

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF-079232
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator XTO ENERGY INC		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 2700 FARMINGTON AVE., BLDG. K-1 FARMINGTON, NM 87401		8. Lease Name and Well No. BOLACK C 21
3b. Phone No. (include area code) (505) 324-1090		9. API Well No. 30-045- 32648
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 520 FSL & 135 FWL At proposed prod. zone CHACRA: 670 FSL & 670 FWL and MESA VERDE: 720 FSL & 1025 FW		10. Field and Pool, or Exploratory OTERO CHACRA, BLANCO MV
11. Sec., T. R. M. or Blk. and Survey or Area M 28-27N-8W NMPM		12. County or Parish SAN JUAN
13. State NM		
14. Distance in miles and direction from nearest town or post office* 14 AIR MILES SOUTHEAST OF BLANCO		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 670'	16. No. of acres in lease 2,552.22	17. Spacing Unit dedicated to this well CHACRA: SW4 & DAKOTA: W2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,698' (Bolack C 12 B)	19. Proposed Depth 5,676' MD	20. BLM/BIA Bond No. on file BLM NATIONWIDE 57 91 73
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,763' GL	22. Approximate date work will start* 12/01/2004	23. Estimated duration 6 WEEKS

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Brian Wood</i>	Name (Printed/Typed) BRIAN WOOD	Date 10/22/2004
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Title CONSULTANT	PHONE: (505) 466-8120	FAX: (505) 466-9682
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Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 11/22/04
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Title AFM	Office FPO
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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)

HOLD C104 FOR directional survey

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

NMOC

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

DISTRICT I
1825 N. Fench Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Avenue, 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 87504-2088

Form C-102

Revised June 10, 2003

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-32648	² Pool Code 82329 & 72139	³ Pool Name OTERO CHACRA & BLANCO MESA VERDE
⁴ Property Code 28096	⁵ Property Name BOLACK C.	⁶ Well Number 21
⁷ OGRID No. 167067	⁸ Operator Name XTO ENERGY INC.	⁹ Elevation 6763

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	28	27-N	8-W		520	SOUTH	135	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

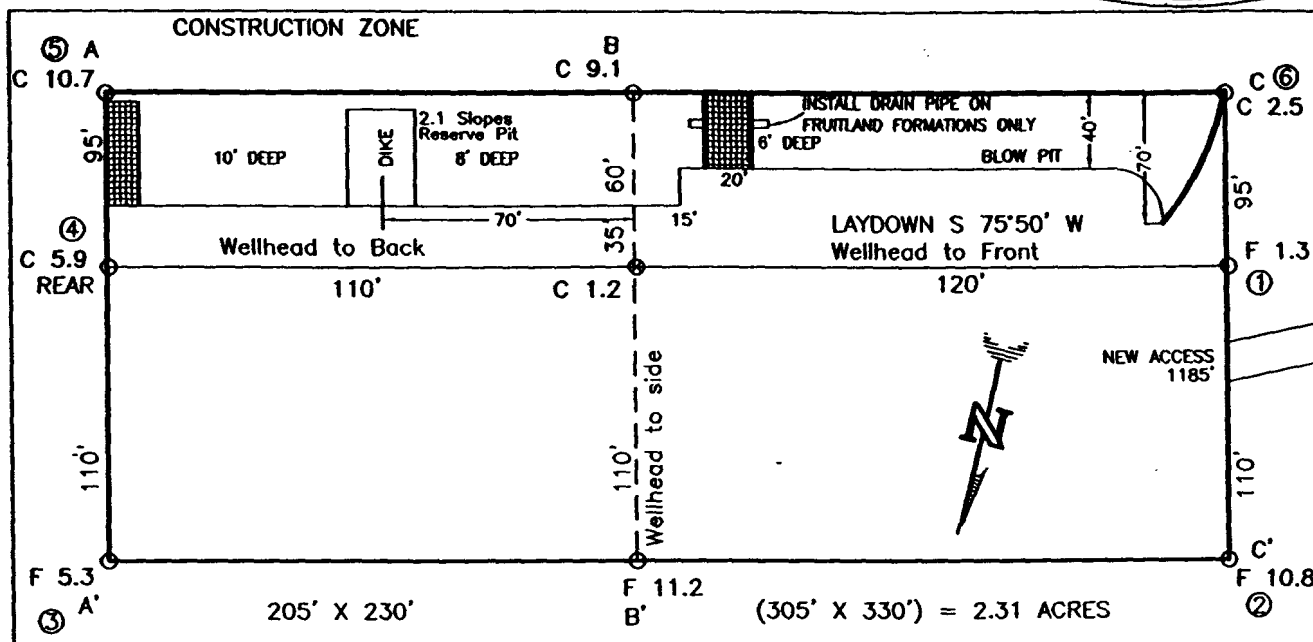
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	28	27N	8W		720	SOUTH	1025	WEST	SAN JUAN
¹² Dedicated Acres 160 (CH) & 320 (OK)		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

