

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

OCT 23 2008

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>NOO-C-14-20-5252</b>
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name <b>NAVAJO ALLOTMENT</b>
2. Name of Operator <b>XTO ENERGY INC</b>		7. If Unit or CA Agreement, Name and No. <b>N/A</b>
3a. Address <b>382 ROAD 3100 AZTEC, NM 87410</b>		8. Lease Name and Well No. <b>CANYON 251</b>
3b. Phone No. (include area code) <b>(505) 333-3159</b>		9. API Well No. <b>30-045-34840</b>
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface <b>450' FNL &amp; 1865' FEL</b> At proposed prod. zone <b>700' FSL &amp; 700' FEL</b>		10. Field and Pool, or Exploratory <b>BASIN FRUITLAND COAL</b>
14. Distance in miles and direction from nearest town or post office* <b>24 AIR MILES SOUTH OF BLOOMFIELD</b>		11. Sec., T. R. M. or Blk. and Survey or Area <b>25-25N-11W NMPM</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>450' (SHL)</b>	16. No. of acres in lease <b>160</b>	17. Spacing Unit dedicated to this well <b>E2 (= 320 acres)</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>1,121' (CANYON 17)</b>	19. Proposed Depth <b>5,392' MD</b>	20. BLM/BIA Bond No. on file <b>BIA NATIONWIDE 104312789</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>6,593' GL</b>	22. Approximate date work will start* <b>12/31/2008</b>	23. Estimated duration <b>4 WEEKS</b>
24. Attachments		

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

OIL CONS. DIV.

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

DIST. 3

25. Signature 	Name (Printed/Typed) <b>BRIAN WOOD</b>	Date <b>10/21/2008</b>
-------------------	---	---------------------------

Title **CONSULTANT** PHONE: (505) 466-8120 FAX: (505) 466-9682

Approved by (Signature) 	Name (Printed/Typed)	Date <b>12/21/09</b>
-----------------------------	----------------------	-------------------------

Title **AFU** Office **FFO**

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.

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)

NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT

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

Hold C104

for Directional Survey  
and "As Drilled" plat

NMOCD

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II  
1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV  
1220 South St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-045-34840</b>	<sup>2</sup> Pool Code <b>71629</b>	<sup>3</sup> Pool Name <b>BASIN FRUITLAND COAL GAS</b>
<sup>4</sup> Property Code <b>22669</b>	<sup>5</sup> Property Name <b>CANYON</b>	<sup>6</sup> Well Number <b>251</b>
<sup>7</sup> OGRID No. <b>1670675380</b>	<sup>8</sup> Operator Name <b>XTO ENERGY INC</b>	<sup>9</sup> Elevation <b>6593'</b>

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	.25	25-N	11-W		. 450	. NORTH	. 1865	. EAST	SAN JUAN

<sup>11</sup> 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
P	25	25-N	11-W		700	SOUTH	700	EAST	SAN JUAN
<sup>12</sup> Dedicated Acres <b>62 320</b>			<sup>13</sup> Joint or Infill <b>.</b>		<sup>14</sup> Consolidation Code <b>C</b>		<sup>15</sup> 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

QTR. CORNER FD 2 1/2" BC 1932 GLO		S 89-59-48 W 2633.38' (M)		SEC. CORNER FD 2 1/2" BC 1932 GLO
SURFACE LOCATION LAT: 36.37805° N. (NAD 83) LONG: 107.95301° W. (NAD 83) LAT: 36°22'41.0" N. (NAD 27) LONG: 107°57'10.8" W. (NAD 27)		1865'		S 00-03-19 W 2627.39' (M)
25		QTR. CORNER FD 2 1/2" BC 1932 GLO		18
BOTTOM HOLE LOCATION LAT: 36.36677° N. (NAD 83) LONG: 107.94907° W. (NAD 83) LAT: 36°22'00.4" N. (NAD 27) LONG: 107°56'56.6" W. (NAD 27)		N 00-00-26 E 2629.26' (M)		17
QTR. CORNER FD 2 1/2" BC 1913 GLO		S 89-41-56 W 2625.26' (M)		SEC. CORNER FD 2 1/2" BC 1932 GLO

