

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: ☒ 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 1470' FNL, 2305' FWL

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) 1470'

16. No. of Acres in lease

17. Spacing Unit dedicated to this well

319.77  
349.26 W/2

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

1500'

19. Proposed Depth

7650'

20. BLM/BIA Bond No. on file

National Bond on file

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

6589' 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

Name (Printed/Typed)

Date

Richard Corcoran

8/18/05

Title

Land Manager

Approved by (Signature)

Name (Printed/Typed)

Date

Title

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)

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



HOLD C104 FOR NSL

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

NMOCG

**District I**

1625 N. French Dr., Hobbs, NM 88240

**District II**

1304 W. Grand Avenue, 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 &amp; Natural Resources Department

**OIL CONSERVATION DIVISION**

1220 South St. Francis Dr. 2005 SEP 7 AM 10 48

Santa Fe, NM 87505

Form C-102

Revised June 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

RECEIVED

AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1 API Number 30-039-29645		2 Pool Code 71599		3 Pool Name BASIN DAKOTA	
4 Property Code 33458		5 Property Name Jicarilla Apache Tribal <del>NEBOWCA</del> 151		6 Well Number 7G	
7 OGRID No. 222374		8 Operator Name CDX RIO, LLC		9 Elevation 6589'	

**10 Surface Location**

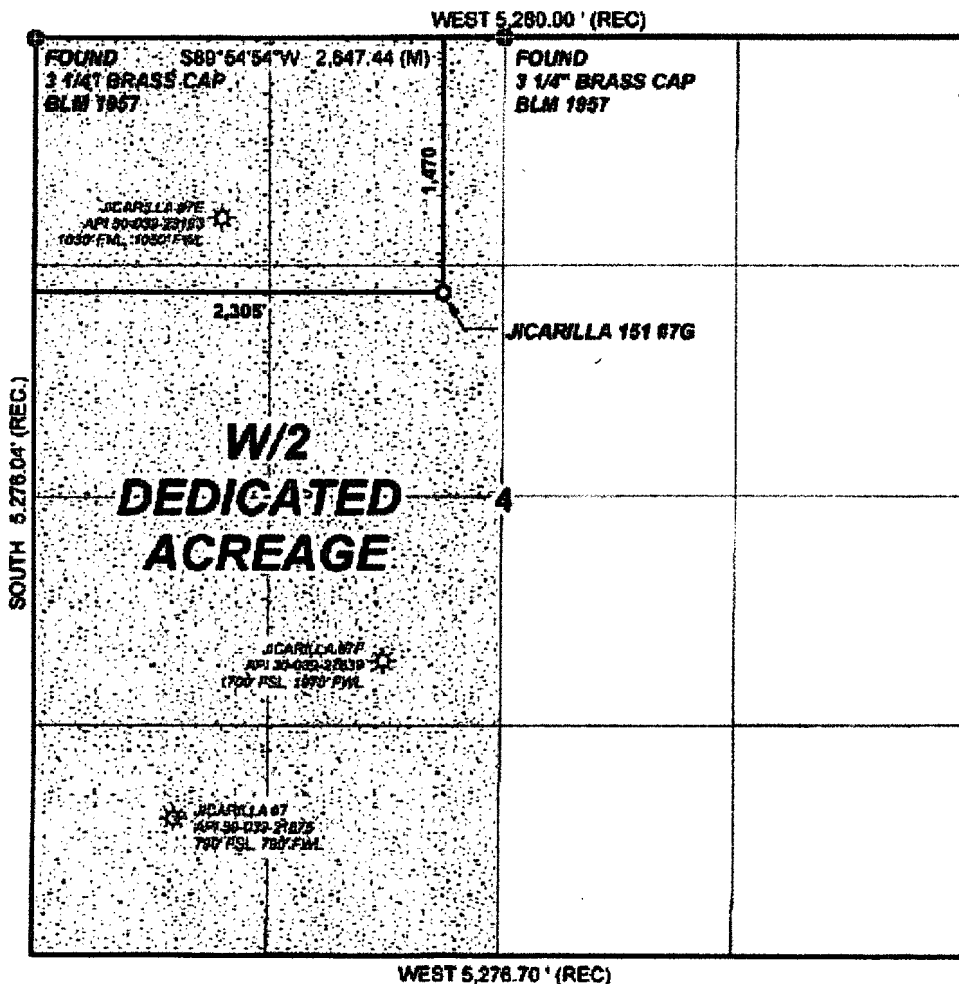
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	4	26N	5W		1,470	NORTH	2,305	WEST	RIO ARriba

