Form 3160-3
(April 2004)

2005 JUL 6 PM 2 59

RECEIVED
070 FARMINGTON NM

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED OMB
No. 1004-0137
ExpiresMarch 31, 2007

5. Lease Serial No.
Jicarilla Contract 108

6. If Indian, Allottee or Tribe Name
Jicarilla Apache

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

1a. TYPE OF WORK: [X] DRILL [ ] REENTER

1b. TYPE OF WELL: [ ] Oil Well [X] Gas Well [ ] Other [ ] Single Zone [X] Multiple Zone

8. Lease Name and Well No.
Jicarilla C #5F

2. NAME OF OPERATOR:
CDX Rio, LLC

9. API Well No.
30-039- 29591

3a. Address: 2010 Afton Place
Farmington, New Mexico 87401

3b. Phone No. (include area code)
(505) 326-3003

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

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 1400'FNL, 1980'FEL
At proposed prod. zone

11. Sec., T. R. M. or Blk, and Survey or Area
G Sec. 24, T-26-N, R-5-W

14. Distance in miles and direction from nearest town or post office*
30 miles east of Lindrith, New Mexico

12. County or Parish
Rio Arriba

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1400'	16. No. of acres in lease	17. Spacing Unit dedicted to this well: 320 E/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1500'	19. Proposed Depth 7550'	20. BLM/BIA Bond No. on file National Bond on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6634' 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 plan 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 6/28/05
Title Land Manager		
Approved by (Signature) /s/ Manuel Ortiz	Name (Printed/Typed)	Date 11/17/05
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 fradulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2)

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".

NMOCD

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- 29591	72319/71599	Blanco Mesaverde/Basin Dakota

[4] Property Code	[5] Property Name	[6] Well Number
33461	JICARILLA C	5F

[7] OGRID No.	[8] Operator Name	[9] Elevation
222374	CDX GAS, LLC	6634'

[10] Surface Location

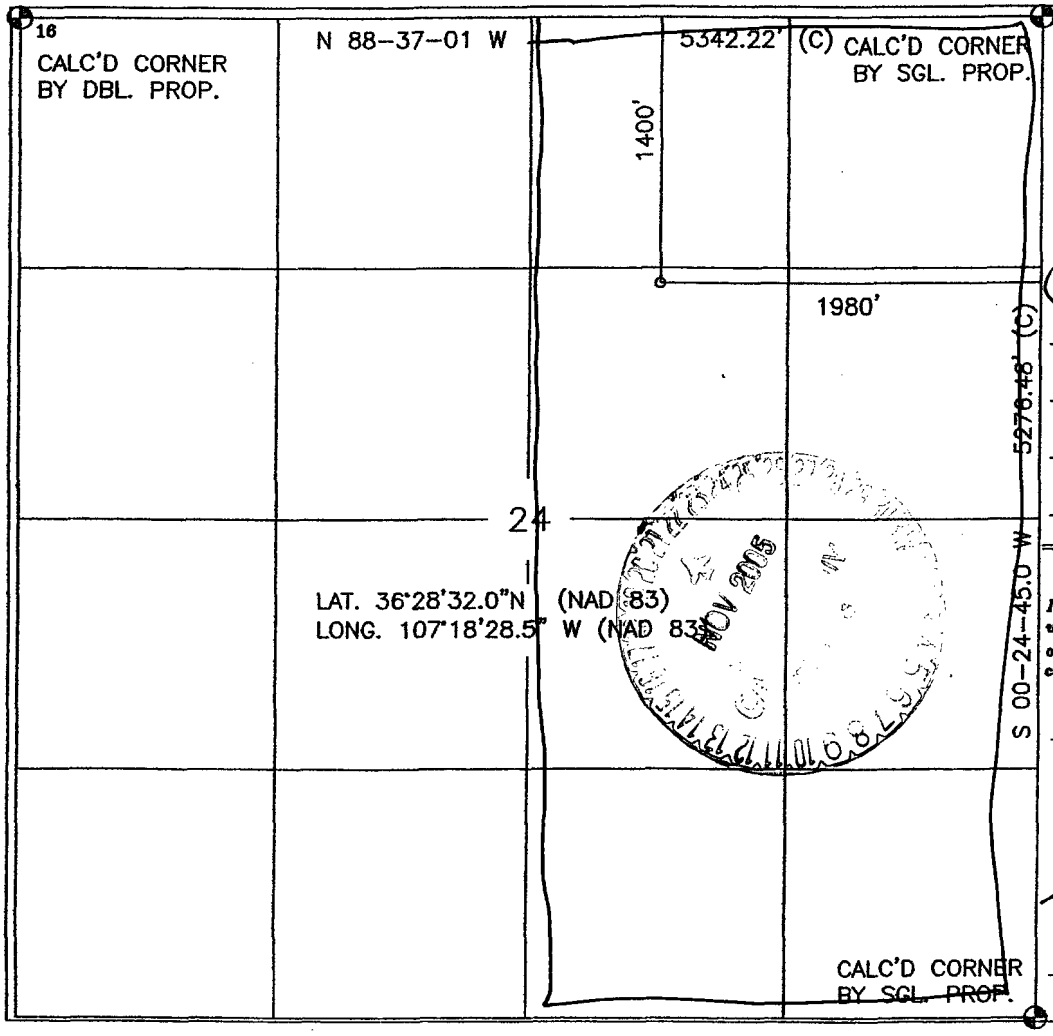
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	24	26-N	5-W		1400	NORTH	1980	EAST	RIO ARRIBA

