RM

R-111-POTASH

OCD Artesia

ATS-09-344

JUL 29 2009

Form 3160-3
(April 2004)

Split Estate

627

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM ~~070992X~~ 0556863 5-4-09 DM

6. If Indian, Allotee or Tribe Name

1a. Type of work. ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No.
NASH UNIT #42H

2. Name of Operator
XTO ENERGY INC (5380)

9. API Well No.
30-015- 37194

3a. Address **200 N. LORAINE ST., STE. 800 MIDLAND, TX 79701**

3b Phone No. *(include area code)* **432-620-6749**

10 Field and Pool, or Exploratory
NASH DRAW; BRUSHY CANYON

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **SHL: 2015' FNL & 505' FWL (E) SEC 18 T23S R30E**
At proposed prod. zone **BHL: 2015' FNL & 360' FEL (H) SEC 18 T23S R30E**

11. Sec., T. R. M. or Blk. and Survey or Area
SHL- SEC 18 T23S R30E

14. Distance in miles and direction from nearest town or post office*
17 MILES SOUTHEAST OF CARLSBAD

12. County or Parish **EDDY CO**

13. State **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) **360' (BHL)**

16. No. of acres in lease **5123 - UNIT**

17. Spacing Unit dedicated to this well **320**

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **APPROX 170'**

19 Proposed Depth ~~11100~~ (MD) ~~6923~~' (TVD) 11066 7033

20. BLM/BIA Bond No. on file **UTB000138**

21 Elevations (Show whether DF, KDB, RT, GL, etc.) **GL - 3017.9**

22. Approximate date work will start* **09/01/2009**

23. Estimated duration **40 DAYS**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall 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 shall 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 authorized officer.

25 Signature Sorina L Flores — Name *(Printed/Typed)* **SORINA L. FLORES** — Date **04/20/2009**

Title **DRILLING TECH**

Approved by *(Signature)* Rosemary E Herrell — Name *(Printed/Typed)* Rosemary E Herrell — Date **JUL 24 2009**

Title for STATE DIRECTOR — Office **NM STATE 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.

(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

XTO ENERGY

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Operator Name: XTO ENERGY INC

Street or Box: 200 N. Loraine St., Ste. 800

City, State: Midland, TX

Zip Code: 79701

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No: NMNM – 070992X

Legal Description of Land: NASH #42H,

SHL: 2015' FNL & 505' FWL ; UL: E Section: 18 Township: 23 South Range: 30 East
BHL: 2015' FNL & 360' FEL ; UL: H Section: 18 Township: 23 South Range: 30 East

County: Eddy State: New Mexico

Bond Coverage: $1,184,600.00

Statewide Oil and Gas Surety Bond, XTO ENERGY INC.

BLM Bond File No.: UTB000138

Signature: _____ Printed Name: Don Eubank

Title: Drilling Manager

Date: 4/20/2009

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015-37194	47545	Nash Draw; Brushy Canyon (Avalon Sand) Delaware/BS

Property Code	Property Name	Well Number
	NASH UNIT	42H

OGRID No.	Operator Name	Elevation
5380	XTO ENERGY	3018'

Surface Location

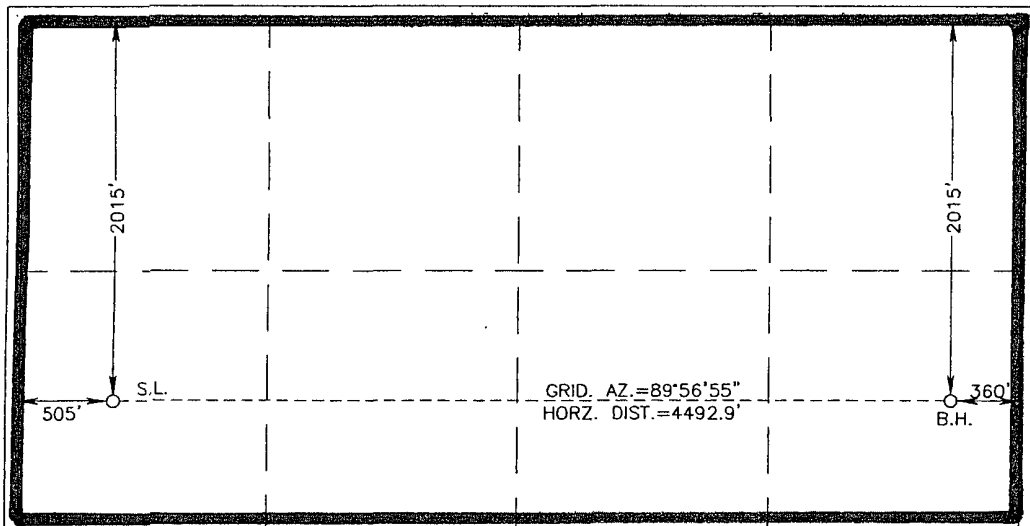
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	18	23-S	30-E		2015	NORTH	505	WEST	EDDY

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
H	18	23-S	30-E		2015	NORTH	360	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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



DETAIL
3002.3' 3020.8'
600'
600'
3013.3' 3027.0'

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION

Y=475520.8 N
X=625376.7 E

LAT.=32.306671° N
LONG.=103.927531° W

BOTTOM HOLE LOCATION
Y=475524.9 N
X=629868.7 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.

Signature 4/20/09 Date

Sorina L. Flores
Printed Name

SURVEYOR CERTIFICATION

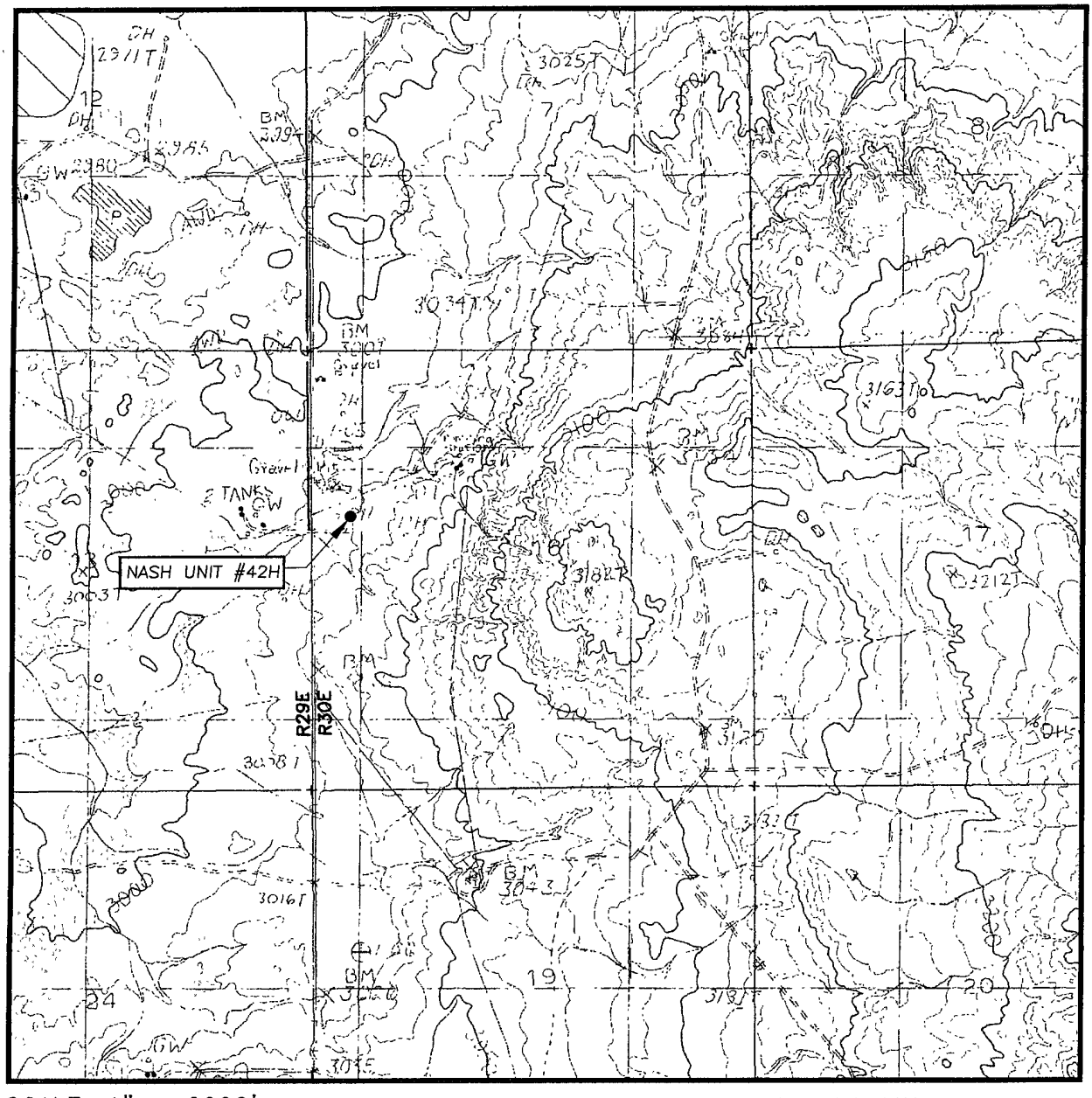
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MARCH 11, 2009
Date Surveyed LA

Signature & Seal of Professional Surveyor
RONALD J. EIDSON 3239 NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR
Ronald J. Eidson 03/27/09
09 11 0233

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

SEC. 18 TWP. 23-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2015' FNL & 505' FWL

ELEVATION 3018'

