

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0136  
Expires March 31, 2007

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. Jicarilla Contract 110
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 type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name Jicarilla Apache
2. Name of Operator CDX RIO, LLC		7. If Unit or CA Agreement, Name and No.
3a. Address 2010 Afton Place, Farmington, New Mexico 87401		8. Lease Name and Well No. Jicarilla A #2F
3b. Phone No. (include area code) (505) 326-3003		9. API Well No. 30-039- 29690
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 540' FNL, 665' FEL Lat: 36 29' 34.5" , Long: 107 23' 39.2" At proposed prod. zone		10. Field and Pool, or Exploratory Blanco Mesaverde/Basin Dakota
14. Distance in miles and direction from nearest town or post office* 30 miles east of Lindrith Post Office		11. Sec., T., R., M., or Blk. and Survey or Area A Section 18, T-26-N, R-5-W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well 320 E/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 7963'	20. BLM/BIA Bond No. on file National Bond on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6997' GR	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

- 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.

25. Signature <i>Nancy Oltmans</i> - for	Name (Printed/Typed) Richard Corcoran	Date 11-3-05
Title Land Manager		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 4/17/06
Title AFM	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 reverse)



HOLD C104 FOR NSL

NMOC

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\*.

Form C-102  
Revised June 10, 2003

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

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

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

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039- 29690		*Pool Code 72319/71599	*Pool Name Blanco Mesaverde/Basin Dakota
*Property Code 33454 ✓	*Property Name JICARILLA A		*Well Number 2F ✓
*OGRID No. 222374 ✓	*Operator Name CDX RIO, LLC		*Elevation 6997' ✓

<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
A	18	26-N	5-W		540	NORTH	665	EAST	RIO ARRIBA

<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 MV - E/320 DK - E/320			<sup>13</sup> Joint or Infill  Y		<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

<p>18 FD. 3 1/4" BC. 1957 B.L.M.</p>	<p>S 89-31-39 W</p>	<p>5328.80' (C)</p> <p>CALC'D CORNER BY DBL. PROP.</p>	<p>540'</p> <p>665'</p>	<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> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Nancy Oltmanns for</i> Signature Richard Corcoran Printed Name Land Manager Title 11-3-05 Date</p> </div>
<p>18</p> <p>LAT. 36°29'34.5"N (NAD 83) LONG. 107°23'39.2" W (NAD 83)</p>		<p>CALC'D CORNER BY DBL. PROP.</p>	<p>5314.45' (C)</p> <p>S 00-00-48 E</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> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>APR 2005 70599</p> <p>JOHN VUKOBICH NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR 14881</p> <p>11-3-05 Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> </div> <p>Certificate Number</p>

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., 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

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-103  
May 27, 2004

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-039- <u>29690</u>
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator CDX RIO, LLC		6. State Oil & Gas Lease No. Jicarilla Contract 110
3. Address of Operator 2010 Afton Place, Farmington, New Mexico 87401		7. Lease Name or Unit Agreement Name Jicarilla A
4. Well Location Unit Letter <u>A</u> : <u>540'</u> feet from the <u>North</u> line and <u>665'</u> feet from the <u>East</u> line Section <u>18</u> Township <u>26N</u> Range <u>5W</u> NMPM Rio Arriba County		8. Well Number 2F
11. Elevation (Show whether DR, RKB, RT, GR, etc.) <u>6997' GR</u>		9. OGRID Number 222374
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat Blanco Mesaverde/Basin Dakota
Pit type <u>New Drill</u> Depth to Groundwater <u>&lt;100'</u> Distance from nearest fresh water well <u>&lt;1000'</u> Distance from nearest surface water <u>&lt;1000'</u>		
Pit Liner Thickness: <u>12</u> mil Below-Grade Tank: Volume _____ bbls; Construction Material _____		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: New Drill Pit ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

CDX RIO, LLC requests approval to construct a drilling pit in accordance with CDX RIO, LLC General Construction Plan submitted August, 2004. The pit will be a lined as per the general plan. The pit will be closed within 180 days from completion of project as per General Closure Plan submitted August, 2004.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

