Form 3160-3
(September 2001)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

2006 AUG 18 AM 9 15

RECEIVED
070 FARMINGTON NM

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 #13M
9. API Well No.	30-039- 30036
10. Field and Pool, or Exploratory	Blanco Mesaverde/Basin Dakota
11. Sec., T., R., M., or Blk. and Survey or Area	J 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 1970'FSL, 2100'FEL, Lat. 36 29'56.6", Long. 107 14'13.4"

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) 1970'	16. No. of Acres in lease	17. Spacing Unit dedicated to this well: MV-320 S/2, DK-320 E/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 500'	19. Proposed Depth: 7500'	20. BLM/BIA Bond No. on file: National bond on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.): 6814' 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: 8-17-06
Title: Land Manager		
Approved by *(Signature)*: /s/ Jeffrey Mackie AFM	Name *(Printed/Typed)*	Date: 9/11/06
Title	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)*

NMOCD

SEP 2006

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
1625 N. French Dr., Hobbs, N.M. 88240

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

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

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

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 June 10, 2003

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039- 30036	72319/71599	BLANCO MESAVERDE/BASIN DAKOTA

[4] Property Code	[5] Property Name	[6] Well Number
33455	JICARILLA Apache 02	13M

[7] OGRID No.	[8] Operator Name	[9] Elevation
222374	CDX RIO, LLC	6814'

[10] Surface Location

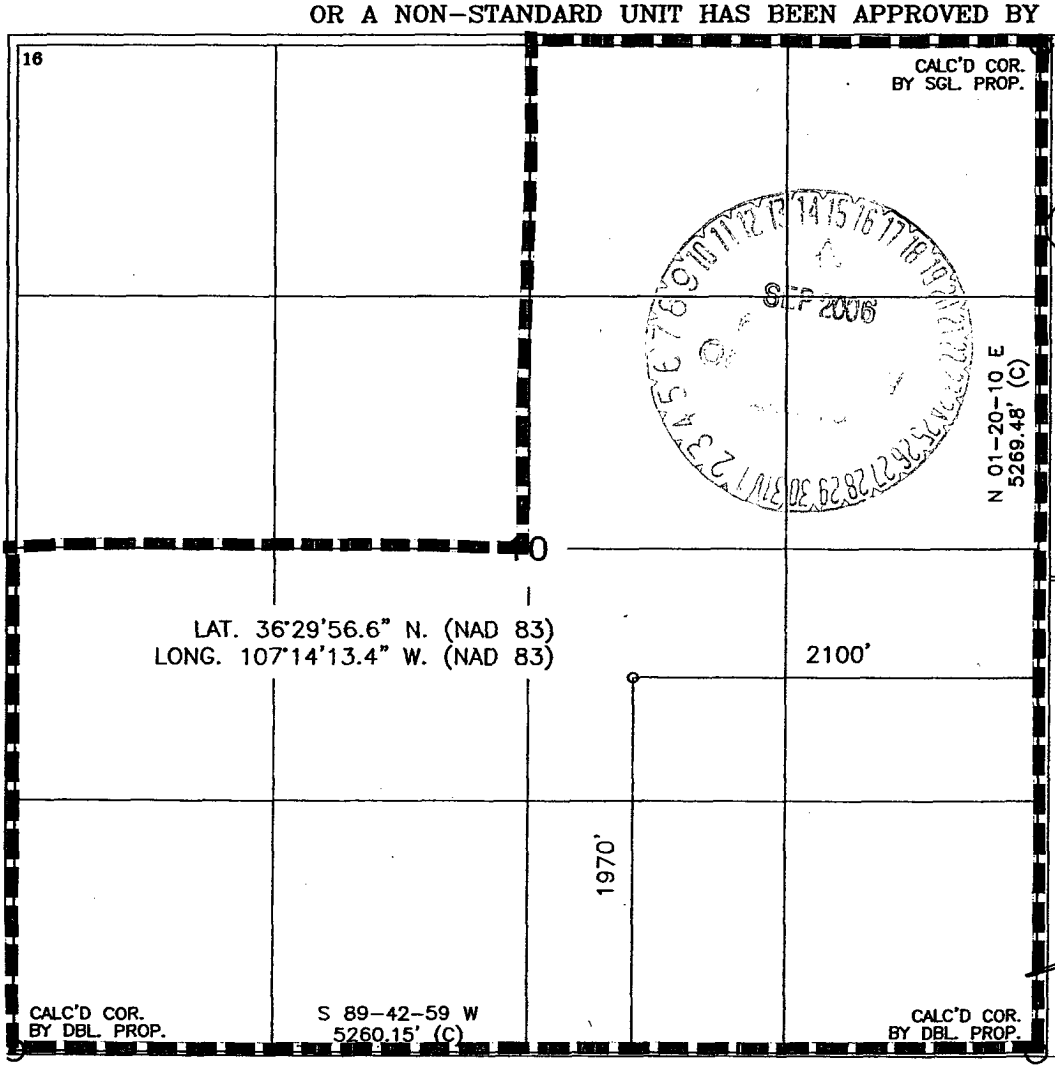
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	10	26-N	4-W		1970	SOUTH	2100	EAST	RIO ARRIBA

