

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 & Natural Resources

Form C-101  
June 16, 2008

Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,  
PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address <b>XTO Energy Inc. 382 CR 3100 Aztec, New Mexico 87410</b>		<sup>2</sup> OGRID Number <b>5380</b>
		<sup>3</sup> API Number <b>30- 045- 34980</b>
<sup>4</sup> Property Code <b>36992</b>	<sup>5</sup> Property Name <b>HUERFANO UNIT</b>	<sup>6</sup> Well No. <b>#324</b>
<sup>9</sup> Proposed Pool 1 <b>BASIN DAKOTA</b>		<sup>10</sup> Proposed Pool 2

<sup>7</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>H</b>	<b>16</b>	<b>25N</b>	<b>9W</b>		<b>1945</b>	<b>FNL</b>	<b>665</b>	<b>FEL</b>	<b>SAN JUAN</b>

<sup>8</sup> Proposed 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

Additional Well Location

<sup>11</sup> Work Type Code <b>NEW WELL</b>	<sup>12</sup> Well Type Code <b>GAS</b>	<sup>13</sup> Cable/Rotary <b>ROTARY</b>	<sup>14</sup> Lease Type Code <b>STATE</b>	<sup>15</sup> Ground Level Elevation <b>6618'</b>
<sup>16</sup> Multiple <b>N</b>	<sup>17</sup> Proposed Depth <b>6850'</b>	<sup>18</sup> Formation <b>DAKOTA</b>	<sup>19</sup> Contractor	<sup>20</sup> Spud Date

<sup>21</sup> Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
<b>12.25</b>	<b>8.625</b>	<b>24</b>	<b>360'</b>	<b>214</b>	
<b>7.875</b>	<b>5.5</b>	<b>15.5</b>	<b>6850'</b>	<b>803</b>	

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any Use additional sheets if necessary.

See Attached Drilling Program

RCVD MAY 18 '09  
OIL CONS. DIV.

DIST. 3  
NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief		OIL CONSERVATION DIVISION	
Signature: <i>Jennifer M. Hembry</i>		Approved by: <i>[Signature]</i>	
Printed name: <b>JENNIFER M. HEMBRY</b>		Title: <b>DEPUTY OIL &amp; GAS INSPECTOR, DIST. 3</b>	
Title: <b>REGULATORY CLERK</b>		Approval Date: <b>MAY 21 2009</b>	Expiration Date: <b>MAY 21 2011</b>
E-mail Address: <b>jennifer.hembry@xtoenergy.com</b>			
Date: <b>05/15/2009</b>	Phone: <b>505-333-3631</b>	Conditions of Approval Attached <input type="checkbox"/>	

MAY 21 2009

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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 30-045-34980	<sup>2</sup> Pool Code 71599	<sup>3</sup> Pool Name Basin Dakota
<sup>4</sup> Property Code 36992	<sup>5</sup> Property Name HUERFANO UNIT	<sup>6</sup> Well Number 324
<sup>7</sup> GRID No 5380	<sup>8</sup> Operator Name XTO ENERGY INC.	<sup>9</sup> Elevation 6618'

