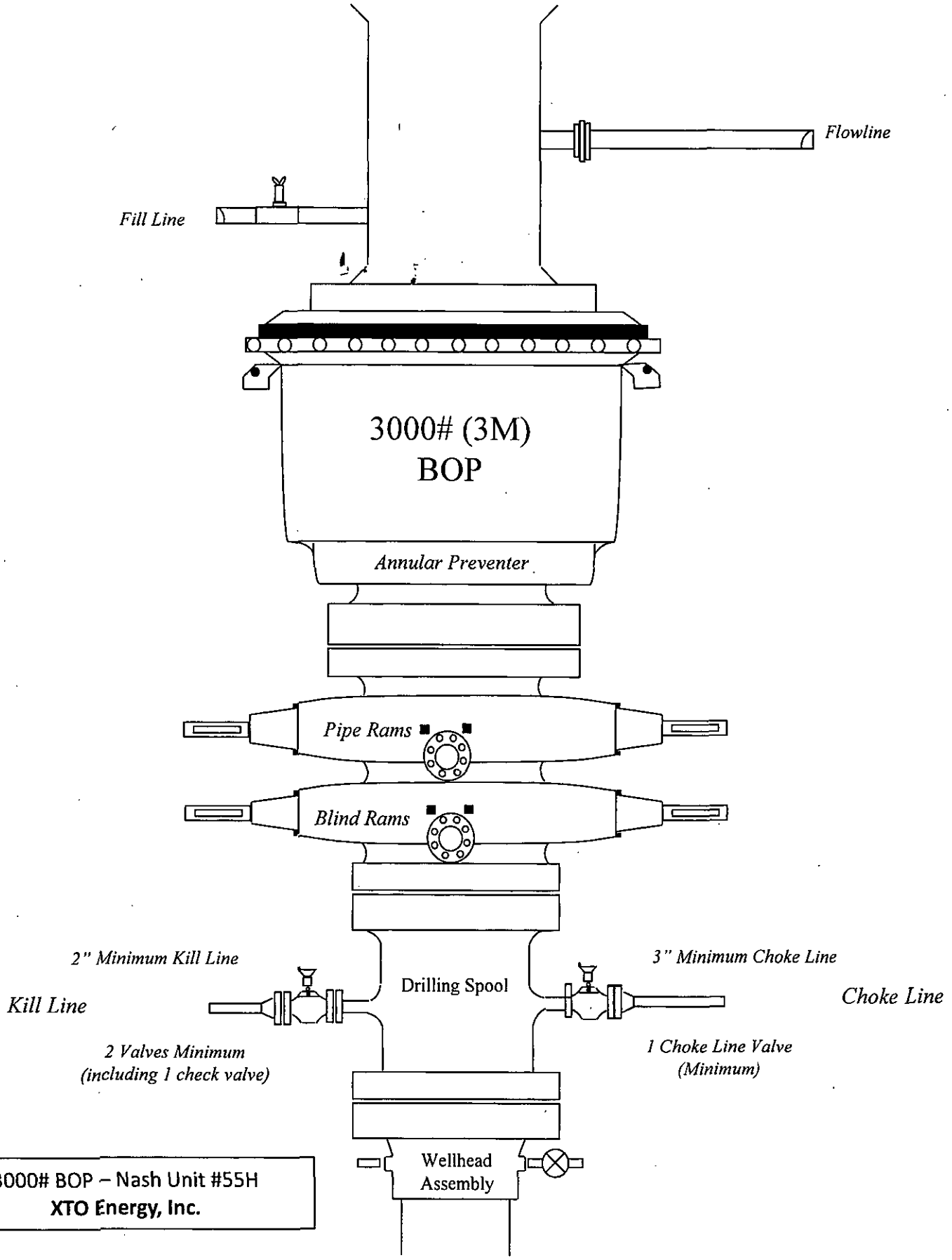
Projection method is Transverse Mercator (Gauss-Kruger)
Central Meridian is -104.33°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°
False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99992562

