

District I  
1625 N. French Drive, Hobbs, NM 88240

District II  
1301 W. Grand Avenue, Artesia, NM 88210

District III  
1000 Rio Brazos Road, Aztec, NM 87410

District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-107A  
Revised June 10, 2003

**Oil Conservation Division**  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

APPLICATION TYPE  
 Single Well  
 Establish Pre-Approved Pools  
EXISTING WELLBORE  
 Yes  No

**APPLICATION FOR DOWNHOLE COMMINGLING**

CDX RIO, LLC

4801 North Butler Ave., Suite 2000, Farmington, NM 87401

Operator

Address

JICARILLA 147

#5F

F-7-T25N-R5W

RIO ARRIBA

Lease

Well No.

Unit Letter-Section-Township-Range

County

OGRID No. 222374 Property Code \_\_\_\_\_ API No. 30-039-27852 Lease Type:  Federal  State  Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	WC BASIN MANCOS		BASIN DAKOTA
Pool Code	97232		71599
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	6267 - 6629 (To be confirmed after logs)		7125 - 7425 (To be confirmed after logs)
Method of Production (Flowing or Artificial Lift)	Plunger Lift		Plunger Lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)			
Oil Gravity or Gas BTU (Degree API or Gas BTU)	1173 BTU		1173 BTU
Producing, Shut-In or New Zone	NEW ZONE		NEW ZONE
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: 140 mcf/d (estimated) Rates: 2 bopd 0 bwpd	Date:  Rates:  	Date: 95 mcf/d (estimated) Rates: 0 bopd 0 bwpd
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 100 % Gas 60 %	Oil % Gas %	Oil 0% Gas 40 %

**ADDITIONAL DATA**

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes  No   
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes  No

Are all produced fluids from all commingled zones compatible with each other? Yes  No

Will commingling decrease the value of production? Yes  No

If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? Yes  No

NMOCD Reference Case No. applicable to this well: \_\_\_\_\_

**Attachments:**

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

**PRE-APPROVED POOLS**

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE [Signature] TITLE Production Engineer DATE 1/11/05

TYPE OR PRINT NAME David C. Smith TELEPHONE NO. (505) 326-3003

E-MAIL ADDRESS dave.smith@cdxgas.com

1/18/05

1/18/05

DHC-3313

PWJ 0501859333



CDX Gas, LLC  
4801 N. Butler Avenue, Suite 2000  
Farmington, NM 87401  
Main: 505-326-3003  
Fax: 505-325-4007

RECEIVED

JAN 18 2005

January 11, 2005

Mr. William Jones  
New Mexico Oil Conservation Division  
Engineering Bureau  
1220 So. St. Francis Drive  
P.O. Box 6429  
Santa Fe, New Mexico 87505

OIL CONSERVATION  
DIVISION

DHC-3313

RE: Application for Exception to Rule 303-A  
Downhole Commingling  
Jicarilla Apache Tribal 147 #5F  
API No. 30-039-27852  
Basin Dakota / WC Mancos  
1950' FNL, 1950' FWL, Unit F Sec 7-T25N-R5W  
Rio Arriba County, New Mexico

Dear Mr. Jones;

CDX Rio, LLC hereby request administrative approval to downhole commingle production from the Basin Dakota and WC Mancos Pools in the above well.

The 147 #5F well will be drilled and the Gallup member of the Mancos Pool will be completed with the Dakota.

The Gallup is marginal in the area and not substantial enough to justify drilling a new well, but commingling with Dakota production through an existing wellbore can capture the additional reserves. Adding the Gallup production will have no detrimental effects and the fluids have no abnormal components that would prohibit commingling or promote the creation of emulsions or scale.

As an analogy, the Southeast offset well Jicarilla 147 #9E (SW/SE Sec 7, T25N, R5W) is approximately 3/4 mile away and is currently commingled down hole in the Gallup and Dakota. This well has been down hole commingled and producing since 1998 with no production problems or loss of value. In addition, the Jicarilla 147 #5E (NW/NW Sec 7, T25N, R5W) was commingled in the Dakota and Gallup in April of 1988 with no ill effects on production.