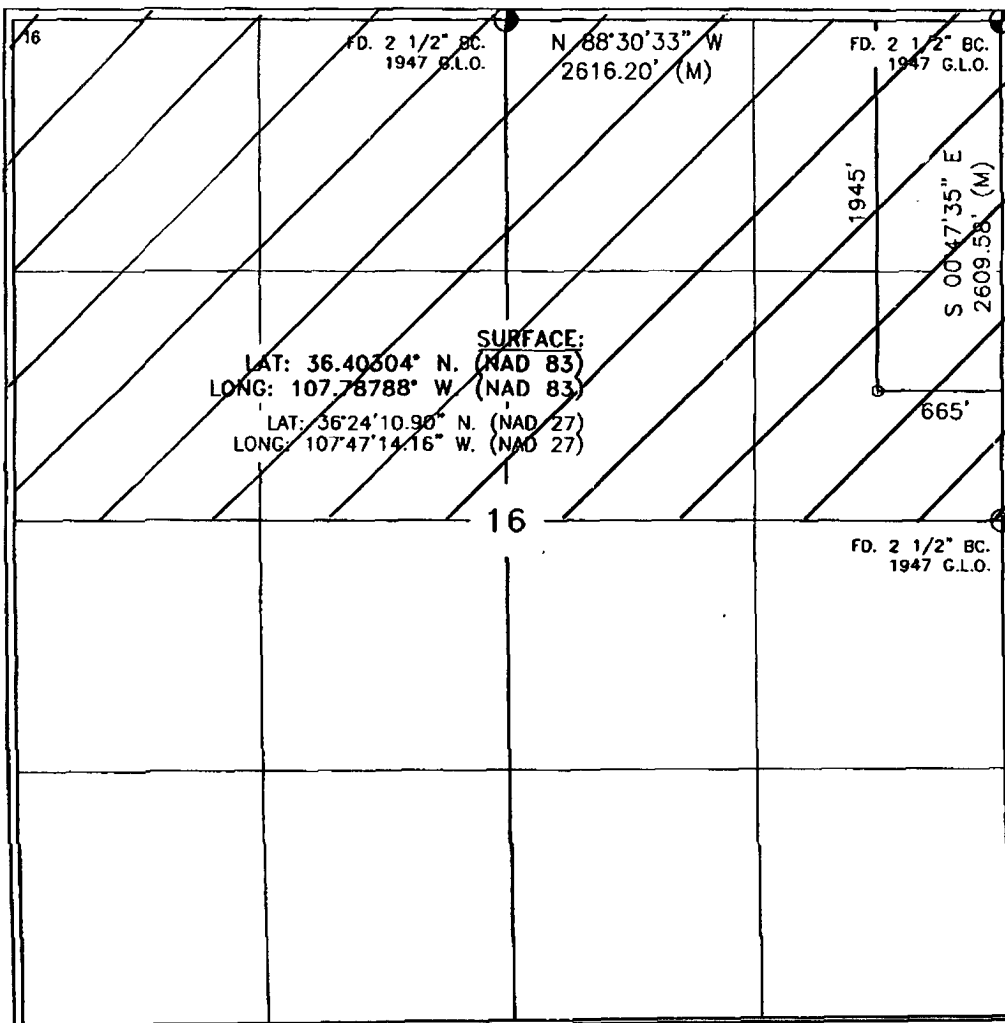
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	25-N	9-W		1945	NORTH	665	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
<sup>12</sup> Dedicated Acres N/2-320					<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<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



**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

*J. Hembry*  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
*Jennifer M. Hembry*  
Printed Name

**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 & belief

JANUARY 8, 2009  
Date of Survey  
Signature and Seal of Professional Surveyor:  
  
Certificate Number

# XTO ENERGY INC.

Huerfano Unit #324

APD Data

May 7, 2009

Location: 1945' FNL x 665' FEL Sec 16, T25N, R9W

County: San Juan

State: New Mexico

GREATEST PROJECTED TD: 6850'  
APPROX GR ELEV: 6618'

OBJECTIVE: Basin Dakota / Basin Mancos  
Est KB ELEV: 6630' (12' AGL)

## 1. MUD PROGRAM:

INTERVAL	0' to 360'	360' to 2500'	2500' to 6850'
HOLE SIZE	12.25"	7.875"	7.875"
MUD TYPE	FW/Spud Mud	FW/Polymer	LSND / Gel Chemical
WEIGHT	8.6-9.0	8.4-8.8	8.6- 9.20
VISCOSITY	28-32	28-32	45-60
WATER LOSS	NC	NC	8-10

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.

## 2. CASING PROGRAM:

Surface Casing: 8.625" casing to be set at  $\pm$  360' in a 12-1/4" hole filled with 9.20 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'-360'	360'	24.0#	J-55	ST&C	1370	2950	244	8.097	7.972	7.950	17.13	28.24

Production Casing: 5.5" casing to be set at TD ( $\pm$ 6850') in 7.875" hole filled with 9.20 ppg mud.

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'-6850	6850'	15.5#	J-55	ST&C	4040	4810	202	4.950	4.825	1.23	1.47	1.90

Remarks: All Casing strings will be centralized in accordance with Onshore Order #2 and NTL FRA-90-1.