Grid Coordinates of Well: 475,545.00 usft N, 620,127.40 usft E
Geographical Coordinates of Well: 32° 18' 24.45" N, 103° 56' 40.27" W
Grid Convergence at Surface is: 0.21°

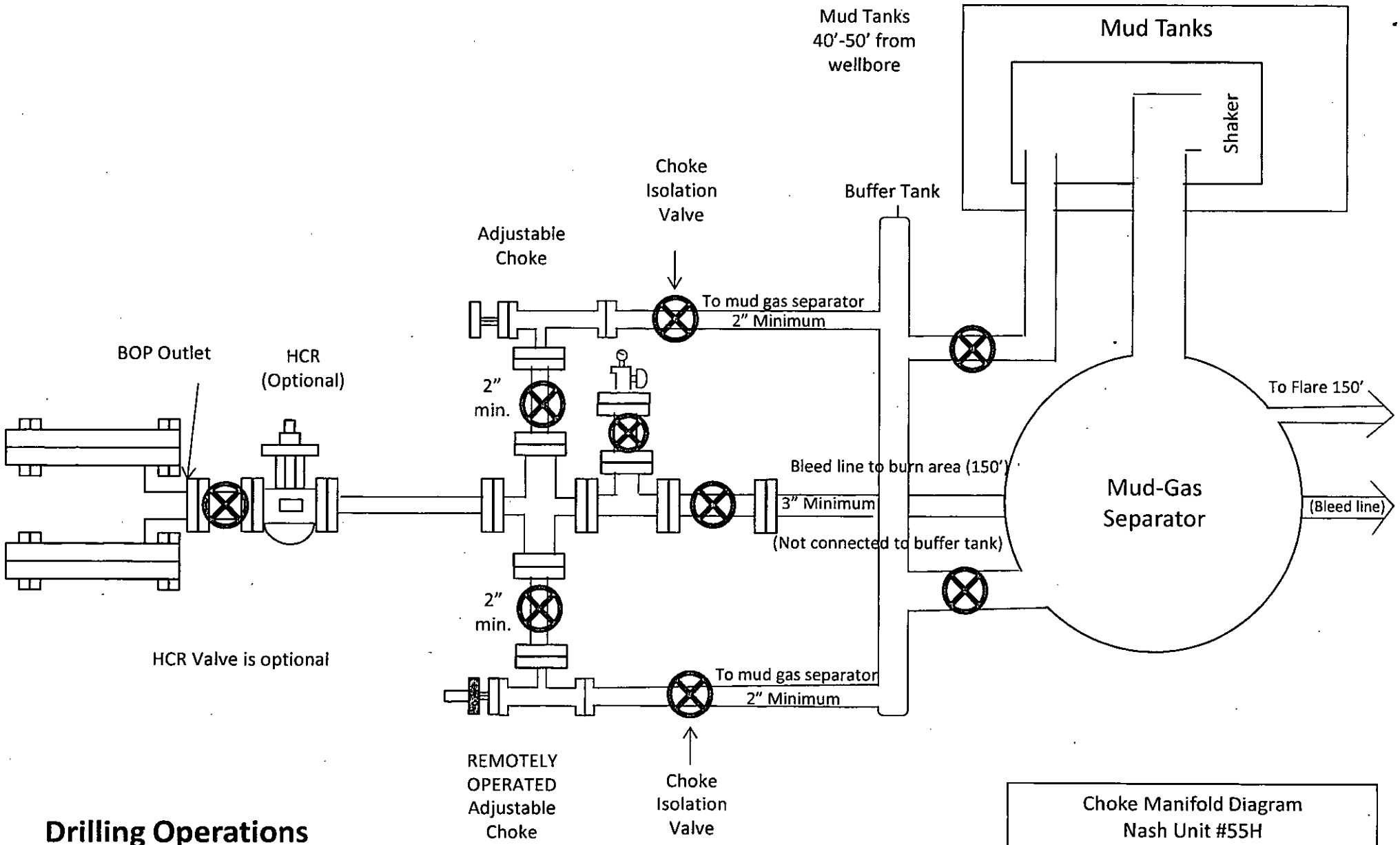
Based upon Minimum Curvature type calculations, at a Measured Depth of 12,455.28usft
the Bottom Hole Displacement is 6,031.27usft in the Direction of 292.62° (Grid).

