Form 3160-3 FORM APPROVED OMB No 1004-0137 Expires March 31, 2007 (April 2004) UNITED STATES Lease Serial No. DEPARTMENT OF THE INTERIOR NOG 05031732 /736 BUREAU OF LAND MANAGEMENT If Indian, Allotee or Tribe Name APPLICATION FOR PERMIT TO DRILL OR REENTER NAVAJO ALLOTMENT 7 If Unit or CA Agreement, Name and No. DRILL la. Type of work: REENTER **PENDING** 8. Lease Name and Well No. Oil Well Gas Well lb. Type of Well: ✓ Single Zone Multiple Zone ARBOR #21 Name of Operator 9 API Well No. XTO Energy Inc. 30-045-*3503*3 10. Field and Pool, or Exploratory 3a. Address 382 CR 3100 3b Phone No. (include area code) Aztec, NM 87410 BASIN FRUITLAND COAL 505/333-3100 11. Sec, T. R. M. or Blk. and Survey or Area Location of Well (Report location clearly and in accordance with any State requirements.*) 575' FNL x 330' FWL At surface (D) Sec 26, T25N, R10W At proposed prod. zone 1950' FNL x 700' FEL 12. County or Parish 13 State 14. Distance in miles and direction from nearest town or post office SAN JUAN 23.8 miles SE of Bloomfield P.O. NM 17. Spacing Unit dedicated to this well Distance from proposed 16 No. of acres in lease location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 330' 160 FC: N/2 320 18. Distance from proposed location* to nearest well, drilling, completed, 20. BLM/BIA Bond No. on file 19 Proposed Depth 5716' MD/1665' TVD 5112 BIA104312789 applied for, on this lease, ft 22 Approximate date work will start 23 Estimated duration Elevations (Show whether DF, KDB, RT, GL, etc.) 6591' Ground Elevation 01/01/2010 2 Weeks DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED This action is subject to technical and 24. Attachments procedural review pursuant to 43 CFR 3165.3 "GENERAL REQUIREMENTS". The following compatible in activities with the featherments of Onshore Oil and Gas Order No.1, shall be attached to this form: RCVD FEB 1'10 1. Well plat certified by a registered surveyor Bond to cover the operations unless covered by an existing bond on file (see 2 A Drilling Plan. Item 20 above). OIL CONS. DIV. 3. A Surface Use Plan (if the location is on National Forest System Lands, the Operator certification Such other site specific information and/or plans as may be required by the SUPO shall be filed with the appropriate Forest Service Office) authorized officer. 25. Signature Name (Printed/Typed) Malia Villers 09/23/2009 Title Permitting Tech Name (Printed/Typed) Approved by (Signature)

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.

Office

Conditions of approval, if any, are attached.

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)

Title

for Elifectional Survey

and "As Drilled" plat

SEE ATTACHED FOR CONDITIONS OF APPROVAL FEB 0 3 2010

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

NMOCD

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 67410
DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, N.M. 87505

N/2, 320 AC ±

State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102 Revised October 12, 2005

OIL CONSERVATION DIVISION | 1220 South St. Francis Dr. Santa Fe, N.M. 87505 Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

SEP 29 2009

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT ¹API Number ² Pool Code <u>0.045.3</u> FRUITLAND COAL 71629 Well Number Property Code Property Name 3800*5* **ARBOR** 21 OGRID No. ⁸Operator Name • Elevation 5380 XTO ENERGY, INC. 6591

10 Surface Location North/South line UL or lot no. Section Township Range Lot Idn Feet from the Feet from the East/West line County 25 N **NORTH WEST** D 26 10 W 575 330 SAN JUAN 11 Bottom Hole Location If Different From Surface UL or lot no. Section Township Lot Idn Feet from the North/South line Feet from the East/West line Range County 26 25 N 10 W 1950 NORTH 700 **EAST** SAN JUAN H 18 Joint or Infill 12 Dedicated Acres 14 Consolidation Code 15 Order No.

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

	OR A NON-STAN	DARD UNIT HAS B	EEN AFFROVED I	or The Division
N 89°57'14 E	743° N	N 83.28.24. E	2636.80	or unleased mineral interest in the land including the
N 0°02'40° E	SECT	LAT: 36.3739 LONG: 107.8594		Signature Date Printed Name
2643.53'			241, 20.	or under my supervision, and that the same is true and correct to the best of my belief.
₩ 25,50°0 Z S 89°57'48* W	2640.58'	O = SURFACE LOC • = BOTTOM HOLE S 89°58'54" W		6846

XTO Energy, Inc.