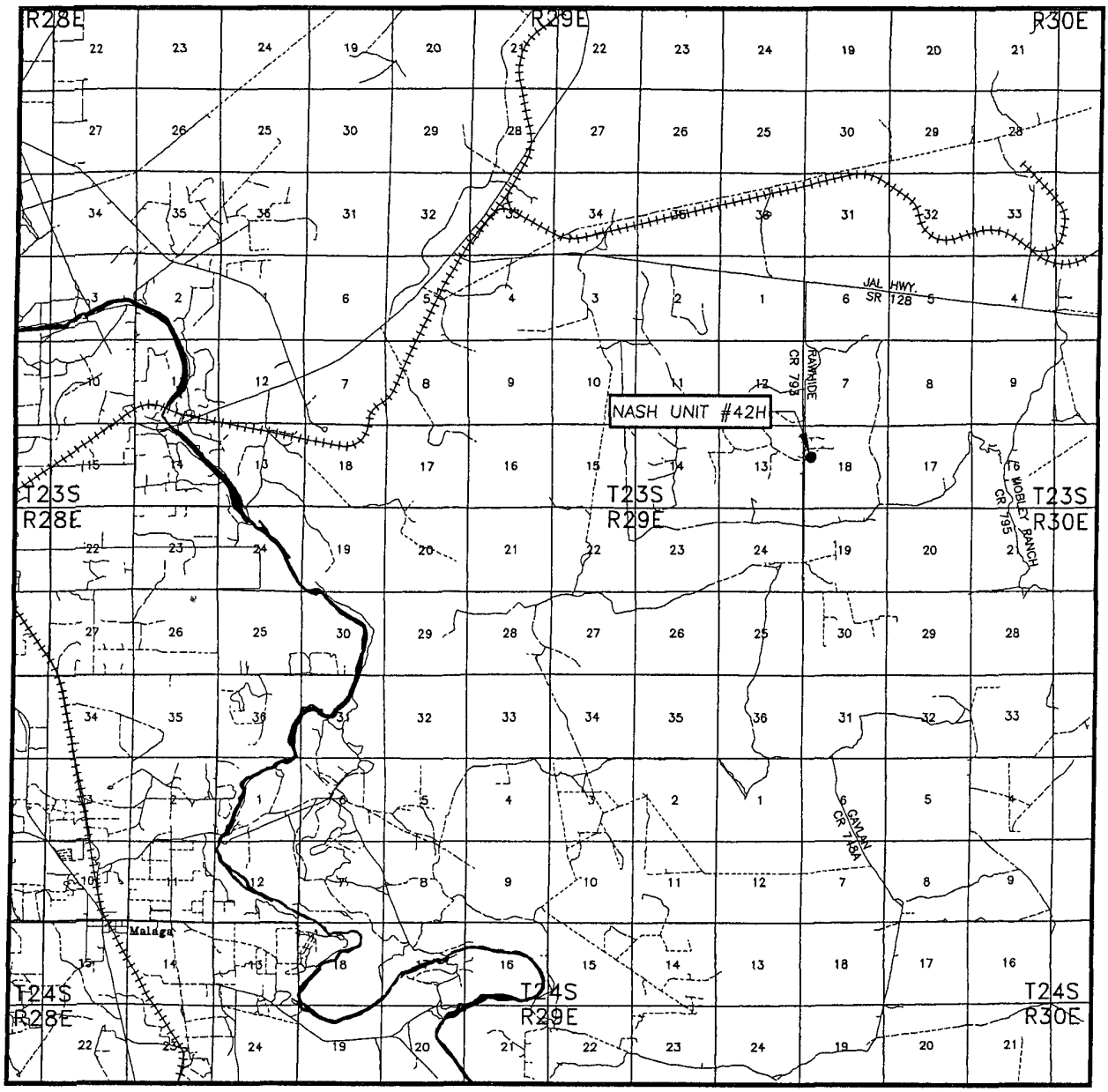
OPERATOR XTO ENERGY

LEASE NASH UNIT

U.S.G.S. TOPOGRAPHIC MAP
REMUDA BASIN, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 18 TWP. 23-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2015' FNL & 505' FWL

ELEVATION 3018'

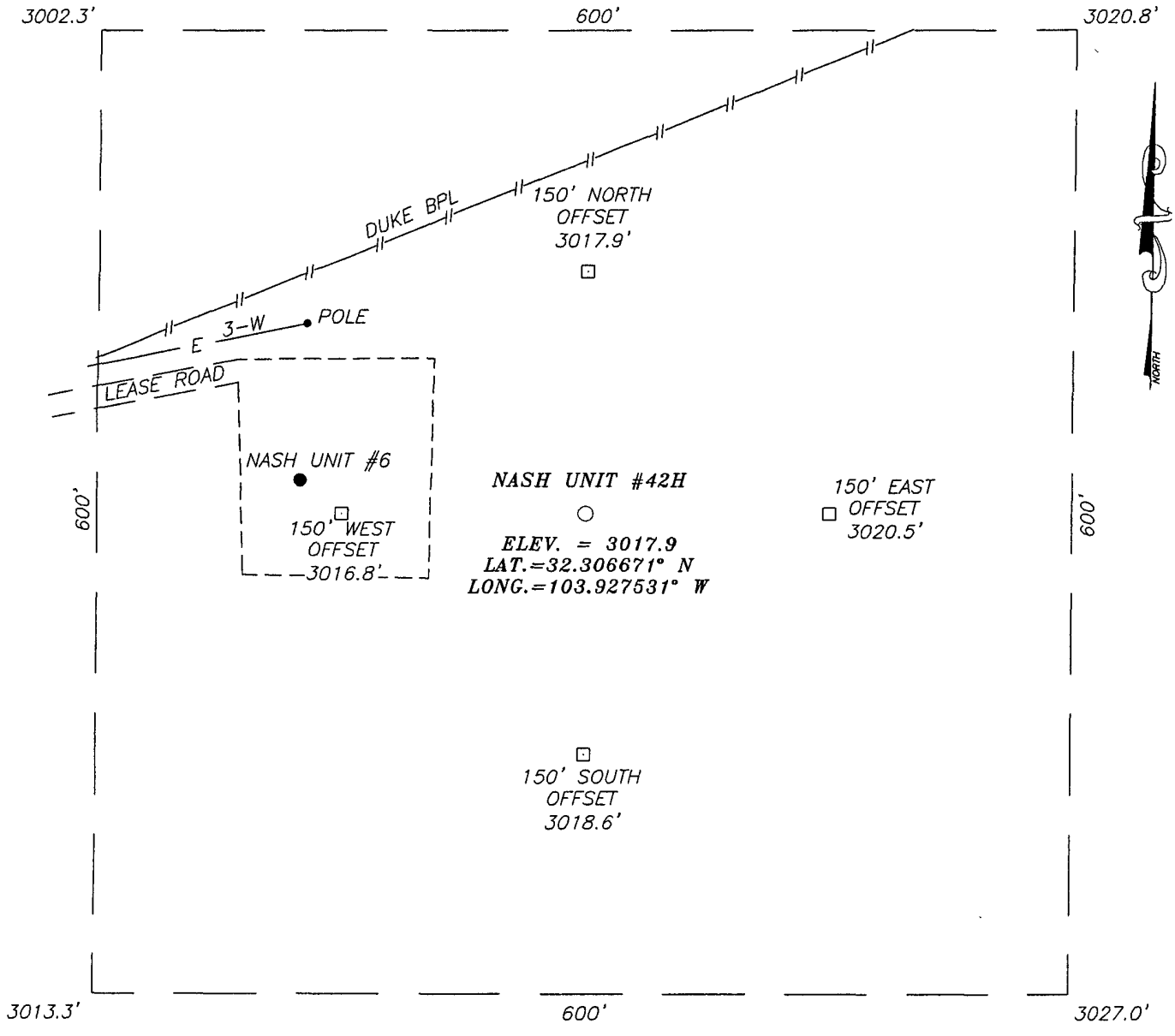
OPERATOR XTO ENERGY

LEASE NASH UNIT

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

SECTION 18, TOWNSHIP 23 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #128 AND CO. RD. #793 (RAWHIDE RD.), GO SOUTH ON RAWHIDE RD. APPROX. 2.1 MILES. TURN LEFT AND GO EAST APPROX. 0.1 MILES TO THE NASH UNIT #6 WELL PAD. THIS LOCATION IS APPROX. 175 FEET EAST.

100 0 100 200 Feet

Scale:1"=100'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

XTO ENERGY

NASH UNIT #42H WELL
LOCATED 2015 FEET FROM THE NORTH LINE
AND 505 FEET FROM THE WEST LINE OF SECTION 18,
TOWNSHIP 23 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 3/11/09	Sheet 1 of 1 Sheets	
W.O. Number: 09.11.0223	Dr By: LA	Rev 1:N/A
Date: 3/26/09	09110223	Scale:1"=100'

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

XTO Energy Inc.
Nash Well #42H
Projected TD: 11100 MD / TVD: 6900'
SHL: Section 18 T23S R30E (E)
BHL: Section 18 T23S R30E (H)
Eddy County, NM
Lease #: NMNM-070992X

1. **GEOLOGIC NAME OF SURFACE FORMATION:**
   A. Salido

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

Formation	Subsea Depth	Well Depth	Water / Oil / Gas
Top Salido Salt		327'	Water
Base of Salt		3213'	Water
Top Delaware		3257'	Water/Oil/Gas
Cherry Canyon		4120'	Water/Oil/Gas
Top Brushy Canyon		5584'	Water/Oil/Gas
Base Brushy Canyon		6724'	Water/Oil/Gas
Brushy Canyon E5 Zone		6902'	Water/Oil/Gas
Target/Land Curve		6923'	Water/Oil/Gas
TD/MD		11100'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon

See COA

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 @ ~~300'~~ and circulating cement back to surface. Potash/fresh water sands will be protected by setting 9-5/8" casing at 3300' and circulating cement to surface. The Brushy Canyon intervals will be isolated by setting 5-1/2" casing to total depth and circulating cement above the base of the 9-5/8" casing. ← See COA

3. **CASING PROGRAM:**

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – ~~300'~~ See COA	13-3/8"	48#	STC	H-40	New	2.24	.96	4.56
12-1/4"	0' – 3330'	9-5/8"	36#	LTC	J-55	New	2.12	1.38	3.35
8-3/4"	0' – ~~11100'~~ 11066	~~5-1/2"~~ 5-1/2"	17#	LTC	P-110	New	1.125	1.12	1.6

WELLHEAD:

A. Starting head: 13-5/8" 3000 psi top flange x 13-3/8" SOW bottom (to be removed upon setting intermediate casing)
B. Lower casing head: 11" 3000 psi top flange x 9-5/8" SOW bottom
C. "B" section: Casing hanger 11" bowl x 5-1/2" casing
D. Tubing spool: 11" 3000 psi bottom flange x 7-1/16" 500 psi top flange

4. CEMENT PROGRAM: (Note yields and DV tool depts. If multiple stages)

A. **Surface Casing:** 13-3/8", 48#, NEW H-40, STC casing to be set at ± 300'.

500 sx HalCem-C + 2% CaCl (14.80 ppg, 1.35 cu ft/sx, 6.39gal/sx wtr)
Compr Strengths: 12 hr -900 psi 24 hr – 1500 psi
***All volumes 100% excess. Cement to surface.

