

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

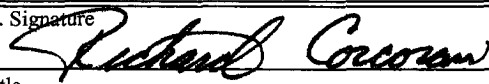
FORM APPROVED
OMB No. 1004-0136
Expires March 31, 2007

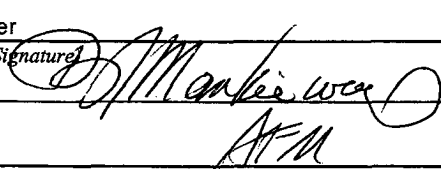
1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. Jicarilla Contract 110
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" 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	3b. Phone No. (include area code) (505) 326-3003	8. Lease Name and Well No. Jicarilla A #2M
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 2245' FSL, 305' FEL Lat: 36 29' 09.6", Long: 107 23' 34.9" At proposed prod. zone		9. API Well No. 30-039- 29913
14. Distance in miles and direction from nearest town or post office* 30 miles from Lindrith, New Mexico		10. Field and Pool, or Exploratory Blanco Mesaverde/Basin Dakota
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 305'	16. No. of Acres in lease	11. Sec., T., R., M., or Blk. and Survey or Area I Section 18, T-26-N, R-5-W
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 500'	19. Proposed Depth 7550'	12. County or Parish Rio Arriba
20. BLM/BIA Bond No. on file National Bond on File	17. Spacing Unit dedicated to this well 320 E/2	13. State NM
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6611' 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:

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 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 	Name (Printed/Typed) Richard Corcoran	Date 5-15-06
-----------------------------------------------------------------------------------------------------	------------------------------------------	-----------------

Title Land Manager		
Approved by (Signature) 	Name (Printed/Typed) D. Mankie	Date 2/21/07
Title AFM	Office AFM	

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)

RCVD FEB21'07
OIL CONS. DIV.

DIST. 3

NOTIFY AZTEC OCD
IN TIME TO WITNESS

NSL-5379

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

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

NMOCD
8-2-23-07

Certificate Number

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

Form C-103
May 27, 2004

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

WELL API NO. 30-039- 29913
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. Jicarilla 110
7. Lease Name or Unit Agreement Name Jicarilla A
8. Well Number 2M
9. OGRID Number 222374
10. Pool name or Wildcat Blanco Mesaverde/Basin Dakota

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6611' GR

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type New Drill Depth to Groundwater < 100' Distance from nearest fresh water well > 1000' Distance from nearest surface water < 1000'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls; Construction Material

SUNDRY NOTICES AND REPORTS ON WELLS
(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.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other ☐

2. Name of Operator
CDX RIO, LLC

3. Address of Operator
2010 Afton Place, Farmington, New Mexico 87401

4. Well Location
Unit Letter I : 1190' feet from the South line and 305' feet from the East line
Section 18 Township 26N Range 5W NMPM Rio Arriba County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6611' GR

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type New Drill Depth to Groundwater < 100' Distance from nearest fresh water well > 1000' Distance from nearest surface water < 1000'

Pit Liner Thickness: 12 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:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: <u>New Drill Pit Sundry</u> <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

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 ☐.

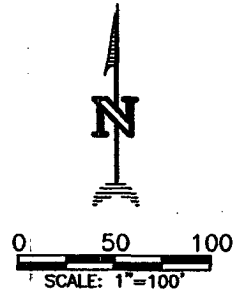
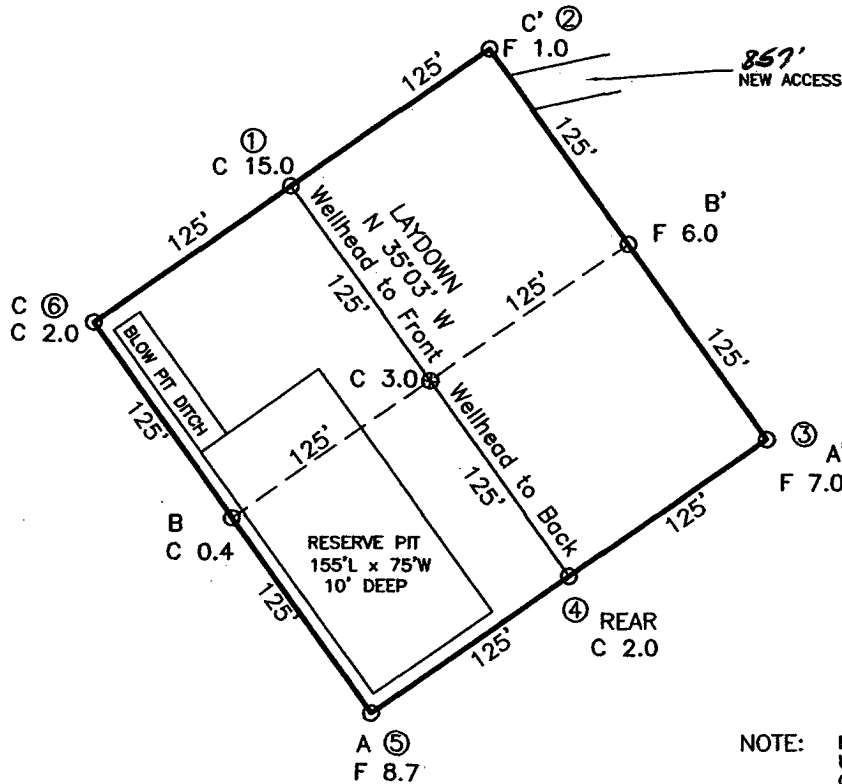
SIGNATURE Nancy Oltmanns TITLE Regulatory Consultant DATE 5/11/06