Planning Report

Database: EDM 2003.21 Single User Db Local Co-ordinate Reference: Well Arbor #21
Company: XTO Energy TVD Reference: Rig KB @ 6617.0ft (Aztec 507)
Project: San Juan Basin (NAD 83) MD Reference: Rig KB @ 6617.0ft (Aztec 507)
Site: Arbor #21 North Reference: True
Well: Arbor #21 Survey Calculation: Method: Minimum Curvature

Wellbore: Arbor #21
Design: Permitted wellbore

Casing Points Measured Vertical Depth Depth (ft) (ft)	Casing Diameter Name (1)	Hole Diameter (1)
5,716 4 1,665.0	4 1/2"	6-1/8
2,210.1 1,665.0	7" 7	8-3/4
225.0 225.0	9 5/8" 9-5/8	12-1/4

F	ormations			
	Measured Depth	Vertical [©] Depth		Dip Dip Direction
	(ft)	(ft)	Name	Eithology, (†) (°)
Ì	788.1	788.0	Ojo Alamo SS	0.00
	904.3	903.0	Kirtland Shale	0 00
	1,210.6	1,188.0	Fruitland Formation	0.00
	1,986.7	1,639.0	Lower Fruitland Coal	0.00



Well Name: Arbor #21

San Juan Division Drilling Department

Calculation Method: Minimum Curvature

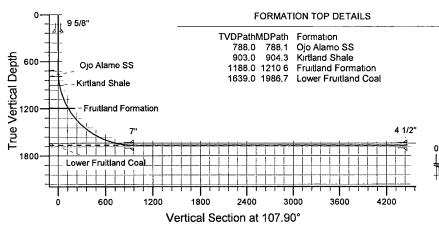
Geodetic Datum North American Datum 1983

Lat: 36° 22' 39.875 N Long: 107° 52' 26.076 W



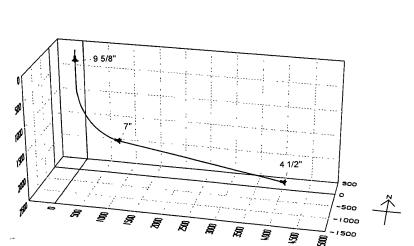
Azimuths to True North Magnetic North: 10.11°

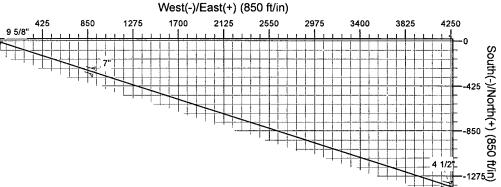
Magnetic Field Strength: 50726.1snT Dip Angle: 63.18° Date: 7/22/2009 Model: IGRF200510



OAGING BETAILG								
MD	Name	Size						
225.0	9 5/8"	9-5/8						
2210.1	7"	7						
5716.4	4 1/2"	4-1/2						
		225.0 9 5/8" 2210.1 7"	MD Name Size 225.0 9 5/8" 9-5/8 2210.1 7" 7					

CASING DETAILS





SECTION DETAILS

Sec	MD	Inc	Azı	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0 00	0.0	0.0	0.0	0.00	0.00	0.0	
2	710.1	0.00	0.00	710.1	0.0	0.0	0.00	0.00	0.0	
3	2210.1	90.00	107.90	1665.0	-293.5	908.7	6.00	107.90	954.9	
4	5716.4	90.00	107.90	1665.0	-1371.0	4245.3	0.00	0.00	4461.2	Proposed BHLArbor #21

Form 3160-5 (August 2007)

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

RECEIVE

FORM APPROVED OMB NO. 1004-0137

Expires July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

JAN 28 2010

NOG 05031732 6. If Indian, Allottee or Tribe Name

Do not use this	ionni ioi biobosais to anni oi to re-enter an	
abandoned well.	Use Form 3160-3 (APD) for such propositions of Land Mariage	mont
	Reminator Floid Off	OF AV/MM