[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 - E/320 DK - E/320			

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

Signature

Richard Corcoran
Printed Name

Land Manager
Title

5/10/05
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.

APRIL 2005
Date of Survey

Signature and Seal of Professional Surveyor:

JOHN A. NUKONICH
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR

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- 29591

5. Indicate Type of Lease
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.
Jicarilla Contract 108

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 C

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

8. Well Number
5F

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 G : 1400 feet from the North line and 1980 feet from the East line
Section 24 Township 26N Range 5W NMPM Rio Arriba County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
6634' GR

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type New Drill Depth to Groundwater >50' 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 ☐	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 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 Agent DATE 6/28/05

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

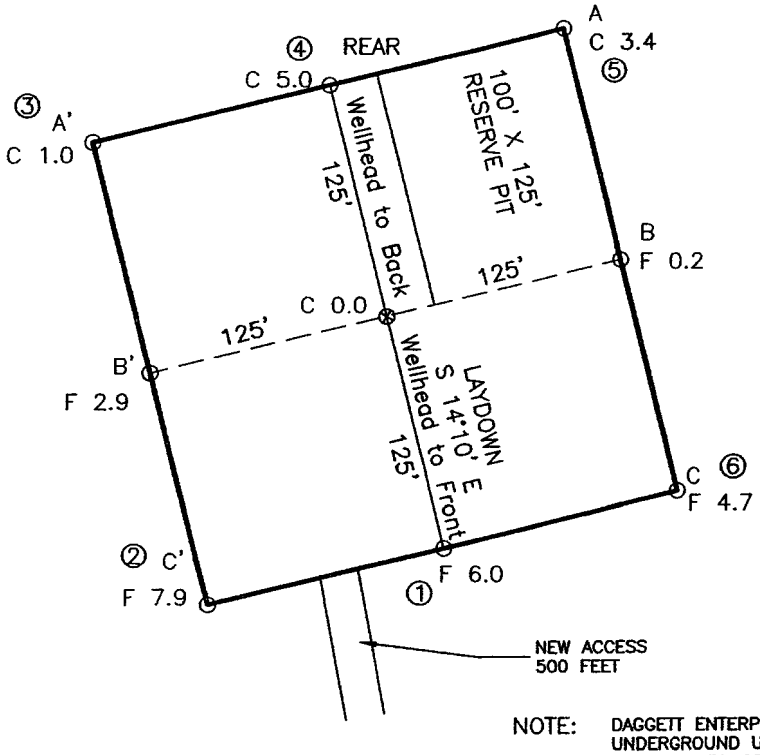
For State Use Only

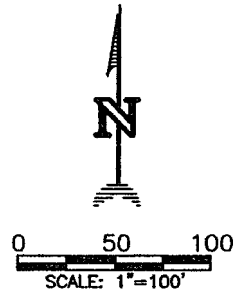
APPROVED BY: TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE NOV 21 2005