CDX Rio, LLC has 100% working interest in all zones of interest in the captioned well. CDX is the only operator / working interest owner in all formations.

When the Dakota and Gallup are completed they will be isolated and separately tested thru tubing. The subtraction method will be used to determine the new allocation for the commingled production.

Estimated production from the Dakota is 95 Mcfd and 0 bopd, from the Gallup 140 Mcfd and 2 bopd (using the analogy offset data). New allocations should be similar to the offset data and is estimated at:

Dakota	Oil 0%	Gas 40%
Gallup	Oil 100%	Gas 60%

Attached to aid in your review are plats showing the location of the well and offset wells in the same formation, a recent production plot for the commingled zones in the analogy well (Jicarilla 147 #9E) and historical plots for the Gallup and Dakota production, and form C-102 showing the location and spacing units.

This spacing unit is located on an Indian lease (Jicarilla Apache Tribal #147) and a copy of this application package will be sent to the BLM / Jicarilla Tribe requesting their consent.

Should have any question concerning this application please contact the undersigned at (505) 326-3003.

Sincerely,



David C. Smith  
Production Engineer  
CDX GAS, LLC  
505-326-3003 ext 2804  
[dave.smith@cdxgas.com](mailto:dave.smith@cdxgas.com)

cc BLM, Farmington  
Rich Corcoran, CDX Land  
R. Johnston, CDX Op Mgr.  
Fred Vigil, Jicarilla Oil & Gas Admin.

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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**

<sup>1</sup> API Number 30-039-27852	<sup>2</sup> Pool Code 97232	<sup>3</sup> Pool Name WC BASIN MANCOS
<sup>4</sup> Property Code 24056	<sup>5</sup> Property Name JICARILLA CONTRACT 147	
<sup>7</sup> OGRID No. 222374	<sup>8</sup> Operator Name CDX RIO, LLC	<sup>6</sup> Well Number 5F  <sup>9</sup> Elevation 6750' GR

<sup>10</sup> 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	7	25N	R5W		1950	NORTH	1950	WEST	RIO ARRIBA

<sup>11</sup> 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

<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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

	<p><sup>17</sup> <b>OPERATOR CERTIFICATION</b> <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p>Signature _____</p> <p>Printed Name David Smith</p> <p>Title and E-mail Address Production Engineer, dave.smith@cdxgas.com</p> <p>Date Jan. 7, 2005</p>

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 Revised June 10, 2003  
 Submit to Appropriate District Office  
 State Lease - 4 Copies  
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AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number 30-039-27852	<sup>2</sup> Pool Code 71599	<sup>3</sup> Pool Name BASIN DAKOTA
<sup>4</sup> Property Code 24056	<sup>5</sup> Property Name JICARILLA CONTRACT 147	
<sup>7</sup> OGRID No. 222374	<sup>8</sup> Operator Name CDX RIO, LLC	<sup>6</sup> Well Number 5F  <sup>9</sup> Elevation 6750' GR

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<sup>11</sup> 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

