

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

5. Lease Serial No.  
Jicarilla Contract 102

6. If Indian, Allottee or Tribe Name  
Jicarilla Apache

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.  
Jicarilla #102 #11M Apache

9. API Well No.  
30-039-29912

10. Field and Pool, or Exploratory  
Blanco Mesaverde/Basin Dakota

11. Sec., T., R., M., or Blk. and Survey or Area  
L  
Section 10, T-26-N, R-4-W

12. County or Parish  
Rio Arriba

13. State  
NM

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

2. Name of Operator

CDX RIO, LLC

3a. Address

2010 Afton Place, Farmington, New Mexico 87401

3b. Phone No. (include area code)

(505) 326-3003

4. Location of Well (Report location clearly and in accordance with any State requirements. \*)

At surface 1668' FSL, 468' FWL, Lat. 36 29'53.5", Long. 107 14'46.3"

At proposed prod. zone

14. Distance in miles and direction from nearest town or post office\*

30 miles East of Lindrith, New Mexico

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any) 468'

16. No. of Acres in lease

17. Spacing Unit dedicated to this well

MV-320 S/2, DK-320 W/2

18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft.

750'

19. Proposed Depth

7500'

20. BLM/BIA Bond No. on file

National bond on file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

6884' 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.

2. A Drilling Plan.

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).

4. Bond to cover the operations unless covered by an existing bond on file (see  
Item 20 above).

5. Operator certification.

6. Such other site specific information and/or plans as may be required by the  
authorized officer.

25. Signature

Richard Corcoran

Name (Printed/Typed)

Richard Corcoran

Date

5-15-06

Title

Land Manager

Approved by (Signature)

Jim L. Latta

Name (Printed/Typed)

Jim L. Latta

Date

2/23/07

Title

Adm. AFM Minerals

Office

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 FEB28'07  
OIL CONS. DIV.  
DIST. 3

NOTIFY AZTEC OGD  
IN TIME TO WITNESS

24 hrs  
cement & CSY

NMOCD

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

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

3/2/07

RCVD FEB 28 '07

OIL CONS. DIV.

DIST. 3

Form C-102

Revised June 10, 2003

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240DISTRICT II  
1301 W. Grand Ave., Artesia, N.M. 88210DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410DISTRICT IV  
1220 South St. Francis Dr., Santa Fe, NM 87505State of New Mexico  
Energy, Minerals & Natural Resources Department

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

RECEIVED  
OTO FARMINGTON NM☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039- <b>29912</b>		*Pool Code 72319/71599	*Pool Name Blanco Mesaverde/Basin Dakota
*Property Code 33455	*Property Name JICARILLA 102		*Well Number 11M
*OGRID No. 222374	*Operator Name CDX RIO, LLC		*Elevation 6884

