

2006 MAY 18 PM 9 18

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RECEIVED
FARMINGTON, NM

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		5. Lease Serial No. Jicarilla Contract 109
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 checked="" 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 B #4M
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 2260' FNL, 2575' FEL, Lat: 36 28' 25.1" N, Long: 107 21' 51.3" W At proposed prod. zone		9. API Well No. 30-039- 2 9922
14. Distance in miles and direction from nearest town or post office* 30 miles from 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) 2260'	16. No. of Acres in lease	11. Sec., T., R., M., or Blk. and Survey or Area G Section 21, T-26-N, R-5-W
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 800'	19. Proposed Depth 7489'	12. County or Parish Rio Arriba
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6631' GR	22. Approximate date work will start*	13. State NM
20. BLM/BIA Bond No. on file National Bond on file		17. Spacing Unit dedicated to this well 320 E/2

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 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 5-18-06
Title Land Manager		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 9/5/06
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 fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse) .

NSL-5414

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

NMOC

entered 9-14

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

RECEIVED
OTO FARMINGTON NM

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-29922		*Pool Code 72319/71599	*Pool Name Blanco Mesaverde/Basin Dakota
*Property Code 33460	*Property Name JICARILLA B		*Well Number 4M
*OGRID No. 222374	*Operator Name CDX RIO, LLC		*Elevation 6631

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	21	26-N	5-W		2260	NORTH	2575	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
*Dedicated Acres MV - E/320 DK - E/320					*Joint or Infill Y		*Consolidation Code		*Order No. NSL-5414

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

CALC'D COR. BY DEL. PORP.	S 89-59-17 W 5346.68' (C)	2260'	CALC'D COR. BY DEL. PORP.
LAT. 36°28'25.1" N. (NAD 83) LONG. 107°21'51.3" W. (NAD 83)		2575'	
2		S 00-58-51 E 5437.29' (C)	
			CALC'D COR. BY DEL. PORP.

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

5-16-06
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 12, 2006
Date
Signature and Seal of Professional Surveyor:

JOHN VUKOBICH
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
14837
Certificate Number

Submit 3 Copies To Appropriate District
Office

District I

1625 N. French Dr., Hobbs, NM 88240

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1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

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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

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.)		WELL API NO. 30-039- 29922
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator CDX RIO, LLC		6. State Oil & Gas Lease No. Jicarilla 109
3. Address of Operator 2010 Afton Place, Farmington, New Mexico 87401		7. Lease Name or Unit Agreement Name Jicarilla B
4. Well Location Unit Letter <u>G</u> : <u>22260'</u> feet from the <u>North</u> line and <u>2575'</u> feet from the <u>East</u> line Section <u>21</u> Township <u>26N</u> Range <u>5W</u> NMPM Rio Arriba County		8. Well Number 4M
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6611' GR		9. OGRID Number 222374
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat Blanco Mesaverde/Basin Dakota
Pit type <u>New Drill</u> Depth to Groundwater <u>< 100'</u> Distance from nearest fresh water well <u>< 1000'</u> Distance from nearest surface water <u>< 1000'</u>		
Pit Liner Thickness: <u>12</u> mil Below-Grade Tank: Volume <u> </u> bbls; Construction Material <u> </u>		

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 ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: New Drill Pit Sundry

☒

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 5/16/06

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. 43 DATE SEP 07 2006
Conditions of Approval (if any):

Jicarilla B 4M
General Drilling Plan
CDX Rio, LLC
Rio Arriba County, New Mexico

1. LOCATION:

2260' FNL & 2575' FEL, Section 21, T26N, R5W
Rio Arriba County, New Mexico
UGL: 6631' Estimated KB: 6643'

Field: Blanco Mesa Verde and Basin Dakota
Surface: Jicarilla Contract #109
Minerals: Jicarilla Contract #109

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	2369	4274	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	2661	3982	Shale	
Fruitland Formation	2955	3688	Coal, Shale, Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3081	3562	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	3164	3479	Shale	Sloughing Shale
Huerfano Bentonite Bed	3527	3116	Shale	
Chacra Interval	3979	2664	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	4736	1907	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	4736	1907	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	4829	1814	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone (MVRD)	5301	1342	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5488	1155	Shale	Sloughing Shale
Gallup Formation (GLLP)	6462	181	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	7167	-524	Limestone	Gas, Oil
Graneros Shale	7223	-580	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	7249	-606	Sandstone, Shale, Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	7249	-606	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	7338	-695	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone (DKOT)	7379	-736	Sandstone	Gas, Oil, Water
Main Body (DKOT)	7411	-768	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	7461	-818	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT)	7494	-851	Sandstone	Gas, Water - TD immediately below L. Cubero. On-site pick when black/brown cuttings start. Avoid wet Burro Canyon.
Morrison Formation			Shale, Sandstone	
Proposed TD	7489	-846		

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"	3427' +/- Lewis seat	7"
6 1/4"	7489'	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'	3427' +/-	23.0	N80	LTC	New
4 1/2"	Prod Liner	3307'	7489'	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 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% CaCl₂, 1/4#/sx celloflake. 100% excess to circulate cement to surface. WOC 12 hrs.

Slurry weight: 15.2 ppg
Slurry yield: 1.27 ft³/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% CaCl₂ for top out purposes.

7" Intermediate Casing: 3427'

1st Stage: 140 sacks of Type III cement: 3427' - 2561' (866')

Slurry weight: 14.5 ppg Annular Vol = 130.2 cf + 65.1 cf (50% Access)
Slurry yield: 1.4 ft³/sack = 195.3 cf

2nd Stage: (Stage tool at 2561' +/-): 298 sacks of Premium Lite FM

Slurry weight: 12.4 ppg Volume = 571.6 cf
Slurry yield: 1.92 ft³/sack