Magnetic Convergence at surface is: -7.35° (20 June 2014, , BGGM2014)



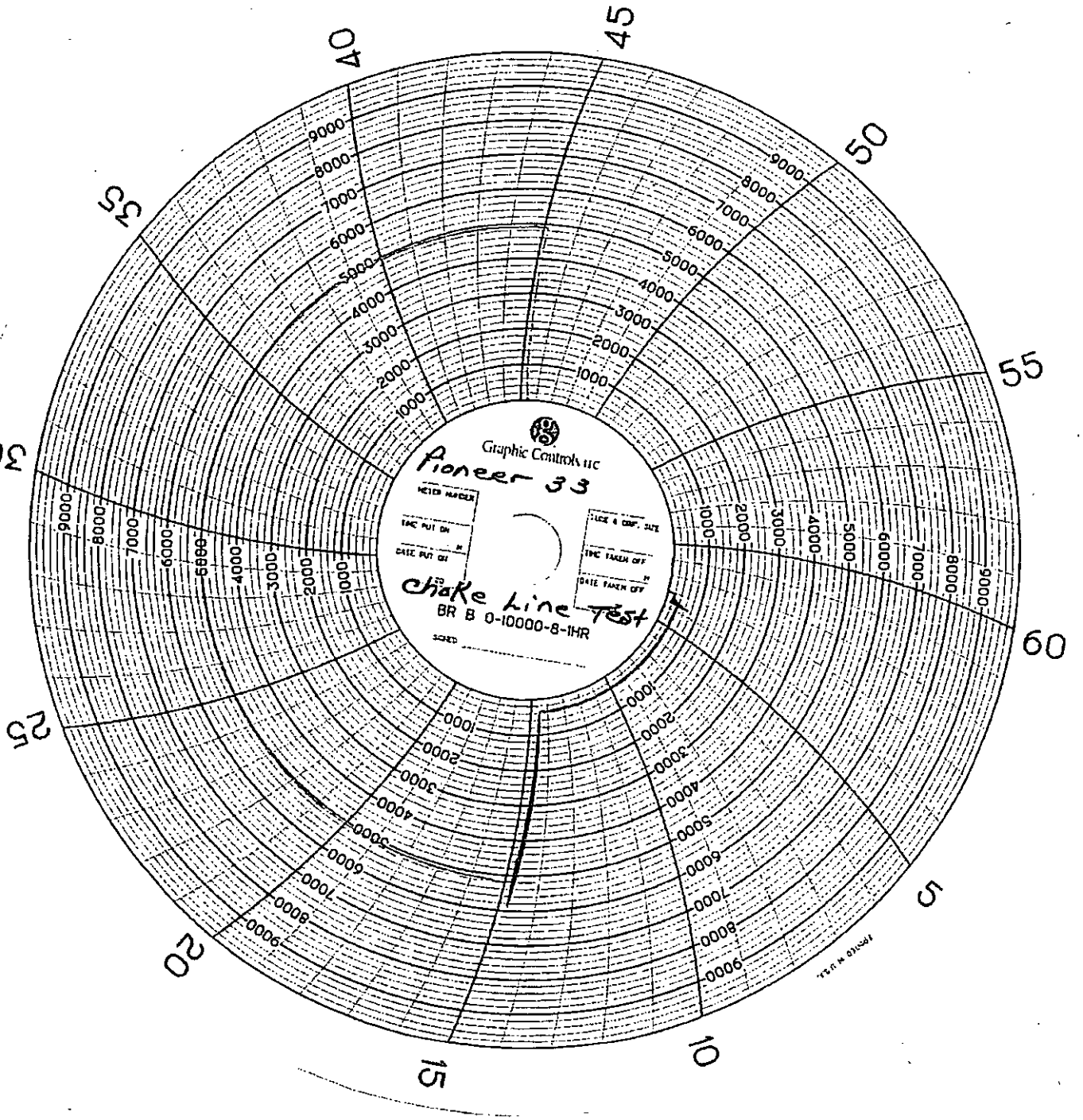


3000# BOP – Nash Unit #55H
XTO Energy, Inc.



