

DATE IN 5/15/06	SUSPENSE 6-5-06	ENGINEER MIKE STOGNER	LOGGED IN 5/15/06	TYPE NSL	APP NO. PTDS0613551234
-----------------	-----------------	-----------------------	-------------------	----------	------------------------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



COX

Jicarilla C #2N

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
 [A] Location - Spacing Unit - Simultaneous Dedication
 X NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] X Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

- [4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Richard Corcoran

Land Manager

5-10-06

Print or Type Name

Signature

Title

Date

Rich.Corcoran@cdxgas.com
 Email Address

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
---------	----------	----------	-----------	------	---------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



Jicarilla C #2M

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] **[NSP-Non-Standard Proration Unit]** **[SD-Simultaneous Dedication]**
[DHC-Downhole Commingling] **[CTB-Lease Commingling]** **[PLC-Pool/Lease Commingling]**
[PC-Pool Commingling] **[OLS - Off-Lease Storage]** **[OLM-Off-Lease Measurement]**
[WFX-Waterflood Expansion] **[PMX-Pressure Maintenance Expansion]**
[SWD-Salt Water Disposal] **[IPI-Injection Pressure Increase]**
[EOR-Qualified Enhanced Oil Recovery Certification] **[PPR-Positive Production Response]**

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
 X NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] X Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Richard Corcoran

Land Manager

5-10-06

Print or Type Name

Signature

Title

Date

Rich.Corcoran@cdxgas.com
 Email Address

CDX RIO, LLC

2010 Afton Place
Farmington, New Mexico 87401
(505) 326-3003 – Fax (505) 325-4007

May 10, 2006

New Mexico Oil Conservation Division
Attn: Michael E. Stogner
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: ADMINISTRATIVE APPROVAL OF UNORTHODOX LOCATION
JICARILLA C #2M, 150 FSL & 275 FWL
JICARILLA C #2N, 175 FSL, 130 FEL
SECTION 14-T26N-R5W
RIO ARriba COUNTY, NEW MEXICO

Dear Mr. Stogner:

CDX Rio, LLC hereby requests Administrative Approval for the captioned Unorthodox Locations both proposed Blanco Mesaverde and Basin Dakota commingled wells under the provisions of New Mexico Oil Conservation Division (NMOCD) Order R-10987-B and Order R-10987-A respectively.

The locations of the proposed tests were selected to optimize recovery from the Dakota formation. Drainage areas are elliptical in shape and have been determined from a study done on Township 26 North Ranges 4 and 5 West and are more specifically set out in the attached Geological/Engineering report. In addition to reservoir considerations the usable space at the base of Honolulu Mesa, in the SE/4 of Section 14 for the JICARILLA C #2N, is less than 80 acres total, of which approximately 10 acres may be within a standard spacing window. Likewise the useable acreage on the top of Honolulu Mesa is very limited. Since these are infill locations the further from the existing wells (Jicarilla C #2E in the SE/4, and Jicarilla 2 in the SW/4 & Jicarilla 6 in the NW/4) we move the less drainage is encountered, however we simultaneously move further outside the orthodox drilling window. The proposed location encroaches on CDX Rio, LLC operated wells in the N/2 of Section 23-T26N-R5W, and the S/2 of Sections 13 & 15-T26N-R5W, which have the same ownership as the offending well.

The proposed Jicarilla C #2M well to be located 150' FSL & 275' FWL of Section 14 would be the third Basin Dakota and second Mesaverde well in the S/2 of Section 14 -T26N-R5W. The Jicarilla C #2 (API #30-039-08145) located 835' FSL and 2,140' FWL of Section 14 -T26N-R5W, was drilled to a total depth of 7,999', completed in the Basin Dakota formation on October 24, 1966, and has cumulatively produced 5,970,986 MCFG through February of 2006. The Jicarilla C #2E (API #30-039-22314) located 1,800' FSL and 890' FEL of Section 14 -T26N-R5W, was drilled to a total depth of 7,750', completed in the Basin Dakota and Blanco Mesaverde formations on September 22, 1980, and has produced 1,535,638 MCFG through February of 2006.

The proposed Jicarilla C #2N well, to be located 175 FSL, 130 FEL of Section 14 would be the fourth Basin Dakota and third Mesaverde well in the S/2 of Section 14 -T26N-R5W. The Jicarilla C #2 (API #30-039-08145) located 835' FSL and 2,140' FWL of Section 14 -T26N-R5W, was drilled to a total depth of 7,999', completed in the Basin Dakota formation on October 24, 1966, and has cumulatively produced 5,970,986 MCFG through February of 2006. The Jicarilla C #2E (API #30-039-22314) located 1,800' FSL and 890' FEL of Section 14 -T26N-R5W, was drilled to a total depth of 7,750', completed in the Basin Dakota and Blanco Mesaverde formations on September 22, 1980, and has produced 1,535,638 MCFG through February of 2006.