## 10 Surface Location

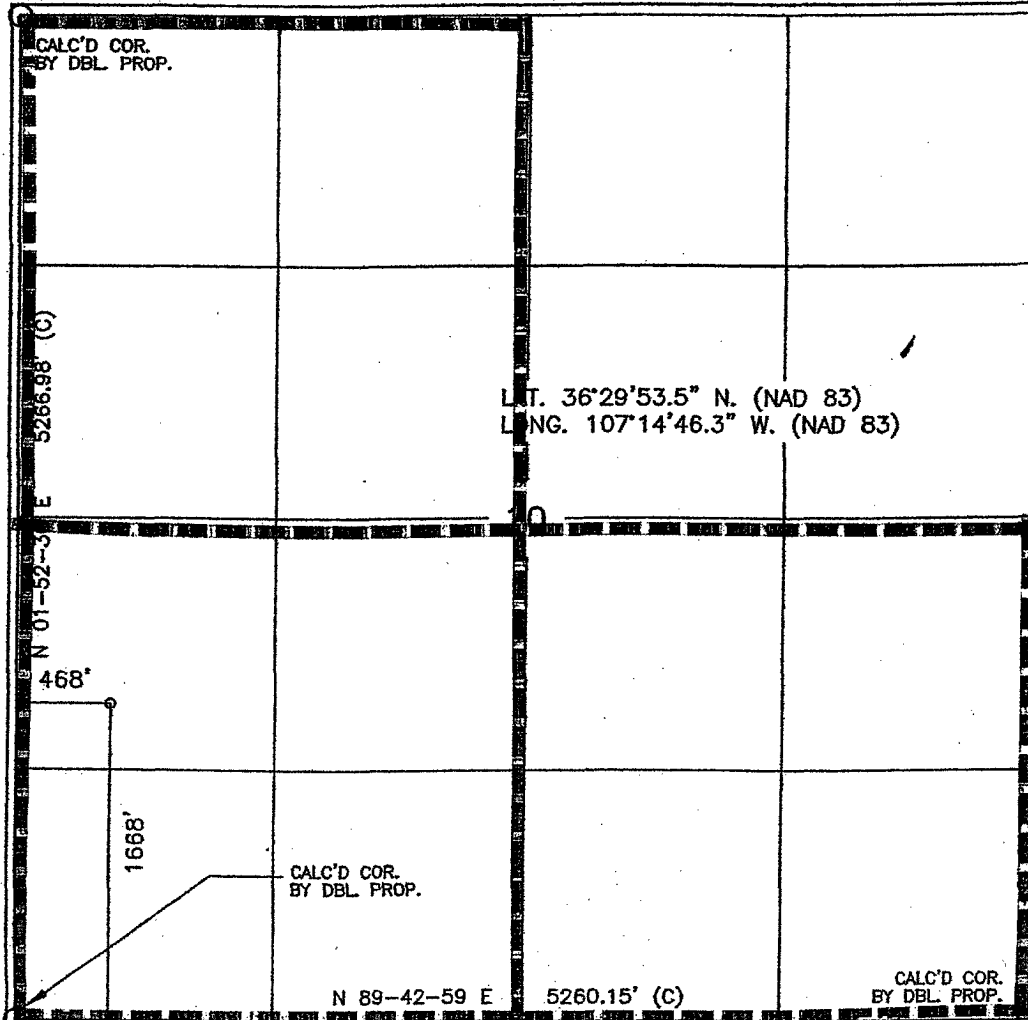
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	10	26-N	4-W		1668	SOUTH	468	WEST	RIO ARriba

## 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
** Dedicated Acres MV - S/320 DK - W/320			** Joint or Infill Y		** Consolidation Code		** Order No. <b>NSL-5396</b>		

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

16



## 17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein  
is true and complete to the best of my knowledge and  
belief.*Richard Corcoran*  
Signature

Richard Corcoran

Printed Name

Land Manager rich.corcoran@cdxgas.com

Title

**5-15-06**

Date

## 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 belief.

SEPTEMBER 10, 2005

Date

Signature of Registered Professional Surveyor



Certification

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

WELL API NO.

30-039-

29912

5. Indicate Type of Lease

STATE ☐

FEE ☐

6. State Oil & Gas Lease No.

Jicarilla 102

7. Lease Name or Unit Agreement Name

Jicarilla 102

8. Well Number 11M

9. OGRID Number 222374

10. Pool name or Wildcat

Blanco Mesaverde/Basin Dakota

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 L : 1688' feet from the South line and 468' feet from the West line

Section 10 Township 26N Range 4W NMPM Rio Arriba County

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

6884' 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:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: New Drill Pit Sundry

☒

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 Regulatory Consultant DATE 12/22/05