B. **Intermediate Casing:** 9-5/8",36#, NEW J-55, LTC casing to be set at ± 3300'.

Stage 1:

Lead: 20 bbls FW, then 900 sx EconoCem-HLC + 5% salt (mixed at 12.8 ppg, 1.92 ft^3/sk, 10.44 gal/sx wtr) Compr Strengths 12 hr – 319 psi 24 hr – 653 psi

Tail: 250 sx HalCem-C + 1% CaCl (mixed at 14.8 ppg, 1.34 ft^3/sk, 6.36 gal/sx wtr)
Compr Strengths: 12 hr – 900 psi 24 hr – 1500 psi
***All volumes 100% excess. Cement to surface.

C. **Production Casing:** 5-1/2", 17#, NEW P-110, LTC casing to be set at ± 11100' w/DVT @ 5500'

Stage 1:
Lead: 150 sx EconoCem-H + 0.4% Halad R-9 + 0.1% HR-7 (mixed at 11.9 ppg, 2.48 cuft/sx, 14.39 gal/sx wtr) Compr Strengths 24 hr – 340 psi 48 hr – 515 psi ← See COA

Tail: 2000 sx CorossaCem-H + 0.5% LAP-1 + 0.4% CFR-3 + 0.1% HR-800 + .25 lb/sx D-air 3000 + 5 lb/sx Gilsonite (14.1ppg, 1.30 cuft/sx, 5.63 gal/sx wtr).
Compr Strengths: 24 hr – 290 psi 48 hr – 930 psi.
*** Cement to 5500'.

Stage 2: (thru DV Tool @ 5500')
Lead: 900 sx EconoCem HLC + 5% Salt (mixed at 12.8 ppg, 1.92 cuft/sx, 10.44 gal/sx wtr)
Compr Strengths: 12 hr – 319 psi 24 hr – 653 psi

Tail: 150 sx HalCem C (mixed at 14.8 ppg, 1.33 cuft/sx, 6.34 gal/sx wtr)
Compr Strengths: 12 hr – 900 psi 24 hr – 1500 psi
*** Cement to Surface.

5. PRESSURE CONTROL EQUIPMENT:

See COA

The blow out preventer equipment (BOP) diagram is attached to this Drilling Plan. It consists of a 5000 psi double ram type preventer for drilling the intermediate hole. The blowout preventer stack for the production hole will consist of a double ram blowout preventer and annular preventer rated to 5000 psi working pressure. All BOPs and accessory equipment will be tested according to Onshore Order #2 before drilling out. A hydraulic closing unit will be a part of this equipment and will be function tested daily.

6. PROPOSED MUD CIRCULATION SYSTEM:

See COA

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 300'	17-1/2"	FW/Native	8.5-8.8	35-40	NC
285' to 3330' +/-	12-1/4"	Brine/Gel Sweeps	9.8-10.2	30-32	NC
3300' to 6000'	8-3/4"	Cut Brine/ Poly-Sweeps	9.2-9.4	29-32	NC-30
6000' to 11100'	8-3/4"	Cut Brine/Poly-Starch	9.2-9.4	32-38	18-15-10

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. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Use available solids controls equipment to help keep mud weight down after mud up. Rig up Dynamic Energy Systems' solids control equipment to operate as a closed loop system.

7. AUXILIARY WEL 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. Hydrogen sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

8. LOGGING, CORING AND TESTING PROGRAM:

A. Mud Logger: Suttles Mud Logging Unit (2 man) on @ 6000'.
Catch 10' samples from 6000' to 11100' (TD).
Send 1 set of dry samples to Midland Sample Library.

B. Open hole logging program: Halliburton to run Gamma Ray Neutron from base of ~~Salido~~ Salado to surf.
?? surface casing will be in place

9. ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS:

No H2S anticipated. Max bottom hole pressure should not exceed 2500psi. BHT of 175 F is anticipated. 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:

A. Road and location construction will begin after Santa Fe & BLM has approved APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run then 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. Deviation:
Surface Hole: Maximum of 1° and not more than 1° change per 100'.
Intermediate Hole: Maximum of 4° and not more than 1.5° change per 100'.
Production hole: Maximum of 6° and not more than 1.5° change per 100'.
Note: Maximum distance between surveys is 500'.

C. WOC a minimum of ~~12~~ 24 hours before drilling out shoe joint on surface and intermediate casing strings. See COA Use minimal WOB and RPM until drill collars are below the shoe joints.

D. Check BOP blind rams each trip and pipe rams each day. Strap out of hole for logging and/or casing jobs.

E. 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.

F. Closed loop system per C-144, attached.

XTO ENERGY

XTO

Eddy County
Nash Unit #42H
#42H
OH

Plan: Plan #1

Pathfinder X & Y Survey Report

30 March, 2009

PATHFINDER

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Project Eddy County

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Nash Unit #42H

Site Position:		**Northing:**	475,520.800 ft	**Latitude:**	32° 18' 24.015 N
From:	Map	**Easting:**	625,376.700 ft	**Longitude:**	103° 55' 39.110 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0.22 °

Well #42H

Well Position	**+N/-S**	0.00 ft	**Northing:**	475,520.800 ft	**Latitude:**	32° 18' 24.015 N
	+E/-W	0.00 ft	**Easting:**	625,376.700 ft	**Longitude:**	103° 55' 39.110 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,017.00 ft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	3/24/2009	8.01	60.27	48,902

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.00	0.00	0.00	90.00

Survey Tool Program **Date** 3/30/2009

From (ft)	**To (ft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
0.00	11,065.74	Plan #1 (OH)	MWD	MWD - Standard

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0.00	0.00	0.00	0.00	-3,029.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
100.00	0.00	0.00	100.00	-2,929.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
200.00	0.00	0.00	200.00	-2,829.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
300.00	0.00	0.00	300.00	-2,729.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
327.00	0.00	0.00	327.00	-2,702.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
Rustler										
400.00	0.00	0.00	400.00	-2,629.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
500.00	0.00	0.00	500.00	-2,529.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
600.00	0.00	0.00	600.00	-2,429.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
700.00	0.00	0.00	700.00	-2,329.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
800.00	0.00	0.00	800.00	-2,229.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
900.00	0.00	0.00	900.00	-2,129.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,000.00	0 00	0.00	1,000.00	-2,029.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,100.00	0.00	0.00	1,100.00	-1,929.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,200.00	0.00	0.00	1,200.00	-1,829.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,300.00	0.00	0.00	1,300.00	-1,729.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,400.00	0.00	0.00	1,400.00	-1,629.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,500.00	0.00	0.00	1,500.00	-1,529.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,600.00	0.00	0.00	1,600.00	-1,429.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,700.00	0.00	0.00	1,700.00	-1,329.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,800.00	0.00	0.00	1,800.00	-1,229.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
1,900.00	0.00	0.00	1,900.00	-1,129.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,000.00	0.00	0.00	2,000.00	-1,029.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,100.00	0.00	0.00	2,100.00	-929.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,200.00	0.00	0.00	2,200.00	-829.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,300.00	0.00	0.00	2,300.00	-729.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,400.00	0.00	0.00	2,400.00	-629.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,500.00	0.00	0.00	2,500.00	-529.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,600.00	0.00	0.00	2,600.00	-429.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,700.00	0.00	0.00	2,700.00	-329.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,800.00	0.00	0.00	2,800.00	-229.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
2,900.00	0.00	0.00	2,900.00	-129.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,000.00	0.00	0.00	3,000.00	-29.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,100.00	0.00	0.00	3,100.00	71.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,200.00	0.00	0.00	3,200.00	171.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,213.00	0.00	0.00	3,213.00	184.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
Base Castile										
3,257.00	0.00	0.00	3,257.00	228.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
Bell Canyon										
3,300.00	0.00	0.00	3,300.00	271.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,400.00	0.00	0.00	3,400.00	371.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,500.00	0.00	0.00	3,500.00	471.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,600.00	0.00	0.00	3,600.00	571.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,700.00	0.00	0.00	3,700.00	671.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,800.00	0.00	0.00	3,800.00	771.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
3,900.00	0.00	0.00	3,900.00	871.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,000.00	0.00	0.00	4,000.00	971.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,100.00	0.00	0.00	4,100.00	1,071.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,120.00	0.00	0.00	4,120.00	1,091.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
Cherry Canyon										
4,200.00	0.00	0.00	4,200.00	1,171.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,300.00	0.00	0.00	4,300.00	1,271.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,400.00	0.00	0.00	4,400.00	1,371.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,500.00	0.00	0.00	4,500.00	1,471.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
4,600.00	0.00	0.00	4,600.00	1,571.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,700.00	0.00	0.00	4,700.00	1,671.00	0.00	0.00	0.00	0.00	475,520 80	625,376.70
4,800.00	0.00	0.00	4,800.00	1,771.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
4,900.00	0.00	0.00	4,900.00	1,871.00	0.00	0.00	0.00	0 00	475,520.80	625,376.70
5,000.00	0.00	0.00	5,000.00	1,971.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
5,100.00	0.00	0.00	5,100.00	2,071.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
5,200.00	0.00	0.00	5,200.00	2,171.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
5,300.00	0.00	0.00	5,300.00	2,271.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
5,400.00	0.00	0.00	5,400.00	2,371.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
5,500.00	0.00	0.00	5,500.00	2,471.00	0.00	0.00	0.00	0.00	475,520 80	625,376 70
5,584.00	0.00	0.00	5,584.00	2,555.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
Brushy Canyon										
5,600.00	0.00	0.00	5,600.00	2,571.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
5,700.00	0.00	0.00	5,700.00	2,671.00	0 00	0.00	0.00	0 00	475,520.80	625,376.70
5,800.00	0.00	0.00	5,800.00	2,771.00	0 00	0.00	0.00	0.00	475,520.80	625,376.70
5,900.00	0.00	0.00	5,900.00	2,871.00	0.00	0.00	0.00	0.00	475,520.80	625,376.70
6,000.00	0.00	0.00	6,000.00	2,971.00	0.00	0.00	0.00	0.00	475,520 80	625,376.70
6,105.00	0.00	0.00	6,105.00	3,076.00	0.00	0.00	0.00	0.00	475,520.80	625,376 70
KOP - 6105.00'MD, 0.00°INC, 0.00°AZI, 6105.00'TVD										
6,150.00	3.15	90.00	6,149.98	3,120.98	0.00	1.24	1.24	7.00	475,520 80	625,377 94
6,200.00	6.65	90.00	6,199.79	3,170.79	0 00	5.51	5.51	7.00	475,520.80	625,382 21
6,250.00	10.15	90.00	6,249.24	3,220 24	0.00	12.81	12.81	7.00	475,520.80	625,389 51
6,300.00	13.65	90.00	6,298.16	3,269.16	0 00	23.12	23.12	7.00	475,520.80	625,399.82
6,350.00	17.15	90 00	6,346.36	3,317 36	0.00	36.40	36.40	7 00	475,520 80	625,413.10
6,400.00	20.65	90 00	6,393 65	3,364.65	0.00	52.60	52.60	7.00	475,520 80	625,429 30
6,450.00	24.15	90.00	6,439.87	3,410.87	0.00	71.65	71.65	7 00	475,520.80	625,448.35
6,500.00	27.66	90.00	6,484.84	3,455.84	0.00	93.49	93 49	7.00	475,520.80	625,470.19