Drilling Operations
Choke Manifold

Choke Manifold Diagram
Nash Unit #55H
XTO Energy, Inc..


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

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

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

GRADE D PRESSURE TEST CERTIFICATE

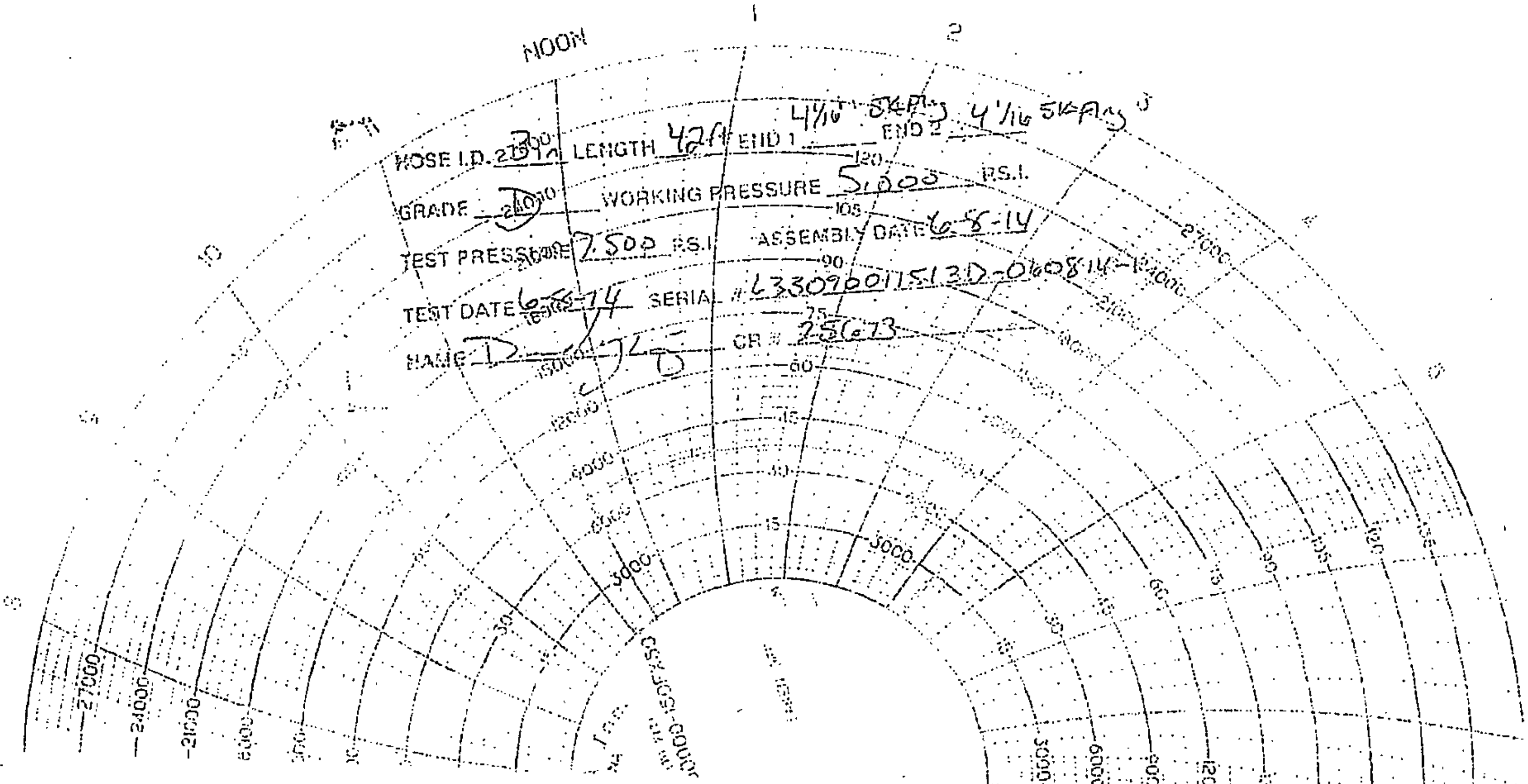
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA

