

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		RECEIVED 070 FARMINGTON NM		5. Lease Serial No. Jicarilla Contract 102
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		3b. Phone No. (include area code) (505) 326-3003		8. Lease Name and Well No. Jicarilla 102 #9F
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 585' FNL, 760' FEL At proposed prod. zone		Lot 1		9. API Well No. 30-039-29664
14. Distance in miles and direction from nearest town or post office* 30 miles east of 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) 585'		16. No. of Acres in lease		11. Sec., T., R., M., or Blk. and Survey or Area A Section 4, T-26-N, R-4-W
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1500'		19. Proposed Depth 8100'		12. County or Parish Rio Arriba
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7148' GR		22. Approximate date work will start*		13. State NM
		17. Spacing Unit dedicated to this well 328.96 322.24 319.79 E/2		20. BLM/BIA Bond No. on file National Bond on file
		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 <i>Richard Corcoran</i>	Name (Printed/Typed) Richard Corcoran	Date 8/25/05
Title Land Manager		
Approved by (Signature) <i>D. Mankiewicz</i>	Name (Printed/Typed)	Date 5/15/06
Title APM	Office FEO	

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)

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

DISTRICT I  
P.O. Box 1980, Hobbs, N.M. 88241-1980

DISTRICT II  
811 South First, Artesia, N.M. 88210

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

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

2005 SEP 15 PM 3 29

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-039-29664	<sup>2</sup> Pool Code 72319/71599	<sup>3</sup> Pool Name Blanco Mesaverde/Basin Dakota
<sup>4</sup> Property Code 33455	<sup>5</sup> Property Name JICARILLA 102	<sup>6</sup> Well Number 9F
<sup>7</sup> GRID No. 222374	<sup>8</sup> Operator Name CDX RIO, LLC	<sup>9</sup> Elevation 7148

<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	4	26 N	4 W	(1)	585	NORTH	760	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

MV-E/319-79 DK-E/319-79	<sup>12</sup> Joint or Infill 332.24	<sup>13</sup> Consolidation Code	<sup>14</sup> Order No. NSL-5293
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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 WEST	5280'	585'	760'	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 Title 9-15-05 Date
5332.80'	SECTION 4	5272.08'	5311.68'	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.  4/30/05 Date of Survey Signature and Seal of Professional Surveyor ROBERT L. POUNDS NEW MEXICO REGISTERED LAND SURVEYOR 6846 Certificate Number
NORTH			SOUTH	
WEST				

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-	29664
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No.  Jicarilla Contract 102	
7. Lease Name or Unit Agreement Name  Jicarilla 102	
8. Well Number 9F	
9. OGRID Number 222374	
10. Pool name or Wildcat Blanco Mesaverde/Basin Dakota	

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
7148' 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 A : 585' feet from the North line and 760' feet from the East line  
Section 4 Township 26N Range 4W NMPM Rio Arriba County

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: X	New Drill Pit	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 Agent DATE 8/25/05

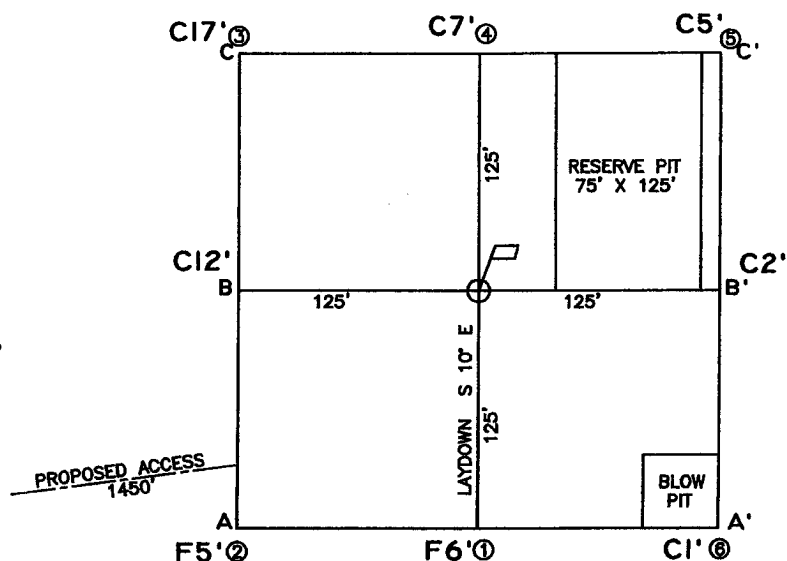
Type or print name Nancy Oltmanns E-mail address: nancy.oltmanns@cdxgas.com Telephone No. (505) 326-3003