Conditions of Approval (if any):

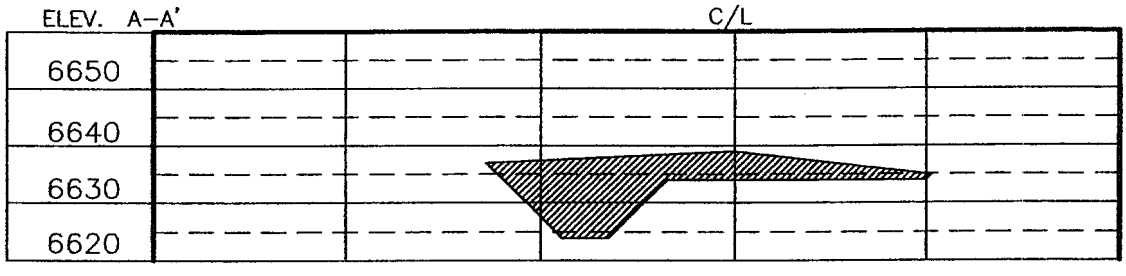
CDX GAS, LLC
JICARILLA C No. 5F, 1400 FNL 1980 FEL
SECTION 24, T26N, R5W, N.M.P.M., RIO ARRIBA COUNTY, N. M.
GROUND ELEVATION: 6634', DATE: APRIL 01, 2005

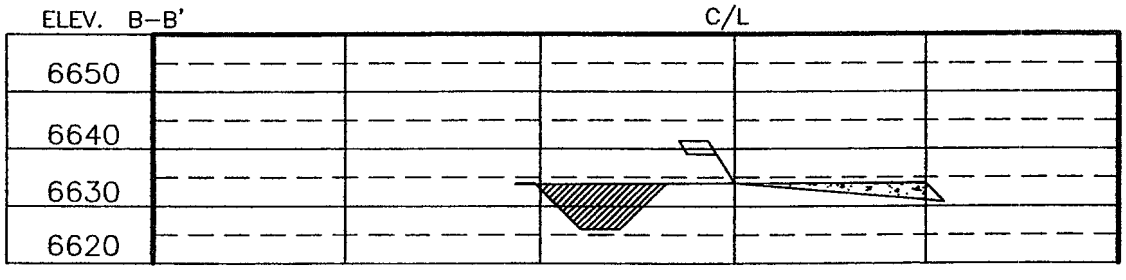
LAT. = 36°28'32.0" N.
LONG. = 107°18'28.5" W
NAD 83

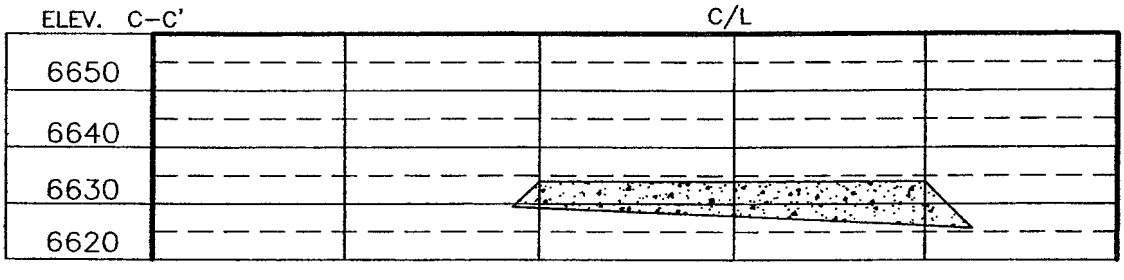




NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.