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
6,550.00	31.16	90.00	6,528.39	3,499.39	0.00	118.04	118.04	7.00	475,520.80	625,494.74
6,600.00	34.66	90.00	6,570.36	3,541.36	0.00	145.20	145.20	7.00	475,520.80	625,521.90
6,650.00	38.16	90.00	6,610.60	3,581.60	0.00	174.87	174.87	7.00	475,520.80	625,551.57
6,700.00	41.66	90.00	6,648.95	3,619.95	0.00	206.94	206.94	7.00	475,520.80	625,583.64
6,750.00	45.16	90.00	6,685.26	3,656.26	0.00	241.29	241.29	7.00	475,520.80	625,617.99
6,800.00	48.66	90.00	6,719.42	3,690.42	0.00	277.80	277.80	7.00	475,520.80	625,654.50
6,806.97	49.15	90.00	6,724.00	3,695.00	0.00	283.05	283.05	7.00	475,520.80	625,659.75
Basal Brushy Canyon										
6,850.00	52.16	90.00	6,751.28	3,722.28	0.00	316.33	316.33	7.00	475,520.80	625,693.03
6,900.00	55.66	90.00	6,780.73	3,751.73	0.00	356.72	356.72	7.00	475,520.80	625,733.42
6,950.00	59.16	90.00	6,807.65	3,778.65	0.00	398.85	398.85	7.00	475,520.80	625,775.55
7,000.00	62.66	90.00	6,831.96	3,802.96	0.00	442.53	442.53	7.00	475,520.80	625,819.23
7,050.00	66.16	90.00	6,853.55	3,824.55	0.00	487.62	487.62	7.00	475,520.80	625,864.32
7,100.00	69.66	90.00	6,872.35	3,843.35	0.00	533.94	533.94	7.00	475,520.80	625,910.64
7,150.00	73.16	90.00	6,888.28	3,859.28	0.00	581.33	581.33	7.00	475,520.80	625,958.03
7,200.00	76.66	90.00	6,901.29	3,872.29	0.00	629.60	629.60	7.00	475,520.80	626,006.30
7,203.09	76.88	90.00	6,902.00	3,873.00	0.00	632.61	632.61	7.00	475,520.80	626,009.31
Brushy Canyon E5 Zone										
7,250.00	80.16	90.00	6,911.33	3,882.33	0.00	678.57	678.57	7.00	475,520.80	626,055.27
7,300.00	83.67	90.00	6,918.36	3,889.36	0.00	728.07	728.07	7.00	475,520.80	626,104.77
7,350.00	87.17	90.00	6,922.36	3,893.36	0.00	777.90	777.90	7.00	475,520.80	626,154.60
7,366.20	88.30	90.00	6,923.00	3,894.00	0.00	794.08	794.08	7.00	475,520.80	626,170.78
EOC @ 7366.20'MD, 6923.00'TVD, 88.30°INC, 90.00°AZI, 794.09'VS										
7,400.00	88.30	90.00	6,924.00	3,895 00	0.00	827.87	827.87	0.00	475,520.80	626,204.57
7,500.00	88.30	90.00	6,926.97	3,897.97	0.00	927.83	927.83	0.00	475,520.80	626,304.53
7,600.00	88.30	90.00	6,929.94	3,900.94	0.00	1,027.78	1,027.78	0.00	475,520.80	626,404.48
7,700.00	88.30	90.00	6,932.90	3,903.90	0.00	1,127.74	1,127.74	0.00	475,520.80	626,504.44
7,800.00	88.30	90.00	6,935.87	3,906.87	0.00	1,227.70	1,227.70	0.00	475,520.80	626,604.40

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,900.00	88.30	90.00	6,938.84	3,909.84	0.00	1,327.65	1,327.65	0.00	475,520.80	626,704.35
8,000.00	88.30	90.00	6,941.80	3,912.80	0.00	1,427.61	1,427.61	0.00	475,520.80	626,804.31
8,100.00	88.30	90.00	6,944.77	3,915.77	0.00	1,527.56	1,527.56	0.00	475,520.80	626,904.26
8,200.00	88.30	90.00	6,947.74	3,918.74	0.00	1,627.52	1,627.52	0.00	475,520.80	627,004.22
8,300.00	88.30	90.00	6,950.70	3,921.70	0.00	1,727.48	1,727.48	0.00	475,520.80	627,104.18
8,400.00	88.30	90.00	6,953.67	3,924.67	0.00	1,827.43	1,827.43	0.00	475,520.80	627,204.13
8,500.00	88.30	90.00	6,956.64	3,927.64	0.00	1,927.39	1,927.39	0.00	475,520.80	627,304.09
8,600.00	88.30	90.00	6,959.60	3,930.60	0.00	2,027.34	2,027.34	0.00	475,520.80	627,404.04
8,700.00	88.30	90.00	6,962.57	3,933.57	0.00	2,127.30	2,127.30	0.00	475,520.80	627,504.00
8,800.00	88.30	90.00	6,965.54	3,936.54	0.00	2,227.26	2,227.26	0.00	475,520.80	627,603.96
8,900.00	88.30	90.00	6,968.50	3,939.50	0.00	2,327.21	2,327.21	0.00	475,520.80	627,703.91
9,000.00	88.30	90.00	6,971.47	3,942.47	0.00	2,427.17	2,427.17	0.00	475,520.80	627,803.87
9,100.00	88.30	90.00	6,974.44	3,945.44	0.00	2,527.12	2,527.12	0.00	475,520.80	627,903.82
9,200.00	88.30	90.00	6,977.40	3,948.40	0.00	2,627.08	2,627.08	0.00	475,520.80	628,003.78
9,300.00	88.30	90.00	6,980.37	3,951.37	0.00	2,727.04	2,727.04	0.00	475,520.80	628,103.74
9,400.00	88.30	90.00	6,983.34	3,954.34	0.00	2,826.99	2,826.99	0.00	475,520.80	628,203.69
9,500.00	88.30	90.00	6,986.30	3,957.30	0.00	2,926.95	2,926.95	0.00	475,520.80	628,303.65
9,600.00	88.30	90.00	6,989.27	3,960.27	0.00	3,026.90	3,026.90	0.00	475,520.80	628,403.60
9,700.00	88.30	90.00	6,992.24	3,963.24	0.00	3,126.86	3,126.86	0.00	475,520.80	628,503.56
9,800.00	88.30	90.00	6,995.20	3,966.20	0.00	3,226.82	3,226.82	0.00	475,520.80	628,603.52
9,900.00	88.30	90.00	6,998.17	3,969.17	0.00	3,326.77	3,326.77	0.00	475,520.80	628,703.47
10,000.00	88.30	90.00	7,001.14	3,972.14	0.00	3,426.73	3,426.73	0.00	475,520.80	628,803.43
10,100.00	88.30	90.00	7,004.10	3,975.10	0.00	3,526.68	3,526.68	0.00	475,520.80	628,903.38
10,200.00	88.30	90.00	7,007.07	3,978.07	0.00	3,626.64	3,626.64	0.00	475,520.80	629,003.34
10,300.00	88.30	90.00	7,010.03	3,981.03	0.00	3,726.60	3,726.60	0.00	475,520.80	629,103.30
10,400.00	88.30	90.00	7,013.00	3,984.00	0.00	3,826.55	3,826.55	0.00	475,520.80	629,203.25
10,500.00	88.30	90.00	7,015.97	3,986.97	0.00	3,926.51	3,926.51	0.00	475,520.80	629,303.21

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
10,600.00	88.30	90.00	7,018.93	3,989.93	0.00	4,026.46	4,026.46	0.00	475,520.80	629,403.16
10,700.00	88.30	90.00	7,021.90	3,992.90	0.00	4,126.42	4,126.42	0.00	475,520.80	629,503.12
10,800.00	88.30	90.00	7,024.87	3,995.87	0.00	4,226.38	4,226.38	0.00	475,520.80	629,603.08
10,900.00	88.30	90.00	7,027.83	3,998.83	0.00	4,326.33	4,326.33	0.00	475,520.80	629,703.03
11,000.00	88.30	90.00	7,030.80	4,001.80	0.00	4,426.29	4,426.29	0.00	475,520.80	629,802.99
11,064.00	88.30	90.00	7,032.70	4,003.70	0.00	4,490.26	4,490.26	0.00	475,520.80	629,866.96
TD @11065.74'MD, 7032.75'TVD, 88.30°INC, 90.00°AZI, 4492.00'VS										
11,065.74	88.30	90.00	7,032.75	4,003.75	0.00	4,492.00	4,492.00	0.00	475,520.80	629,868.70
PBHL (Nash #42)										

Company:	XTO	**Local Co-ordinate Reference:**	Well #42H
Project:	Eddy County	**TVD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Site:	Nash Unit #42H	**MD Reference:**	WELL @ 3029.00ft (RKB Key 36 = 12')
Well:	#42H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	EDM 2003.16 Single User Db

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (Nash #42) - plan misses by 13.92ft at 11065.74ft MD (7032.75 TVD, 0.00 N, 4492.00 E) - Point	0.00	0.00	7,046.05	4.10	4,492.00	475,524.900	629,868.700	32° 18' 23.884 N	103° 54' 46.770 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,257.00	3,257.00	Bell Canyon		0.00	
5,584.00	5,584.00	Brushy Canyon		0.00	
7,203.09	6,902.00	Brushy Canyon E5 Zone		0.00	
3,213.00	3,213.00	Base Castile		0.00	
6,806.97	6,724.00	Basal Brushy Canyon		0.00	
4,120.00	4,120.00	Cherry Canyon		0.00	
327.00	327.00	Rustler		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
6,105.00	6,105.00	0.00	0.00	KOP - 6105.00'MD, 0.00°INC, 0.00°AZI, 6105.00'TVD
7,366.20	6,923.00	0.00	794.08	EOC @ 7366.20'MD, 6923.00'TVD, 88.30°INC, 90.00°AZI, 794.09'VS
11,064.00	7,032.70	0.00	4,490.26	TD @11065.74'MD, 7032.75'TVD, 88.30°INC, 90.00°AZI, 4492.00'VS