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

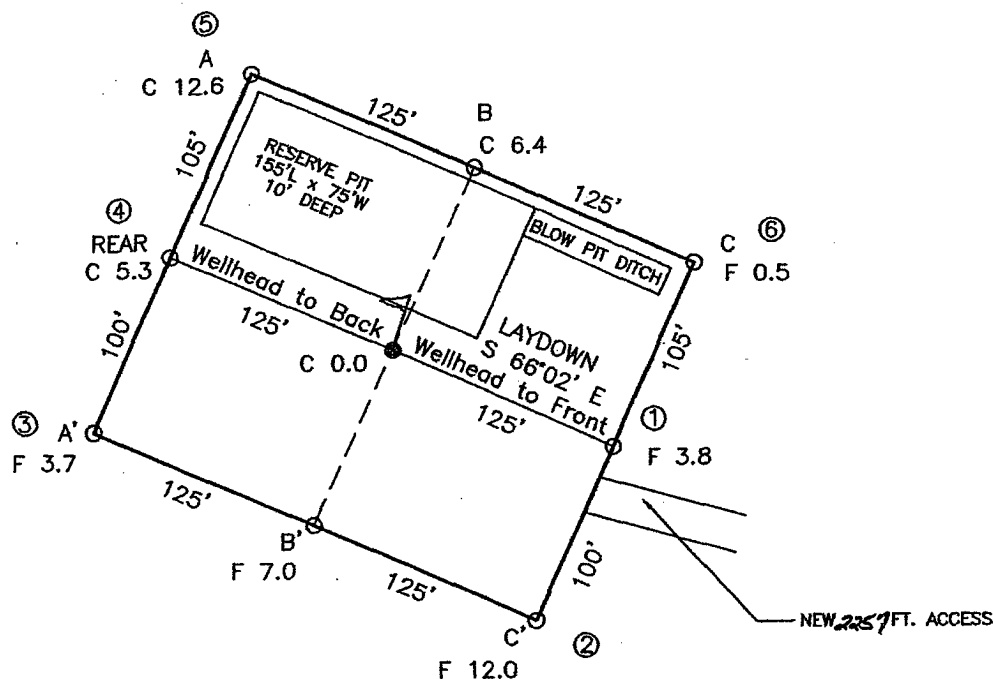
For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE 2/28/07

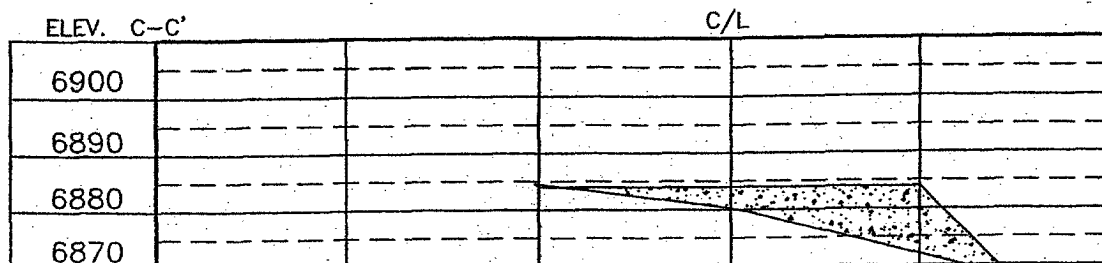
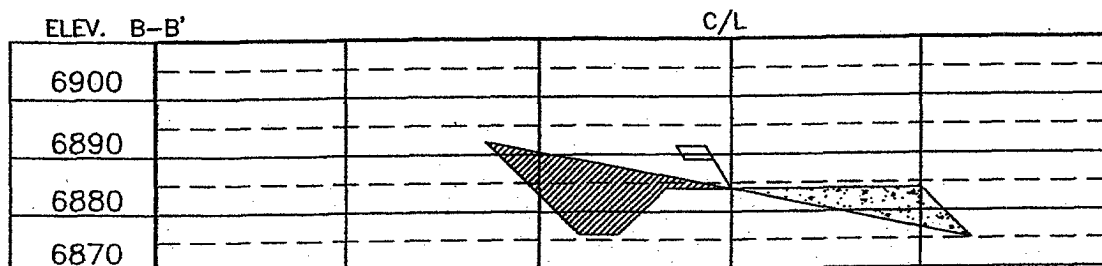
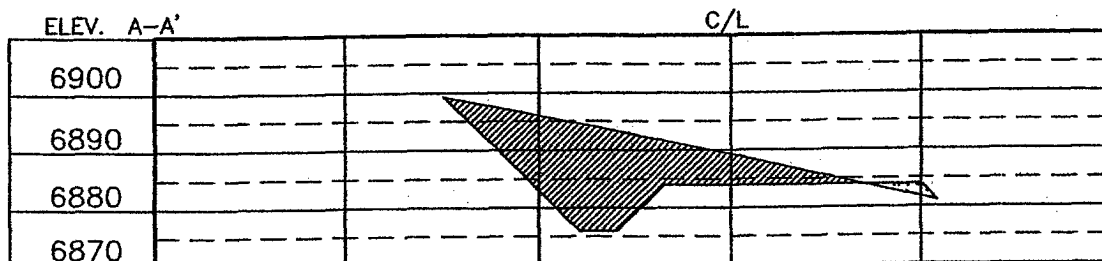
Conditions of Approval (if any):