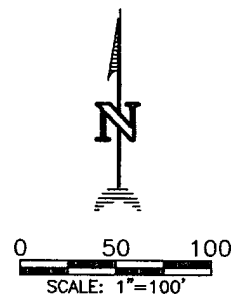
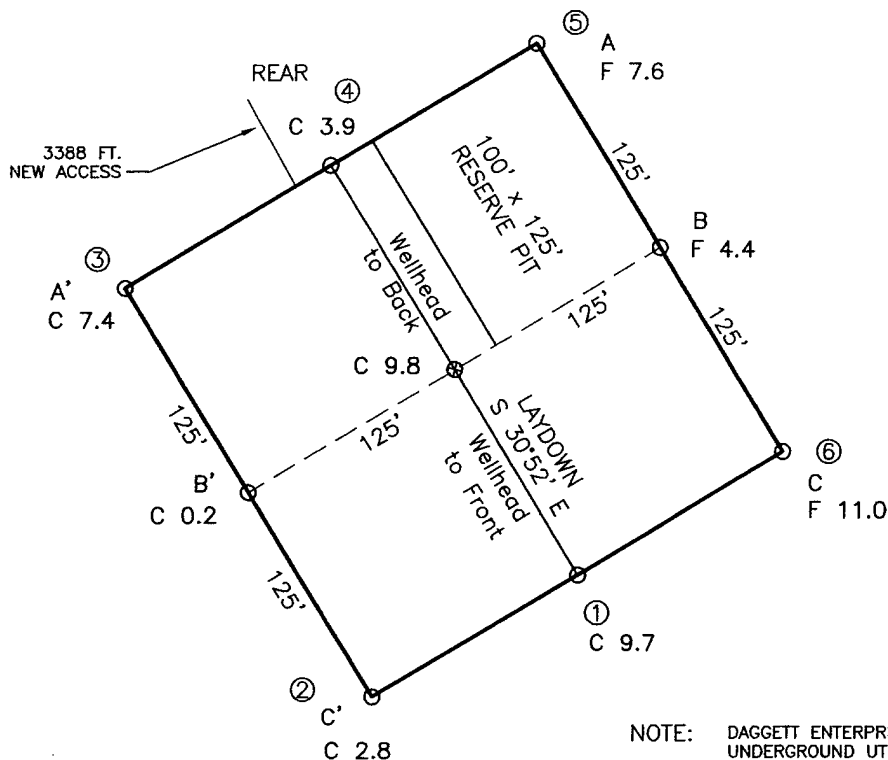
SIGNATURE Nancy Oltmanns TITLE Agent DATE 10/4/05

Type or print name Nancy Oltmanns E-mail address: nancy.oltmanns@cdxgas.com Telephone No. (505) 326-3003  
**For State Use Only**