Checked By: _____ Approved By: _____ Date: _____

XTO ENERGY

Azimuths to Grid North
True North: -0.22°
Magnetic North: 7.79°

Magnetic Field
Strength: 48901.6snT
Dip Angle: 60.27°
Date: 03/24/2009
Model: IGRF200510

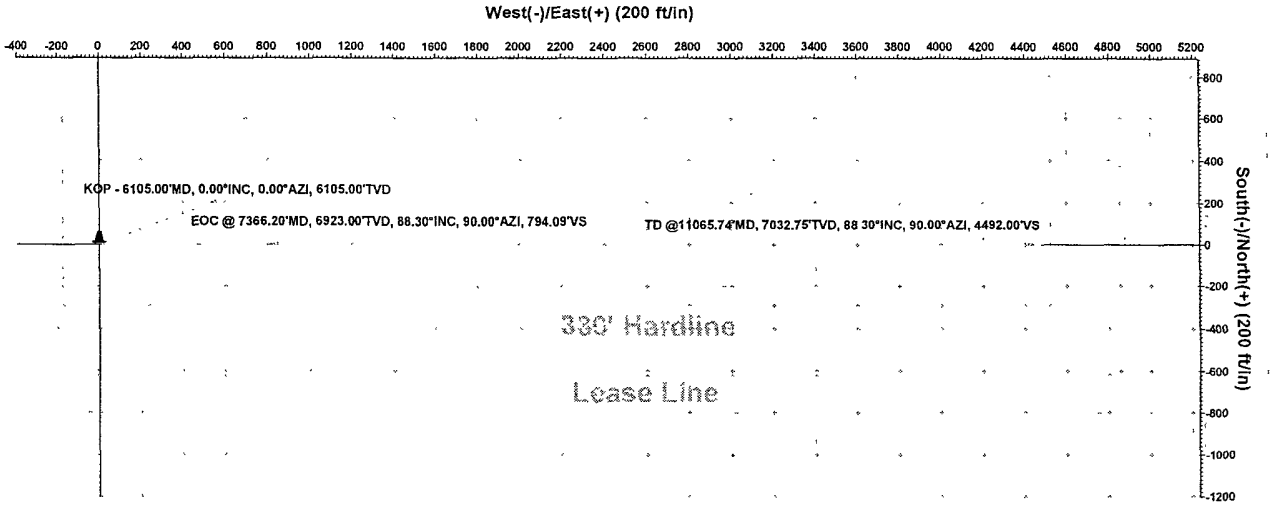
PATHFINDER

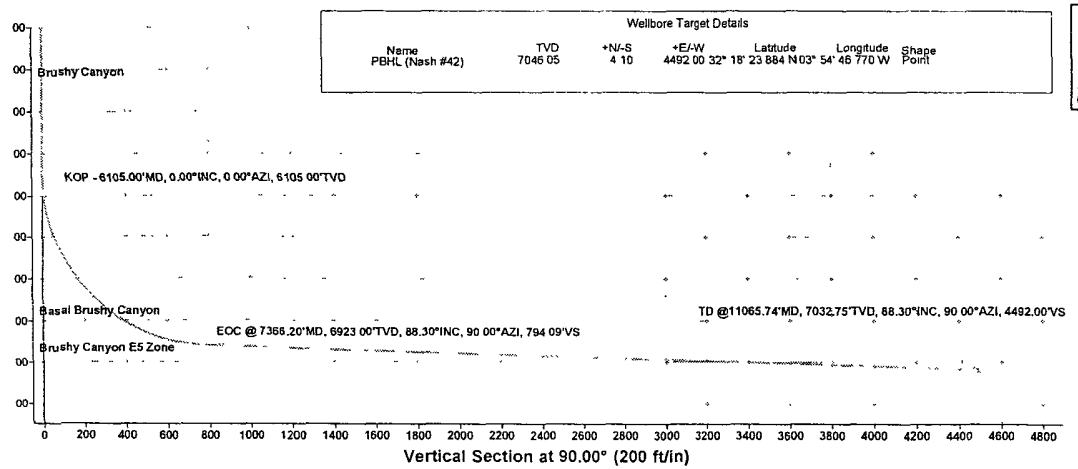
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0 00	0 00	0.00	0.00	0 00	0 00	0.00	0 00	0 00	
15 00	0 00	0.00	6105.00	0 00	0 00	0 00	0.00	0 00	
16 20	88 30	90.00	6923.00	0 00	794.08	7.00	90 00	794 08	
15 74	88 30	90.00	7032.75	0 00	4492.00	0.00	0.00	4492.00	PBHL (Nash #42)

Formation Top Details

TVDPath	MDPath	Formation
327 00	327 00	Rustler
3213 00	3213 00	Base Castile
3257 00	3257 00	Bell Canyon
4120 00	4120 00	Cherry Canyon
5584 00	5584 00	Brushy Canyon
6724 00	6806 97	Basal Brushy Canyon
6902 00	7203 09	Brushy Canyon E5 Zone





Wellbore Target Details

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL (Nash #42)	7046.05	4.10	4492.00	32° 18' 23.884 N	103° 54' 46.770 W	Point

WELL DETAILS. #42H

Ground Elevation.. 3017.00
RKB Elevation: WELL @ 3029.00ft (RKB Key 36 = 12')
Rig Name RKB Key 36 = 12'

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	475520.800	625376.700	32° 18' 24.015 N	103° 55' 39.110 W	

Project: Eddy County
Site: Nash Unit #42H
Well: #42H
Wellbore: OH
Plan: Plan #1 (#42H/OH)

PROJECT DETAILS. Eddy County
Geodetic System. US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan Plan #1 (#42H/OH)
Created By Nate Bingham Date. 13.37, March 31 2009
Checked _____ Date.

DESIGN PLAN, OPERATING & MAINTENANCE PLAN, & CLOSURE PLAN FOR OCD FOR C-144

NASH UNIT #42H
Lease #: NMNM-070992X

DESIGN PLAN

Fluid & cuttings coming from drilling operations will pass over the Shale Shaker with the cuttings going to the CRI haul off bin and the cleaned fluid returning to the working steel pits.

Equipment includes:

2 – 500 bbl steel tanks (fresh) & 3 – frac tanks (brine)
3 – steel working pits, 1100 bbl system
3 – 20 cu yards steel haul off bins (calc'd cutting is 364 cu yards)
2 – Pumps – PZ9
1 – Shale shaker
1 – Desander – desilter (if needed)
1 – Mud cleaner (if needed)
1 – Centrifuge (2 if needed)

OPERATING AND MAINTENANCE PLAN

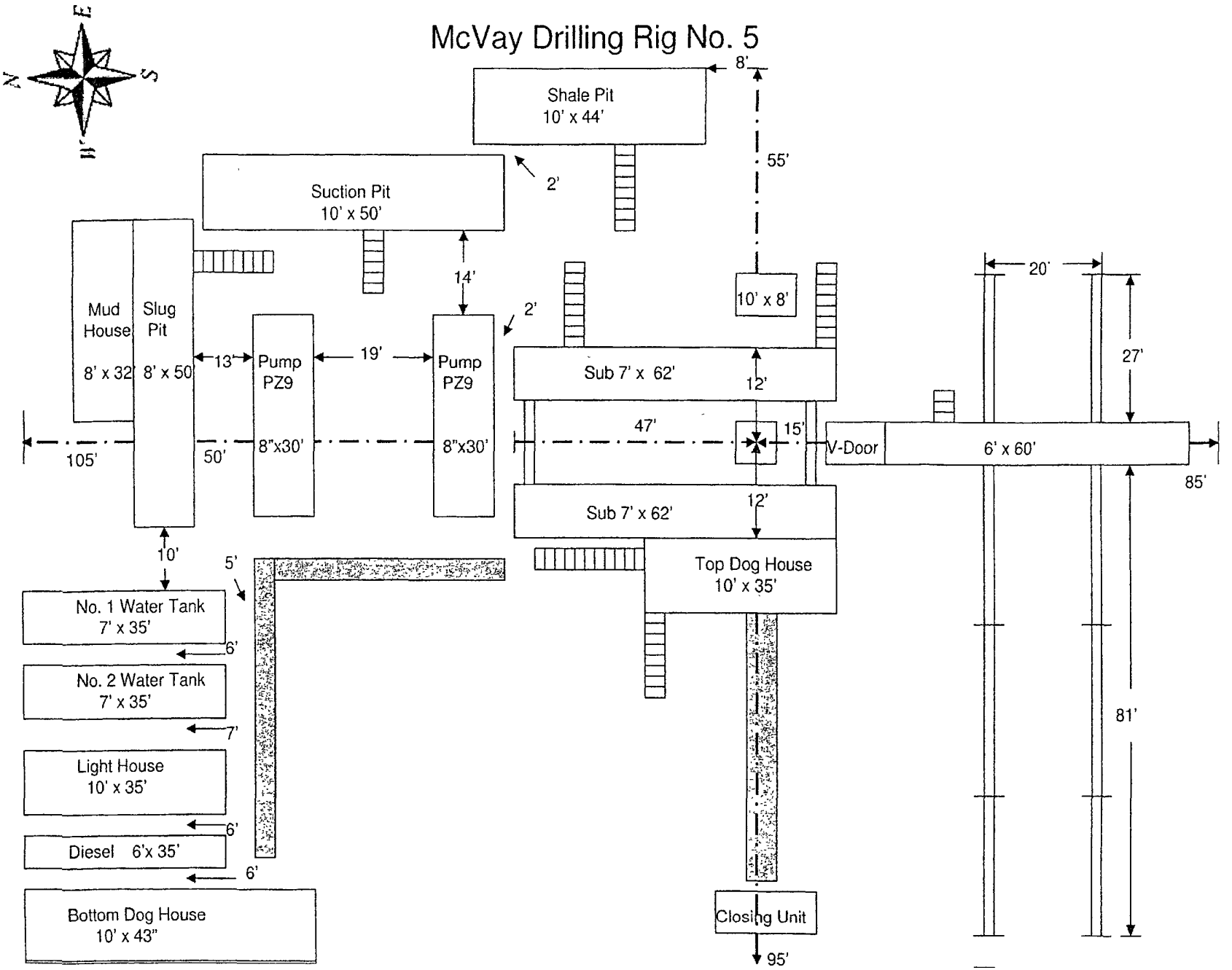
Inspection to occur every tour for proper operation of system and individual components. If any problems are found they will be repaired and/or corrected immediately.

CLOSURE PLAN

All haul bins containing cuttings will be removed from location and hauled to Controlled Recovery, Inc's (#NM-01-0006) disposal site located near mile marker 66 on Highway 62/180.