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

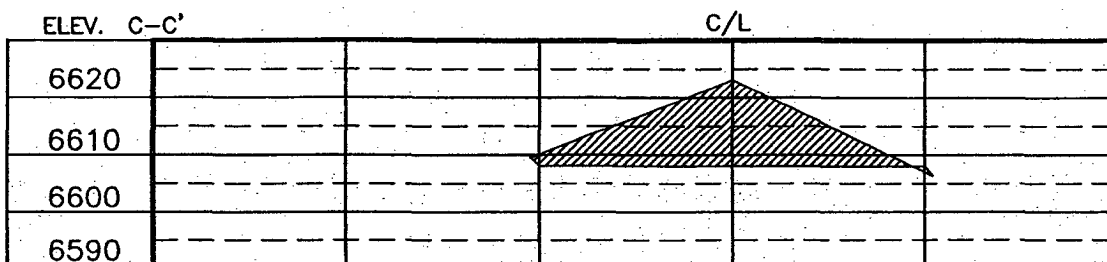
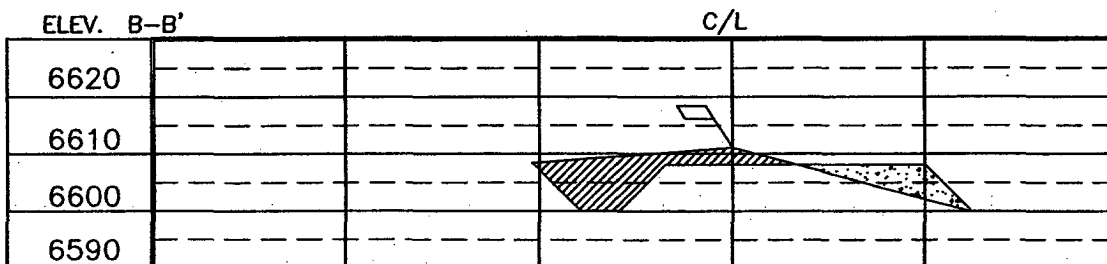
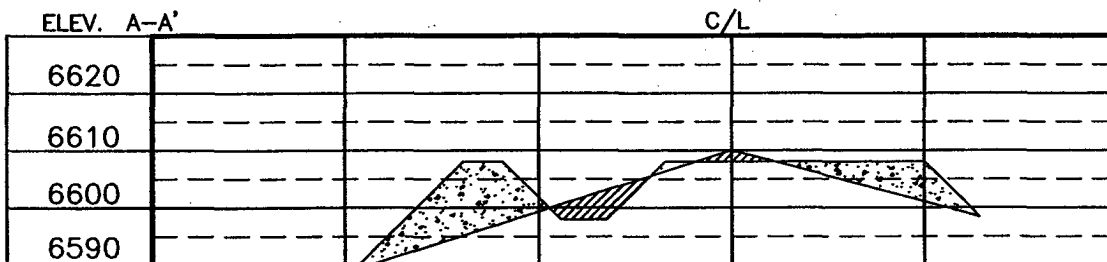
APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 4 DATE FEB 23 2007
Conditions of Approval (if any):

CDX RIO, LLC
 JICARILLA A No. 2M, 2245 FSL 305 FEL
 SECTION 18, T26N, R5W, N.M.P.M., RIO ARriba COUNTY, N. M.
 GROUND ELEVATION: 6611', DATE: SEPTEMBER 23, 2005