[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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
MV - S/320 DK - E/320	Y		

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



[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

8-17-06
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 7, 2005
Date Surveyed

Signature and Seal of Professional Surveyor:

JOHN E. VUKONICH
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR
10-14

14831
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

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

Form C-103
May 27, 2004

WELL API NO.
30-039-

5. Indicate Type of Lease
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.
Jicarilla 102

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.)

7. Lease Name or Unit Agreement Name
Jicarilla 102

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

8. Well Number 13M

2. Name of Operator
CDX RIO, LLC

9. OGRID Number 222374

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

10. Pool name or Wildcat
Blanco Mesaverde/Basin Dakota

4. Well Location
Unit Letter J : 1970' feet from the South line and 2100' feet from the East line
Section 10 Township 26N Range 4W NMPM Rio Arriba County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
6814' GR

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type New Drill **Depth to Groundwater** ~~<100'~~ <50' **Distance from nearest fresh water well** <1000' **Distance from nearest surface water** ~~<1000'~~ >200'

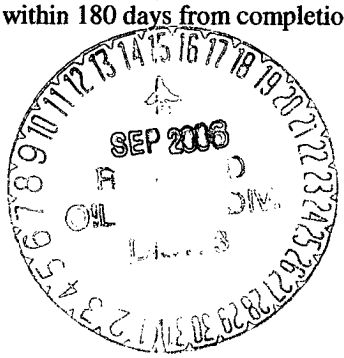
Pit Liner Thickness: 12 mil **Below-Grade Tank: Volume** _____ bbls; **Construction Material** _____

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER: New Drill Pit Sundry			X☐	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