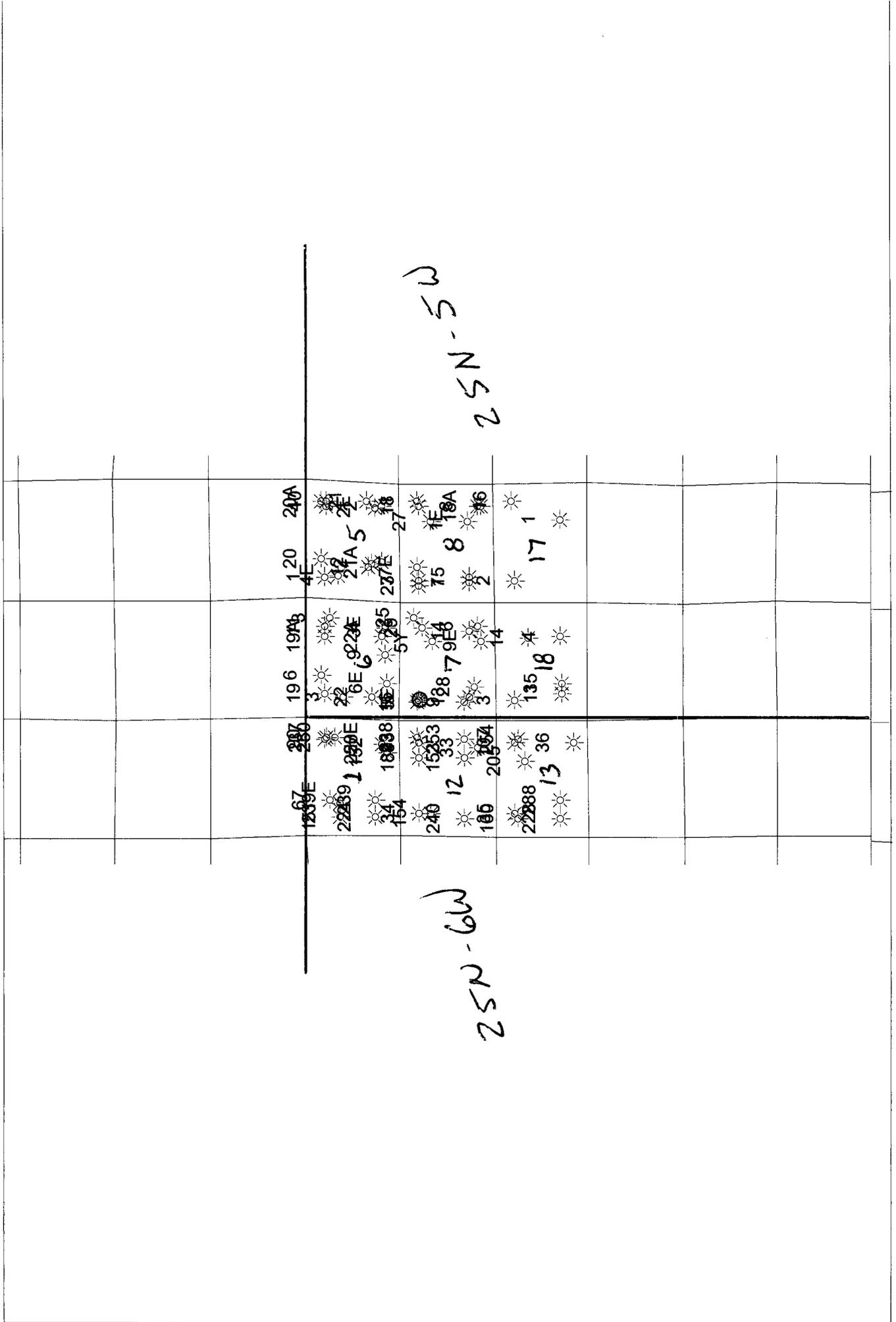
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.

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	<p><sup>17</sup> <b>OPERATOR CERTIFICATION</b>  <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i></p> <p>Signature _____          Printed Name          David Smith          Title and E-mail Address          Production Engineer, dave.smith@cdxgas.com          Date          Jan. 7, 2005</p>
	<p><sup>18</sup> <b>SURVEYOR CERTIFICATION</b>  <i>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.</i></p> <p>May, 2004          Date of Survey _____          Signature and Seal of Professional Surveyor: _____</p>
	<p>ON FILE</p>
	<p>Certificate Number          14831</p>