**17 OPERATOR CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Brian Wood*  
Signature  
10-21-08  
Date  
**BRIAN WOOD**  
Printed Name  
(505) 466-8120

**18 SURVEYOR CERTIFICATION**

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

MARCH 24, 2008  
Date of Survey  
Signature and Seal of Registered Professional Surveyor:  
*Roy A. Rush*  
ROY A. RUSH  
REGISTERED PROFESSIONAL LAND SURVEYOR  
NEW MEXICO  
8894  
07-0

Certificate Number

XTO Energy Inc.

PAGE 1

Canyon 251

SHL: 450' FNL & 1865' FEL

BHL: 700' FSL & 700' FEL

Sec. 25, T. 25 N., R. 11 W., San Juan County, NM

## Drilling Program

### 1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>True Vertical Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Nacimiento	0'	12'	+6,593'
Ojo Alamo sandstone	540'	552'	+6,053'
Kirtland shale	684'	696'	+5,909'
Fruitland Formation	944'	956'	+5,649'
Lower coal	1,422'	1,426'	+5,171'
Total Depth (TD)	1,426'	1,438'	+5,167'
Pictured Cliffs Sandstone			+5,152'

### 2. NOTABLE ZONES

<u>Gas &amp; Oil Zones</u>	<u>Water Zones</u>	<u>Coal Zone</u>
Fruitland	Ojo Alamo	Fruitland

Water zones will be protected with casing, cement, and weighted mud. Fresh water found while drilling will be recorded. Oil or gas shows will be tested for commercial potential based on the geologist's recommendations.

### 3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. (A typical 2,000 psi model is on PAGE 3.) An 8-5/8" x 11" 2,000 pound double ram BOP system with a choke manifold and mud cross will be tested to  $\approx 200$  psi and then to  $\approx 1,000$  psi. Upper and lower Kelly cocks with valve handle and subs to fit all drill string connections which are in use will be available on the rig floor.

Canyon 251

SHL: 450' FNL &amp; 1865' FEL

BHL: 700' FSL &amp; 700' FEL

Sec. 25, T. 25 N., R. 11 W., San Juan County, NM

Tests will be run when:

- 1) installed
- 2) anytime a pressure seal is broken (test only affected equipment)
- 3) at least every 30 days
- 4) blind & pipe rams will be activated each trip, but no more than daily

BOP systems will be consistent with API RP 53. Blowout preventers will be installed and tested before drilling surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated daily to ensure good mechanical working order and this inspection recorded on the daily drilling report. Preventers and casing will be pressure tested before drilling casing cement plugs. Maximum expected bottom hole pressure will be  $\leq 430$  psi. BOP and mud system will control pressure.

#### 4. CASING & CEMENT

<u>Type</u>	<u>Hole</u>	<u>O. D.</u>	<u>Interval</u>	<u>Length</u>	<u>Weight</u>	<u>Grade</u>	<u>Coupling</u>
Surface	12.25"	9.625"	0' - 225'	225'	36#	J-55	S T & C
Intermediate	8.75"	7"	0' - 1686'	1686'	23#	J-55	S T & C
Production liner	6.125"	4.5"	1626' - 5392'	3766'	10.5#	J-55	S T & C

<u>Type</u>	<u>Collapse Rating psi</u>	<u>Burst Rating psi</u>	<u>Joint Strength</u>	<u>I. D.</u>	<u>Drift</u>	<u>*SF Collapse</u>	<u>**SF Burst</u>	<u>***SF Tensile</u>
Surface	2020	3520	394 M-lbs	8.921"	8.765"	18.76	32.7	48.6
Intermediate	3270	4360	284 M-lbs	6.276"	6.151"	4.79	6.34	7.32
Production liner	4010	4790	132 M-lbs	4.025"	3.927"	6.44	7.69	3.44