LAT. = 36°29'09.6" N.
 LONG. = 107°23'34.9" 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:	REVISED BY:	A.G.
CORRECTED SECTION NUMBER:	11/30/05	DATE:	11/30/05
WELL: ROTATION & P/L LINE CHANGE	02/08/08	DATE:	02/08/08

Daggett Enterprises, Inc.
 Surveying and Oil Field Services
 P. O. Box 15068 • Farmington, NM 87401
 Phone (505) 326-1772 • Fax (505) 326-6019
 NEW MEXICO L.S. No. 14831
 DRAWN BY: A.G.
 ROW#: CDXGAS089

Jicarilla A 2M
General Drilling Plan
CDX Rio, LLC
Rio Arriba County, New Mexico

1. LOCATION:

2245' FSL & 305' FEL, Section 18, T26N, R5W
Rio Arriba County, New Mexico
UGL: 6611' Estimated KB: 6623'

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	2347	4276	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	2662	3961	Shale	
Fruitland Formation	2896	3727	Coal, Shale, Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3092	3531	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	3214	3409	Shale	Sloughing Shale
Huerfano Bentonite Bed	3545	3078	Shale	
Chacra Interval	3989	2634	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	4794	1829	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	4794	1829	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	4877	1746	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone (MVRD)	5266	1357	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5465	1158	Shale	Sloughing Shale
Gallup Formation (GLLP)	6478	145	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	7227	-604	Limestone	Gas, Oil
Graneros Shale	7285	-662	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	7312	-689	Sandstone, Shale, Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	7312	-689	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	7407	-784	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone (DKOT)	7444	-821	Sandstone	Gas, Oil, Water
Main Body (DKOT)	7476	-853	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	7523	-900	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT)	7557	-934	Sandstone	Gas, Water - TD immediately below L. Cubero.
Morrison Formation			Shale, Sandstone	On-site pick when black/brown cuttings start.
Proposed TD	7550	-927		Avoid wet Burro Canyon.

4. CASING AND CEMENTING DESIGN:

Casing Program:

<u>Hole Size</u>	<u>Depth</u>	<u>Casing Size</u>
12 1/4"	250'	9 5/8"
8 3/4"	3445' +/- Lewis seat	7"
6 1/4"	7550'	4 1/2"

Csg Size	Casing Type	Top (MD)	Bottom (MD)	Wt. (lb./ft)	Grade	Thread	Condition
9-5/8"	Surface	0'	250'	36.0	J55	STC	New
7"	Intermediate	0'	3445' +/-	23.0	N80	LTC	New
4 1/2"	Prod Liner	3325'	7550'	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	7,010	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: 250'

165 sxs Type III cement with 2% 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 ft³/sack

Volume basis:	40' of 9-5/8" shoe joint	17.4 cu ft
	250' of 12-1/4" x 9-5/8" annulus	96.1 cu ft
	<u>100% excess (annulus)</u>	<u>96.1 cu ft</u>
	Total	209.6 cu ft

Note:

1. Design top of cement is the surface.
2. Have available 100 sx Type III cement with 2% CaCl_2 for top out purposes.

7" Intermediate Casing: 3445'

1st Stage: 143 sacks of Type III cement: 3445' - 2562' (883')

Slurry weight: 14.5 ppg Annular Vol = 132.8 cf + 66.4 cf (50% Access)
Slurry yield: 1.4 ft³/sack = 199.2 cf

2nd Stage: (Stage tool at 2562' +/-): 298 sacks of Premium Lite FM

Slurry weight: 12.4 ppg Volume = 571.9 cf
Slurry yield: 1.92 ft³/sack

<u>Volume Basis:</u>	40' of 7" shoe joint	8.8 cu ft
	<u>3195' of 7" x 8 3/4" annulus</u>	<u>480.4 cu ft</u>
	250' of 7" x 9 5/8" csg	41.7 cu ft
	<u>50% excess (annulus)</u>	<u>240.2 cu ft</u>
	Total	771.1 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 3445' – 7550' (4105')

Stage 1: 265 sacks of Premium Lite High Strength FM out guide shoe.

Slurry weight: 12.3 ppg
Slurry yield: 2.13 ft³/sack

Volume basis:	40' of 4 1/2" shoe joint	3.5 cu ft
	<u>4105' of 4 1/2 " x 6 1/4" hole</u>	<u>421.2 cu ft</u>
	120' of 4 1/2" x 7" casing	13.3 cu ft
	<u>30% excess (annulus)</u>	<u>126.4 cu ft</u>
	Total	564.4 cu ft

Note:

1. Design top of cement is 3325' +/- 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 250 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 3445', 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.