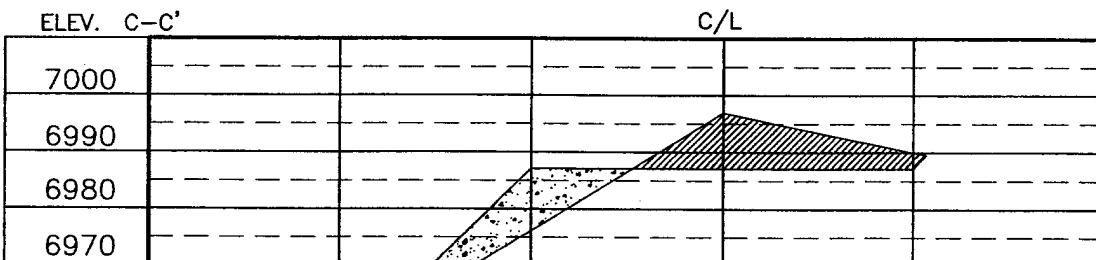
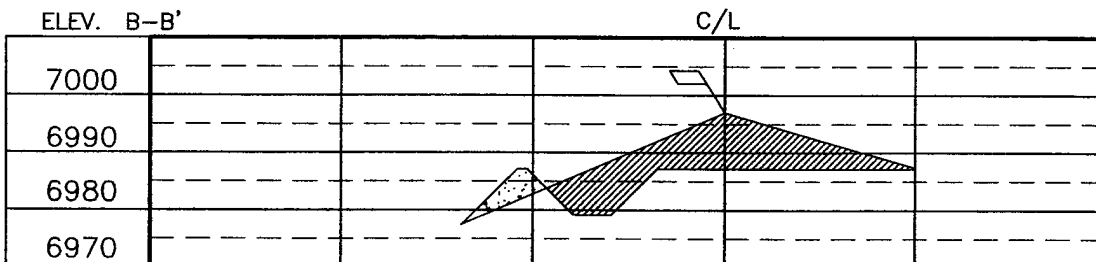
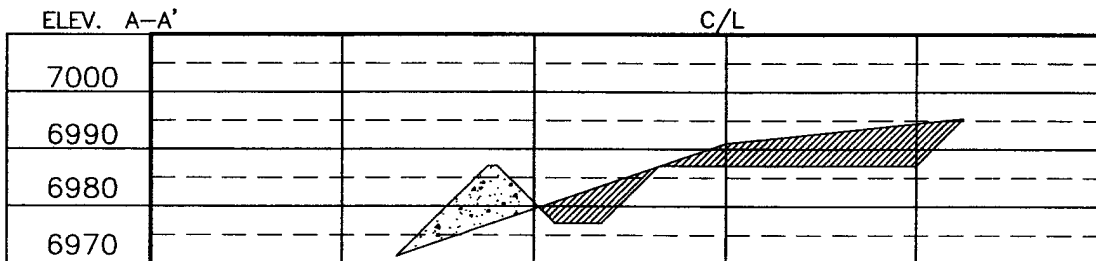
APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DISI. DATE APR 19 2006  
Conditions of Approval (if any):

CDX RIO, LLC  
 JICARILLA A No. 2F, 540 FNL 665 FEL  
 SECTION 18, T26N, R5W, N.M.P.M., RIO ARRIBA COUNTY, N. M.  
 GROUND ELEVATION: 6997', DATE: AUGUST 26, 2005

LAT. = 36°29'34.5" N.  
 LONG. = 107°23'39.2" W  
 NAD 83



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:	REVISION BY:	DATE:
RESTAKE WELL PAD	09/14/05	B.L.	
RESTAKE WELL PAD	07/20/05	B.L.	

**Daggett Enterprises, Inc.**  
 Surveying and Oil Field Services  
 P. O. Box 15088 • Farmington, NM 87401  
 Phone (505) 326-1772 • Fax (505) 326-6019  
 NEW MEXICO L.S. No. 14831

COPY: CDXGAS072CFB  
 DATE: 04/09/05

DRAWN BY: B.L.  
 ROW#: CDXGAS072

**Jicarilla A No. 2F  
General Drilling Plan  
CDX Rio, LLC  
Rio Arriba County, New Mexico**

**1. LOCATION:**

540' FNL & 665' FEL, Section 18, T26N, R5W  
Rio Arriba County, New Mexico  
UGL: 6997' Estimated KB: 7009'

Field: Blanco Mesa Verde and Basin Dakota  
Surface: Jicarilla Contract #110  
Minerals: Jicarilla Contract #110