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

End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

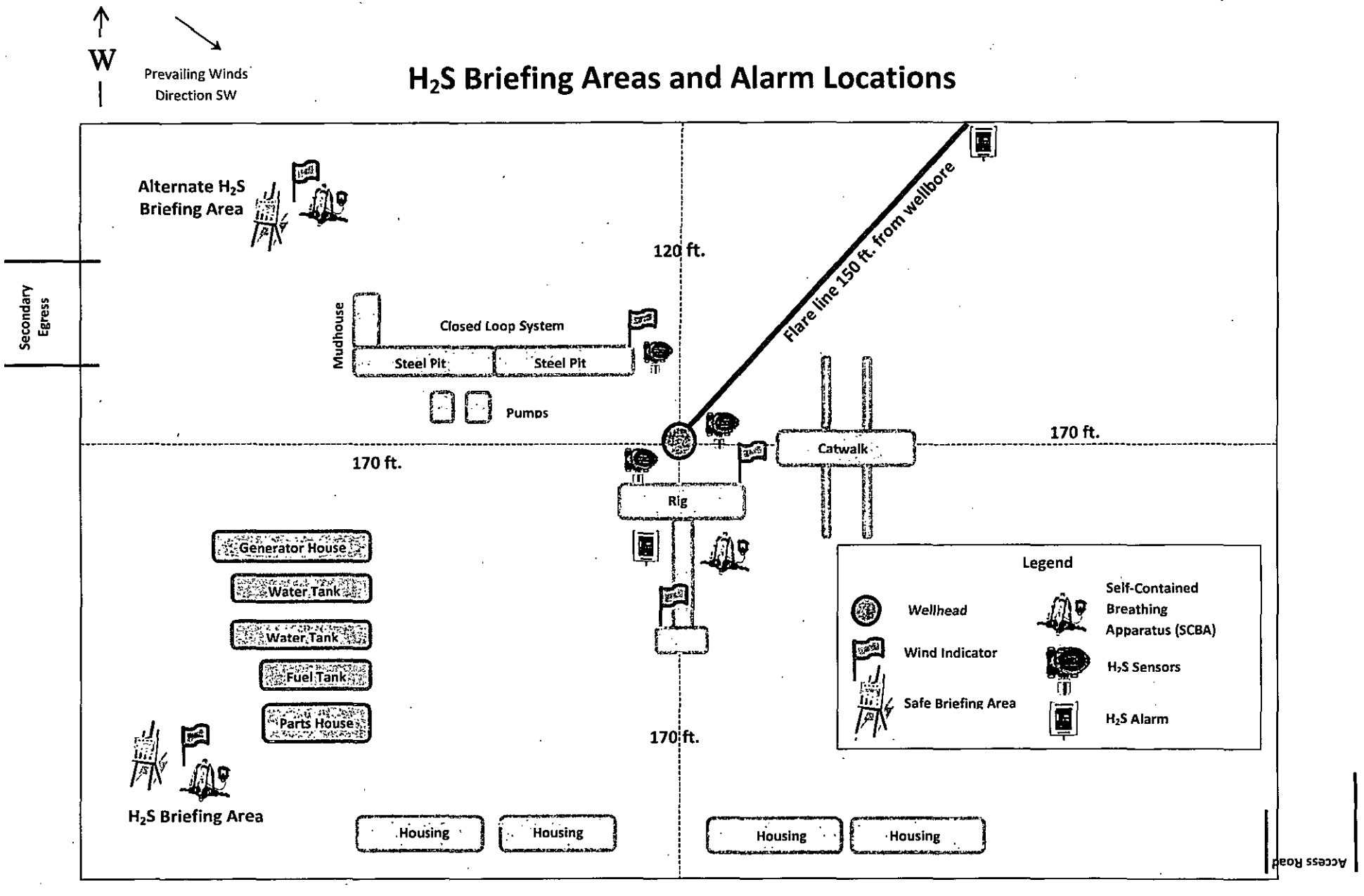
Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	