**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

12 Dedicated Acres 319.2077 (RECORD)	13 Joint or Infill Y	14 Consolidation Code	15 Order No.
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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



<b>17 OPERATOR CERTIFICATION</b>	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Signature <i>Richard Corcoran</i>	
Printed Name RICHARD CORCORAN	
Title and E-mail Address LAND MANAGER RICH-CORCORAN@CDX.COM	
Date 8-18-05	
<b>18 SURVEYOR CERTIFICATION</b>	
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.	
Date of Survey 5/12/05	
Signature and Seal of Professional Land Surveyor <i>R. Howard Dagg</i>	
NM #9679 9679 REGISTERED PROFESSIONAL LAND SURVEYOR	

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- <u>29645</u>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.  Jicarilla Contract 151
7. Lease Name or Unit Agreement Name  Jicarilla 151
8. Well Number 7G
9. OGRID Number 222374
10. Pool name or Wildcat Basin Dakota
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6589' GR

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 F : 1470' feet from the North line and 2305' feet from the West line  
Section 4 Township 26N Range 5W NMPM Rio Arriba County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6589' 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  
X

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 Agent DATE 8/18/05

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. 4 DATE APR 17 2006

Conditions of Approval (if any):

**Jicarilla 151 No. 7G**  
**General Drilling Plan**  
**CDX Rio, LLC**  
**Rio Arriba County, New Mexico**

**1. LOCATION:**

1470' FNL & 2305' FWL, Section 4, T26N, R5W  
Rio Arriba County, New Mexico  
UGL: 6589' Estimated KB: 6601'

Field: Basin DK  
Surface: Jicarilla Contract #151  
Minerals: Jicarilla Contract #151

**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	2618	3983	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	2871	3730	Shale	
Fruitland Formation	3068	3533	Coal,Shale,Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3223	3378	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	3373	3228	Shale	Sloughing Shale
Huerfano Bentonite Bed			Shale	
Chacra Interval	4163	2438	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	4868	1733	Coal,Sandstone,Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	4868	1733	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	4981	1620	Coal,Sandstone,Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone(MVRD)	5428	1173	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5651	950	Shale	Sloughing Shale
Gallup Formation (GLLP)	6623	-22	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	7354	-753	Limestone	Gas, Oil
Graneros Shale	7418	-817	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	7468	-867	Sandstone,Shale,Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	7468	-867	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	7533	-932	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone(DKOT)	7569	-968	Sandstone	Gas, Oil, Water
Main Body (DKOT)	7607	-1006	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	7648	-1047	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT)	7681	-1080	Sandstone	Gas, Water, Possible Under-pressure
Morrison Formation			Shale, Sandstone	Gas, Water, Possible Under-pressure
Proposed TD	7664	-1063		

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.

2/8/

#### 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"	3583' +/- Lewis seat	7"
6 1/4"	7664'	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'	3583' +/-	23.0	N80	LTC	New
4 1/2"	Prod Liner	3463'	7664'	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'

140 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	78.3 cu ft
	100% excess (annulus)	78.3 cu ft
	Total	174 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: Set at 3583'

1st Stage: 131 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 2770' +/-): 322 sacks of Premium Lite FM

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

4 

<u>Volume Basis:</u>	40' of 7" shoe joint	9 cu ft
	3333' of 7" x 8 3/4" annulus	501 cu ft
	250' of 7" x 9 5/8" csg	42 cu ft
	<u>50% excess (annulus)</u>	<u>250 cu ft</u>
	Total	802 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 Drill Hole 3583' – 7664' (4081')**

Stage 1: 264 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
	4081' of 4 1/2 " x 6 1/4" hole	419 cu ft
	120' of 4 1/2" x 7" casing	13 cu ft
	<u>30% excess (annulus)</u>	<u>126 cu ft</u>
	Total	562 cu ft

Note:

1. Design top of cement is 3463 +/- 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 3583', 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.