**2. SURFACE FORMATION – SAN JOSE, ESTIMATED TOPS AND WATER, OIL, GAS OR MINERAL BEARING FORMATIONS (TVD):**

Formation Tops	Top MD (KB)	Top Subsea (KB)	Rock Type	Comments
Ojo Alamo Sandstone	2681	4328	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	3054	3955	Shale	
Fruitland Formation	3274	3735	Coal, Shale, Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3503	3506	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	3338	3371	Shale	Sloughing Shale
Huerfanito Bentonite Bed	3969	3040	Shale	
Chacra Interval	4408	2601	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	5196	1813	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	5196	1813	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	5277	1732	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone (MVRD)	5756	1253	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5925	1084	Shale	Sloughing Shale
Gallup Formation (GLLP)	6910	99	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	7645	-636	Limestone	Gas, Oil
Graneros Shale	7703	-694	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	7728	-719	Sandstone, Shale, Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	7728	-719	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	7820	-811	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone (DKOT)	7859	-850	Sandstone	Gas, Oil, Water
Main Body (DKOT)	7891	-882	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	7935	-926	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT)			Sandstone	Gas, Water, Poss Under-pressure - <b>Avoid</b>
Morrison Formation			Shale, Sandstone	Gas, Water, Possible Under-pressure
Proposed TD	7963	-954		

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and adequately protected.

### **3. PRESSURE CONTROL EQUIPMENT:**

BOP equipment will be tested to its rated working pressure or 70-percent of the internal yield of the surface casing, but not to exceed 1,000 psi. See attachments for BOP and choke manifold diagrams.

#### **Production Hole BOP Requirements and Test Plan**

11" – 2,000 psi single ram (blind)

11" – 2,000 psi single ram (pipe)

Test as follows:

a) Pipe rams:	1,000 psi (High)	250 psi (low)
b) Choke manifold and lines:	1,000 psi (High)	250 psi (low)

All ram type preventers and related equipment will be hydraulically tested at nipple-up. They will also be retested in either of the following events:

- A pressure seal is broken.
- 30 days have elapsed since the last successful test of the equipment.

Furthermore, BOP's will be checked daily as to mechanical operating condition. All ram type preventers will have hand wheels, which will be operative and accessible at the time the preventers are installed. See attached Exhibit for details on the BOP equipment.

#### **AUXILIARY EQUIPMENT:**

- a) Manually operated kelly cock (upper and lower)
- b) Full opening manually operated safety valves in the full open position, capable of fitting all drill stem connections.

#### 4. CASING AND CEMENTING DESIGN:

##### Casing Program:

<u>Hole Size</u>	<u>Depth</u>	<u>Casing Size</u>
12 1/4"	650'	9 5/8"
8 3/4"	3869' +/- Lewis seat	7"
6 1/4"	7963'	4 1/2"

Hole Size	Casing Type	Top (MD)	Bottom (MD)	Wt. (lb./ft)	Grade	Thread	Condition
12 1/4" <del>9 5/8"</del>	Surface	0'	650'	36.0	J55	STC	New
8 3/4" <del>7"</del>	Intermediate	0'	3869' +/-	23.0	N80	LTC	New
6 1/4" <del>4 1/2"</del>	Prod Liner	3749'	7963'	11.6	N80	LTC	New

Casing Data				Collapse (psi)	Burst (psi)	Min. Tensile (Lbs.)
OD	Wt/Ft	Grade	Thread			
9-5/8"	36.0 lbs.	J55	STC	2,020	3,520	394,000
7"	23.0 lbs.	N80	LTC	3,830	6,340	442,000
4 1/2"	11.6 lbs.	N80	LTC	6,350	7,780	223,000

##### MINIMUM CASING DESIGN FACTORS:

COLLAPSE: 1.125  
 BURST: 1.00  
 TENSION: 1.80

Area Fracture Gradient Range: 0.7 – 0.8 psi/foot  
 Maximum anticipated reservoir pressure: 2,500 psi  
 Maximum anticipated mud weight: 9.0 ppg  
 Maximum surface treating pressure: 3,500 - 3,750 psi

## Float Equipment:

Surface Casing: Guide shoe on bottom and 3 centralizers on the bottom 3 joints.

Intermediate Casing: Float shoe on bottom joint and a float collar one joint up from float shoe. One centralizer 10 ft above float shoe and nine centralizers spaced every joint above the float collar. Stage tool above the Kirtland formation. One centralizer below stage tool and one centralizer above stage tool.