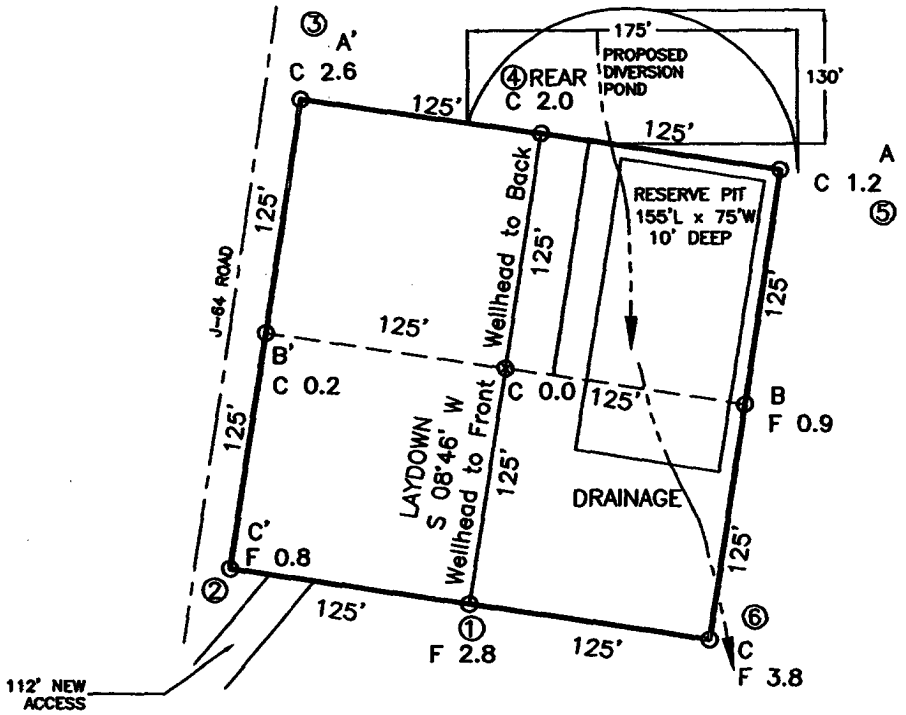
For State Use Only

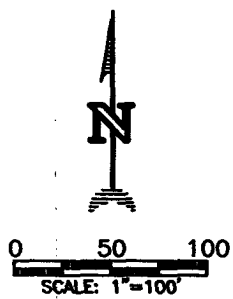
APPROVED BY: _____ TITLE DEPUTY OIL & GAS INSPECTOR, DIST. DATE SEP 15 2006

Conditions of Approval (if any):

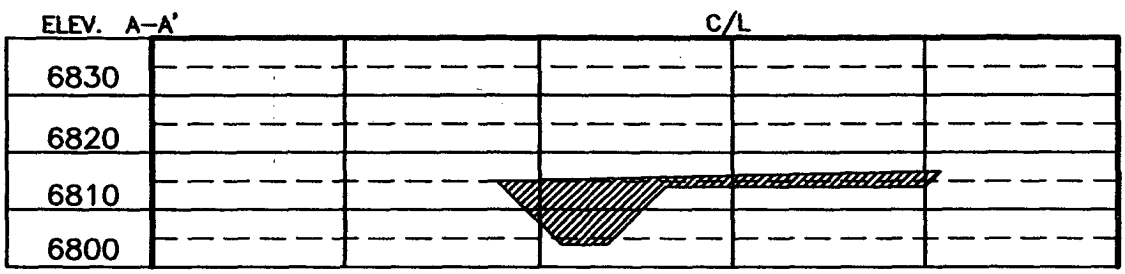
CDX RIO, LLC
JICARILLA 102 No. 13M, 1970 FSL 2100 FEL
SECTION 10, T26N, R4W, N.M.P.M., RIO ARRIBA COUNTY, N. M.
GROUND ELEVATION: 6814', DATE: SEPTEMBER 14, 2005

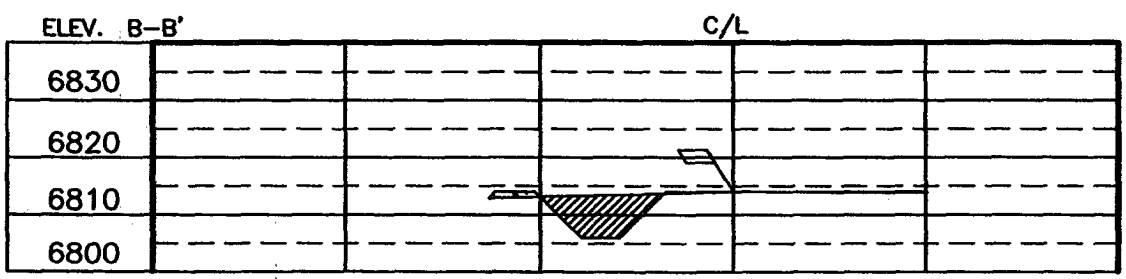
LAT. = 36°29'56.6" N.
LONG. = 107°14'13.4" W
NAD 83

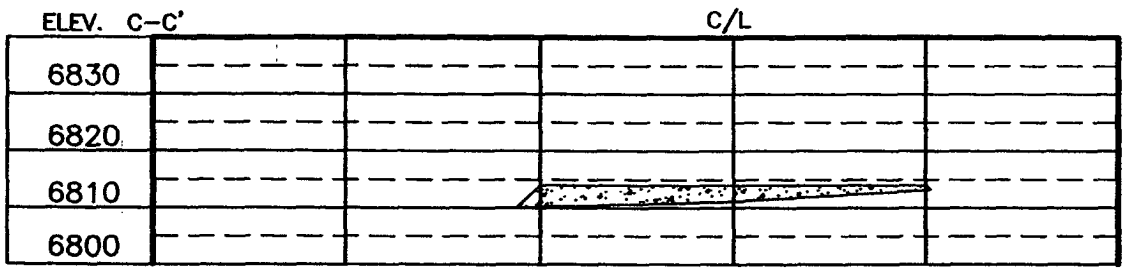




NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.