16 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

		<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p>Signature <u>Brian Wood</u></p> <p>Printed Name <u>BRIAN WOOD</u></p> <p>Title <u>CONSULTANT</u></p> <p>Date <u>OCT. 22, 2004</u></p>
<p>18 SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date of Survey <u>JUN 10 2004</u></p> <p>Signature and Seal of Professional Surveyor: </p> <p>Certificate Number <u>14831</u></p>		

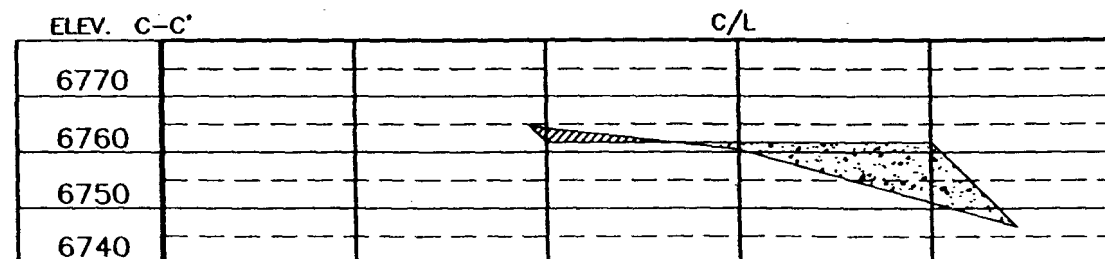
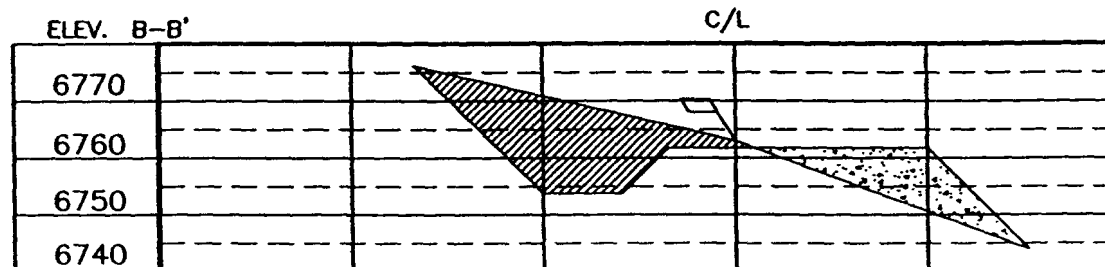
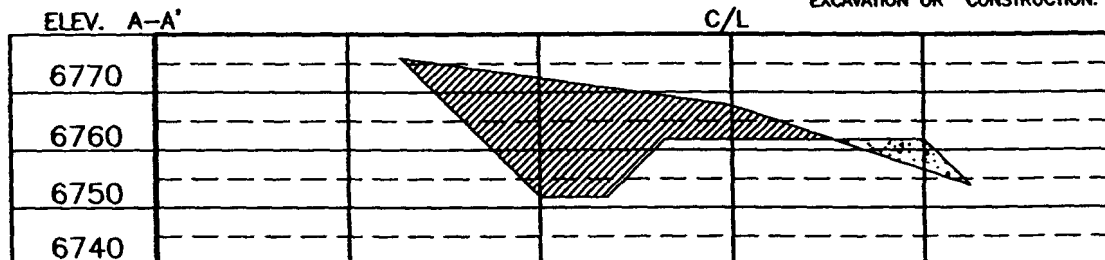
XTO ENERGY INC.
 BOLACK C No. 21, 520 FSL 135 FWL
 SECTION 28, T27N, R8W, N.M.P.M., SAN JUAN COUNTY, N. M.
 GROUND ELEVATION: 6763, DATE: JUNE 21, 2004

LAT: 36°32'21" N.
 LONG: 107°41'43" W.
 NAD 27



RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).
 BLOW PIT: OVERFLOW PIPE HALFWAY BETWEEN TOP AND BOTTOM AND TO EXTEND OVER PLASTIC LINER AND INTO BLOW PIT.

NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.



NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

REVISION	DATE	BY	REVISION	DATE	BY
	06/23/04	A. GALLERDO			

Daggett Enterprises, Inc.
 Surveying and Oil Field Services
 P. O. Box 15068 • Farmington, NM 87401
 Phone (505) 326-1772 • Fax (505) 326-4019
 NEW MEXICO L.S. No. 14831
 DRAWN BY: A.G.
 CHECKED BY: CR256

XTO Energy Inc.

PAGE 1

Bolack C 21

Surface: 520' FSL & 135' FWL

BHL: 720' FSL & 1025' FWL

Sec. 28, T. 27 N., R. 8 W., San Juan County, NM

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation Name</u>	<u>TVD</u>	<u>KB Depth</u>	<u>Elevation</u>
San Jose	000'	12'	+6,763'
Nacimientto	263'	275'	+6,500'
Ojo Alamo Sandstone	2,013'	2,025'	+4,750'
Kirtland Shale	2,088'	2,100'	+4,675'
Fruitland Coal	2,513'	2,525'	+4,250'
Pictured Cliffs Ss	2,788'	2,800'	+3,975'
Lewis Shale	2,913'	2,925'	+3,850'
Chacra	3,688'	3,700'	+3,075'
Cliff House Sandstone	4,363'	4,375'	+2,400'
Menefee Shale	4,463'	4,475'	+2,300'
Mesa Verde Sandstone	5,063'	5,075'	+1,700'
Mancos Shale	5,438'	5,450'	+1,325'
Total Depth*	5,600'	5,612'	+1,163'

* Measured Depth = 5,676'

2. NOTABLE ZONES

<u>Gas or Oil Zones</u>	<u>Water Zones</u>	<u>Coal Zones</u>
Fruitland	Nacimientto	Fruitland
Pictured Cliffs	Ojo Alamo	Menefee
Chacra	Fruitland	
Mesa Verde		

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.

XTO Energy Inc.

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Bolack C 21

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Sec. 28, T. 27 N., R. 8 W., San Juan County, NM

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 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.

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 is \approx 2,240 psi. BOP and mud system will control pressure.

4. CASING & CEMENT

	<u>Surface Casing</u>	<u>Production Casing</u>
Interval	0' - 350'	0' - 5,676'
Hole Diameter	12-1/4"	7-7/8"
Casing Diameter	8-5/8"	5-1/2"
Weight (pounds/foot)	24	15.5
Grade	J-55	J-55
Coupling	S T&C	S T&C
Collapse Rating (psi)	1370	4040

XTO Energy Inc.

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Bolack C 21

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Sec. 28, T. 27 N., R. 8 W., San Juan County, NM

Burst Rating (psi)	2950	4810
Joint Strength (M-lbs)	244	202
I. D. (inches)	8.097	4.950
Drift (inches)	7.972	4.825
SF Coll	9.44	1.45
SF Burst	13.72	1.83
SF Ten	33.89	2.29
Centralizers	3	16

Casing head will be Larkin Fig 92 or its equivalent, 9" nominal 2,000 psi WP, (4,000 psi test) with 8-5/8" 8 rounded thread on bottom, and 11-3/4" 8 rounded thread on top.

Tubing head will be Larkin Fig 612 or its equivalent, 2000 psi WP (4,000 psi test), 5-1/2" 8 rounded female thread on bottom, and 8-5/8" rounded thread on top.

Surface casing will be cemented to surface with ≈ 217 sacks Type III cement with 2% CaCl_2 + 1/4 pound per sack cello flake mixed with 6.33 gallons of water per sack. Weight = 14.8 pounds/gallon. Density = 1.34 cubic feet/sack. Total volume = 290 cubic feet based on >100% excess.

Production casing will be cemented to surface in two stages. DV tool will be set at $\approx 2,800'$. Total first stage volume = 655 cubic feet. Total second stage volume = 655 cubic feet. Volumes to be based on caliper log + 30% excess.

First stage lead will be ≈ 270 sacks 65/35 Class H with 6% gel + 1/4 pound per sack cello flake + 3% NaCl + 0.5% fluid loss additive + 0.2% dispersant mixed with 10.59 gallons of water per sack. Weight = 12.5 pounds/gallon. Yield = 2.08 cubic feet/sack.

First stage tail will be cemented with ≈ 90 sacks Class H + 1/4 pound per sack cello flake + 0.5% fluid loss additive mixed with 5.23 gallons of water per sack. Weight = 15.6 pounds per gallon. Yield = 1.18 cubic feet per sack.

XTO Energy Inc.

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Bolack C 21

Surface: 520' FSL & 135' FWL

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Second stage lead will be cemented with ≈ 185 sacks Class H with 3% extender + 1/4 pound per sack cello flake mixed with 10.19 gallons of water per sack. Weight = 11.2 pounds per gallon. yield = 3.07 cubic feet per sack.