Parmington Flaid OffinaVAJO ALLOTMENT 7. If Unit or CA/Agreement, Name and/or No. SUBMIT IN TRIPLICATE - Other instructions on page 2 PENDING 1. Type of Well Oil Well X Gas Well 8. Well Name and No. Other ARBOR #21 2. Name of Operator XTO Energy Inc. 9. API Well No. 3a. Address 3b. Phone No. (include area code) 30-045- 3*5033* 382 CR 3100 Aztec, NM 87410 505/333-3100 10. Field and Pool, or Exploratory Area 4. Location of Well (Footage, Sec., T, R., M., or Survey Description) BASIN FRUITLAND COAL SHL: 575' FNL X 330'FWL (D) SEC. 26-T25N-R10W BHL: 1950' FNL X 700 FEL 11. County or Parish, State SAN JUAN 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION X Notice of Intent Acidize Deepen Production (Start/Resume) Water Shut-Off Alter Casing Fracture Treat Well Integrity Reclamation Subsequent Report Casing Repair Other REVISED New Construction Recomplete Change Plans Plug and Abandon Temporarily Abandon HORIZONTAL PLAN Final Abandonment Notice Convert to Injection Plug Back Water Disposal

Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Please see attached revised horizontal plan.

fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RCVD FEB 1'10 OIL CONS. DIV.

DIST. 3

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) MALIA VILLERS	Title	PERMITTING TECH.	
Signature Malia VIIIAA	Date		
THIS SPACE FOR F	EDERAL OR S	TATE OFFICE USE	
Approved by Mankelog	Title	SFY	Date 1/29/2810
Conditions of approval, if any, are attached. Approval of this notice does not warrant or the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon	certify that Offic NMOCD	e FFO	7 .7
Title 18 U.S C Section 1001, and Title 43 U.S.C. Section 1212, makes it a crime for any	y person knowingly and	i willfully to make to any department or	agency of the United States any false,

XTO ENERGY INC.

Arbor #21 APD Data January 27, 2010

Location: 575' FNL x 330' FWL Sec 26, T25N, R10W County: San Juan State: New Mexico

Bottomhole Location: 1950' FNL x 700' FEL Sec 26, T25N, R10W

GREATEST PROJECTED TVD: 1665' GREATEST PROJECTED MD: 5716'

APPROX GR ELEV: <u>6591'</u> Est KB ELEV: <u>6617'</u> (<u>12'</u> AGL)

OBJECTIVE: Fruitland Coal

1. MUD PROGRAM:

INTERVAL	0' to 225'	225' to 2210'	2210' to TD
HOLE SIZE	12.25"	8.75"	6.125"
MUD TYPE	FW/Spud Mud	FW/Polymer	Air/Mist
WEIGHT	8.6-9.0	8.4-8.8	NA
VISCOSITY	28-32	28-32	NA
WATER LOSS	NC	NC	NC

Remarks: Use fibrous materials as needed to control seepage and lost circulation. Pump high viscosity sweeps as needed for hole cleaning. Raise viscosity at TD for logging. Reduce viscosity after logging for cementing purposes. Use Fruitland Coal produced water as make-up water for mist fluid. Pump enough fluid to dampen vibration at directional BHA. If directional control is not maintainable in air/mist environment convert to polymer mud.

2. CASING PROGRAM:

Surface Casing: 9.625" casing to be set at \pm 225' in a 12-1/4" hole filled with 9.20 ppg mud

					Coll	Burst						
					Rating	Rating	Jt Str	ID	Drift	SF	SF	SF
Interval	Length	Wt	Gr	Cplg	(psi)	(psi)	(M-lbs)	(in)	(in)	Coll ¹	Burst ²	Ten ³
0'-225'	225'	36.0#	J-55	ST&C	2020	3520	394	8.921	8.765	18.76	32.7	48.6

Intermediate Casing: 7" casing to be set at ± 2210 ' MD, 1665' TVD in 8.75" hole filled with 9.20 ppg mud.

					Coll	Burst						
					Rating	Rating	Jt Str	ID	Drift	SF	SF	SF
Interval	Length	Wt	Gr	Cplg	(psi)	(psi)	(M-lbs)	(in)	(in)	Coll ¹	Burst ²	Ten ³
0'-2210	2210'	23.0#	J-55	ST&C	3270	4360	284	6.276	6.151	4.10	5.47	5.59

Production Casing: 4.5" casing to be set at ±5716' MD, 1665' TVD in 6.125" hole filled with 8.4 ppg mud.

					Coll Rating	Burst Rating	Jt Str	ID	Drift	SF	SF	SF
Interval	Length	Wt	Gr	Cplg	(psi)	(psi)	(M-lbs)	(in)	(in)	Coll	Burst ²	Ten ³
2150'-												
5716'	3566'	10.5	J-55	ST&C	4010	4790	132	4.052	3.927	5.51	6.59	3.53

¹Collapse SF is based on evacuated annulus and hydrostatic at TVD.

²Burst SF is based on evacuated casing and hydrostatic at TVD.

³Tensile SF is based on hanging air weight of casing in a vertical hole at measured depth.