PI/Dwights PLUS on CD Map Report

All Wells

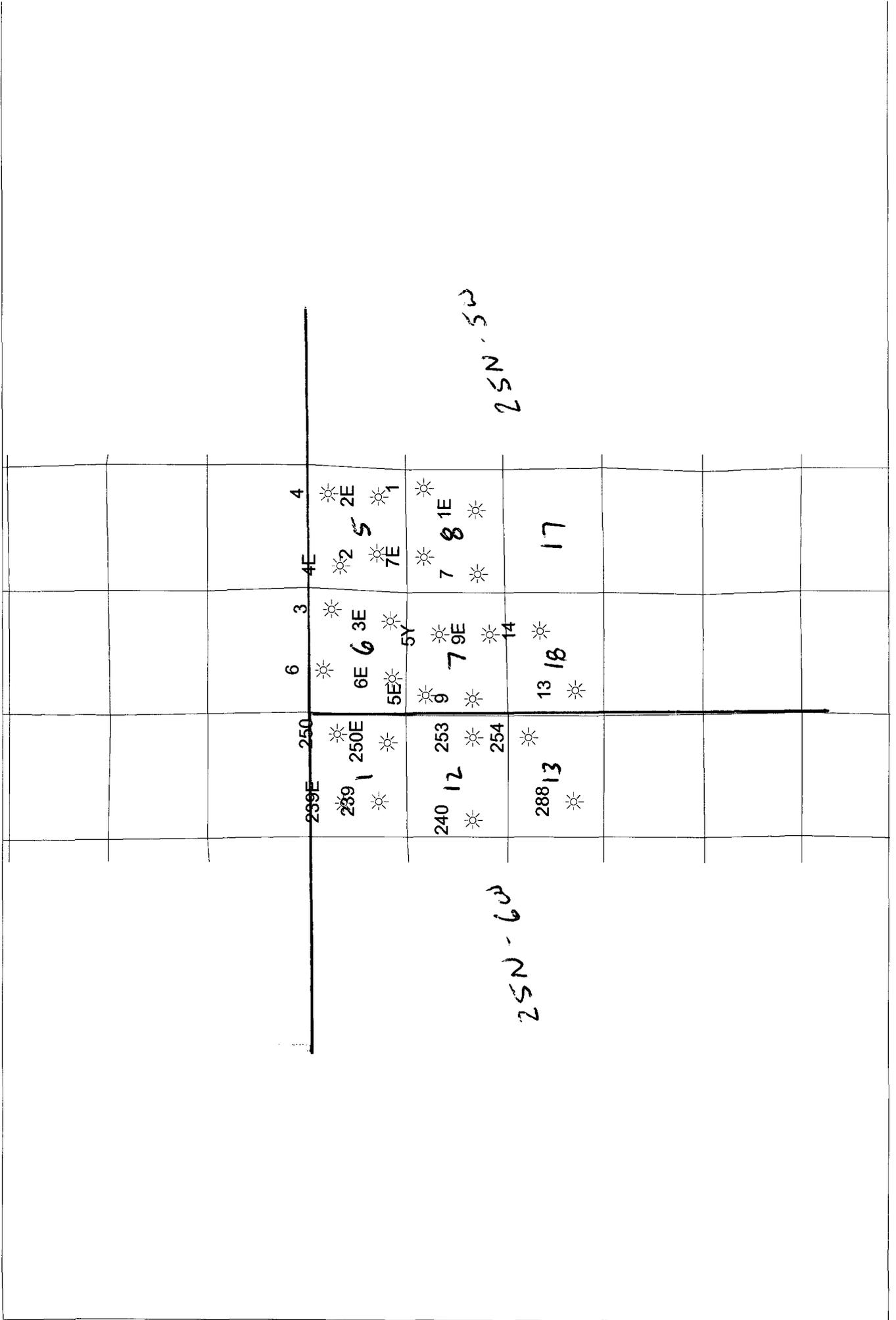


25N-6W

25N-5W

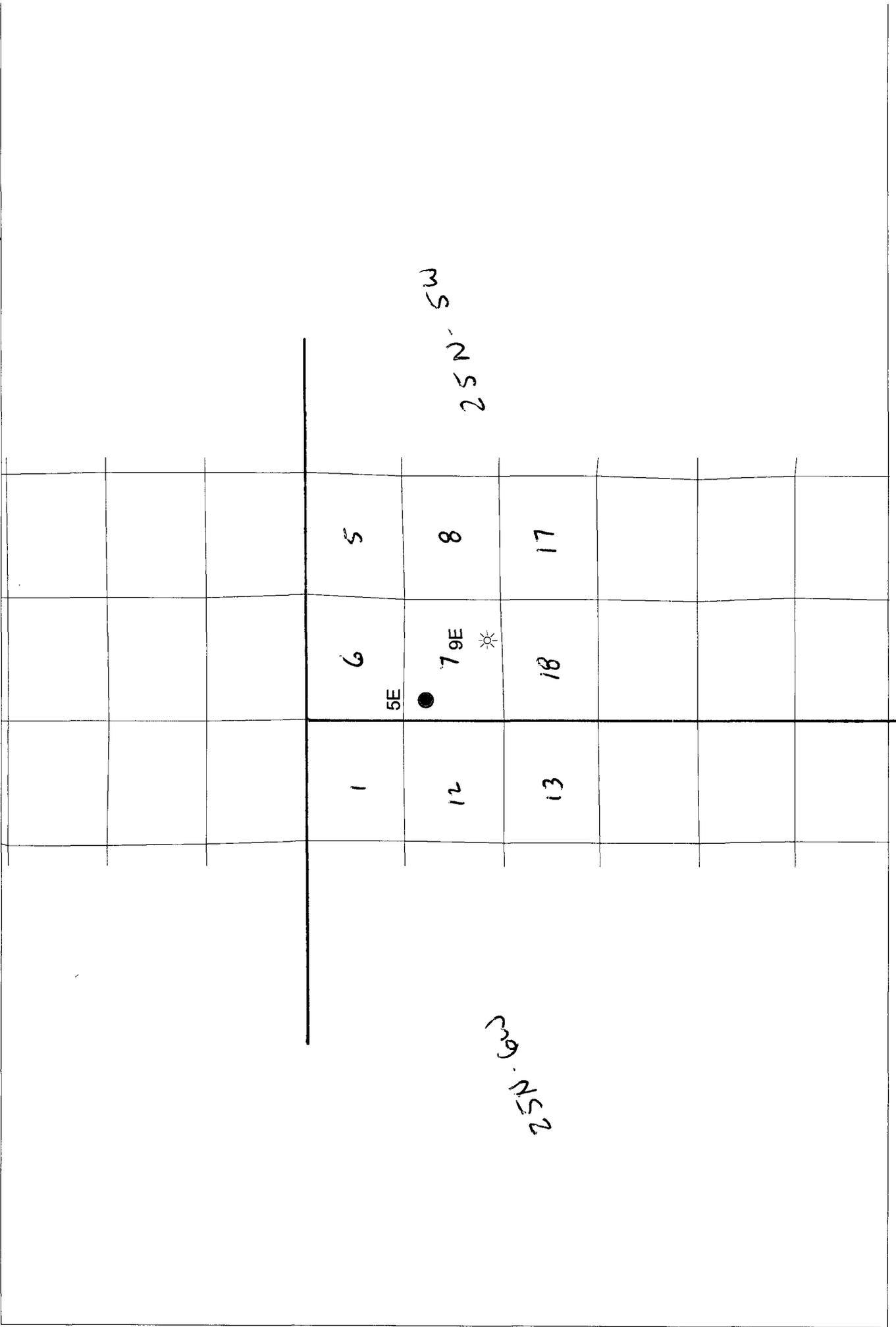
PI/Dwights PLUS on CD Map Report

DAKOTA



PI/Dwights PLUS on CD Map Report

GALUP



# PI/Dwights PLUS on CD Well Summary Report

General Information			
State	: NEW MEXICO	Final Status	: GAS
County	: RIO ARRIBA	Drill Total Depth	: 7345
Field	: LINDRITH WEST	Log Total Depth	:
Operator Name	: AMERADA HESS CORP	True Vertical Depth	:
Lease Name	: JICARILLA APACHE F		
Well Number	: 16	Spud Date	: OCT 06, 1994
API Number	: 30039252560000	Comp Date	: APR 24, 1995
Regulatory API	:		
Init Lahee Class	: WO	Hole Direction	: VERTICAL
Final Lahee Class	: WOE	Reference Elevation	: 6642 KB
Permit Number	:	Ground Elevation	: 6629
Geologic Province	: SAN JUAN BASIN	KB Elevation	: 6642
Formation at TD	: 602DKOT DAKOTA		