CDX Rio, LLC is the operator of ALL the adjoining spacing units in the Blanco Mesaverde and Basin Dakota pools, consequently no other offsetting operators are affected.

Attached are well location plats showing dedicated acreage (C-102), a topographic plat of the area, a map showing all offsetting owners and our Geologic/Engineering explanation of the reservoir considerations establishing the increased recovery that we expect to gain by moving the proposed well to non-standard location.

Your favorable consideration of this request would be appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read 'Felicia Dillard', written in a cursive style.

Felicia Dillard
Land Assistant
CDX Gas, LLC

RC/fd

DISTRICT I
1825 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 30-039-		² Pool Code 72319/71599		³ Pool Name Blanco Mesaverde/Basin Dakota	
⁴ Property Code 33461		⁵ Property Name JICARILLA C			⁶ Well Number 2M
⁷ OGRID No. 222374		⁸ Operator Name CDX RIO, LLC			⁹ Elevation 6962

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
M	14	26-N	5-W		150	SOUTH	275	WEST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

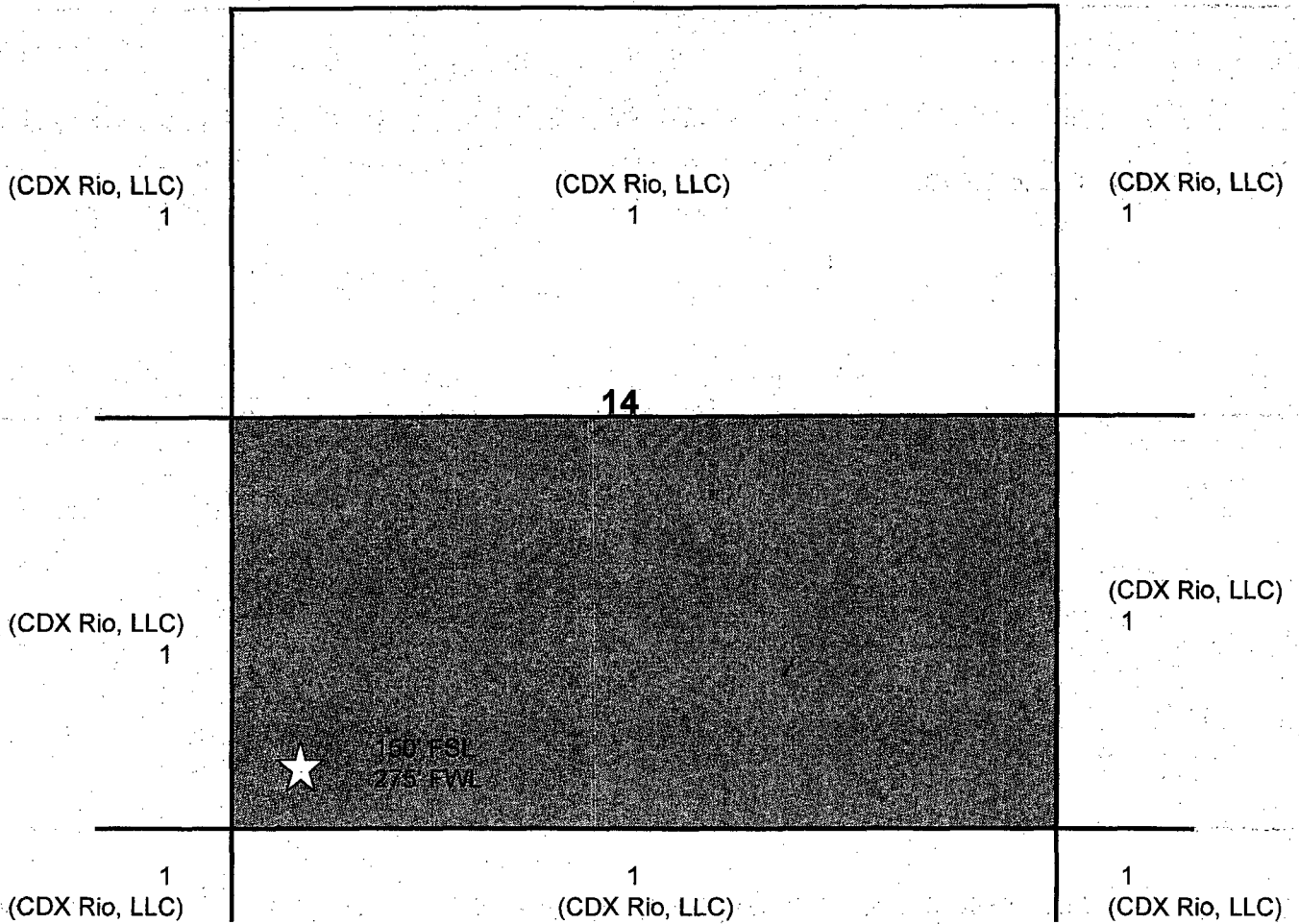
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres MV - S/320 DK - S/320					¹³ Joint or Infill Y		¹⁴ Consolidation Code		¹⁵ Order No.