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

REVISION: | REVISED BY: | DATE:
DRAWN BY: B.L. | DWG#: CDXGAS069
CADFILE: CDXGAS069CF8 | DATE: 04/09/05

Jicarilla C No. 5F
General Drilling Plan
CDX Rio, LLC
Rio Arriba County, New Mexico

1. LOCATION:

SWNE of Section 24, T26N, R5W
Rio Arriba County, New Mexico

Field: Blanco MV & Basin DK
Surface: Jicarilla Contract #108
Minerals: Jicarilla Contract #108

2. SURFACE FORMATION, 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	2322	4312	Sandstone	Possible Differential, Gas, Water
Kirtland Formation	2730	3904	Shale	
Fruitland Formation	3009	3625	Coal,Shale,Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3200	3434	Sandstone	Possible Differential, Gas, Water
Lewis Shale	3290	3344	Shale	
Huerfanito Bentonite Bed	3627	3007	Shale	
Chacra Interval	4089	2545	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	4829	1805	Coal,Sandstone,Shale	Possible Lost Cirrulation, Gas, Water
Cliff House Sandstone (MVRD)	4829	1805	Sandstone	Possible Lost Cirrulation, Gas, Water
Menefee Member (MVRD)	4933	1701	Coal,Sandstone,Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone(MVRD)	5328	1306	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5477	1157	Shale	
Gallup Formation (GLLP)	6556	78	Siltstone, Shale	Gas
Greenhorn Limestone	7296	-662	Limestone	Gas
Graneros Shale	7358	-724	Shale	Gas, Water, Possible Overpressure
Dakota Formation (DKOT)	7402	-768	Sandstone,Shale,Coal	Gas, Water, Possible Overpressure
Two Wells Sandstone (DKOT)	7402	-768	Sandstone	Gas, Water, Possible Overpressure
Paguate Sandstone (DKOT)	7476	-842	Sandstone	Gas, Water, Possible Overpressure
Upper Cubero Sandstone(DKOT)	7509	-875	Sandstone	Gas, Water, Possible Overpressure
Main Body (DKOT)	7543	-909	Shale, Sandstone	Gas, Water, Possible Overpressure
Lower Cubero (DKOT)	7591	-957	Shale, Sandstone	Gas, Water, Possible Overpressure
Burro Canyon (DKOT	7620	-986	Sandstone	Gas, Water, Possible Overpressure
Morrison Formation			Shale, Sandstone	Gas, Water, Possible Overpressure
Proposed TD	7607	-973		

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"	3600' +/- Lewis seat	7"
6 ¼"	7550'	4 1/2"

Hole 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'	3600' +/-	23.0	N80	LTC	New
4 ½"	Production	0	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	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 Pictured Cliffs 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:
140 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 cu ft
	250' of 12-1/4" x 9-5/8" annulus	78 cu ft
	100% excess (annulus)	78 cu ft
	Total	173 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:
1st Stage: 175 sacks of Type III cement
Slurry weight: 14.5 ppg
Slurry yield: 1.4 ft^3/sack

2nd Stage: (Stage tool at 3100' +/-): 365 sacks of Premium Lite FM

Slurry weight: 12.4 ppg
Slurry yield: 1.92 ft^3/sack

Volume Basis:	40' of 7" shoe joint	9 cu ft

3350' of 7" x 8 ¾" annulus	684 cu ft
250' of 7" x 9 5/8" hole	42 cu ft
30% excess (annulus)	204 cu ft
Total	939 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:
Stage 1: 180 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	5 cu ft
	4 1/2 " x 6 1/4" hole	257 cu ft
	4 ½" x 7" casing	33 cu ft
	30% excess (annulus)	88 cu ft
	Total	383 cu ft

Note:
1. Design top of cement is 3300 +/- ft. or 300 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 2400 ft. From 2400' to 3600', 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.