Oldest Age Pen	: 602 CRETACEOUS COMANCHEAN		
Producing Formation	: 602DKOT DAKOTA		
Township	: 25 N	Section	: 17 SEC
Range	: 5 W	Spot	: NE NE
Base Meridian	: NEW MEXICO		

Additional Location Information			
Footage Location	: 970 FNL 800 FEL CONGRESS SECTION		
Latitude	: 36.4048000	Latitude (Bot)	:
Longitude	: -107.3763500	Longitude (Bot)	:
Lat./Long. Source	: US		
Location Narrative	: Type LOCATION	Remark	: 14 N-NE COUNSELORS, NM 1/2 MI W LINDRITH WEST FLD(GALLUP/DAKOTA)

Initial Potential Tests									
Test	Top Form	Base Form	Top Depth	Base Depth	Choke	GOR	Oil Grav	Prod Method	Test Method
001	602DKOT	602DKOT	7126	7274	16/64			PERF	FLOWING

IP Volume												
Test	Amount	Oil Unit	Desc	Amount	Cond Unit	Desc	Amount	Gas Unit	Desc	Amount	Wtr Unit	Desc
001							490	MCFD				UW

IP Pressure				
Test	FTP	SITP	FCP	SICP
001	450			

IP Treatment												
Test	Top	Base	Volume	Meas	Amount	T/P	PSI	Inj	Type	Nbr	Agent	Add
001	7126	7274	1764	GAL					ACID			
001	7126	7274	89200	GAL	175000	LB			FRAC		SAND	
001	7126	7274	2319	MCF					TRET			

IP Perforation											
Test	Top	Base	Type	Method	Top Form	Base Form	Status	Count	Density	Per	
001	7126	7146		PERF	602DKOT	602DKOT			4	FT	
001	7166	7184		PERF	602DKOT	602DKOT			4	FT	
001	7240	7247		PERF	602DKOT	602DKOT			4	FT	
001	7266	7274		PERF	602DKOT	602DKOT			4	FT	

Formations							
Form Code	Form Name	Top Depth	Top TVD	Base Depth	Base TVD	Source	Lithology

## PI/Dwights PLUS on CD Well Summary Report

604FRLD	FRUITLAND	2381	LOG
604PCCF	PICTURED CLIFFS	2762	LOG
604CHCR	CHACRA	3650	LOG
604MVRD	MESAVERDE	4435	LOG
603MNCS	MANCOS	5212	LOG
603GRRS	GRANEROS	6996	LOG
602DKOT	DAKOTA	7124	LOG

### Log Data

Run No	Log Type	Top	Base	Log MD	Max Temp
1	NEC				
1	GR				
1	CB				
1	CA				
1	DNCP				
1	NEC				