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

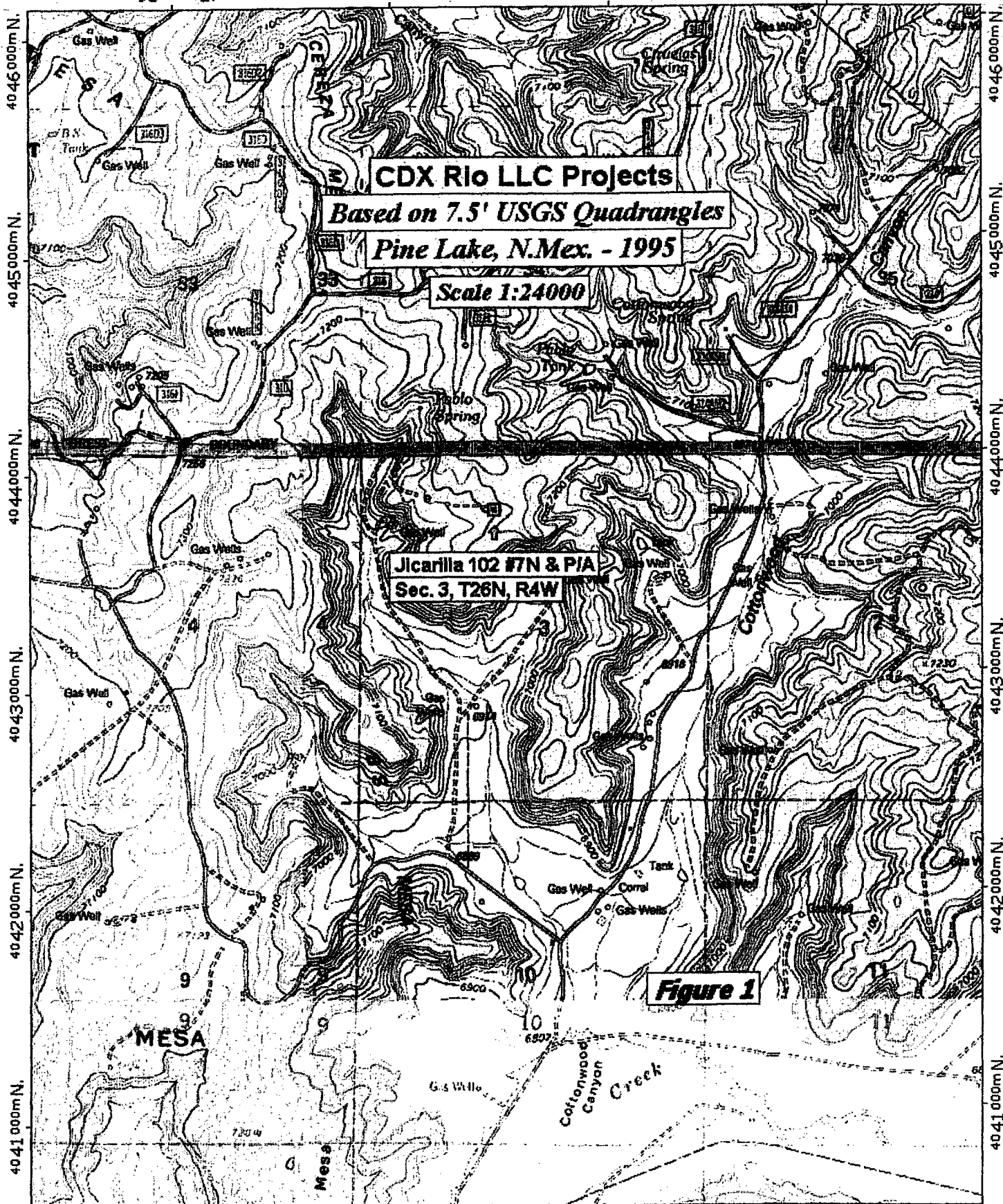
16	D COR. BL PROP.	LAT. 36°28'48.5" N. (NAD 83) LONG. 107°20'11.4" W. (NAD 83)		17	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature Richard Corcoran Printed Name Land Manager rich.corcoran@cdxgas.com Title Date
		CALC'D COR. BY DBL PROP.			
5289.7' (C) W	N 00-30-25	#2 BDL	#2 E BLAU/BDL	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 2005 Date Signature NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR 44831 Certificate Number
275'	150'	S 89-41-25 E	5339.4' (C)		