NOON
HOSE I.D. 3" LENGTH 42ft END 1 4 1/16" 5K flg END 2 4 1/16 5K flg
GRADE D WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14 SERIAL # 633090011513D-060814-1
NAME CR # 25673

H_2S Briefing Areas and Alarm Locations



Originally Dated: June 23, 2014
Updated: September 29, 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 Nash Unit #55H located in Section 13, T23S, R29E, in Eddy 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,

Stephanie Rabadue

Stephanie Rabadue
Regulatory Analyst

Signed for: Weston Turner, Drilling Engineer

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 H_2S, 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 H_2S 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
  - Detection of H_2S, and
  - Measures for protection against the gas,
  - 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 (SO_2). 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 H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	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:

Boogie Armes, Sr. Drilling Superintendent	432-556-7403
Bob Chance, Drilling Superintendent	432-296-3926
Chip Amrock, Sr. Drilling Engineer	432-638-8372
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

SURFACE USE PLAN

XTO Energy, Inc.
NASH UNIT #55h
SHL: 2011'FNL & 559'FWL, E-13-23S-29E
BHL: 330'FSL & 330'FWL, M-11-23S-29E
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 St. Highway 128 and Co. Rd 793 (Rawhide Rd), go South on Rawhide Road approx. 2.8 miles. Turn right and go West approximately 1.0 mile. The location stake is 228' South.
    a. See attached plats and maps provided by John West Surveying Company.
    b. The access route from Co. Road 793 (Rawhide Road) to the well location is depicted on the location verification map. The route highlighted in red will be the access and no ROW is required for this well.
    c. 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. No new road will be necessary to construct this pad or well. Below regards any upgrading of the existing caliche road system to the proposed well location.
    b. The maximum width of the driving surface will be 14 feet. The road 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

    c. Surface material will be native caliche. The average grade of the entire road will be approximately 3%.
    d. Fence Cuts: No.
    e. Cattle Guards: No
    f. Turnouts: No
    g. Culverts: No
    h. Cuts and Fills: Not significant

i. 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.
j. 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.
k. 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 (Exhibit B) showing all wells within a one-mile radius.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
a. No new facility is necessary for this well.
b. Production will flow to the existing Nash Unit #56 battery located 1940'FNL & 370'FEL, Sec 14-23S-29E.
c. Flowlines: All flowlines will follow existing road corridors to the Nash Unit #56 battery. No new disturbance is anticipated.
d. Electrical: No additional electrical will be necessary for this location. Electricity is established in the area and no poles or new lines will be required.

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:
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 will be constructed of 6" rolled and compacted caliche.

7. METHODS OF HANDLING WASTE DISPOSAL:
a. 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 an NMOCD approved disposal site.
b. Drilling fluids will be contained in steel mud pits.
c. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.
d. Oil produced during operations will be stored in tanks until sold.

e. Portable, self-contained chemical toilets will be provided for human waste disposal. Upon completion of operations, 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 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.
f. All trash, junk, and other waste materials will be contained in trash cages or bins 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.

8. 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.

9. WELL SITE LAYOUT:
   a. Exhibit D shows the dimensions of the proposed well pad.
   b. The proposed well pad size will be 290'x340' and will be adjacent to an existing road. 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. John West Surveying Company's plat, Form C-102 and Exhibit D, shows the direction of the pad at a V-Door North.
   d. A 600' x 600' area has been staked and flagged.
   e. 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).

10. 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. (See Exhibit "H" Figures H.1-12)

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) plan 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 gullying, 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.

11. 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 production of oil and gas.

12. OTHER INFORMATION:
    a. The vegetation at the wellsite is a sparse grass cover of three-awn, grama, bluestem, dropseed, burrograss, muhly and mis. Native grasses. Plants are sparse mesquite, yucca, sage, shinnery oak brush, broomweed and cacti w/misc. weeds. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove and quail all typical of the semi-arid desert land. There are no ponds or streams. No dwelling is within 1.5 miles of location.
    b. There are no dwellings within 2 miles of this location.
    c. A Class III Cultural Resources Examination has been completed by Boone Archaelogical Services and the results will be forwarded to the BLM office.