5 



# Jicarilla 151 No. 7G

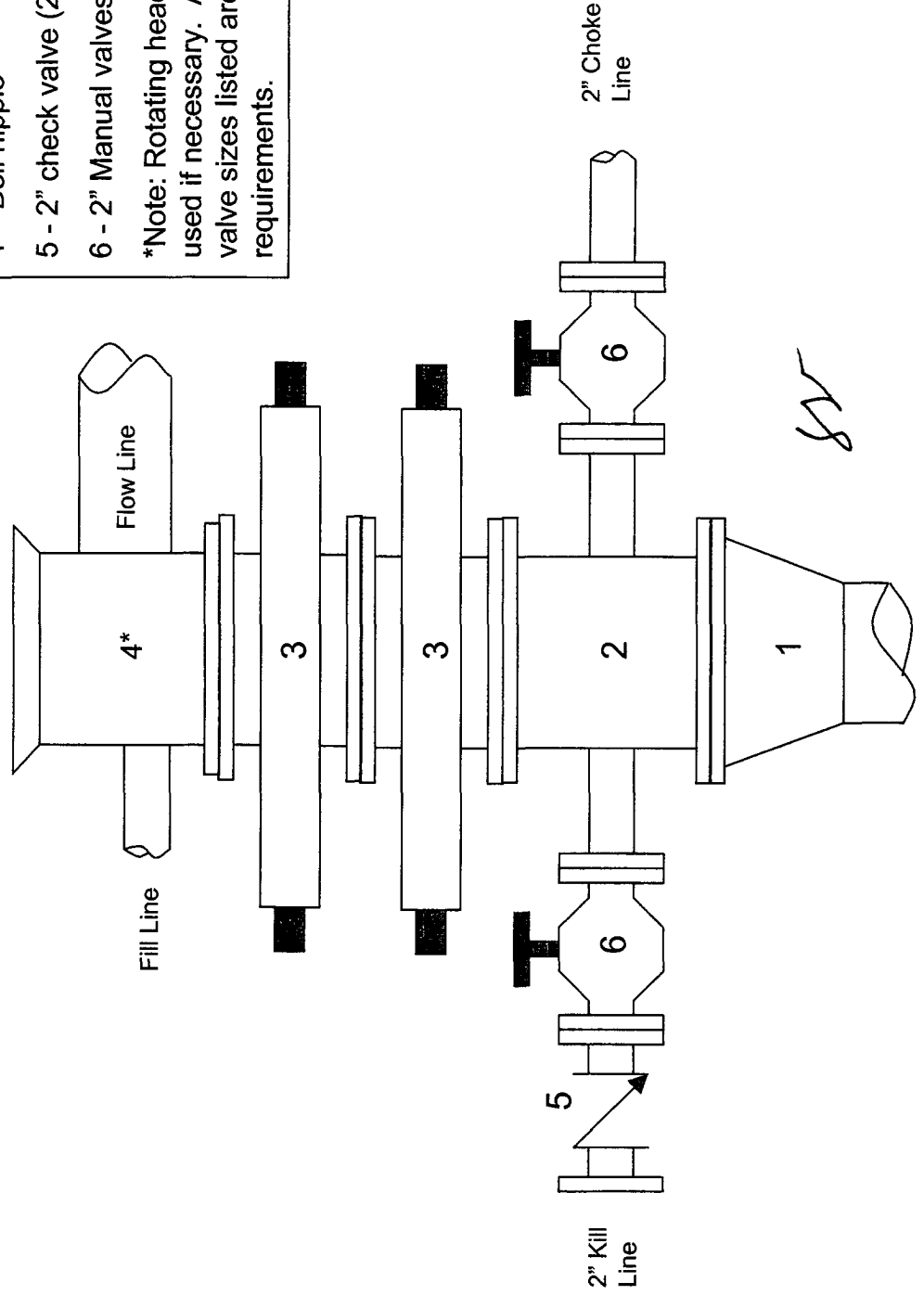
2000 psi BOP stack

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.