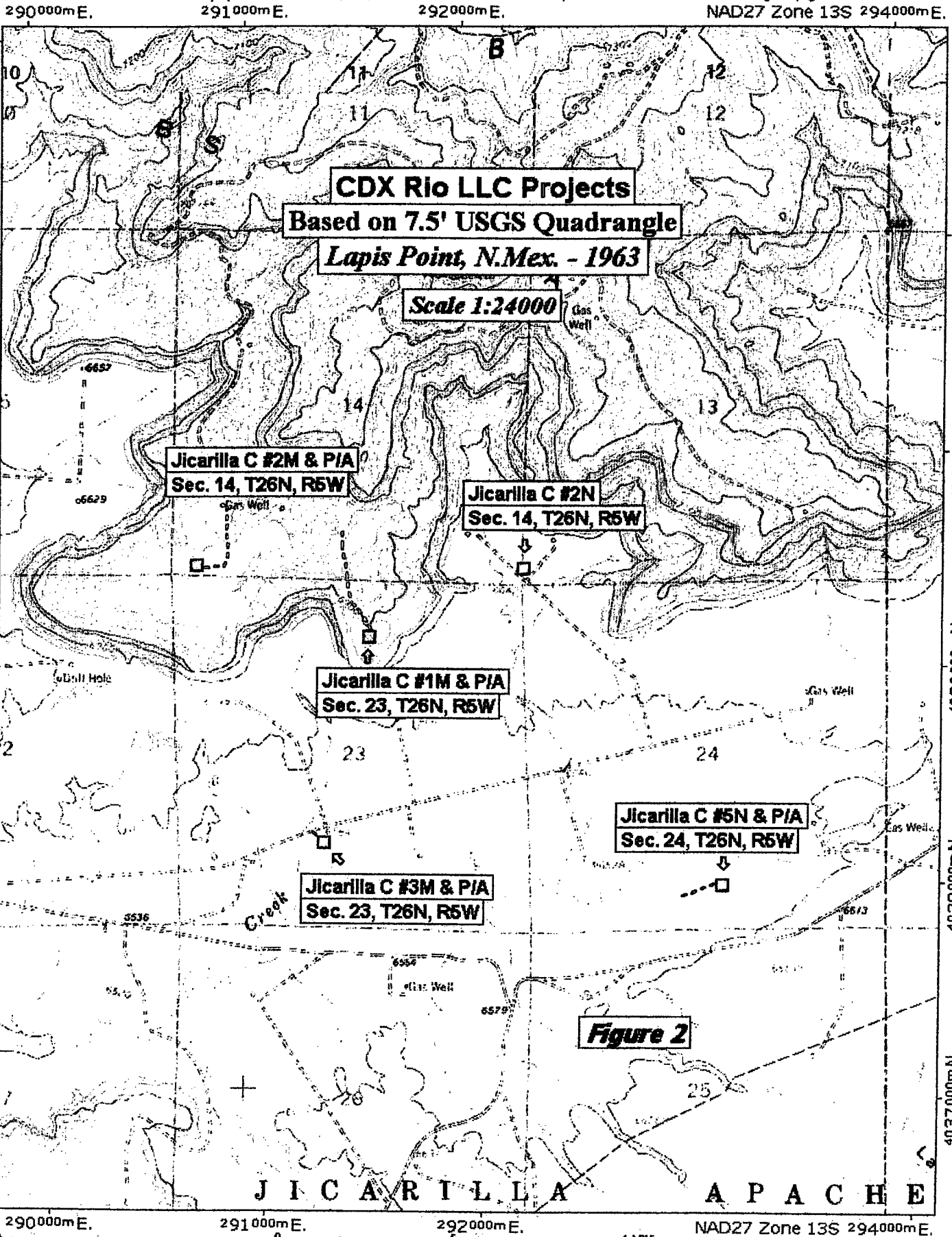
Standard 640-acre Section

CDX Rio, LLC
Jicarilla C #2M
OFFSET OPERATOR \ OWNER PLAT
Mesaverde & Dakota Formation
S/2 Section 14 Township 26 North - Range 5 West
Rio Arriba County, NM



Tract 1 CDX Rio, LLC





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

DISTRICT II
101 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 30-039-	² Pool Code 72319/71599	³ Pool Name Blanco Mesaverde/Basin Dakota
⁴ Property Code 33461	⁵ Property Name JICARILLA C	⁶ Well Number 2N
⁷ GRID No. 222374	⁸ Operator Name CDX RIO, LLC.	⁹ Elevation 6661'

¹⁰ Surface Location

UL or lot no. P	Section 14	Township 26-N	Range 5-W	Lot Idn	Feet from the 175	North/South line SOUTH	Feet from the 130	East/West line EAST	County 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 MV - S/320 DK - S/320		¹³ Joint or Infill Y		¹⁴ Consolidation Code		¹⁵ Order No.			