13. BOND COVERAGE:
    a. Bond Coverage is Nationwide; Bond Number UTB000138.

OPERATORS RESPRESENTATIVE:

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

Surface:

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

Surface:

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

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

Drilling & Production:

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

David Luna
XTO Energy, Inc.
500 W. Illinois St, Suite 100
Midland, TX 79701
432-620-6742 (Office)

On-Site performed on 05/08/2014 resulted in well-being moved East into Section 13 with a V-Door North, topsoil in the Southeast corner, downsizes South and West, with no new road.

PRESET AT ON-SITE:

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

XTO ENERGY

Certification

Originally Dated: June 23, 2014
Updated: September 29, 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 29th day of September 2015.

Thank you,

Stephanie Rabadue

Stephanie Rabadue
Regulatory Analyst

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy Inc
LEASE NO.:	NM0556859
WELL NAME & NO.:	55H-Nash Unit
SURFACE HOLE FOOTAGE:	2011'/N & 559'/W
BOTTOM HOLE FOOTAGE	1720'/N & 128'/W
LOCATION:	Section 13, T. 23 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.

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 Conditions of Approval

** 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 values 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 values, 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.

Powerlines:
Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features. The BLM, Carlsbad Field

Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction and no further construction will be done until clearance has been issued by the Authorized Officer. Special restoration stipulations or realignment may be required.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months.

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

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.

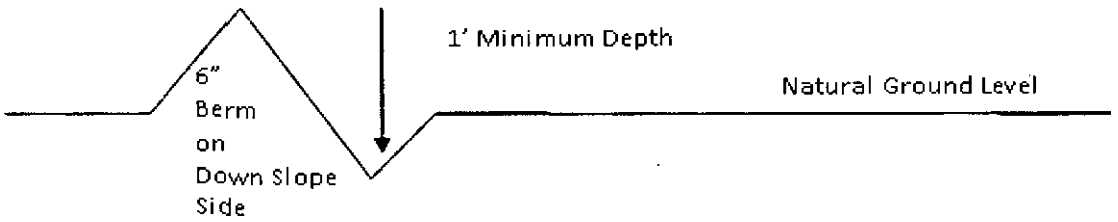
Ditching
Ditching shall be required on both sides of the road.

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 outsloping and insloping, 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 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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