For State Use Only

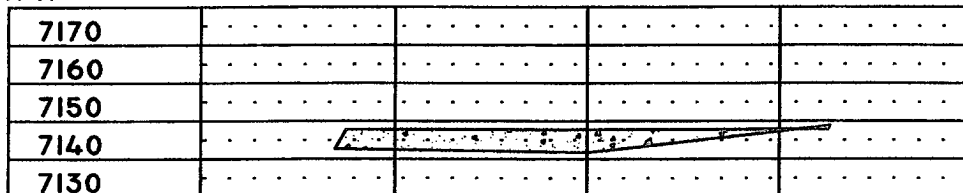
APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 81 DATE MAY 17 2006  
Conditions of Approval (if any):



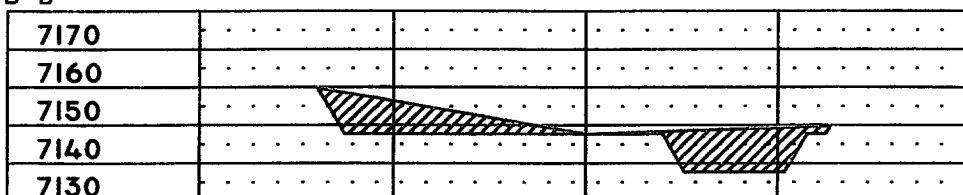
SCALE  
HORIZONTAL: 1"=100'  
VERTICAL: 1"=50'



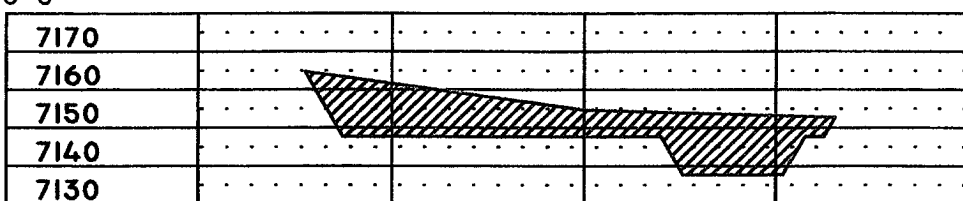
ELEVATION A-A'



B-B'



C-C'



LEASE: JICARILLA 102 #9F

FOOTAGE: 585' FNL, 760' FEL

SEC. 4 TWN. 26 N RNG. 4 W N.M.P.M.

LATITUDE: 36°31'15.6" LONGITUDE: 107°15'00.2"

ELEVATION: 7148

CDX RIO, LLC  
FARMINGTON, NEW MEXICO

SURVEYED: 4/30/05

REV. DATE: 6/22/05

APP. BY R.P.

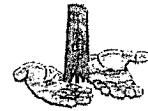
DRAWN BY: A.D.