Production Casing: 4 1/2" cement nosed guide shoe and a float collar on top of bottom joint with centralizers over potential hydrocarbon bearing zones.

## Cementing Program:

### 9-5/8" Surface casing: 650'

335 sxs Type III cement with 2%  $\text{CaCl}_2$ , 1/4#/sx celloflake. 100% excess to circulate cement to surface. WOC 12 hrs.

Slurry weight: 15.2 ppg  
Slurry yield: 1.27 ft<sup>3</sup>/sack

Volume basis:	40' of 9-5/8" shoe joint	17.4 cu ft
	650' of 12-1/4" x 9-5/8" annulus	203.6 cu ft
	<u>100% excess (annulus)</u>	<u>203.6 cu ft</u>
	Total	424.6 cu ft

Note:

1. Design top of cement is the surface.
2. Have available 100 sx Type III cement with 2%  $\text{CaCl}_2$  for top out purposes.

### 7" Intermediate Casing: 3869'

1st Stage: 147 sacks of Type III cement

Slurry weight: 14.5 ppg  
Slurry yield: 1.4 ft<sup>3</sup>/sack

2<sup>nd</sup> Stage: (Stage tool at 2954' +/-): 332 sacks of Premium Lite FM

Slurry weight: 12.4 ppg  
Slurry yield: 1.92 ft<sup>3</sup>/sack

4 



<u>Volume Basis:</u>	40' of 7" shoe joint	9 cu ft
	3219' of 7" x 8 3/4" annulus	484 cu ft
	650' of 7" x 9 5/8" csg	108 cu ft
	<u>50% excess (annulus)</u>	<u>242 cu ft</u>
	Total	843 cu ft

Note:

1. Design top of cement is surface.
2. Actual cement volumes to be based on caliper log plus 30%.

**4 1/2" Production casing: Air Drilled Hole 3869' – 7963' (4094')**

Stage 1: 264 sacks of Premium Lite High Strength FM out guide shoe.

Slurry weight: 12.3 ppg  
Slurry yield: 2.13 ft<sup>3</sup>/sack

Volume basis:	40' of 4 1/2" shoe joint	4 cu ft
	4094' of 4 1/2 " x 6 1/4" hole	420 cu ft
	120' of 4 1/2" x 7" casing	13 cu ft
	<u>30% excess (annulus)</u>	<u>126 cu ft</u>
	Total	563 cu ft

Note:

1. Design top of cement is 3749' +/- ft. or 120 ft. into 7" intermediate casing.
2. Actual cement volumes to be based on caliper log plus 30%.

**5. MUD PROGRAM:**


The surface hole will be drilled with spud mud. Gel and polymer sweeps will be used from surface to 650 feet as necessary to keep hole clean.

The intermediate hole will be drilled with water till mud up at about 2300 ft. From 2300' to 3869', intermediate casing depth, will be drilled with LSND mud. Anticipated mud weight ranges from 8.5 – 9.0 ppg. Mud weight will be increased as required to maintain hole stability and control gas influx.

The production hole will be drilled with air or air/mist.

Sufficient mud materials to maintain stable wellbore conditions (for either well control or lost circulation scenarios) will be maintained at the well site.

No chrome-based additives will be used in the mud system.