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.

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

REVISED BY:
DATE:
REVISION:
DRAWN BY: B.L.
DATE: 09/26/05
JOB #: CDXGAS086
CADFILE: CDXGAS086CFB

Jicarilla 102 13M
General Drilling Plan
CDX Rio, LLC
Rio Arriba County, New Mexico

1. LOCATION:

1970' FSL & 2100' FEL, Section 10, T26N, R4W
Rio Arriba County, New Mexico
UGL: 6814' Estimated KB: 6826'

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	3219	3607	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	3265	3561	Shale	
Fruitland Formation	3465	3361	Coal, Shale, Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3541	3285	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	3641	3185	Shale	Sloughing Shale
Huerfanito Bentonite Bed	3995	2831	Shale	
Chacra Interval	4463	2363	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	5184	1642	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	5184	1642	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	5305	1521	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone(MVRD)	5651	1175	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5785	1041	Shale	Sloughing Shale
Gallup Formation (GLLP)	6851	-25	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	7605	-780	Limestone	Gas, Oil
Graneros Shale	7663	-837	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	7684	-858	Sandstone, Shale, Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	7684	-858	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	7803	-977	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone(DKOT)	7826	-1000	Sandstone	Gas, Oil, Water
Main Body (DKOT)	7863	-1037	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	7912	-1086	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT	7938	-1112	Sandstone	Gas, Water - TD immediately below L. Cubero.
Morrison Formation			Shale, Sandstone	On-site pick when black/brown cuttings start.
Proposed TD	7928	-1102		Avoid wet Burro Canyon.

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8-17-06

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:

Hole Size	Depth	Casing Size
12 ¼"	250'	9 5/8"
8 ¾"	3895' +/- Lewis seat	7"
6 ¼"	7928'	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'	3895' +/-	23.0	N80	LTC	New
4 ½"	Prod Liner	3775'	7928'	11.6	N80	LTC	New

Casing Data OD	Wt/Ft	Grade	Thread	Collapse (psi)	Burst (psi)	Min. Tensile (Lbs.)
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~~ 10350	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'
137 sxs Type III cement with 2% $CaCl_2$, ¼#/sx celloflake. 100% excess to circulate cement to surface. WOC 12 hrs.

Slurry weight: 15.2 ppg
Slurry yield: 1.27 ft^3/sack

Volume basis:		
	40' of 9-5/8" shoe joint	17.4 cu ft
	250' of 12-1/4" x 9-5/8" annulus	78.3 cu ft
	100% excess (annulus)	78.3 cu ft
	Total	174.0 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: 3895'
1st Stage: 118 sacks of Type III cement: 3895' – 3165' (730')
Slurry weight: 14.5 ppg Annular Vol = 109.8 cf + 54.9 cf (50% Access)
Slurry yield: 1.4 ft^3/sack = 164.7 cf

2nd Stage: (Stage tool at 3165' +/-): 369 sacks of Premium Lite FM

Slurry weight: 12.4 ppg Volume = 707.8 cf
Slurry yield: 1.92 ft^3/sack

Volume Basis:	40' of 7" shoe joint	8.8 cu ft
	3645' of 7" x 8 ¾" annulus	548.0 cu ft
	250' of 7" x 9 5/8" csg	41.7 cu ft
	50% excess (open hole annulus)	274.0 cu ft
	Total	872.5 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 3895' – 7928' (4033')
Stage 1: 261 sacks of Premium Lite High Strength FM out guide shoe.