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

FD 5/8" REBAR
W/ STONE

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 rich.corcoran@cdxgas.com

Title and E-mail Address

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, 2005

Date

Signature of Professional Surveyor



Certificate Number

LAT: 36°28'48.4" N. (NAD 83)
LONG: 107°19'11.1" W. (NAD 83)

130'

175'

CALC'D COR.
BY DBL. CORP.

N 89-41-25 W
5339.4' (C)

CALC'D COR.
BY DBL. CORP.

(CDX Rio, LLC)
1

(CDX Rio, LLC)
1

(CDX Rio, LLC)
1

14

(CDX Rio, LLC)
1

(CDX Rio, LLC)
1

(CDX Rio, LLC)
1

175' FSL
130' FEL

★

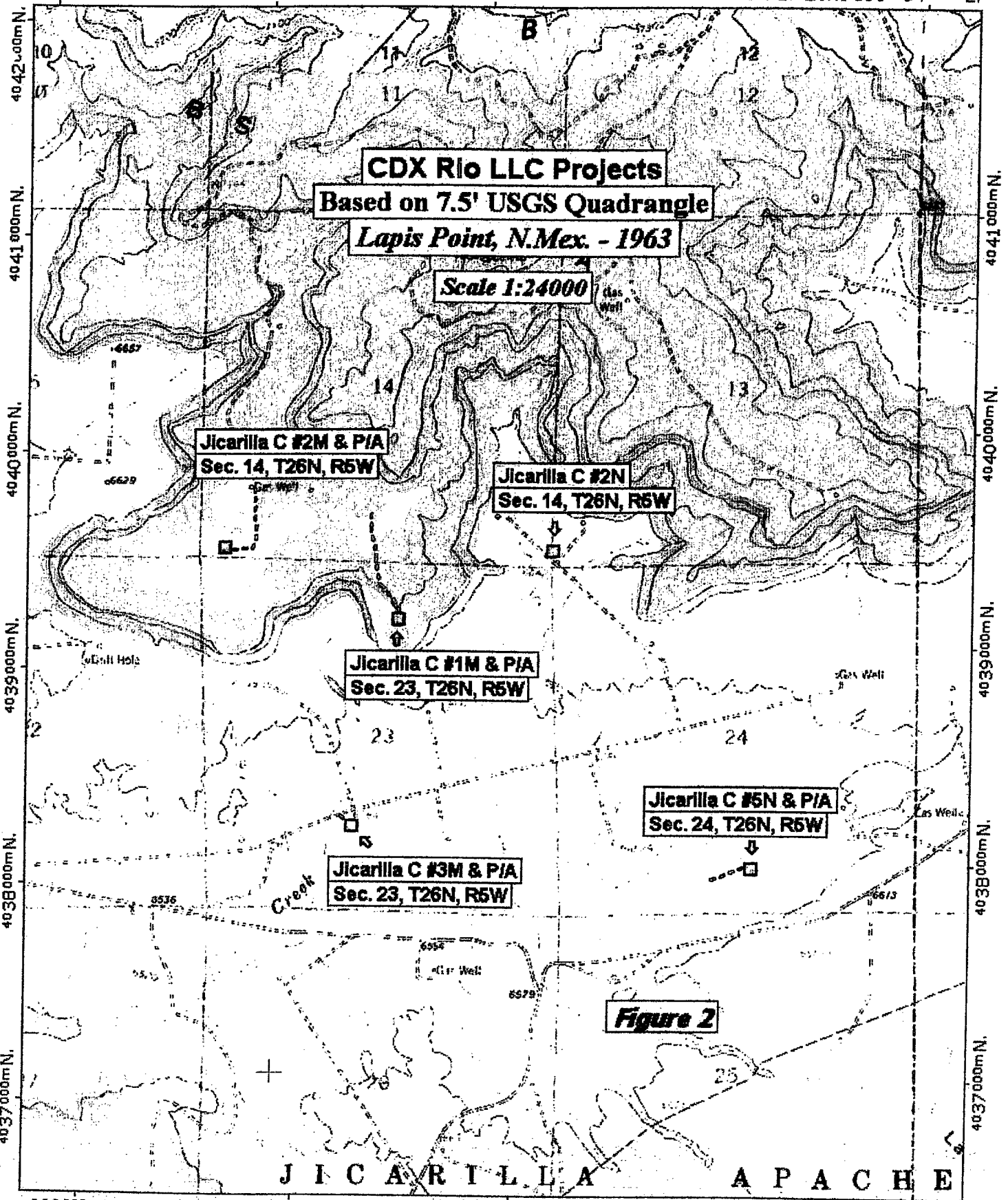
Tract 1 CDX Rio, LLC

290000mE.