5 

# Jicarilla A No. 2F

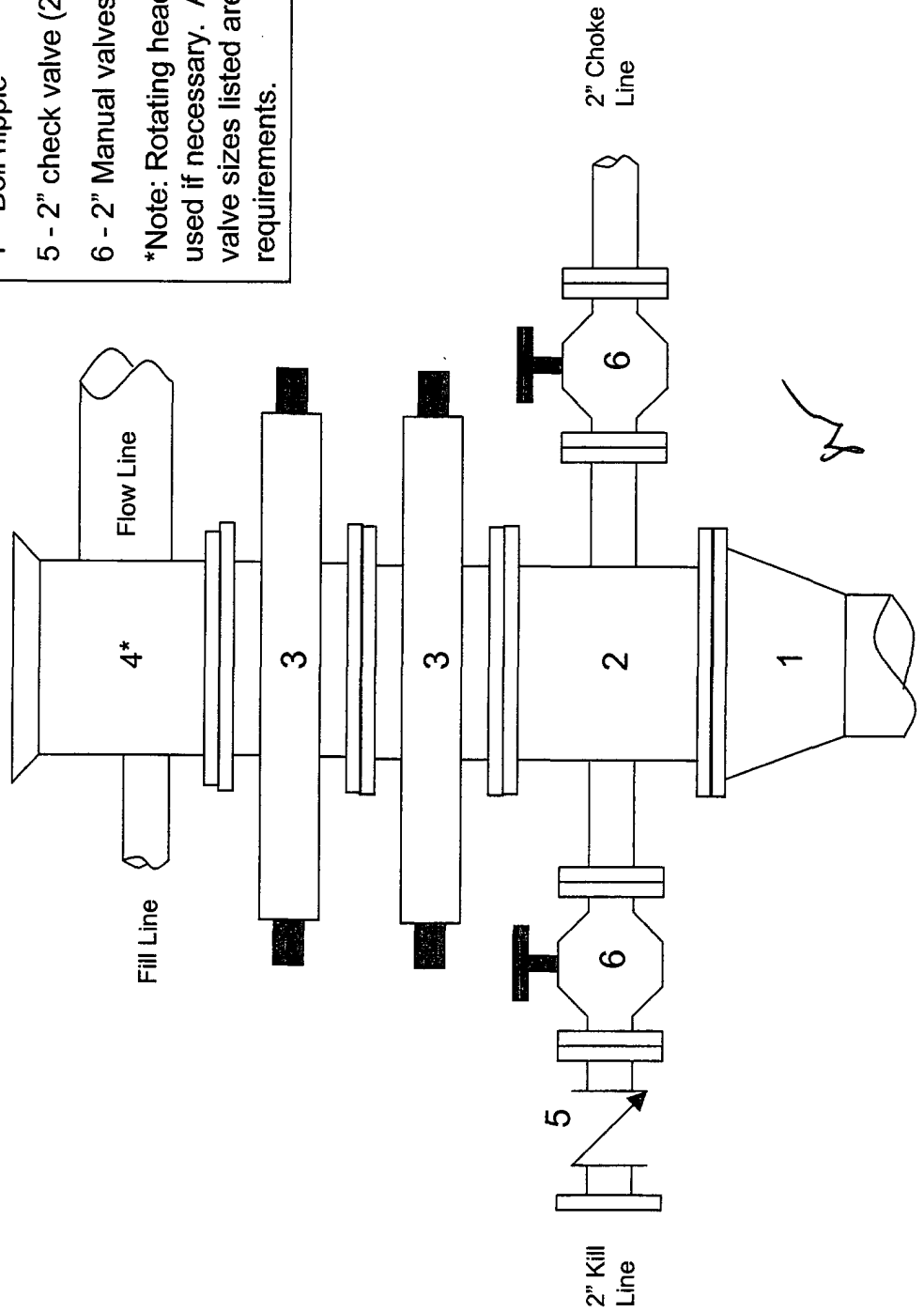
2000 psi BOP stack

Minimum requirements

## Components

- 1 - Wellhead 9-5/8" (2M)
- 2 - Drilling spool 11" (2M)
- 3 - A double or two single rams with blinds on bottom 11" (2M)
- 4 - Bell nipple\*
- 5 - 2" check valve (2M)
- 6 - 2" Manual valves (2M)

\*Note: Rotating head may also be used if necessary. Also, all line and valve sizes listed are minimum requirements.