Chip Amrock
Sr. Drilling Engineer

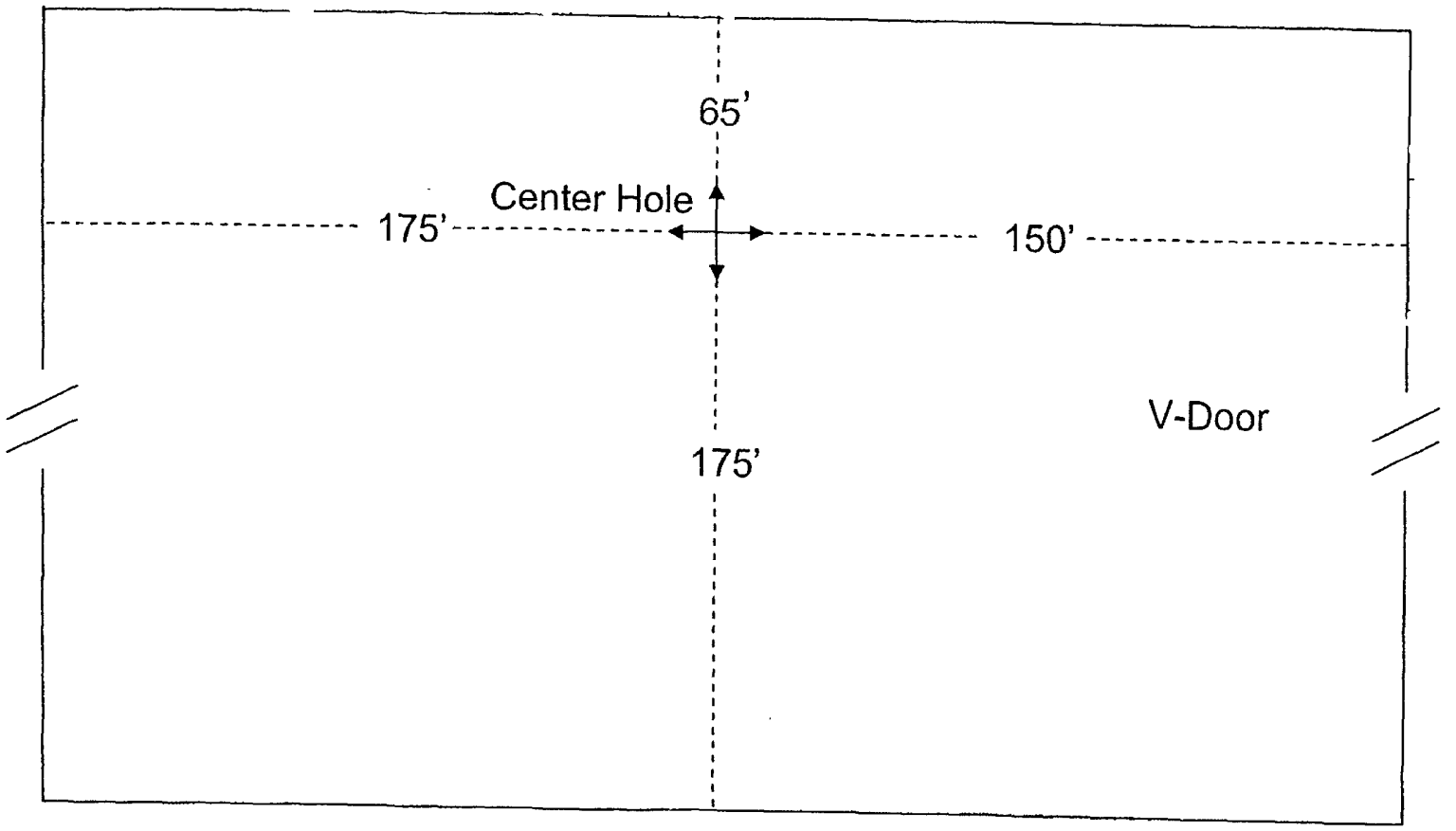
McVay Drilling Rig No. 5



McVay Drilling Co.

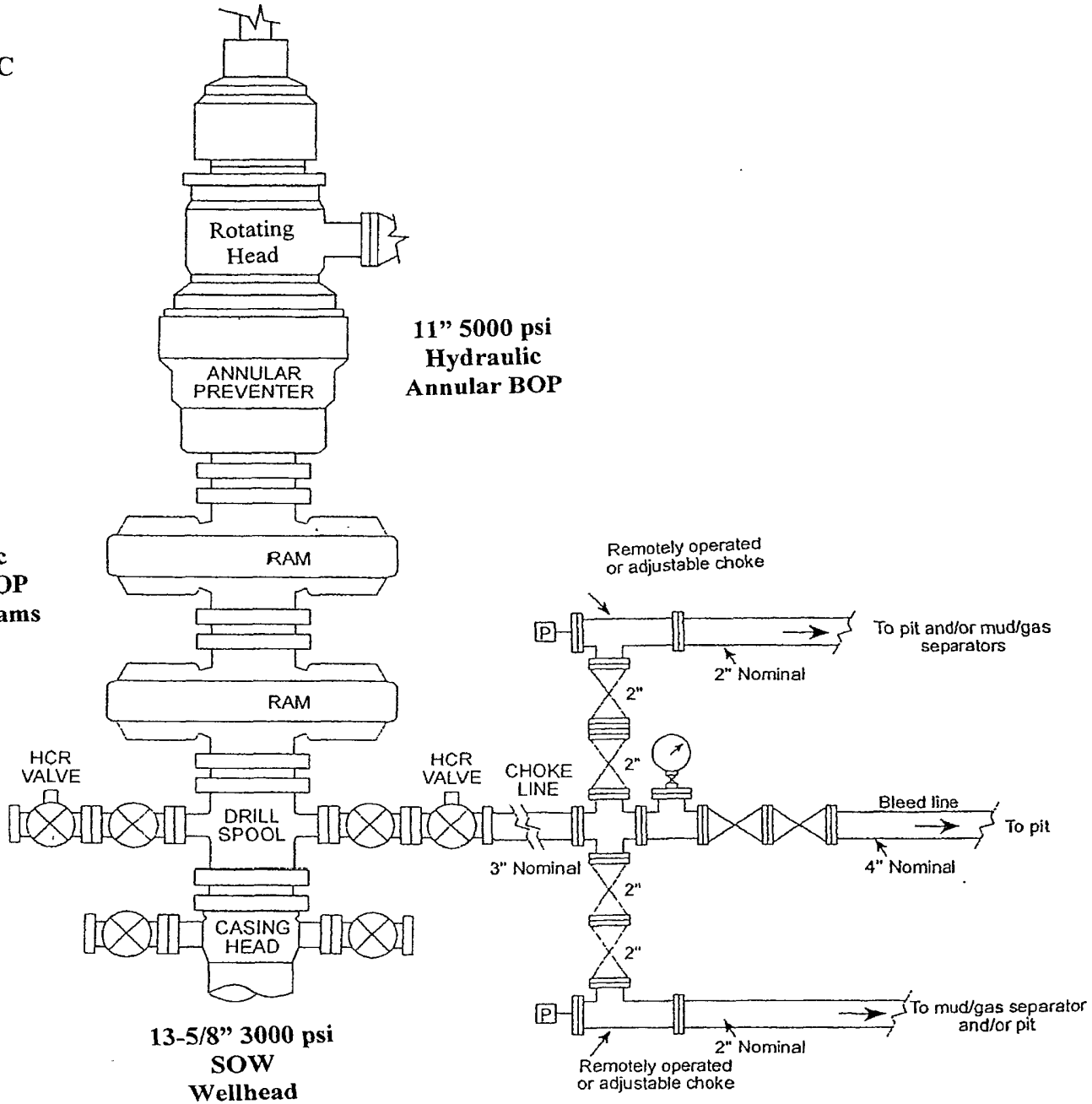
Location Platt

Rig 5



XTO ENERGY INC

Nash Unit #42H



11" 5000 psi Hydraulic Annular BOP

11" Hydraulic Double Ram BOP Blinds X Pipe Rams

13-5/8" 3000 psi SOW Wellhead

5000 psi Working Pressure BOPE Configuration and Choke Manifold

April 20, 2009

Sorina Flores
XTO Energy Inc.
200 N. Loraine St., Ste. 800
Midland, TX 79701
432-620-6749
sorina_flores@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 #42H located in Section 18, T23S, R30E, 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,

Sorina Flores
Drilling Tech.

EUNICE OFFICE – EDDY & LEA COUNTIES

EMSU @ Oil Center, NM, 8/10ths mile west of Hwy 8 on Hwy 175 Eunice, NM	575-394-2089
Buckeye Office @ Lea County: From Hobbs, NM take Hwy 62/180 West Approx. 10 miles to SH 529, turn NW on SH 529 for 3 miles, turn North On Hwy 238, proceed North approx 8 miles to Buckeye field office (1/4 mile North of Buckeye store)	575-396-0542

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
Jerry Parker, Buckeye Production Foreman	575-441-1628
David Paschal, Eunice Monument Production Foreman	575-390-7167
Gene Hudson, Maintenance Foreman	575-441-1634
Guy Haykus, Production Superintendent	575-634-5677

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

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

Hydrogen Sulfide Training:

All regularly assigned personnel, contracted or employed by XTO Energy, Inc. will receive training from qualified instructor(s) in the following areas prior to commencing drilling possible hydrogen sulfide bearing formations in this well:

The hazards and characteristics of hydrogen sulfide (H2S)
The proper use and maintenance of personal protective equipment and life support systems.
The proper use of H2S detectors, alarms, warning systems, briefing area, evacuation procedures & prevailing winds.
The proper techniques for first aid and rescue procedures.

Supervisory personnel will be trained in the following areas:

The effects of H2S on metal components. If high tensile tubulars are to be utilized, personnel will be trained in their special maintenance requirements.

Corrective action & shut-in procedures when drilling or reworking a well & blowout prevention / well control procedures.

The contents and requirements of the H2S Drilling Operations Plan

H2S SAFETY EQUIPMENT AND SYSTEMS:

Well Control Equipment:

Flare Line w/continuous pilot. Choke manifold with a minimum of one remote choke.
Blind rams and pipe rams to accommodate all pipe sizes w/properly sized closing unit.
Auxiliary equipment to include: annular preventer, ude-gas separator, rotating head & flare.

Protective Equipment for Essential Personnel:

Mark II Survive-air 30 minute units located in dog house & at briefing areas, as indicated on wellsite diagram.

H2S Dection and Monitoring Equipment:

Two portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

One portable H2S monitor positioned near flare line.

H2S Visual Warning Systems:

Wind direction indicators are shown on wellsite diagram.
Caution / Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

Mud Program:

The Mud Program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weights, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones. A mud-gas separator will be utilized as needed.