\* Collapse is based on evacuated annulus & hydrostatic at TVD

\*\* Burst is based on evacuated casing & hydrostatic at TVD

\*\*\* Tensile is based on hanging air weight of casing in a vertical hole measured at depth

Canyon 251

SHL: 450' FNL &amp; 1865' FEL

BHL: 700' FSL &amp; 700' FEL

Sec. 25, T. 25 N., R. 11 W., San Juan County, NM

Surface casing will be cemented to the surface with >100 % excess using  $\approx$ 195 cubic feet ( $\approx$ 140 sacks) Type III cement (or equivalent) containing accelerator + LCM mixed at 14.5 pounds per gallon, 1.39 cubic feet per sack, and 6.7 gallons water per sack. Centralizers will be installed.

^  
3

Intermediate casing will be cemented to the surface with >30% excess. Lead with  $\approx$ 89 sacks (197 cubic feet) premium light FM or CBM light with accelerator + LCM + dispersant + fluid loss additive mixed at 12.1 pounds per gallon, 2.22 cubic feet per sack, and 12.04 gallons water per sack. Tail with  $\approx$ 100 sacks (148 cubic feet) Type III or V with accelerator + LCM + dispersant + fluid loss additive mixed at 14.2 pounds per gallon, 1.48 cubic feet per sack, and 7.34 gallons water per sack. Centralizers will be installed.

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

## 5. MUD PROGRAM

<u>RANGE</u>	<u>MUD TYPE</u>	<u>WEIGHT</u>	<u>VISCOSITY</u>	<u>WATER LOSS</u>
0' - 225'	Fresh-Spud	8.6-9.0	28-32	NC
225' - 1,686'	Fresh-Poly	8.4-8.8	28-32	NC
1,686' - TD	Air Mist	N/A	N/A	NC

Will 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. Use Fruitland coal produced water as make-up water for mist fluid. Pump enough fluid to dampen vibration at directional bottom hole assembly. If directional control is not maintainable in air/mist environment, then convert to polymer mud.



## Well Name: Canyon 251

San Juan Division  
Drilling Department

Calculation Method: Minimum Curvature  
Geodetic Datum: North American Datum 1983  
Lat: 36° 22' 40.980 N  
Long: 107° 57' 10.836 W



Azimuths to True North  
Magnetic North: 10.24°

Magnetic Field  
Strength: 50792.6snT  
Dip Angle: 63.19°  
Date: 9/26/2008  
Model: IGRF200510