# Jicarilla A No. 2F

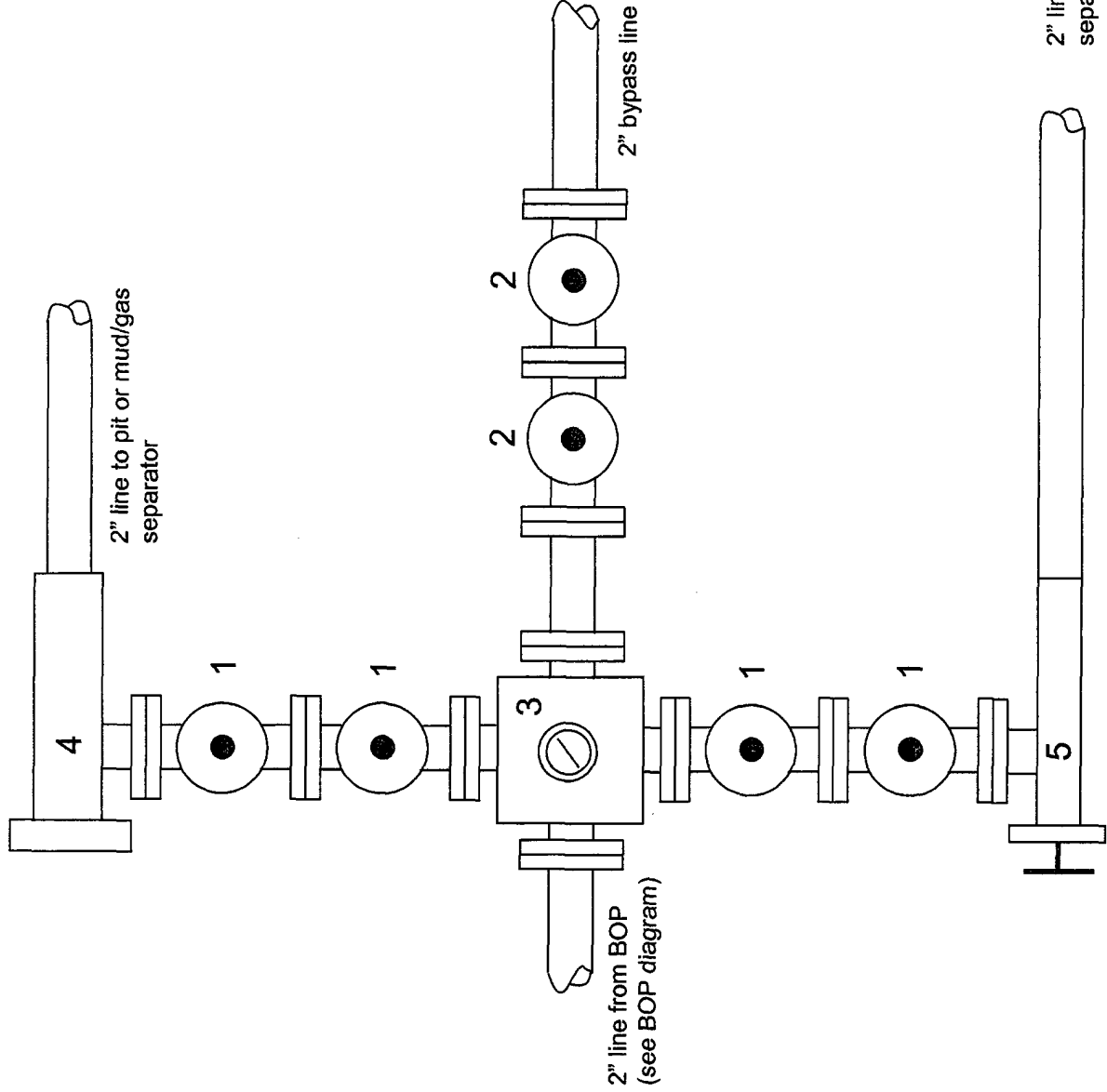
## 2000 psi Choke Manifold

### Minimum requirements

#### Components

- 1 – 2" Valve (2M)
- 2 – 2" Valve (2M)
- 3 – Mud cross with gauge (2M) flanged below the gauge.
- 4 – Replaceable beam choke (2M)
- 5 – Adjustable needle choke (2M)

Note: All line and valve sizes listed are minimum requirements.



for