Metallurgy:

All drill strings, casing, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and line and valves will be suitable for H2S service.

Communication:
Cellular telephone communications in company vehicles, rig floor and mud logging trailer.

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).

XTO ENERGY INC

H2S BATTERY SURVEY

LOCATION	RESULTS	COMMENTS	TYPE GAS
Bar 4 Fed #1	0	Oil & Water tanks	
Bridges State 514	0	Oil & Water tanks	
Bridges State 120	2100 ppm	Oil & Water tanks	Sour
Bridges State 126	10,000 ppm	Oil & Water tanks	Sour
Bridges State 12	16,000 ppm	Oil tanks	Sour
Bridges State 95	200 ppm	Oil tanks	Sour
Bridges State 14	4,200 ppm	Oil & Water tanks	Sour
Federal DM #1	180,000 ppm	Oil & Water tanks	Sour
Greenstar 22 #1	0	Oil & Water tanks	
Gulf 5 Federal #1	0	Oil & Water tanks	
NVA North Prod Wtr Station	300 ppm	Water tanks	Sour
NVAE	350 ppm	Oil & Water tanks	Sour
NVAU #204	600 ppm	Oil & Water tanks	Sour
NVAU #134	600 ppm	Oil & Water tanks	Sour
NVAU #120	200 ppm	Oil & Water tanks	Sour
NVAU #131	8,000 ppm	Oil & Water tanks	Sour
NVAU #203	100 ppm	Oil & Water tanks	Sour
NVA South Prod Wtr Station	9,000 ppm	Water tanks	Sour
NVAU #95	100 ppm	Oil tanks	Sour
Remuda Basin 24 #1	0	Oil & Water tanks	
Remuda Basin #19	0	Oil & Water tanks	
Ross Draw 25 #1	0	Oil & Water tanks	
Yates #8	0	Oil & Water tanks	
Nash # 1, 6, 9, 13, 15, 19, 24, 33,34, 36, 38	0	Oil & Water tanks	
SDE #31	20	Oil & Water tanks	Sour
SDE #19	0	Oil & Water tanks	
SEMGSAU Battery #1	16,000 ppm	Oil & Water tanks	Sour
SEMGSAU Battery #2	8,000 ppm	Oil & Water tanks	Sour
Sprinkle B Federal #2	50 ppm	Oil & Water tanks	Sour
State N	200 ppm	Oil & Water tanks	
State XX	0	Oil & Water tanks	
State K	25 ppm	Oil & Water tanks	Sour
NM State BO	9,000 ppm	Oil & Water tanks	Sour
State M	0	Oil & Water tanks	
State Sec 27 SWD	2,200 ppm	Water tanks	Sour
State L & PP	0	Oil & Water tanks	
NM J State	100 ppm	Oil & Water tanks	Sour
Tex-Mack 5 State Comm	0	Oil & Water tanks	

Surface Use Plan

(Additional data for form 3160-3)

XTO Energy, Inc.
NASH #42H
Lease #: NMNM-070992X
SHL (E) Sec 18 T23S R30E 2015' FNL & 505' FWL
BHL (H) Sec 18 T23S R30E 2015' FNL & 360' FEL
Eddy County, NM

1. **EXISTING ROADS:**

The road log to the location is as follows:

From the intersection of St. Hwy @128 and CR #793 (Rawhide Rd), go South on Rawhide Rd approx. 2.1 miles, turn Left and go East approx 0.1 mile to the Nash Unit #6 well pad, this location is approx. 175' East. All roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.

2. **PLANNED ACCESS ROAD**:

Existing lease road located NW of the Nash #6 well. The lease road travels in a E-NE direction from CoRd #793. New location for the Nash #42H and existing location for Nash #6 will overlap on the East side. Existing lease road for Nash #6 will be used for access to Nash #42H.

3. **LOCATION OF EXISTING WELLS**:

Nash Unit #6 located to the East. Water wells: None known. Disposal wells: None known. Drilling wells: none known. Producing Wells: Closest well Nash Unit #6. Abandoned wells: none known

4. **LOCATION OF EXISTING OR PROPOSED FACILITIES:**

In the event this well is productive we will install new production facilities and install gas metering as per all BLM stipulations. Permanent tanks and gas measurement meter(s) will be utilized for this well as per BLM specifications.

5. **LOCATION AND TYPE OF WATER SUPPLY**:

All water (fresh or otherwise) needed for the drilling and completion of this well will be purchased from a commercial source and trucked to the location via the existing and proposed access road. No water source wells will be drilled, and no surface water will be utilized.

6. **SOURCE OF CONSTRUCTION MATERIALS**:

Construction material (caliche) required for the access road and well site pad will be obtained on location, if available, or from an approved pit. No surface materials will be disturbed except those necessary fir actual grading and construction of the drill site and access road.

7. **METHODS FOR HANDLING WASTE DISPOSAL** .

Closed Loop System. Waste Material will be stored then hauled to a state approved disposal facility. Drilling fluids will be contained in steel pits, fluids will be cleaned & reused. Water produced during testing will be contained in steel pits and disposal at a state approved facility. Any oil or condensate will be stored in test tanks until sold & hauled from site.

• Receptacles for solid wastes (paper, plastic, etc) will be provided and equipped to prevent scattering by wind, animals, etc. This waste will be hauled to an approved landfill site. Salts remaining after completion will be picked up by supplier including broken sacks.

• Any other waste generated by the drilling, completion, testing of this well will be through a closed loop system.
• A Porta-John will be provided for the crews. This will be properly maintained during the drilling operations and removed upon completion of the well, and cleaned out periodically.

8. **ANCILLARY FACILITIES**:
Upon completion, and/or testing of this well rental tanks, facilities will be utilized until permanent storage is established. No camps or airstrips will be constructed.

9. **WELLSITE LAYOUT**:
Enclosed, please see "Drilling Rig Layout"

11. **PLANS FOR SURFACE RESTORATION**:
Reclamation of the surface location will be in accordance with the requirements set forth by the BLM. As stated earlier all waste generated by this operation will be disposed of in an approved manner, and the site restored as closely as possible to its pre-operation appearance. The topsoil at the wellsite & access road is light/medium brown colored fine sand. Due to the topography of the area no problems are anticipated in achieving this status and no erosion or other detrimental effects are expected as a result of this operation.

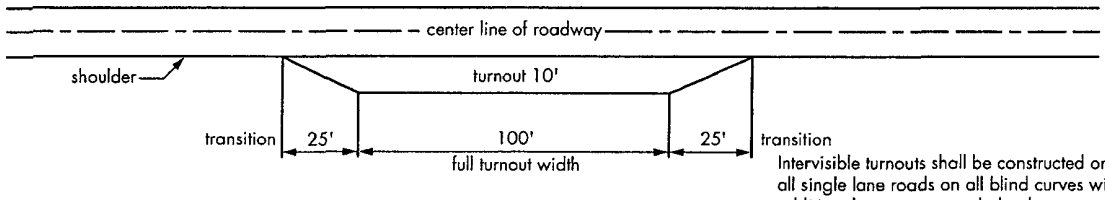
The vegetation at the wellsite is a sparse grass cover of three-awn, grama, bluestem, dropseed, burrograss, muhly and misc. native grasses. Plants are sparse mesquite, yucca, sage, shinnery oak brush, broomweed, and cacti w/misc. weeds. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove and quail all typical of the semi-arid desert land. There are no ponds or streams. No dwelling with 1.5 miles of location.

Arc Survey and Notice of Staking have been submitted to Bureau of Land Management.

11. OTHER INFORMATION:
The surface ownership: OCD, 1625 N. French Drive, Hobbs, NM 88220, 575-393-0720.
BHL ownership: BLM, Carlsbad Field Office, 620 E. Greene St, Carlsbad, NM, 88220, 575-234-5972
Drilling contractor: Pending.

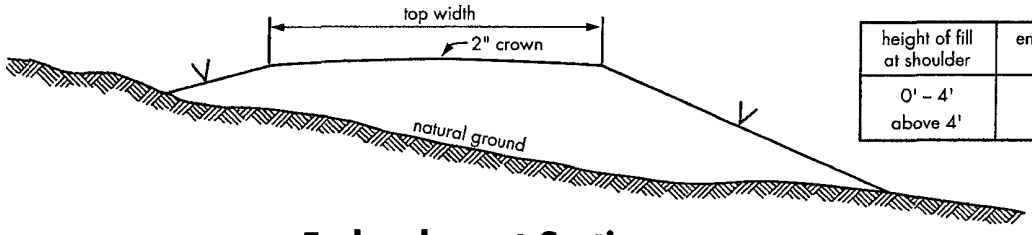
Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes



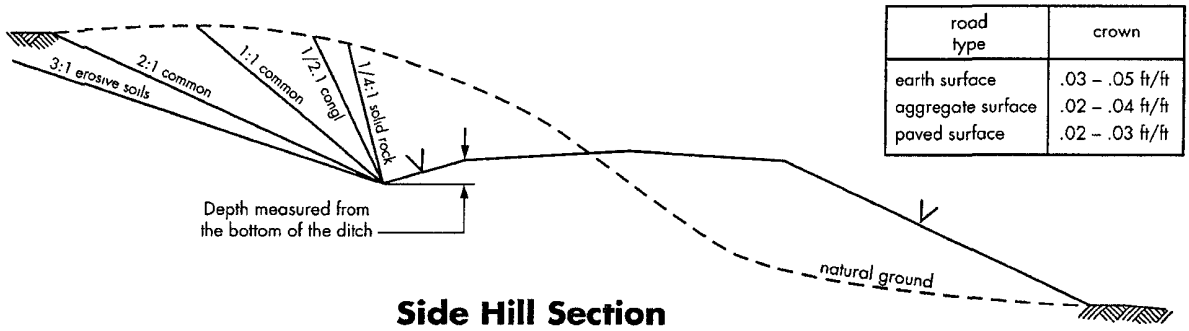
Intervisible turnouts shall be constructed on all single lane roads on all blind curves with additional tunouts as needed to keep spacing below 1000 feet.