291000mE.

292000mE.

NAD27 Zone 13S 294000mE.



TN*MN
 10°

290000mE.

291000mE.

292000mE.

NAD27 Zone 13S 294000mE.

0 1000 FEET 0 500 1000 METERS

VICINITY MAP

CDX RIO, LLC

Jicarilla C 2N

175' FSL & 130' FEL

Sec 14, T26N, R5W, NMPM

Rio Arriba County, New Mexico

Elevation: 6595' UGL

Scale: 1" ~ 2000'

R 5 W

Neeley Consulting Service, LLC

1 Mile Radius

No New Access Rd Required
Pipeline Located on Location

Jicarilla C 2N

Existing Access Rd

T 26 N

JICARILLA APACHE



To: Mike Stogner
From: Peter Kondrat, Senior Geologist and Rod Seale, Senior Petroleum Engineer
Subject: Approval Request of Mesaverde-Dakota Formations Unorthodox Infill Locations due to Reservoir Considerations
Location: CDX Rio, LLC Leasehold, Jicarilla Apache Nation, San Juan Basin
Date: May 3, 2006

Application:

CDX Rio, LLC respectfully requests the approval of the following listed unorthodox Mesaverde-Dakota Formations infill locations due to reservoir considerations.

Well Name & Number	Spot of Bottom Hole Location	Sec-Twn-Rng	Formations
1) Jicarilla C #2M	150 FSL & 275 FWL	14-T26N-R5W	MVRD-DKOT
2) Jicarilla C #2N	175 FSL & 130 FEL	14-T26N-R5W	MVRD-DKOT

Summary:

CDX Rio, LLC is continuing its Mesaverde-Dakota 80-acre increased density infill development program of its San Juan Basin Tapicito Project located in the Jicarilla Apache Nation, Rio Arriba County, New Mexico. CDX is currently permitting both standard and non-standard locations to fulfill the development program. The proposed unorthodox gas well locations are necessitated by a combination of topographic, engineering and geologic factors. None of the proposed locations infringe on the correlative rights of other operators.

Utilizing geologic and engineering data, CDX has completed a detailed study identifying the most optimal locations for Mesaverde and Dakota Formation infill wells. These locations are defined as optimal because they ensure maximum recovery of reserves and minimize waste.

CDX has constructed various maps for the Mesaverde and Dakota Formations that depict:

- 1) Bulk volume hydrocarbon feet
- 2) Original GIP (OGIP)
- 3) Estimated Ultimate Recovery (EUR)
- 4) Remaining GIP (RGIP)
- 5) EUR Drainage Volume Ellipses that depict Producing Characteristics
- 6) Optimal Infill Development Locations

Exhibits

Attached are two sets of maps for each proposed unorthodox infill location.

- 1) Land plats that show CDX's leasehold and the proposed new drill bottom-hole locations.
- 2) Dakota Formation EUR drainage volume ellipses that depict the producing characteristics of the existing wells and also the proposed unorthodox infill locations. The volume ellipses acreage was computed using bulk volume hydrocarbon feet and EUR.
 - a. Both Mesaverde and Dakota Formations have fracture-permeability anisotropy resulting in elliptical drainages. Following the area's best practices the elliptical drainages were drawn at a 3.7:1 aspect ratio and with a maximum horizontal permeability direction of N10°.
 - b. The location of the Dakota Formation drainage ellipses is the primary reason for permitting non-standard locations. Dakota Formation infill locations were selected to optimize recovery for the rock unit.

References



NMOCD Case Number 12508; Order Number R-11503

NMOCD Case Number 12745; Order Number R-10987-B; 2002; To Amend the Special Rules and Regulations for the Basin-Dakota Pool to Increase Well Density and Amend the Well Location Requirements; Burlington Resources Oil and Gas Company and Conoco Incorporated; 15 pages

SPE Paper #60288; 2000; Producing Characteristics and Drainage Volume of Dakota Reservoirs, San Juan Basin; Arild Sunde, Her-Yuan Chen, Lawrence W. Teufel; 10 pages

SPE Paper #77742; 2002; An Effective Technique of Estimating Drainage Shape, Magnitude and Orientation in a Low-Permeability Gas Sand; Ryan L. Robinson and Thomas W. Engler; 8 pages

SPE Paper #39974; 1998; Drainage Efficiency in Naturally Fracture Tight Gas Sandstone Reservoirs; H. Harstad, L.W. Teufel and J.C. Lorenz; 11 pages