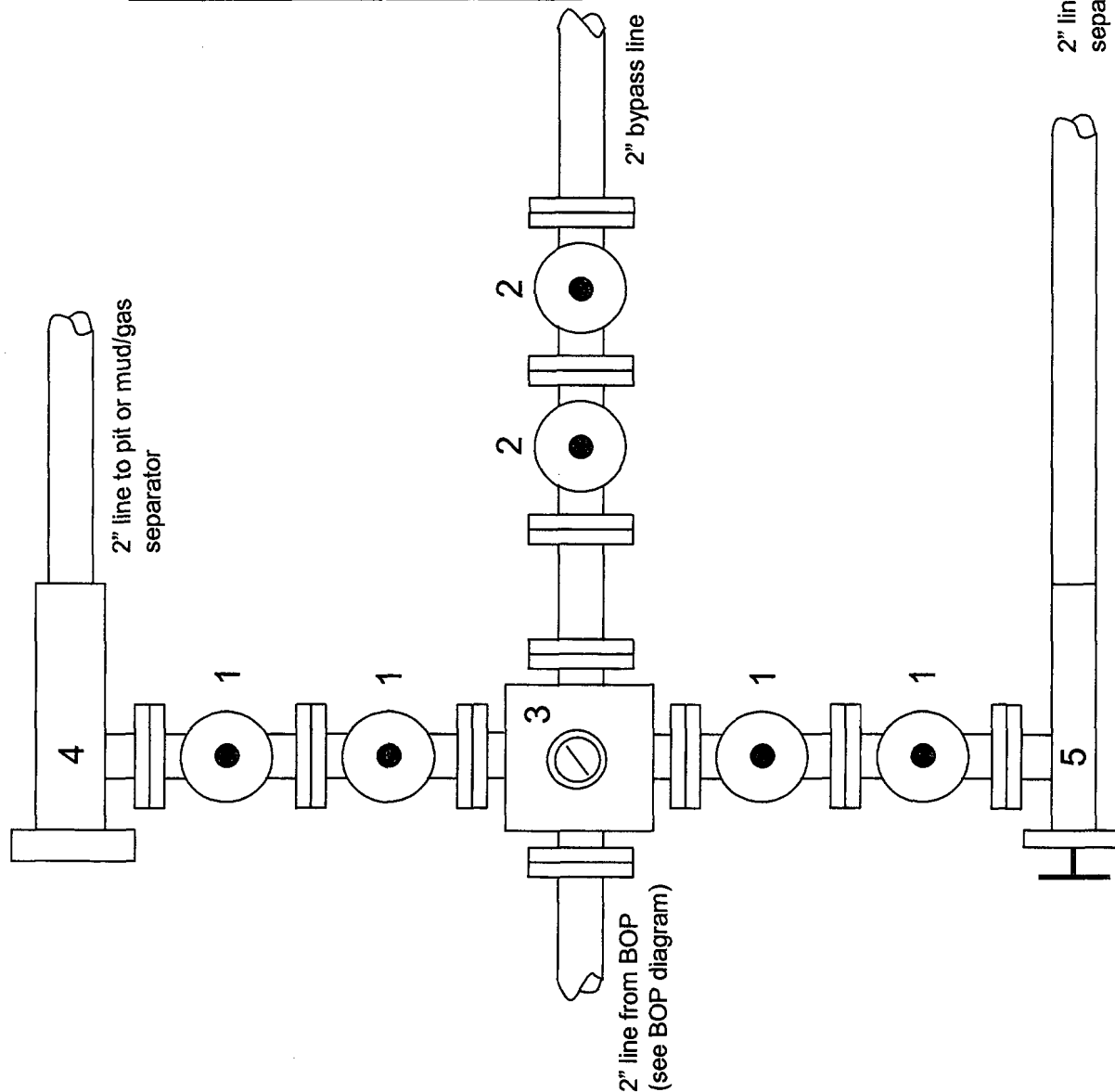
# Jicarilla 151 No. 7G

2000 psi Choke Manifold  
Minimum requirements

## Components

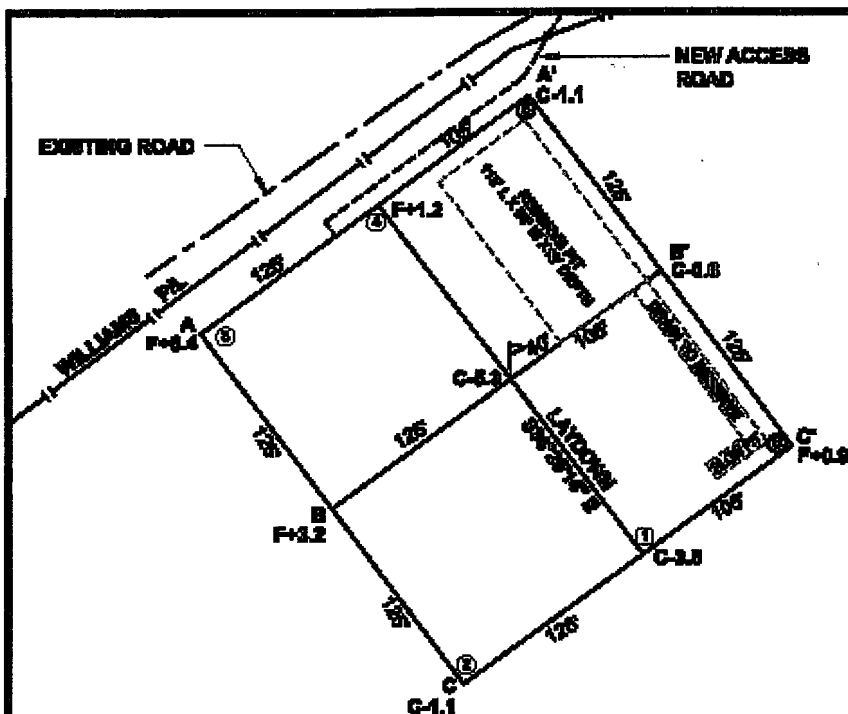
- 1 – 2" Valve (2M)
- 2 – 2" Valve (2M)
- 3 – Mud cross with gauge (2M) flanged below the gauge.
- 4 – Replaceable beam choke (2M)
- 5 – Adjustable needle choke (2M)

Note: All line and valve sizes listed are minimum requirements.