DATE DRAWN: 5/2/05

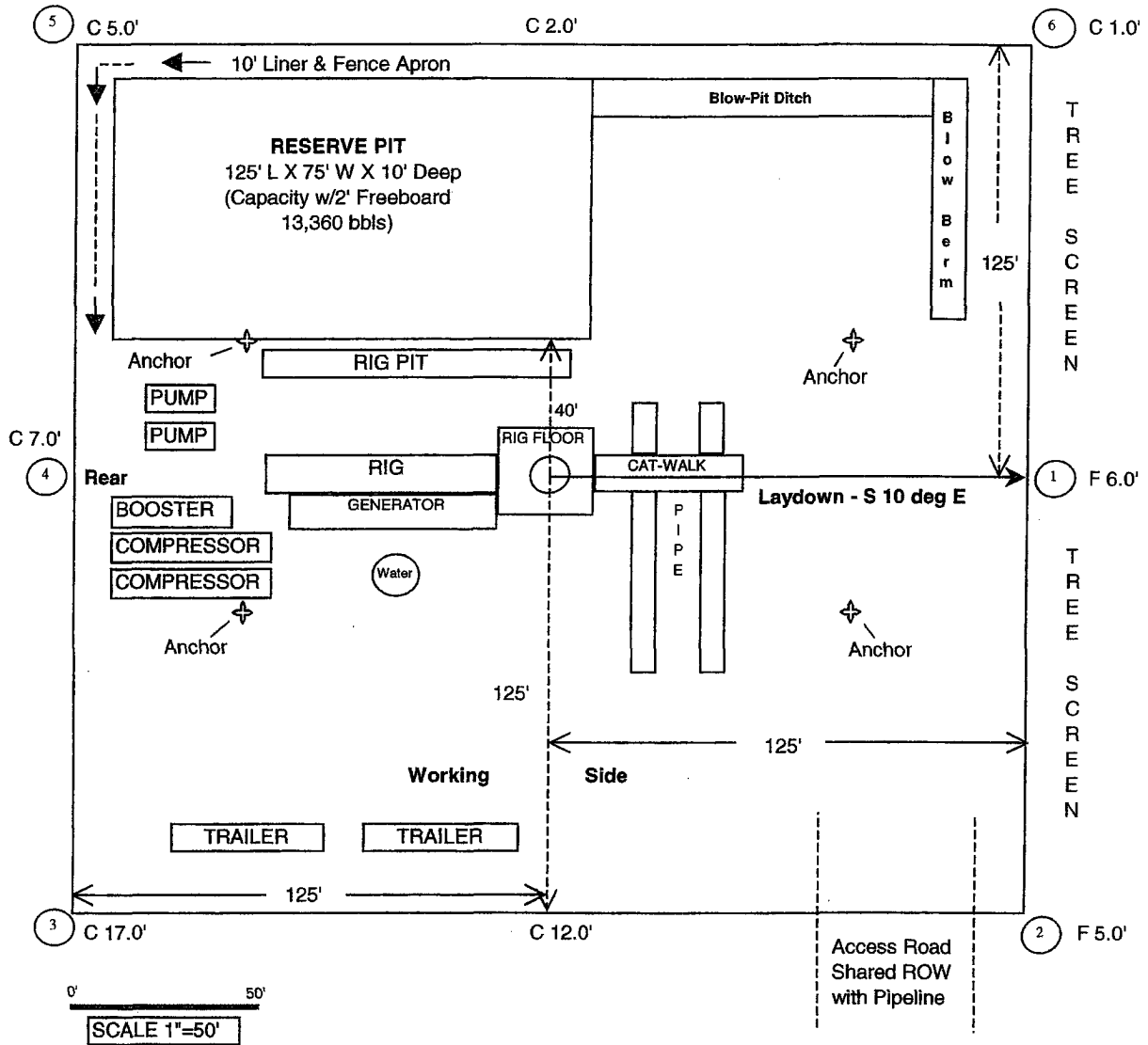
FILE NAME: 5762C02



P.O. BOX 3651  
FARMINGTON, NM 87499  
OFFICE: (505) 334-0408



Neeley Consulting Service, LLC  
3001 Northridge Dr., Farmington, NM  
505-486-0211



### CDX RIO, LLC

#### Wellsite Layout Plat with Cut & Fills

Jicarilla 102 9F

585' FNL & 760' FEL

Sec 4, T26N, R4W, NMPM

Rio Arriba Co., New Mexico

Elevation: 7148' GL

**Jicarilla 102 No. 9F  
General Drilling Plan  
CDX Rio, LLC  
Rio Arriba County, New Mexico**

**1. LOCATION:**

585' FNL & 760' FEL, Section 4, T26N, R4W  
Rio Arriba County, New Mexico  
UGL: 7148' Estimated KB: 7160'

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	3097	4063	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	3522	3638	Shale	
Fruitland Formation	3793	3367	Coal, Shale, Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3976	3184	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	4119	3041	Shale	Sloughing Shale
Huerfano Bentonite Bed	4426	2734	Shale	
Chacra Interval	4893	2267	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	5624	1536	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	5624	1536	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	5735	1425	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone (MVRD)	6091	1069	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	6239	921	Shale	Sloughing Shale
Gallup Formation (GLLP)	7304	-144	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	8052	-892	Limestone	Gas, Oil
Graneros Shale	8111	-951	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	8132	-972	Sandstone, Shale, Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	8132	-972	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	8212	-1052	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone (DKOT)	8266	-1106	Sandstone	Gas, Oil, Water
Main Body (DKOT)	8299	-1139	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	8337	-1177	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT)	8366	-1206	Sandstone	Gas, Water, Poss Under-pressure - <b>Avoid</b>
Morrison Formation			Shale, Sandstone	Gas, Water, Possible Under-pressure
Proposed TD	8351	-1191		

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"	4325' +/- Lewis seat	7"
6 1/4"	8351'	4 1/2"

Hole Size	Casing Type	Top (MD)	Bottom (MD)	Wt. (lb./ft)	Grade	Thread	Condition
9-5/8"	Surface	0'	650'	36.0	J55	STC	New
7"	Intermediate	0'	4325' +/-	23.0	N80	LTC	New
4 1/2"	Prod Liner	4205'	8351'	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

3. 

### 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% CaCl<sub>2</sub>, 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% CaCl<sub>2</sub> for top out purposes.