Typical Turnout Plan



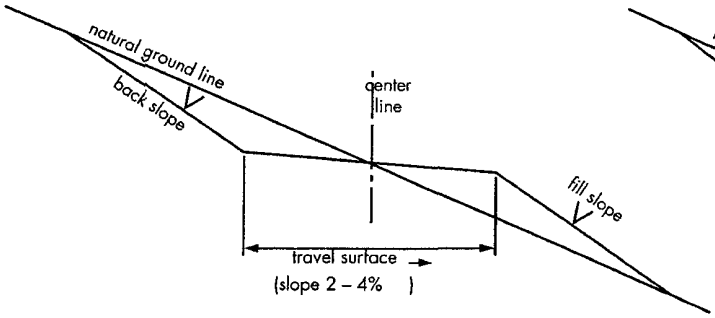
height of fill at shoulder	embankment slope
0' – 4'	3:1
above 4'	2:1

Embankment Section

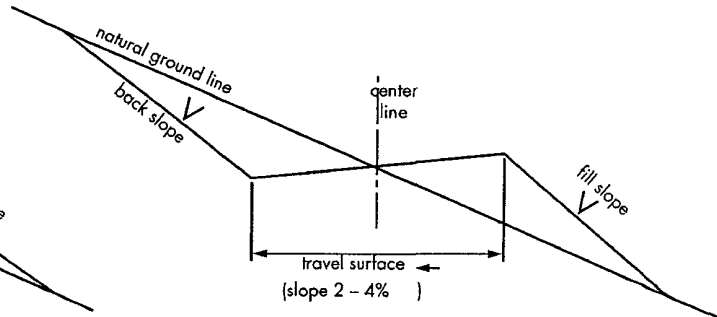


road type	crown
earth surface	.03 – .05 ft/ft
aggregate surface	.02 – .04 ft/ft
paved surface	.02 – .03 ft/ft

Side Hill Section



Typical Outsloped Section



Typical Inslope Section

OPERATOR CERTIFICATION

I HEARBY CERTIFY THAT I, OR SOMEONE UNDER MY DIRECT SUPERVISION, HAVE INSPECTED THE DRILL SITE AND ACCESS ROUTE PROPOSED HEREIN; THAT I AM FAMILIAR WITH THE CONDITIONS WHICH CURRENTLY EXIST; THAT I HAVE FULL KNOWLEDGE OF STATE AND FEDERAL laws applicable to this operation; that the statements made in the 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 the 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 20th day of April, 2009

Well: NASH #42H, SHL – 2015' FNL & 505' FWL, SEC 18, T23S, R30E, EDDY CO, NM
BHL – 2015' FNL & 360' FEL, SEC 18, T23S, R30E, EDDY CO, NM

Operator Name: XTO ENERGY INC

Signature: _____ **Printed Name:** Don Eubank

Title: Drilling Manager Date: _____

Email (optional): don_eubank@xtoenergy.com

Street or Box: 200 N. Loraine St., Ste. 800

City, State, Zip Code: Midland, TX 79701

Telephone: 432-682-8873

Field Representative (if not above signatory): _____

Address (if different from above): _____

Telephone (if different from above): _____

Email (optional): _____

Agents not directly employed by the operator must submit a letter from the operator authorizing that the agent to act or file this application on their behalf.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy
LEASE NO.:	NM0556863
WELL NAME & NO.:	42H Nash Unit
SURFACE HOLE FOOTAGE:	2015' FNL & 505' FWL
BOTTOM HOLE FOOTAGE	2015' FNL & 360' FEL
LOCATION:	Section 18, T. 23 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Cave/Karst
  - VRM
- ☒ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - **R-111-P potash**
  - **High cave/karst**
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☒ **Reseeding Procedure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Cave and Karst

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

Cave/Karst Surface Mitigation

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

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

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

Pad Berming:
The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:
Tank battery locations 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.

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) 234-5972 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 stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Although this is a closed loop system and no reserve pits will be utilized, the v-door will be on the south side of the location.

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

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. 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. 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 thirty (30) 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.

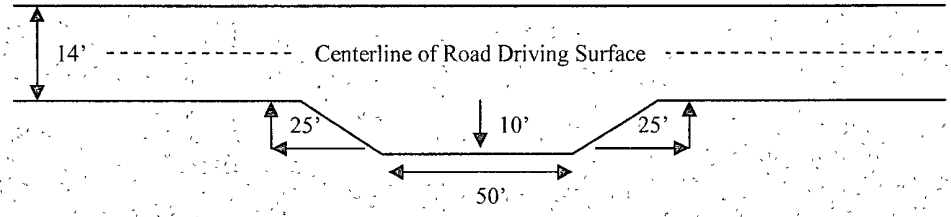
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing 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 be constructed on all blind curves. Turnouts shall conform to the following diagram:

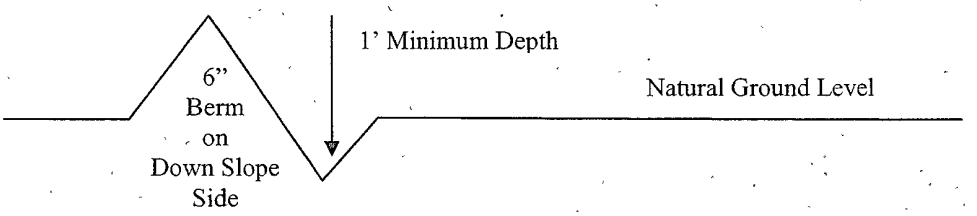
Standard Turnout – Plan View



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:

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

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations.

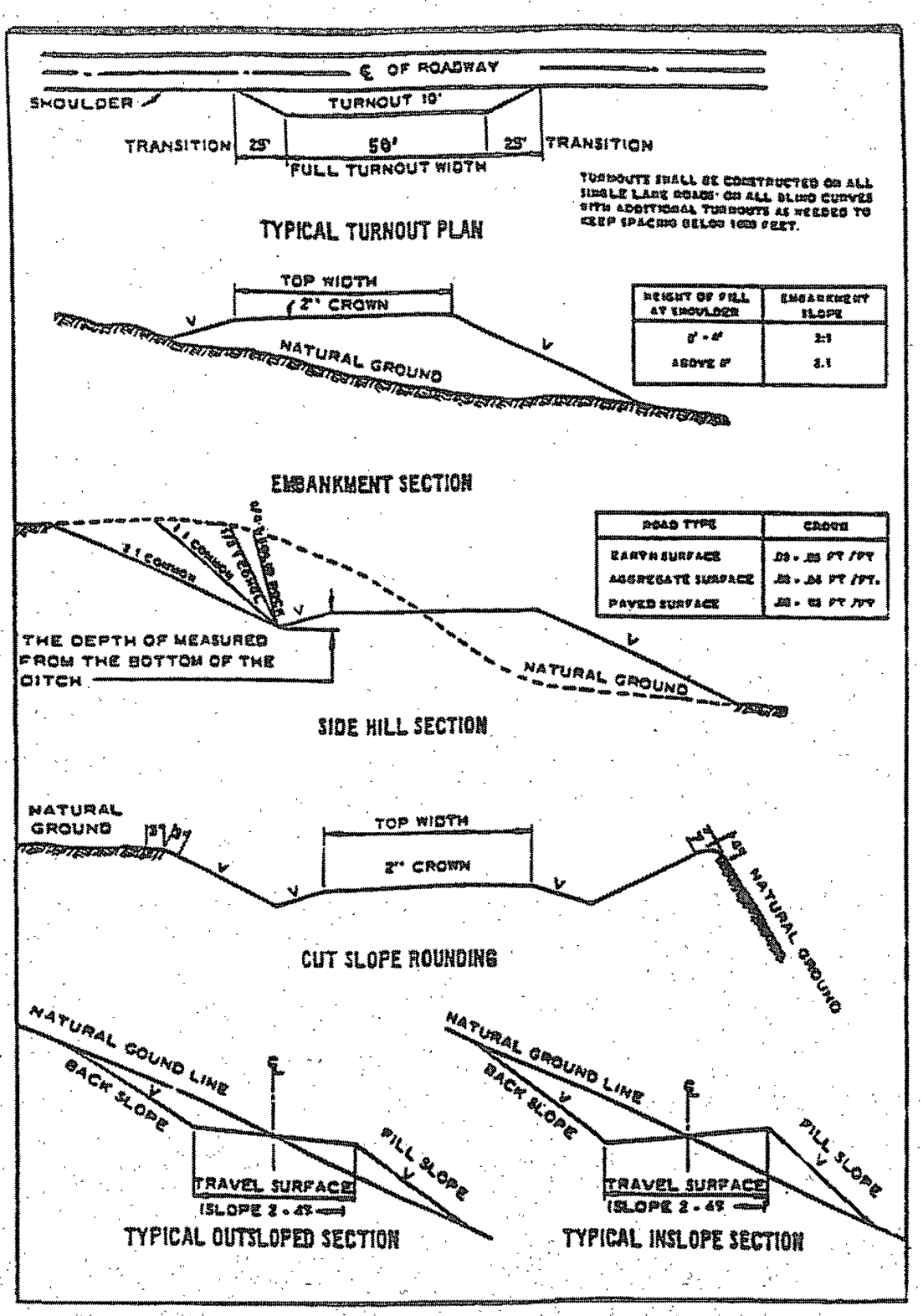
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement
Where entry is required 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 fence(s).

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

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

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. It has been reported in Section 13 and it is recommended that monitoring equipment be onsite. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

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 are located, this does not include the dog house or stairway area.

4. **Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufacturer of the logging tools recommended speed. (R-111-P area only)**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

R-111-P potash
High cave/karst
Possible lost circulation in the Delaware Mountain Group and the Bone Spring formations.

1. The **13-3/8** inch surface casing shall be set **at approximately 230 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **This casing must not be set in the salt since that is not a competent formation and Onshore Order II requires casing to be set across a competent formation. If the salt is penetrated the casing is to be set 25 feet above the salt. Fresh water mud to setting depth, brine mud below.**

    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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry. Not applicable if current cementing program without lead slurry is used.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Casing is required to be set a minimum of 100' below the salt and not more than 600' below the salt. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to R-111-P potash area and cave/karst.**

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

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   a. First stage to DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.

   b. Second stage above DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.

   No completion activities are to take place on this well until the lead slurry on the second stage reaches a 500 psi compressive strength.

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

5. **Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.**

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi. **Operator using 5M system as a 2M system for intermediate hole.**

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

   a. The tests shall be done by an independent service company.

   b. The results of the test shall be reported to the appropriate BLM office.

   c. 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.

   d. 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.

D. DRILL STEM TEST

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

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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.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

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, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION & RESEEDING PROCEDURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

Operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

B. RESEEDING PROCEDURE

Once the well has been drilled, all completion procedures have been accomplished, and all trash removed, reseed the location and any surrounding disturbed areas as follows:

Seed Mixture 4, for Gypsum Sites

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

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

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

Species	lb/acre
Alkali Sacaton (Sporobolus airoides)	1.0
DWS Four-wing saltbush (Atriplex canescens)	5.0

DWS: DeWinged Seed

*Pounds of pure live seed:

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

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.