Second stage tail will be cemented with ≈ 90 sacks Class H with 1/4 pound per sack cell flake + 0.5% fluid loss additive mixed with 5.23 gallons of water per sack. Weight = 15.6 pounds per gallon. Yield = 1.18 cubic feet per sack.

5. MUD PROGRAM

<u>INTERVAL</u>	<u>MUD TYPE</u>	<u>WEIGHT</u>	<u>VISCOSITY</u>	<u>WATER LOSS</u>
0' - 350'	Fresh Water-Spud	8.6-9.0	28-32	NC
350' - 2,800'	Fresh Water-Polymer	8.4-8.8	28-32	NC
2,800' - TD	LSND	8.6-9.0	45-60	8-10 cc

Fibrous material (e. g., cedar bark, cotton seed hulls) will be on site to control seepage and lost circulation. High viscosity sweeps will be used as needed for hole cleaning. Viscosity will be raised at TD for logging. Viscosity will be reduced after logging for cementing. A mud logging crew will be on site from $\approx 2,800'$ to TD.

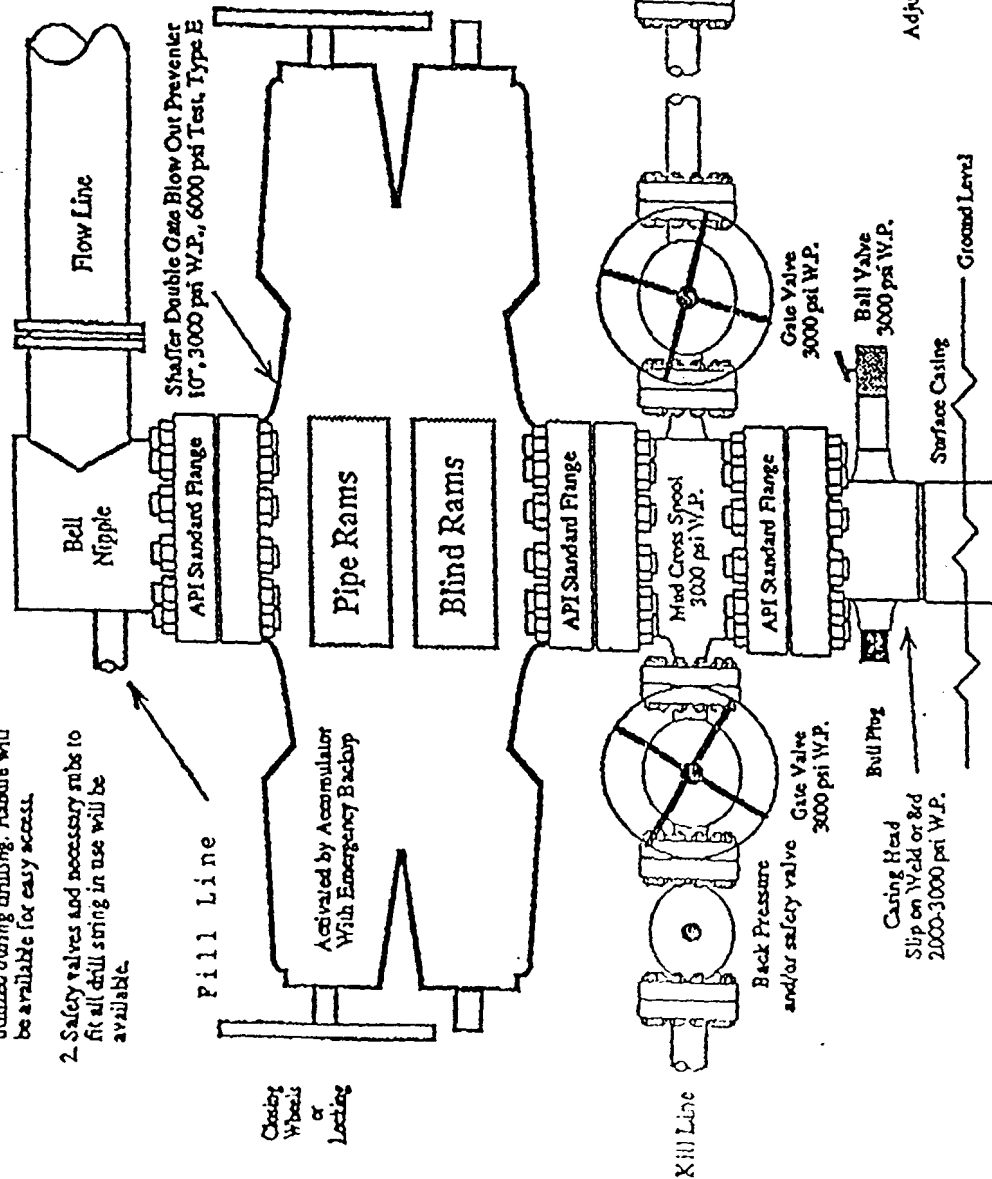
6. CORES, TESTS, & LOGS

No cores or drill stem tests are planned. These logs will be run:

Array Induction/SFL/GR/SP from TD to bottom of surface casing
CNL/LDT(Lithodensity)/GR/Cal and PE from TD to $\approx 2,600'$
Formation Micro Imager (FMI) from TD to $\approx 2,600'$

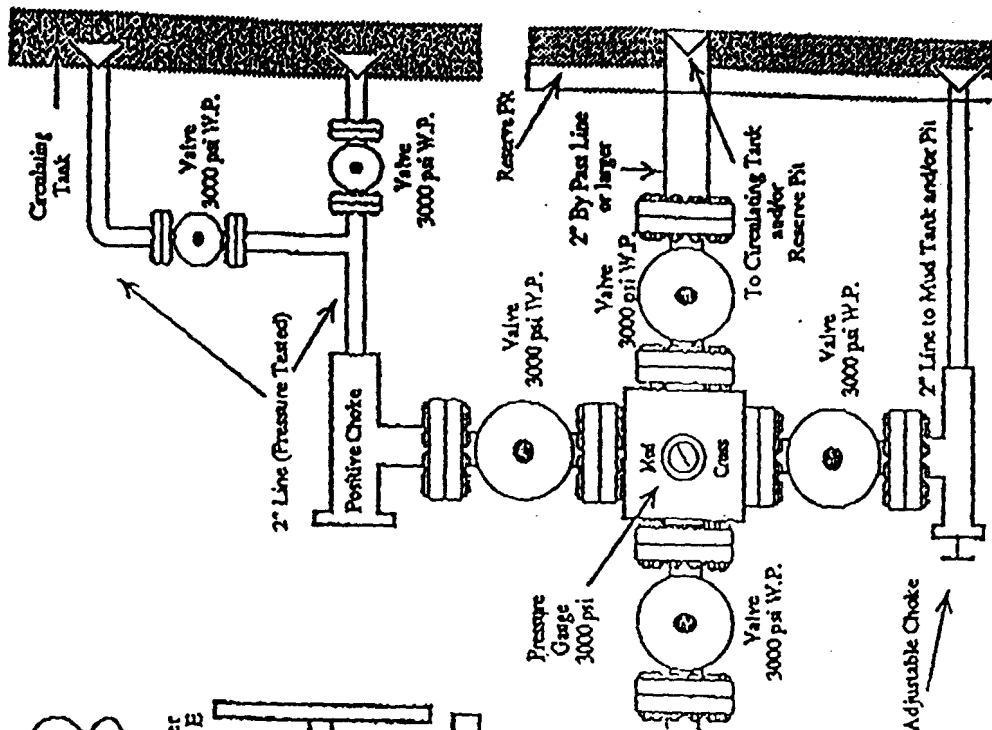
Pressure Control Equipment

- Note: 1. An upper Kelly cock valve will be utilized during drilling. Handles will be available for easy access.
2. Safety valves and necessary rams 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.

Minimum 2" Choke Line.
Minimum 2" Kill Line.
At Least One 2" Minimum Kill Line Valve.



Planning a Build and Hold Trajectory

Well Name:	<u>Bolack C #21</u>		
Enter KOP, feet	<u>600</u>	Enter Target Coordinate, North	<u>120</u>
Enter Target TVD	<u>5600</u>	Enter Target Coordinate, East	<u>850</u>
Enter Build Rate, %/100'	<u>2.00</u>	Enter Total Depth, TVD	<u>5600.00</u>

Item	MD Feet	TVD Feet	Drift Angle, °	Departure Feet	Coordinates, Feet	
					North	East
KOP	600.00	600.00	0.00	0.00	0.00	0.00
End of Build	1112.96	1110.22	10.26	45.80	6.40	45.35
Target	5675.68	5600.00	10.26	858.43	120.00	850.00
Total Depth	5675.68	5600.00	10.26	858.43	120.00	850.00

Transpose TVD To MD, Drift Angle, Departure, and Coordinates:

[illegible]

Bolack C #21

Vertical Section