Slurry weight: 12.3 ppg
Slurry yield: 2.13 ft^3/sack

Volume basis:	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 ½" x 7" casing	13.3 cu ft
	30% excess (annulus)	124.2 cu ft
	Total	554.9 cu ft

Note:
1. Design top of cement is 3775' +/- 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 3895', 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_2S	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: December 1, 2006

Anticipated duration: 16 days

Jicarilla 102 No. 13M

2000 psi BOP stack
Minimum requirements

Components

1 - Wellhead 9-5/8" (2M)

2 – Drilling spool 11" (2M)

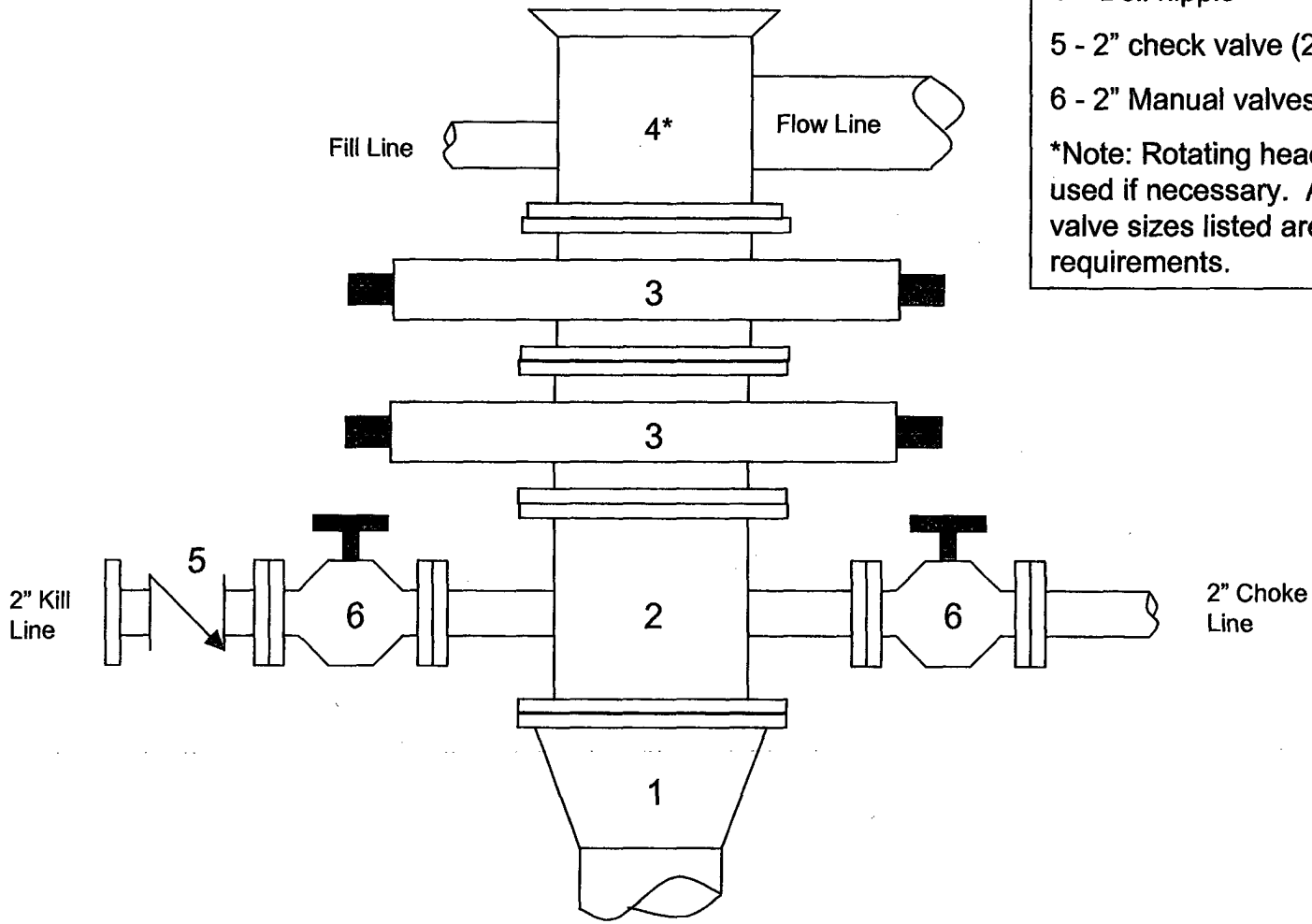
3 – A double or two single rams with blinds on bottom 11" (2M)