CDX RIO, LLC  
 JICARILLA 102 No. 11M, 1668 FSL 468 FWL  
 SECTION 10, T26N, R4W, N.M.P.M., RIO ARRIBA COUNTY, N. M.  
 GROUND ELEVATION: 6884', DATE: SEPTEMBER 13, 2005

LAT. = 36°29'53.5" N.  
 LONG. = 107°14'46.3" 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

DESIGN	DATE	REVISION BY	DATE

**Daggett Enterprises, Inc.**  
 Surveying and Oil Field Services  
 P. O. Box 15088 • Farmington, NM 87401  
 Phone (505) 326-1772 • Fax (505) 326-8019  
 NEW MEXICO L.S. No. 14831

WIN BY B. LEIDY  
 WF CDXGAS085

CARLE CDXGAS085CF8  
 DATE: 10/11/05

**Jicarilla 102 11M**  
**General Drilling Plan**  
**CDX Rio, LLC**  
**Rio Arriba County, New Mexico**

**1. LOCATION:**

1668' FSL & 468' FWL, Section 10, T26N, R4W  
 Rio Arriba County, New Mexico  
 UGL: 6884' Estimated KB: 6896'

Field: Blanco Mesa Verde and Basin Dakota  
 Surface: Jicarilla Contract #102  
 Minerals: Jicarilla Contract #102

**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	3291	3605	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	3337	3559	Shale	
Fruitland Formation	3537	3359	Coal, Shale, Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3613	3283	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	3713	3183	Shale	Sloughing Shale
Huerfanito Bentonite Bed	4067	2829	Shale	
Chacra Interval	4535	2361	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	5256	1640	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	5256	1640	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	5377	1519	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone(MVRD)	5723	1173	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5857	1039	Shale	Sloughing Shale
Gallup Formation (GLLP)	6923	-27	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	7678	-782	Limestone	Gas, Oil
Graneros Shale	7735	-839	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	7756	-860	Sandstone, Shale, Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	7756	-860	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	7875	-979	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone(DKOT)	7898	-1002	Sandstone	Gas, Oil, Water
Main Body (DKOT)	7935	-1039	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	7984	-1088	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT)	8010	-1114	Sandstone	Gas, Water - TD immediately below L. Cubero.
Morrison Formation			Shale, Sandstone	On-site pick when black/brown cuttings start.
Proposed TD	8000	-1104		Avoid wet Burro Canyon.

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"	250'	9 5/8"
8 3/4"	3967' +/- Lewis seat	7"
6 1/4"	8000'	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'	3967' +/-	23.0	N80	LTC	New
4 1/2"	Prod Liner	3847'	8000'	11.6	N80	LTC	New

OD	Casing Data			Collapse (psi)	Burst (psi)	Min. Tensile (Lbs.)
	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: 250'

165 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
	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%  $\text{CaCl}_2$  for top out purposes.

### 7" Intermediate Casing: 3967'

1st Stage: 118 sacks of Type III cement: 3967' - 3237' (730')

Slurry weight: 14.5 ppg      Annular Vol = 109.8 cf + 54.9 cf (50% Access)  
Slurry yield: 1.4 ft<sup>3</sup>/sack                      = 164.7 cf

2<sup>nd</sup> Stage: (Stage tool at 3237' +/-): 377 sacks of Premium Lite FM

Slurry weight: 12.4 ppg      Volume = 724.0 cf  
Slurry yield: 1.92 ft<sup>3</sup>/sack



<u>Volume Basis:</u>	40' of 7" shoe joint	8.8 cu ft
	3717' of 7" x 8 3/4" annulus	558.3 cu ft
	250' of 7" x 9 5/8" csg	41.7 cu ft
	<u>50% excess (annulus)</u>	<u>279.4 cu ft</u>
	Total	888.7 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 3967' – 8000' (4033')**

Stage 1: 261 sacks of Premium Lite High Strength FM out guide shoe.