## 3. WELLHEAD:

- A. Casing Head: Larkin Fig 92 (or equivalent), 9" nominal, 2,000 psig WP (4,000 psig test) with 8-5/8" 8rnd thread on bottom and 11-3/4" 8rnd thread on top.
- B. Tubing Head: Larkin Fig 612 (or equivalent), 6.456" nominal, 2,000 psig WP (4,000 psig test), 5-1/2" 8rnd female thread on bottom (or slip-on, weld-on), 8-5/8" 8rnd thread on top.

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

A. Surface: 8.625", 24.0#, J-55, ST&C casing to be set at  $\pm 360'$  in 12-1/4" hole.

214 sx of Type III cement (or equivalent) typically containing accelerator and LCM, mixed at 14.5 ppg, 1.39 ft<sup>3</sup>/sk, & 6.70 gal wtr/sk.

*Total slurry volume is 297 ft<sup>3</sup>, 100% excess of calculated annular volume to 360'.*

B. Production: 5.5", 15.5#, J-55 (or K-55), ST&C casing to be set at  $\pm 6850'$  in 7.875" hole. DV Tool set @  $\pm 4300'$

1<sup>st</sup> Stage

LEAD:

$\pm 193$  sx of Premium Lite HS (Type III/Poz/Gel) or equivalent, with dispersant, fluid loss, accelerator, & LCM mixed at 12.5 ppg, 2.01 ft<sup>3</sup>/sk, 10.55 gal wtr/sx.

TAIL:

150 sx Type III or equivalent cement with bonding additive, LCM, dispersant, & fluid loss mixed at 14.2 ppg, 1.54 cuft/sx, 8.00 gal/sx.

2<sup>nd</sup> Stage

LEAD:

$\pm 360$  sx of Type III or equivalent cement with 8% gel & LCM mixed at 11.9 ppg, 2.54 ft<sup>3</sup>/sk, 15.00 gal wtr/sx.

TAIL:

100 sx Type III neat mixed at 14.5 ppg, 1.39 cuft/sx, 6.3 gal/sx.

*Total estimated slurry volume for the 5-1/2" production casing is 1671 ft<sup>3</sup>.*

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

**5. LOGGING PROGRAM:**

A. Mud Logger: None.

B. Open Hole Logs as follows: Run Array Induction/SFL/GR/SP fr/TD (6850') to the bottom of the surface csg. Run Neutron/Lithodensity/Pe/GR/Cal from TD (6850') to 3,000'.

6. **FORMATION TOPS:**

Est. KB Elevation: 6630'

FORMATION	Sub-Sea	MD	FORMATION	TV Sub-Sea	MD
Ojo Alamo SS	5537	1093	Gallup	1262	5368
Kirtland Shale	5370	1260	Greenhorn	332	6298
Farmington SS			Graneros	278	6352
Fruitland Formation	5131	1499	Dakota 1*	252	6378
Lower Fruitland Coal	4713	1917	Dakota 2*	204	6426
Pictured Cliffs SS	4700	1930	Dakota 3*	176	6454
Lewis Shale	4490	2140	Dakota 4*	103	6527
Chacra SS	3833	2797	Dakota 5*	75	6555
Cliffhouse SS*	3114	3516	Dakota 6*	18	6612
Menefee**	3068	3562	Burro Canyon	-22	6652
Point Lookout SS*	2275	4355	Morrison*	-42	6672
Mancos Shale	1951	4679	<b>TD</b>	-220	<b>6850</b>