SPE Paper #39911; 1998; Potential for Infill Drilling in a Naturally Fractured Tight Gas Sandstone Reservoir; H. Harstad, L.W. Teufel and J.C. Lorenz; 11 pages

SPE Paper #38580; 1997; Methodology to Optimize Completions in the Mesaverde Formation, San Juan Basin, New Mexico; Brian P. Ault, Earuch F. Broacha and David L. Holcomb; 20 pages

SPE Paper #60295; 2000; Influence of Permeability Anisotropy and Reservoir Heterogeneity on Optimization of Infill Drilling in Naturally Fractured Tight-Gas Mesaverde Sandstone Reservoirs, San Juan Basin; H.K. Al-Hadrami and L.W. Teufel; 12 pages

SPE Paper #68598; 2001; Practical Methods to High-Grade Infill Opportunities Applied to the Mesaverde, Morrow and Cotton Valley Formations; J.W. Hudson, J.E. Jochen, J.P. Spivey; 11 pages

SPE Paper #21484; 1991; The Impact of Improved Technology on Potential Tight Gas Reserves in the San Juan Basin; M.R. Haas and T.E. Crist; 14 pages



Utilizing geologic and engineering data, CDX has completed a detailed study identifying the most optimal locations for Mesaverde and Dakota Formation infill wells. These locations are defined as optimal because they ensure maximum recovery of reserves and minimize waste.

CDX has constructed various maps for the Mesaverde and Dakota Formations that depict:

- 1) Bulk volume hydrocarbon feet
- 2) Original GIP (OGIP)
- 3) Estimated Ultimate Recovery (EUR)
- 4) Remaining GIP (RGIP)
- 5) EUR Drainage Volume Ellipses that depict Producing Characteristics
- 6) Optimal Infill Development Locations

Exhibits

Attached are two sets of maps for each proposed unorthodox infill location.

- 1) Land plats that show CDX's leasehold and the proposed new drill bottom-hole locations.
- 2) Dakota Formation EUR drainage volume ellipses that depict the producing characteristics of the existing wells and also the proposed unorthodox infill locations. The volume ellipses acreage was computed using bulk volume hydrocarbon feet and EUR.
 - a. Both Mesaverde and Dakota Formations have fracture-permeability anisotropy resulting in elliptical drainages. Following the area's best practices the elliptical drainages were drawn at a 3.7:1 aspect ratio and with a maximum horizontal permeability direction of N10°.
 - b. The location of the Dakota Formation drainage ellipses is the primary reason for permitting non-standard locations. Dakota Formation infill locations were selected to optimize recovery for the rock unit.

References

NMOCD Case Number 12508; Order Number R-11503

NMOCD Case Number 12745; Order Number R-10987-B; 2002; To Amend the Special Rules and Regulations for the Basin-Dakota Pool to Increase Well Density and Amend the Well Location Requirements; Burlington Resources Oil and Gas Company and Conoco Incorporated; 15 pages

SPE Paper #60288; 2000; Producing Characteristics and Drainage Volume of Dakota Reservoirs, San Juan Basin; Arild Sunde, Her-Yuan Chen, Lawrence W. Teufel; 10 pages

SPE Paper #77742; 2002; An Effective Technique of Estimating Drainage Shape, Magnitude and Orientation in a Low-Permeability Gas Sand; Ryan L. Robinson and Thomas W. Engler; 8 pages

SPE Paper #39974; 1998; Drainage Efficiency in Naturally Fracture Tight Gas Sandstone Reservoirs; H. Harstad, L.W. Teufel and J.C. Lorenz; 11 pages