4 – Bell nipple*

5 - 2" check valve (2M)

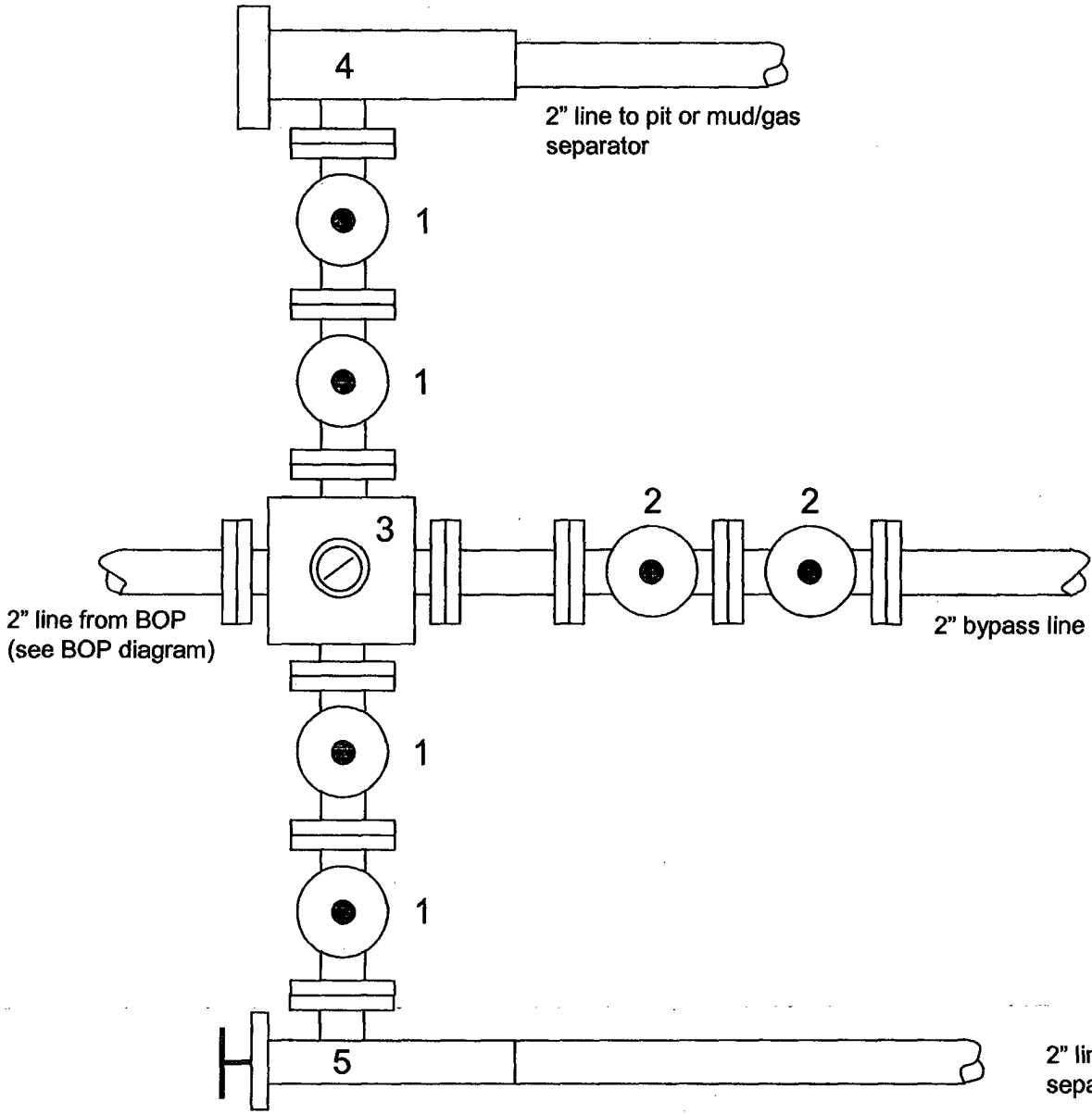
6 - 2" Manual valves (2M)

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



Jicarilla 102 No. 13M

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.