\* *Primary Objective*

\*\* *Secondary Objective*

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

7. **COMPANY PERSONNEL:**

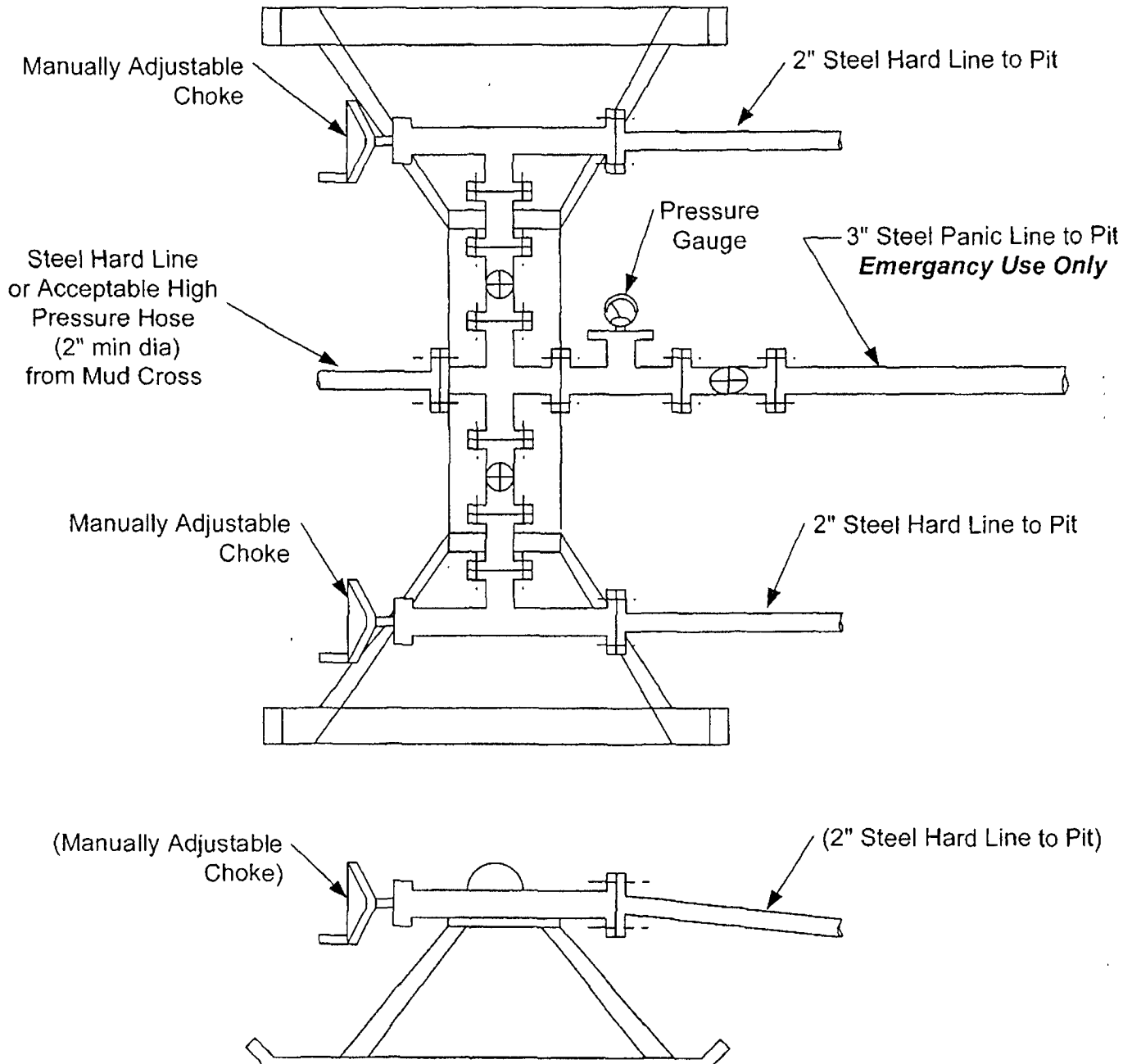
Name	Title	Office Phone	Home Phone
Justin Niederhofer	Drilling Engineer	505-333-3199	505-320-0158
Bobby Jackson	Drilling Superintendent	505-333-3224	505-486-4706
John Klutsch	Project Geologist	817-885-2800	--