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

<u>Volume basis:</u>	40' of 4 1/2" shoe joint	3.5 cu ft
	4033' of 4 1/2 " x 6 1/4" hole	413.9 cu ft
	120' of 4 1/2" x 7" casing	13.3 cu ft
	<u>30% excess (annulus)</u>	<u>124.2 cu ft</u>
	Total	554.9 cu ft

Note:

1. Design top of cement is 3847' +/- 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 3967', 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 <sub>2</sub> 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: June 1, 2006**

Anticipated duration: 16 days

6 

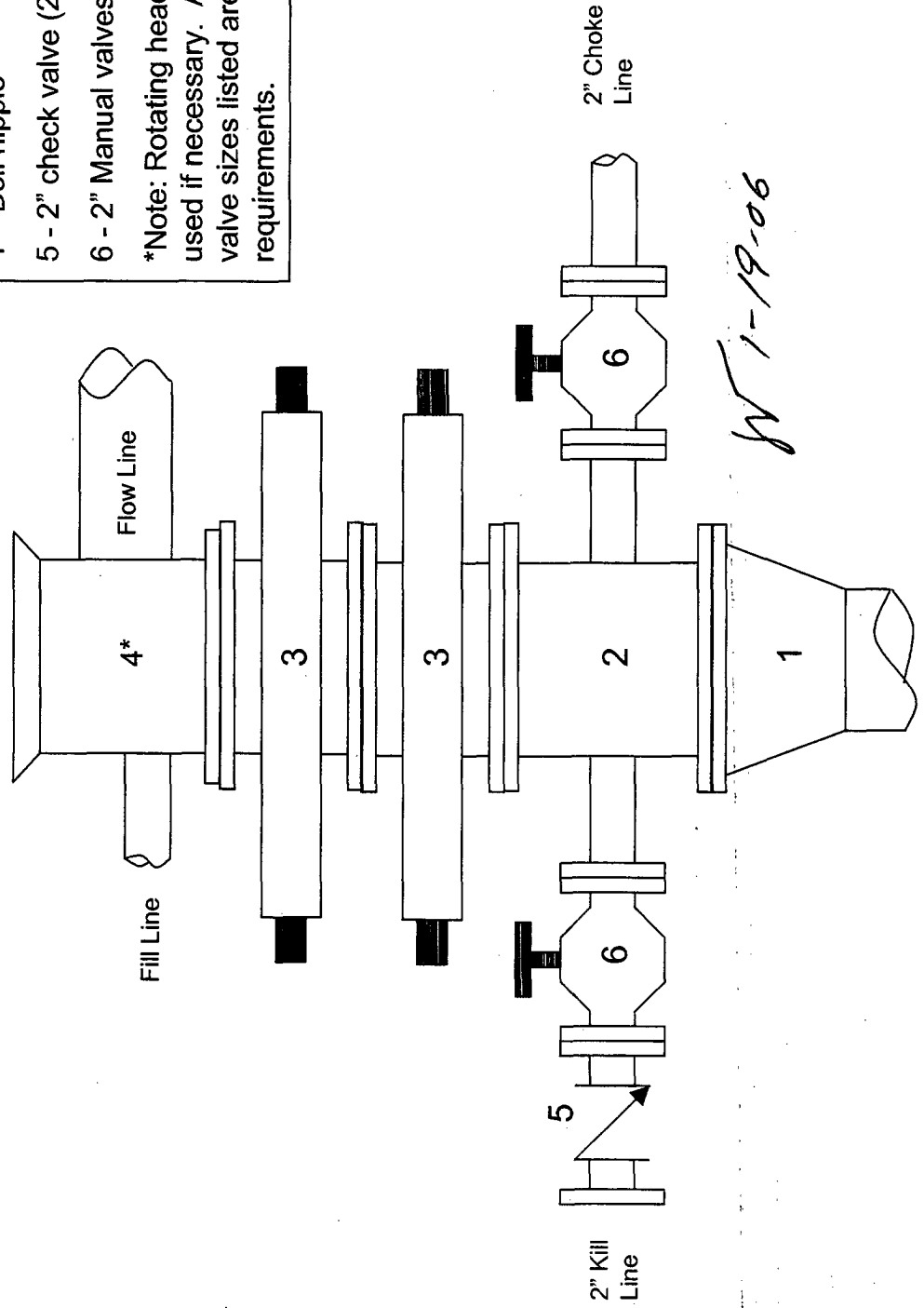
# Jicarilla 102 No. 11M

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 102 No. 11M

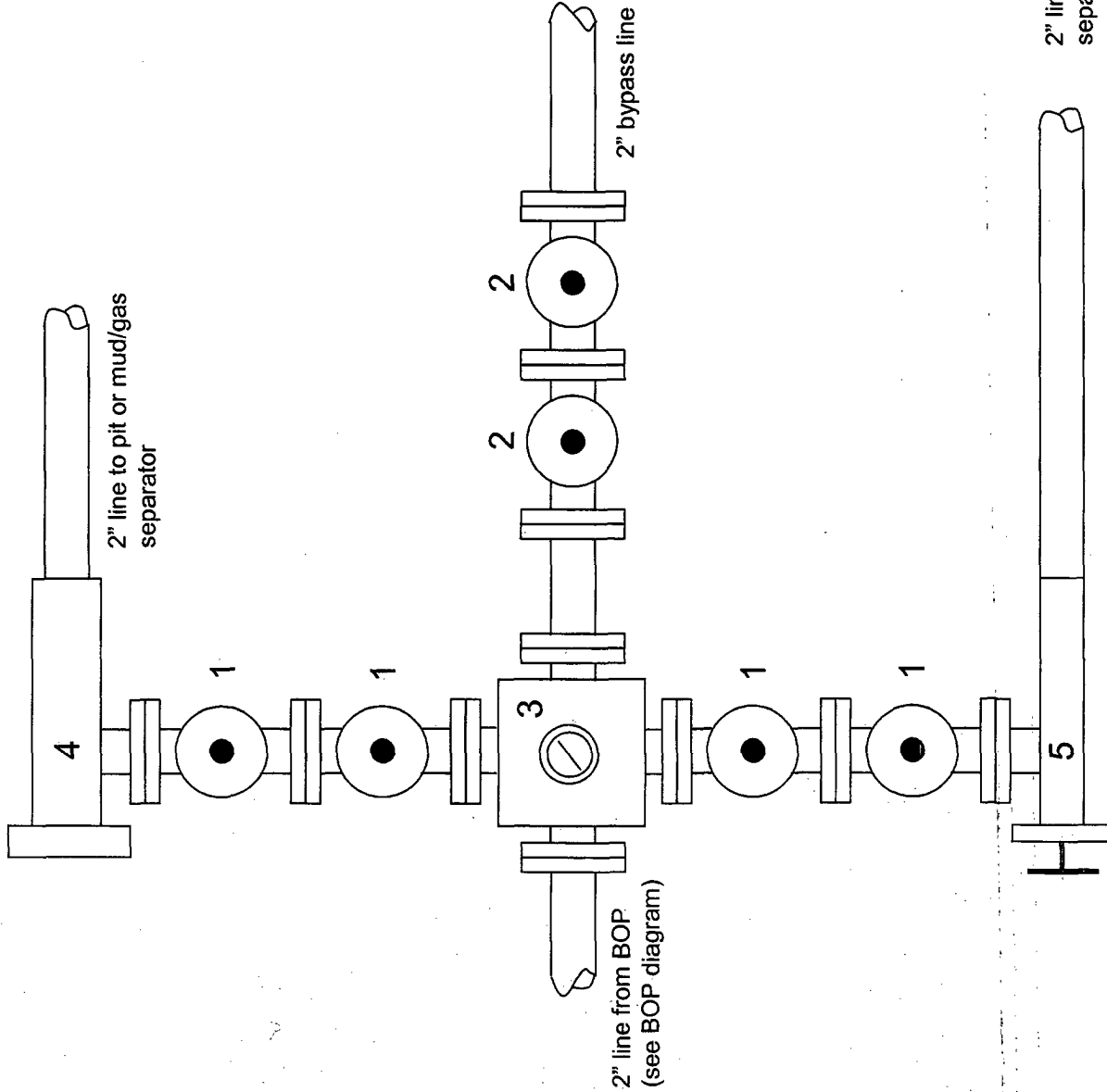
## 2000 psi Choke Manifold

### 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.



W 1-19-06