Jicarilla C No. 5F

2000 psi BOP stack
Minimum requirements

Components

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

2 – Drilling spool 11" (2M)

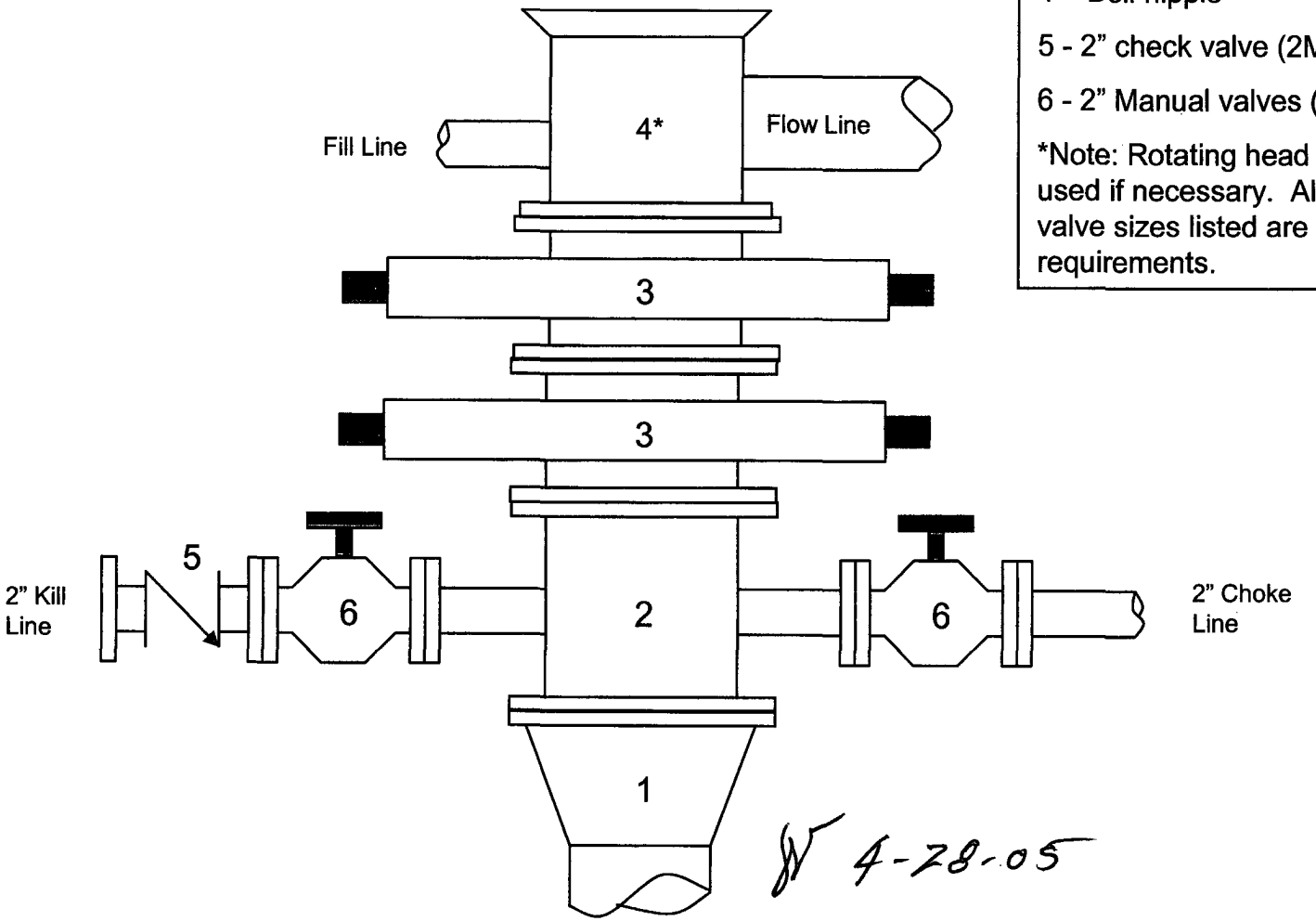
3 – A double or two single rams with blinds on bottom 11" (2M)

4 – Bell nipple*

5 - 2" check valve (2M)

6 - 2" Manual valves (2M)