### FORMATION TOP DETAILS

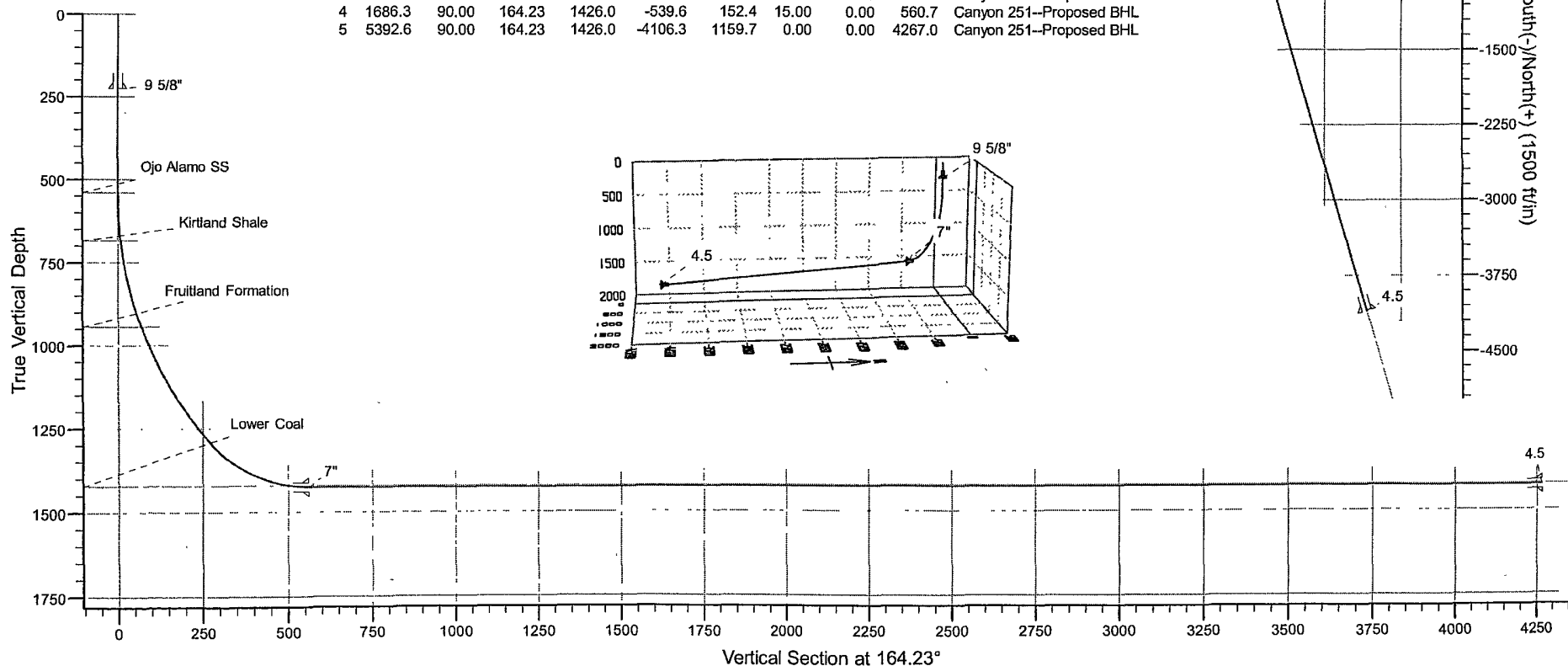
TVDPath	MDPath	Formation
540.0	540.0	Ojo Alamo SS
684.0	684.3	Kirtland Shale
944.0	952.0	Fruitland Formation
1422.0	1630.8	Lower Coal

### CASING DETAILS

TVD	MD	Name	Size
225.0	225.0	9 5/8"	9-5/8
1426.0	1686.0	7"	7
1426.0	5392.6	4.5	4-1/2

### SECTION DETAILS

Sec	MD	Inc	Azi	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	553.0	0.00	0.00	553.0	0.0	0.0	0.00	0.00	0.0	
3	1353.0	40.00	164.23	1289.6	-258.0	72.9	5.00	164.23	268.1	Canyon 251--Proposed BHL
4	1686.3	90.00	164.23	1426.0	-539.6	152.4	15.00	0.00	560.7	Canyon 251--Proposed BHL
5	5392.6	90.00	164.23	1426.0	-4106.3	1159.7	0.00	0.00	4267.0	Canyon 251--Proposed BHL