6. EVALUATION PROGRAM:

Mud logger: None Planned

Testing: No DST is planned

Coring: None Planned

Electric logs:
Intermediate Hole: Non Planned

Production Hole: TMD-L or Open Hole Platform Express

7. ABNORMAL PRESSURE AND TEMPERATURE:

H ₂ S	None
Coal	Fruitland
Minerals	None
Water	None
Static BHT	175° F
Lost Circulation	Possible
Hole Deviation	None
Abnormal Pressures	None
Unusual Drilling Problems	None

8. ANTICIPATED STARTING DATE: October 1, 2006

Anticipated duration: 16 days

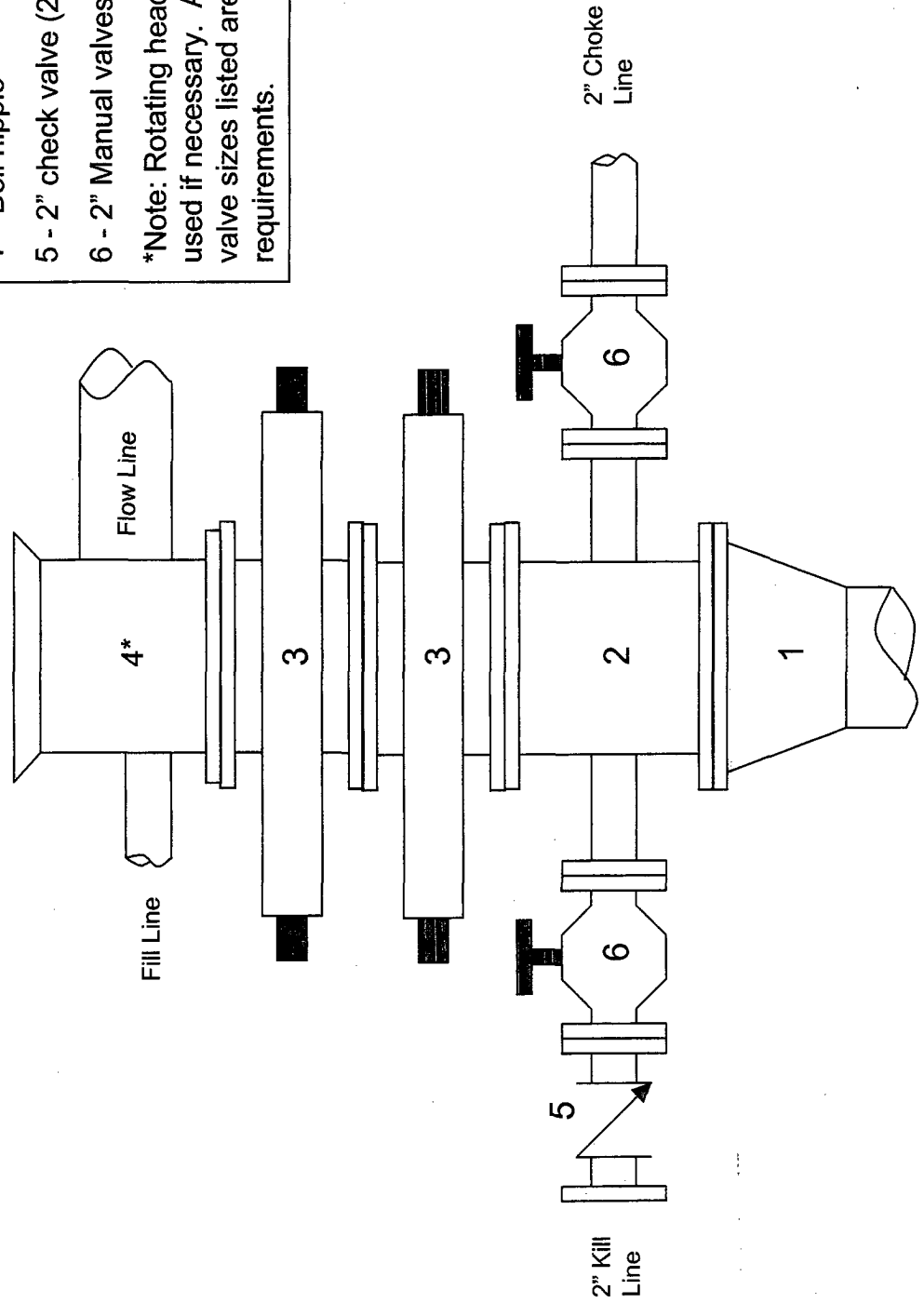
Jicarilla A No. 2M

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. 2M

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.