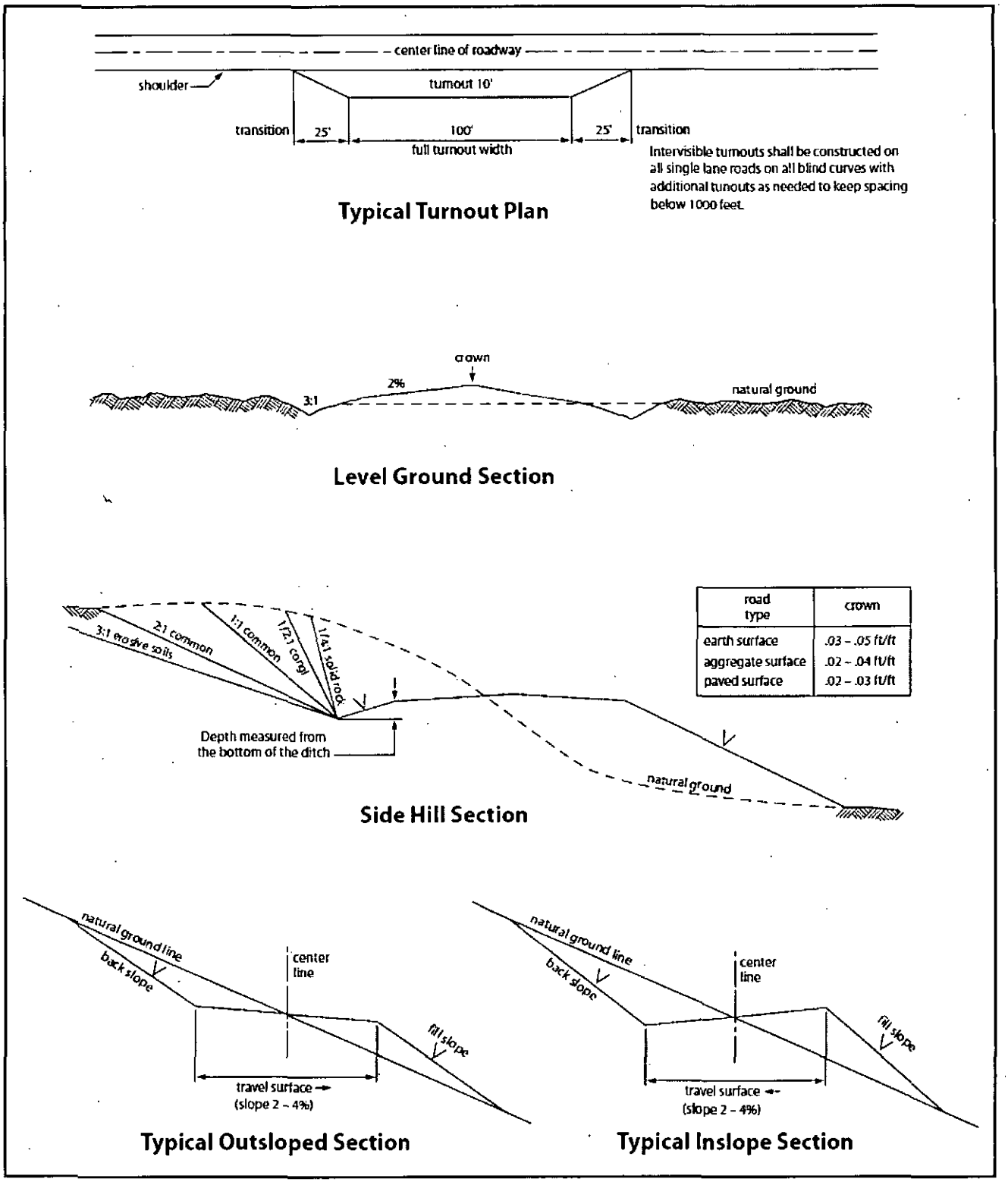


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. 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, provide measured values 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 Potash Areas:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

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

HIGH CAVE/KARST – A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH.

ON A THREE STRING DESIGN; IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE

Secretary's Potash
Possibility of water flows in the Salado and Delaware
Possibility of lost circulation in the Rustler and Delaware

1. The **13 3/8** inch surface casing shall be set at approximately **260** feet and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
    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 1st intermediate casing, which shall be set at approximately **3100 feet**, is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash and cave/karst.**

3. The minimum required fill of cement behind the **7** inch 2nd intermediate casing is:

   a. First stage to 4400':
   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.
   b. Second stage Pump down 7" x 9-5/8" annulus:
   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave karst and potash.**

Operator must run a CBL from TD of the 7" casing to surface. Submit results to the BLM.

4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
   ☒ Cement should tie-back to the top of the liner. Operator shall provide method of verification.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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 RP 53 Sec. 17.
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 potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
d. The results of the test shall be reported to the appropriate BLM office.
e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

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

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, 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. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil 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 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 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 the holder. Such action

by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. 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.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

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. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

(X) seed mixture 1	( ) seed mixture 3
() seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. 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. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. 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 before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (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.

17. 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 associated roads, 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.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

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 1 for Loamy Sites

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 shall 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 shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

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

NMOCD CONDITION OF APPROVAL

The *New!* Gas Capture Plan (GCP) notice is posted on the NMOCD website under Announcements. The Plan became effective May 1, 2016. A copy of the GCP form is included with the NOTICE and is also in our FORMS section under Unnumbered Forms. Please review filing dates for all applicable activities currently approved or pending and submit accordingly. Failure to file a GCP may jeopardize the operator's ability to obtain C-129 approval to flare gas after the initial 60-day completion period.