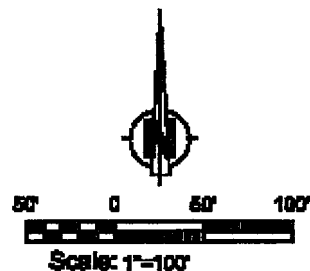


2" line to pit or mud/gas separator

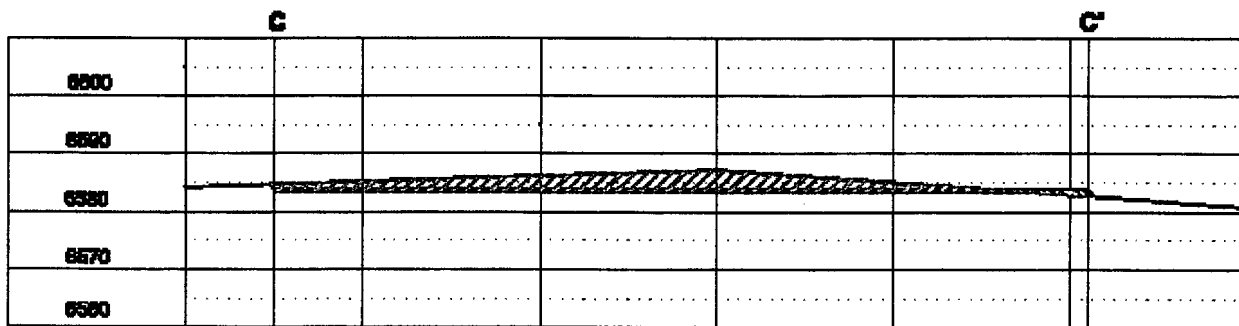
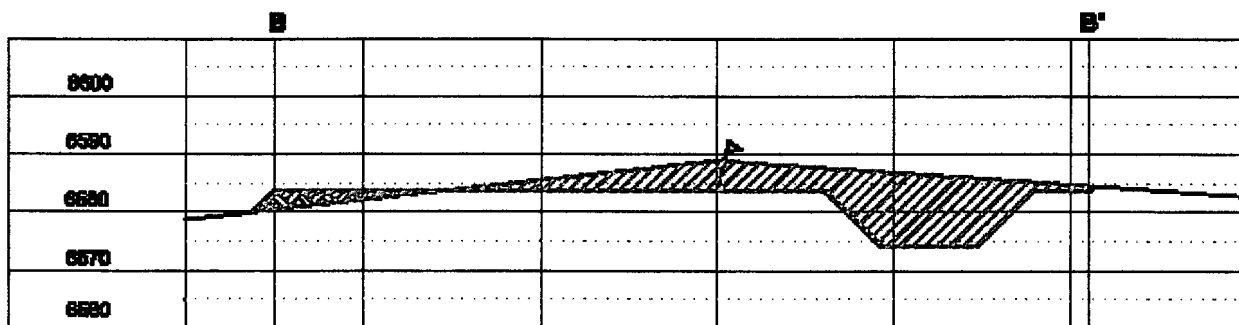
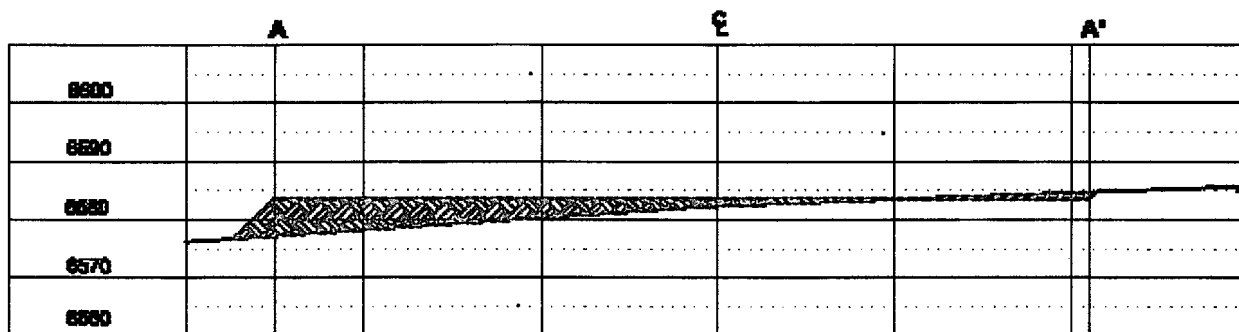
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**CDX RIO, L.L.C.**  
**JICARILLA 151 #7G**  
 1,470' FNL & 2,305' FWL  
 LOCATED IN THE SE/4 NW/4 OF SECTION 4,  
 T28N, R5W, N.M.P.M.,  
 RIO ARriba COUNTY, NEW MEXICO  
 ELEVATION: 6589', NAVD 88



LATITUDE: 36°31'10"N  
 LONGITUDE: 107°21'54"W  
 DATUM: NAD 83



HORIZ. SCALE: 1"=50'  
 VERT. SCALE: 1"=30'