3. WELLHEAD:

- A. Casing Head: WHI QDF System (or equivalent), 9-5/8" x 7", 3,000 psig WP (4,000 psig test) with 9-5/8" 8rnd thread ST&C pin end on bottom and 4-1/2" slips on top.
- B. Tubing Head: WHI W2F (or equivalent), 7.063" nominal, 5,000 psig WP (5,000 psig test), 5-1/2" slip-on or weld-on.

4. <u>CEMENT PROGRAM</u> (Slurry design may change slightly, but the plan is to circulate cement to surface on both casing strings):

A. Surface: 9.625", 36.0#, J-55, ST&C casing to be set at \pm 225' in 12-1/4" hole.

140 sx of Type III cement (or equivalent) typically containing accelerator and LCM, mixed at 14.5 ppg, 1.39 ft³/sk, & 6.70 gal wtr/sk.

Total slurry volume is 177 ft³, 100% excess of calculated annular volume to 225'.

B. <u>Production Casing:</u> 7", 23#/ft, J-55, ST&C casing to be set at ±2210'MD, 1665' TVD in 8.75" hole.

LEAD:

 \pm 143 sx of Premium Lite FM or CBM Lite typically containing accelerator, LCM, dispersant, and fluid loss additives at 12.1 ppg, 2.22 ft³/sk, & 12.04 gal wtr/sk.

TAIL:

 \pm 100 sx of Type III or V cement typically containing accelerator, LCM, dispersant, and fluid loss additives at 14.2 ppg, 1.48 ft³/sk, & 7.34 gal wtr/sk.

Total estimated slurry volume for the 7" production casing is 465 ft³.

C. <u>Production Liner:</u> 4.5", 10.5#/ft, J-55, ST&C casing is to be set at 5716' MD, 1665' TVD in 6.125" hole.

The production liner will be set using an uncemented liner hanger. The liner may be tied back to surface during the completion of the well.

Note: The slurry design may change slightly based upon actual conditions. Final cement volumes will be determined from the caliper logs (if available) plus 40%. It will be attempted to circulate cement to the surface.

5. LOGGING PROGRAM:

- A. Mud Logger: A geologic consultant or unmanned mud logging unit will begin logging the well once the surface shoe is drilled out and remain on the well to TD.
- B. Open Hole Logs as follows: Gamma Ray from Surface shoe to TD.

6. FORMATION TOPS:

See attached Directional Program.

**** Maximum anticipated BHP should be <2,000 psig (<0.30 psi/ft) *****

7. COMPANY PERSONNEL:

Name	Title	Office Phone	Home Phone
Justin Niederhofer	Drilling Engineer	505-333-3199	505-320-0158
Bobby Jackson	Drilling Superintendent	505-333-3224	505-486-4706
John Klutsch	Project Geologist	817-885-2800	

JDN 1/27/10

XTO Energy Inc.

Planning Report

TO MANAGEMENT OF THE PROPERTY	A TELEFOR PERSONAL PROPERTY OF THE PARTY OF T	renderation (processes in the company of the construction of the company of the c	ļ
Database: EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Arbor #21	ž
Company:- XTO Energy	TVD Reference:	Rig KB @ 6617.0ft (Aztec 507)	
Project: San Juan Basın (NAD 83)	MD Reference:	Rig KB @ 6617.0ft (Aztec 507)	
Site: Arbor #21	North Reference:	True	,
Well: Arbor #21	Survey Calculation Method:	Mınımum Curvature	
Wellbore: Arbor #21			:
Design: Permitted wellbore			į

Casing Points Measured Vertical Depth Depth (ft) (ft)	Name	Casing	Hole Signature S	
225 0 225.0	9 5/8"	9-5/8	12-1/4	
2,210 1 1,665.0	7"	7	8-3/4	
5,716.4 1,665.0	4 1/2"	4-1/2	6-1/8]

Formations	aid tro-thailean adam teography and mythan mag	per established produced and the second seco	THE CONTRACT AND THE THE STATE OF THE PROPERTY
Measured	Vertical		Dip
Depth	Depth		Dip Direction
(ft), i	(ft)	Näme	Lithology (°)
700 A	700	O. Alexa CC	0 00
788 1	7000	Ojo Alamo SS	0.00
904 3	903 0	Kırtland Shale	0 00
1,210 6	1,188 0	Fruitland Formation	0.00
1,986 7	1,639.0	Lower Fruitland Coal	0 00

CHOKE MANIFOLD SCHEMATIC FOR DRILLING **OPERATIONS** CLASS 1 (2M) NORMAL **PRESSURE**