JDN  
5/7/09

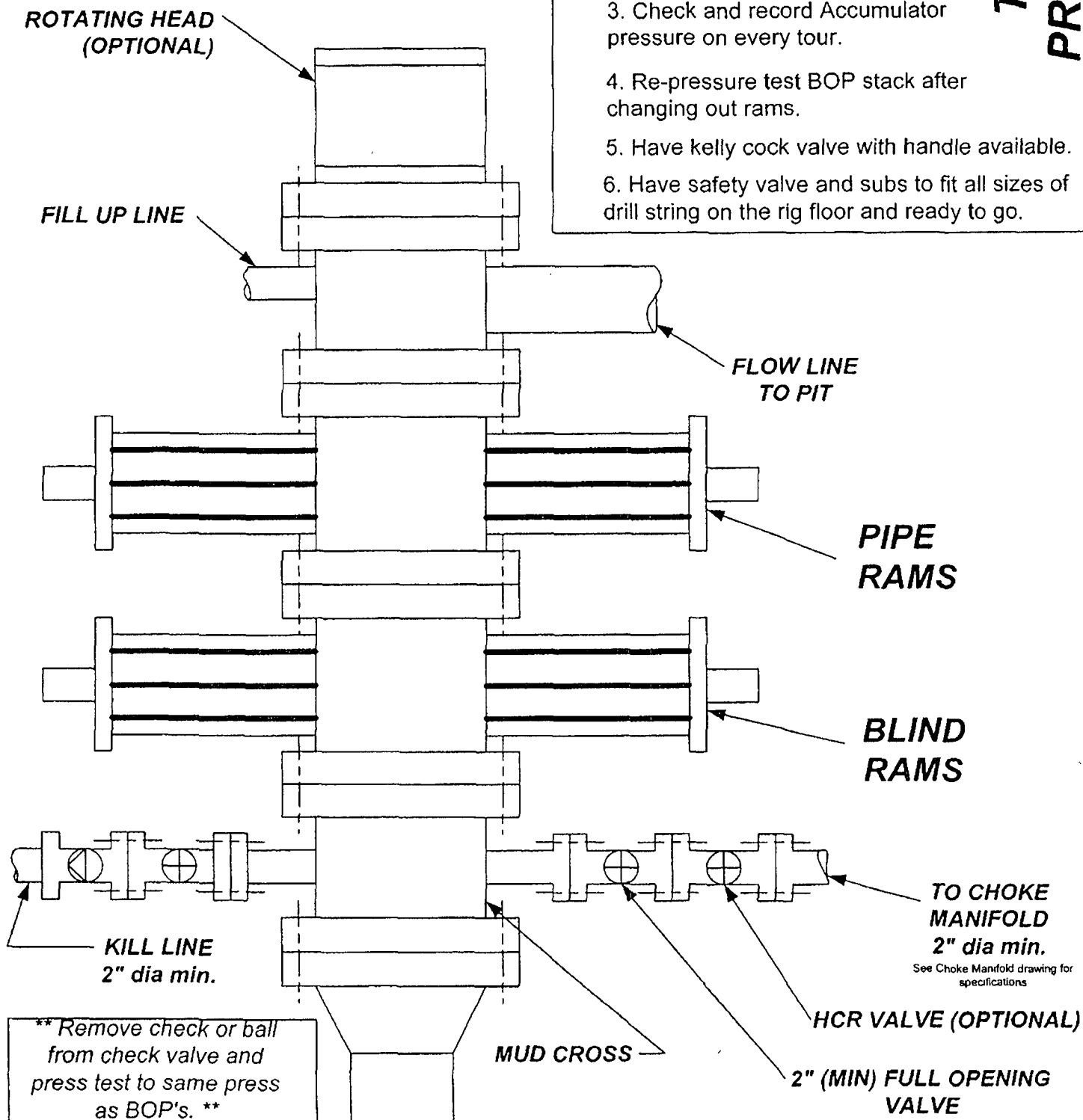
# **CHOKE MANIFOLD SCHEMATIC FOR DRILLING OPERATIONS CLASS 1 (2M) NORMAL PRESSURE**

1. Stake all lines from choke manifold to pit.
2. Pressure test choke manifold after installation.
3. Pressure test manifold at the same time with the BOP Stack. Test manifold to the same test pressures.

## **TESTING PROCEDURE**



# BOP SCHEMATIC FOR DRILLING OPERATIONS CLASS 1 (2M) NORMAL PRESSURE



## 1. Test BOP after installation:

Pressure test BOP to 200-300 psig (low pressure) for 10 min.

Test BOP to Working Press or to 70% internal yield of surf csg (10 min) or which ever is less.

## 2. Test operation of (both) rams on every trip.

## 3. Check and record Accumulator pressure on every tour.

## 4. Re-pressure test BOP stack after changing out rams.

## 5. Have kelly cock valve with handle available.

## 6. Have safety valve and subs to fit all sizes of drill string on the rig floor and ready to go.

# TESTING PROCEDURE