#### 7" Intermediate Casing: 4325'

1st Stage: 146 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 3422' +/-): 388 sacks of Premium Lite FM

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

<u>Volume Basis:</u>	40' of 7" shoe joint	9 cu ft
	3675' of 7" x 8 3/4" annulus	553 cu ft
	650' of 7" x 9 5/8" csg	108 cu ft
	<u>50% excess (annulus)</u>	<u>277 cu ft</u>
	Total	947 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 4325' – 8351' (4026')**

Stage 1: 260 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
	4026' of 4 1/2 " x 6 1/4" hole	413 cu ft
	120' of 4 1/2" x 7" casing	13 cu ft
	<u>30% excess (annulus)</u>	<u>124 cu ft</u>
	Total	554 cu ft

Note:

1. Design top of cement is 4205 +/- 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 4325', 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:** November 1, 2005

Anticipated duration: 16 days

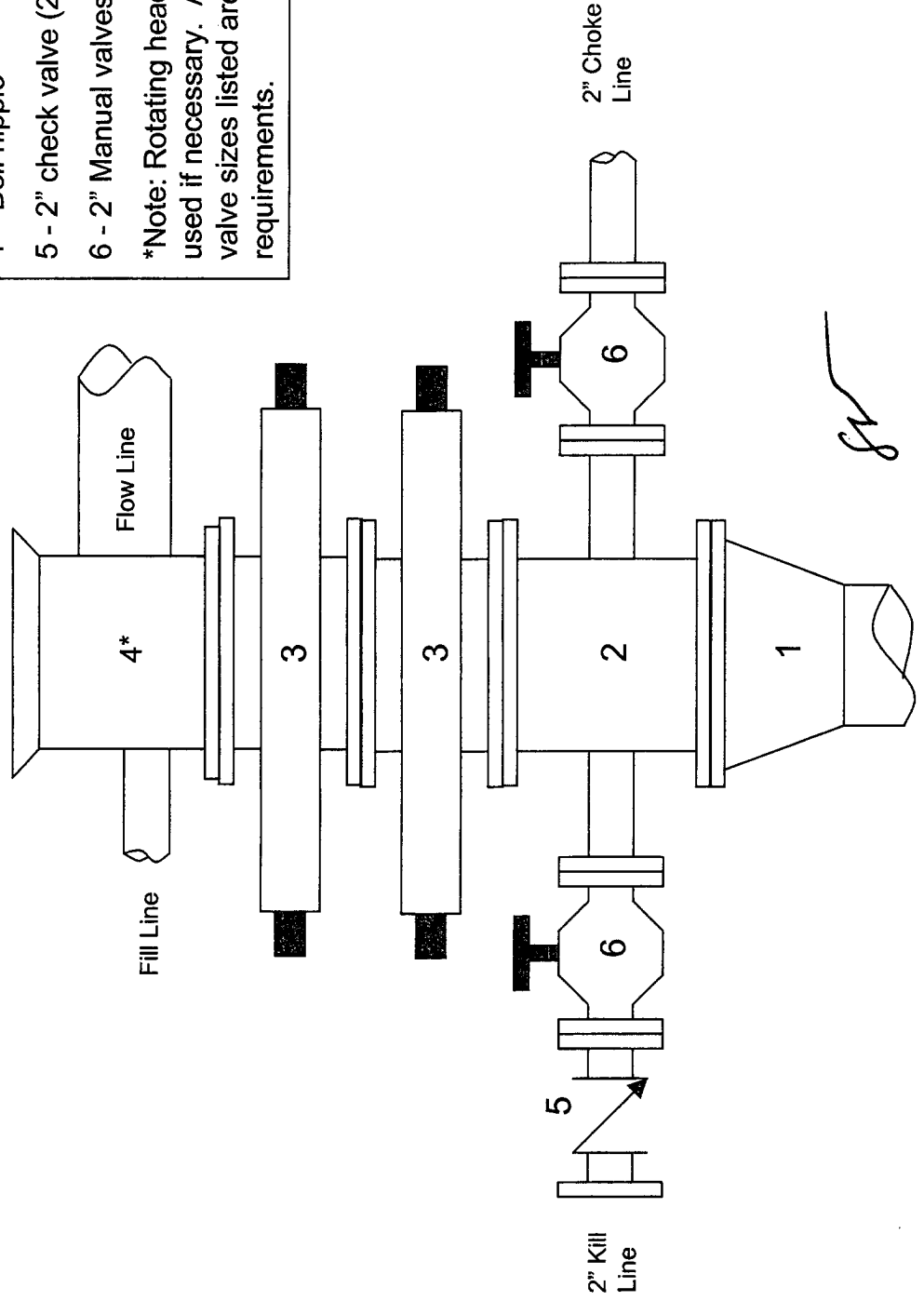
# Jicarilla 102 No. 9F

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. 9F

## 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.