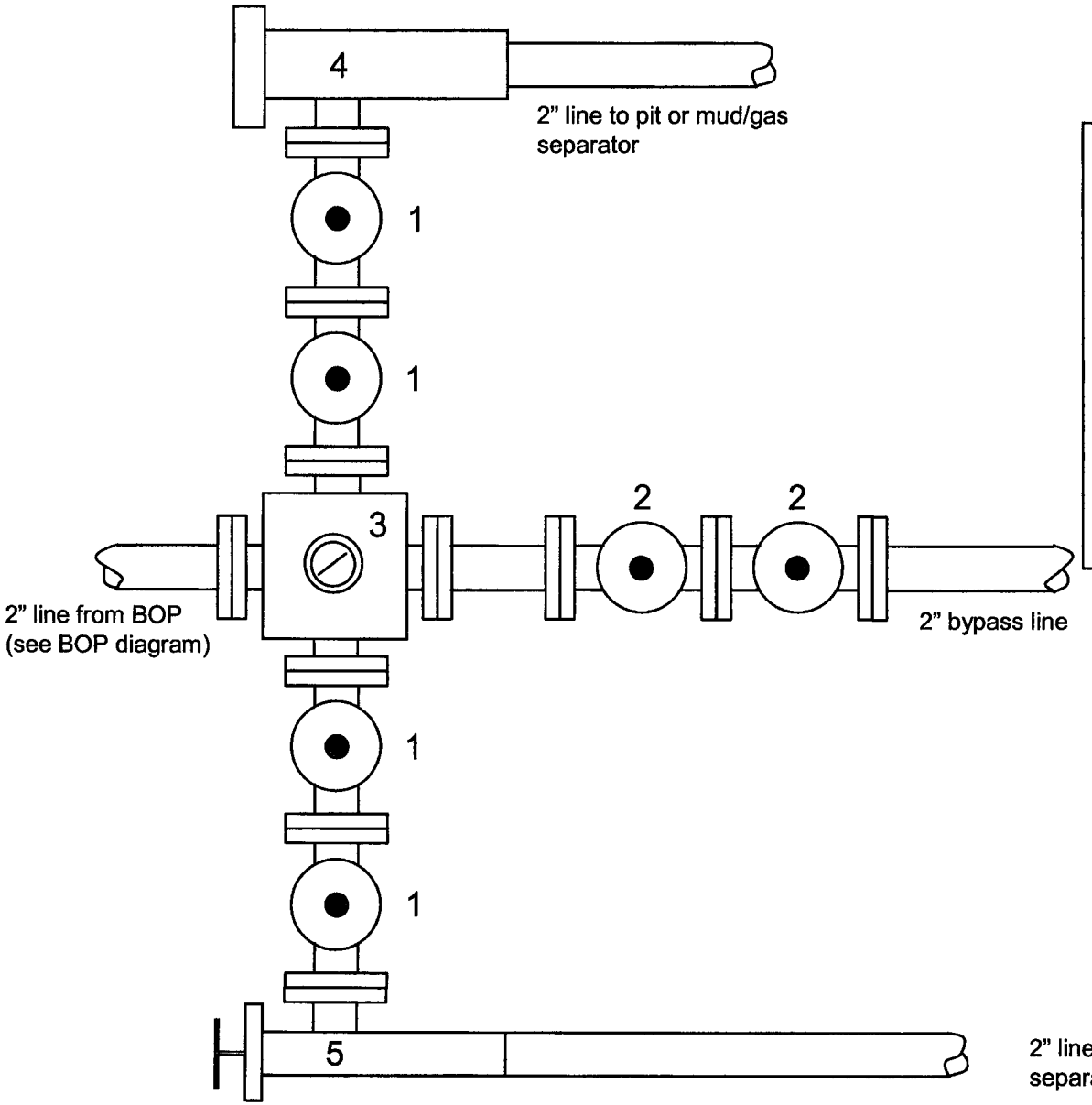
*Note: Rotating head may also be used if necessary. Also, all line and valve sizes listed are minimum requirements.



4-28-05

Jicarilla C No. 5F

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.

4-28-05