**XTO Energy Inc**  
Planning Report

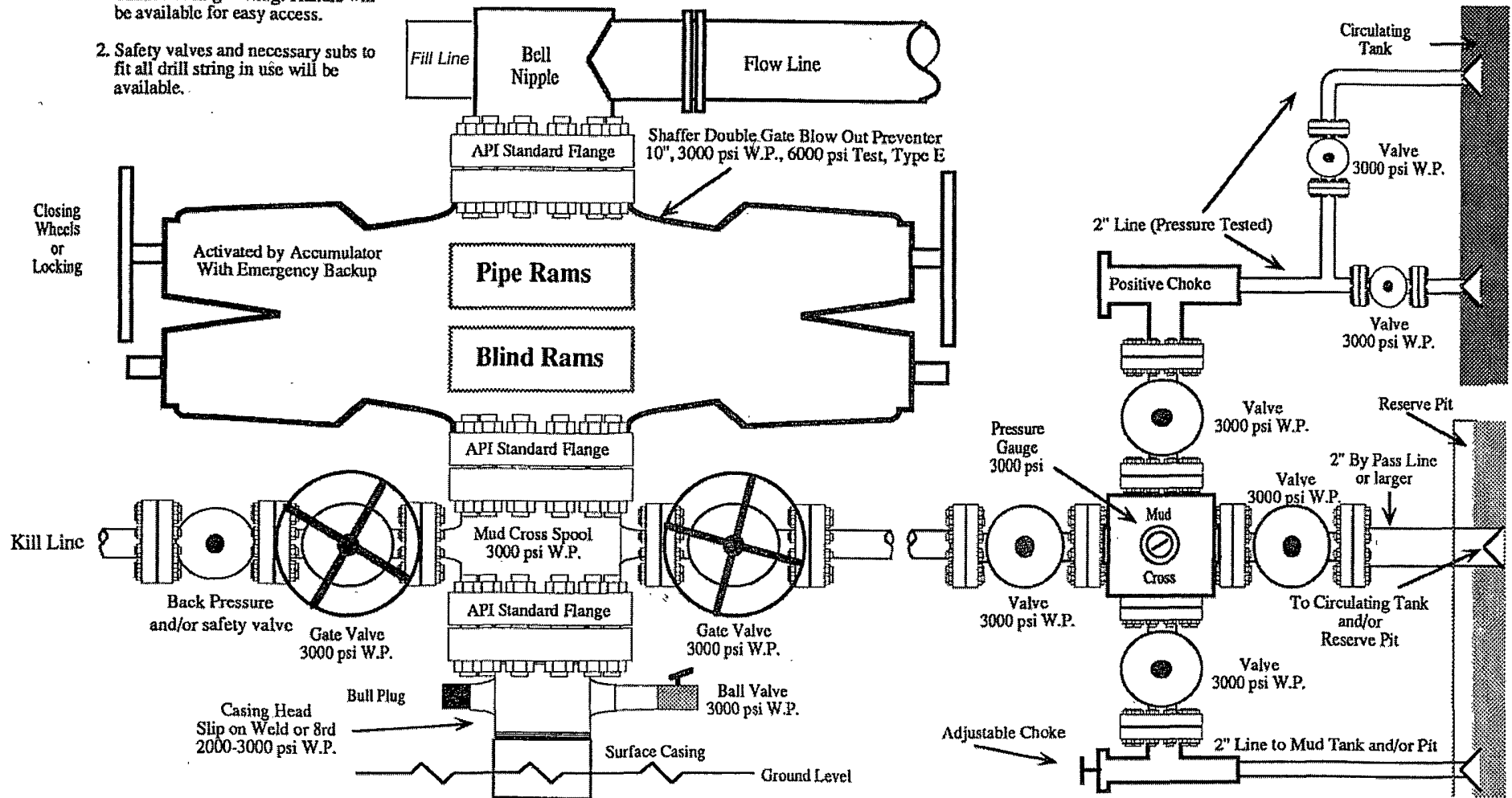
<b>Database:</b>	LMRKTEST	<b>Local Co-ordinate Reference:</b>	Well Canyon 251
<b>Company:</b>	XTO Energy, Inc.	<b>TVD Reference:</b>	Rig KB @ 6605.0ft (AWS 507)
<b>Project:</b>	San Juan Basin, NM (NAD 83)	<b>MD Reference:</b>	Rig KB @ 6605.0ft (AWS 507)
<b>Site:</b>	Canyon 251	<b>North Reference:</b>	True
<b>Well:</b>	Canyon 251	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Canyon 251		
<b>Design:</b>	Permitted Wellbore		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
540.0	540.0	Ojo Alamo SS		0.00		
684.3	684.0	Kirtland Shale		0.00		
952.0	944.0	Fruitland Formation		0.00		
1,630.8	1,422.0	Lower Coal		0.00		

# 2,000 PSI BOP SYSTEM

Note: 1. An upper Kelly cock valve will be utilized during drilling. Handle will be available for easy access.

2. Safety valves and necessary subs to fit all drill string in use will be available.



Note: This equipment is designed to meet requirements for a 2-M rating standard per 43 CFR part 3160 (amended). Proper operation and testing of equipment will be carried out per standard. 2,000 psi equipment can be substituted in the drawing to meet minimum requirements per standard.