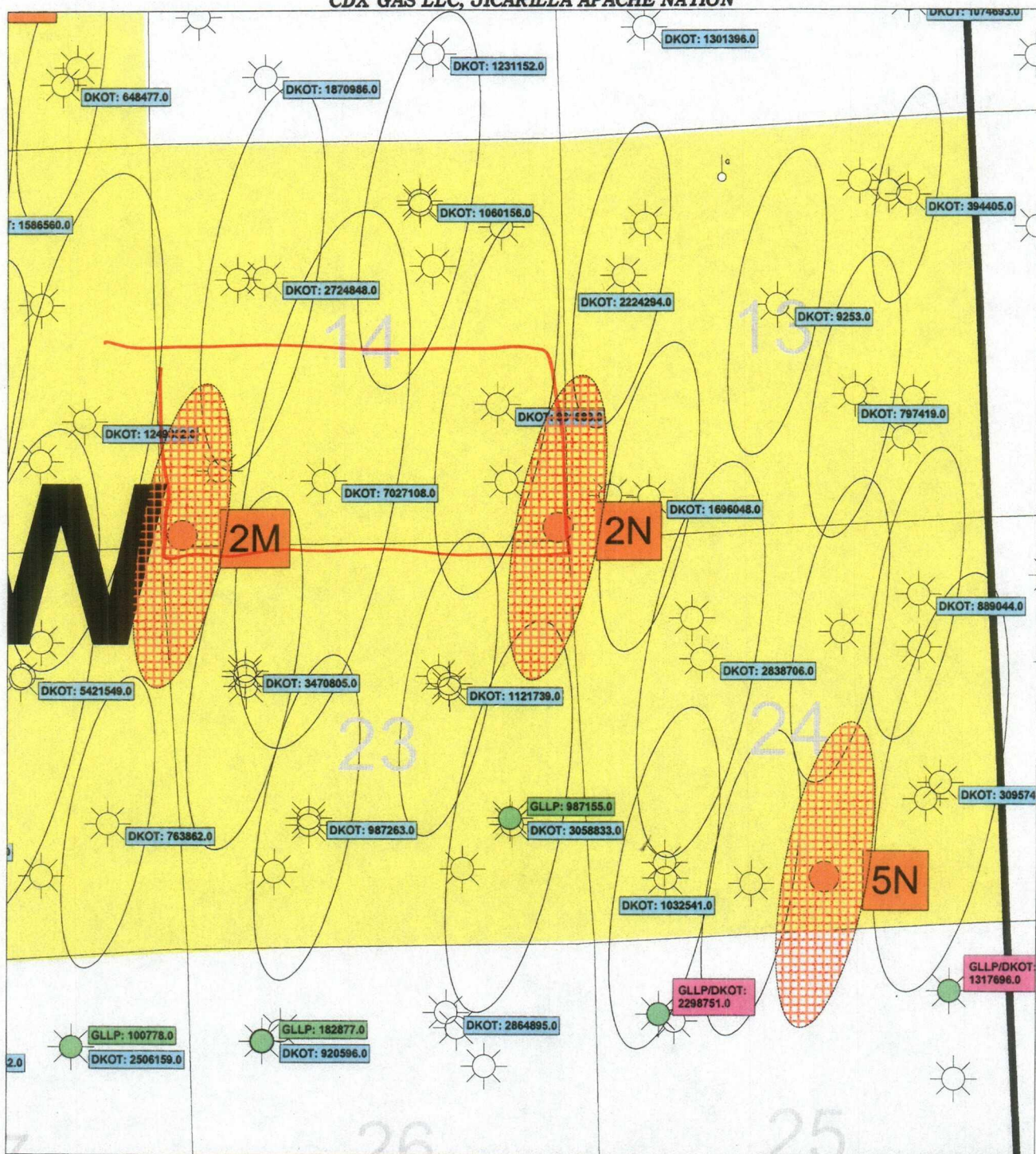
SPE Paper #39911; 1998; Potential for Infill Drilling in a Naturally Fractured Tight Gas Sandstone Reservoir; H. Harstad, L.W. Teufel and J.C. Lorenz; 11 pages

SPE Paper #38580; 1997; Methodology to Optimize Completions in the Mesaverde Formation, San Juan Basin, New Mexico; Brian P. Ault, Earuch F. Broacha and David L. Holcomb; 20 pages

SPE Paper #60295; 2000; Influence of Permeability Anisotropy and Reservoir Heterogeneity on Optimization of Infill Drilling in Naturally Fractured Tight-Gas Mesaverde Sandstone Reservoirs, San Juan Basin; H.K. Al-Hadrami and L.W. Teufel; 12 pages

SPE Paper #68598; 2001; Practical Methods to High-Grade Infill Opportunities Applied to the Mesaverde, Morrow and Cotton Valley Formations; J.W. Hudson, J.E. Jochen, J.P. Spivey; 11 pages

**PROPOSED JICARILLA C #2M, C #2N AND C #5N NEW DRILLS
DAKOTA FORMATION EUR DRAINAGES
CDX GAS LLC, JICARILLA APACHE NATION**



1 inch = 2000 feet



DAKOTA FORMATION
EXPECTED ULTIMATE
RECOVERY (EUR)
DRAINAGE ELLIPSE



PROPOSE DAKOTA
FORMATION
EXPECTED ULTIMATE
RECOVERY (EUR)
DRAINAGE ELLIPSE
(80 ACRES)



C #2M, C #2N, C #5N
NEW DRILL
LOCATIONS
(MVRD/DKOT)



GLLP/DKOT
CUM GAS
AS OF 9/2005



DKOT CUM GAS
AS OF 9/2005



GLLP CUM GAS
AS OF 9/2005

CDX GAS



CDX RIO, LLC
DAKOTA FORMATION
LEASEHOLD