### Casing Data

Size	Base Depth	Cement Unit
8 5/8 IN	365	260 SACK
5 1/2 IN	7344	1452 SACK

### Tubing Data

Size	Base Depth	Mixed String
2 3/8 IN	7200	

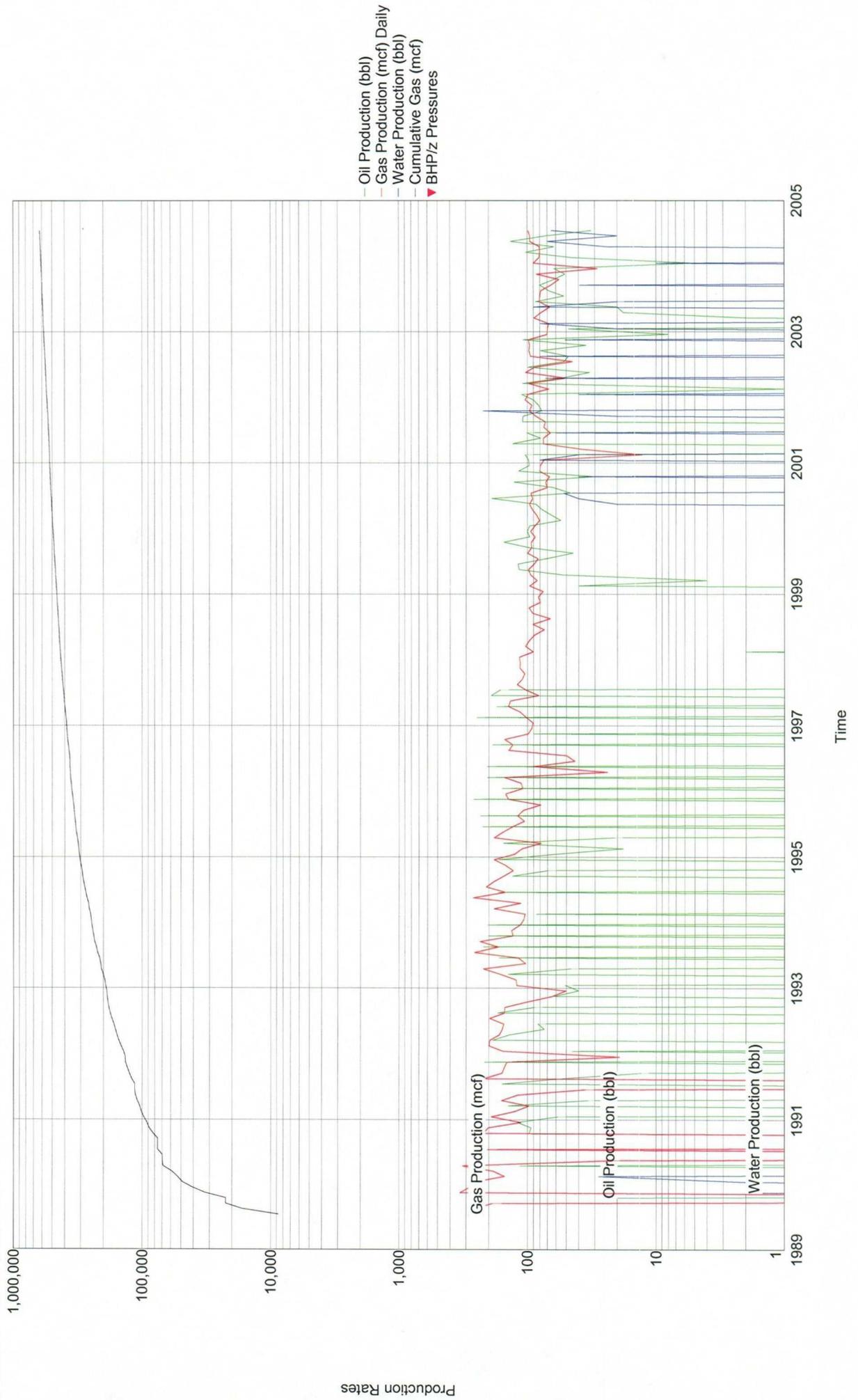
### Dwights Energydata Narrative

Accumulated through 1997

IP: (Dakota 7126-7274) F 490 MCFGPD on 16/64 ck; no oil; 75 BLWPD; SITP 450  
 Perfs: 7126-7274 (Dakota )  
 Perfs: w/4 SPF 216 holes total @ 7126-7146, 7166-7184, 7240-7247, 7266-7274  
 Perfs: - acid w/1764 gal 7 1/2% HCl - frac w/89200 gal 70Q 40# linear gel  
 Perfs: 175000# Ac-Frac PR 20/40 resin coated sd 2319000 SCF N2  
 Dst: None rptd  
 Cores: None  
 Dwights number: R4114000

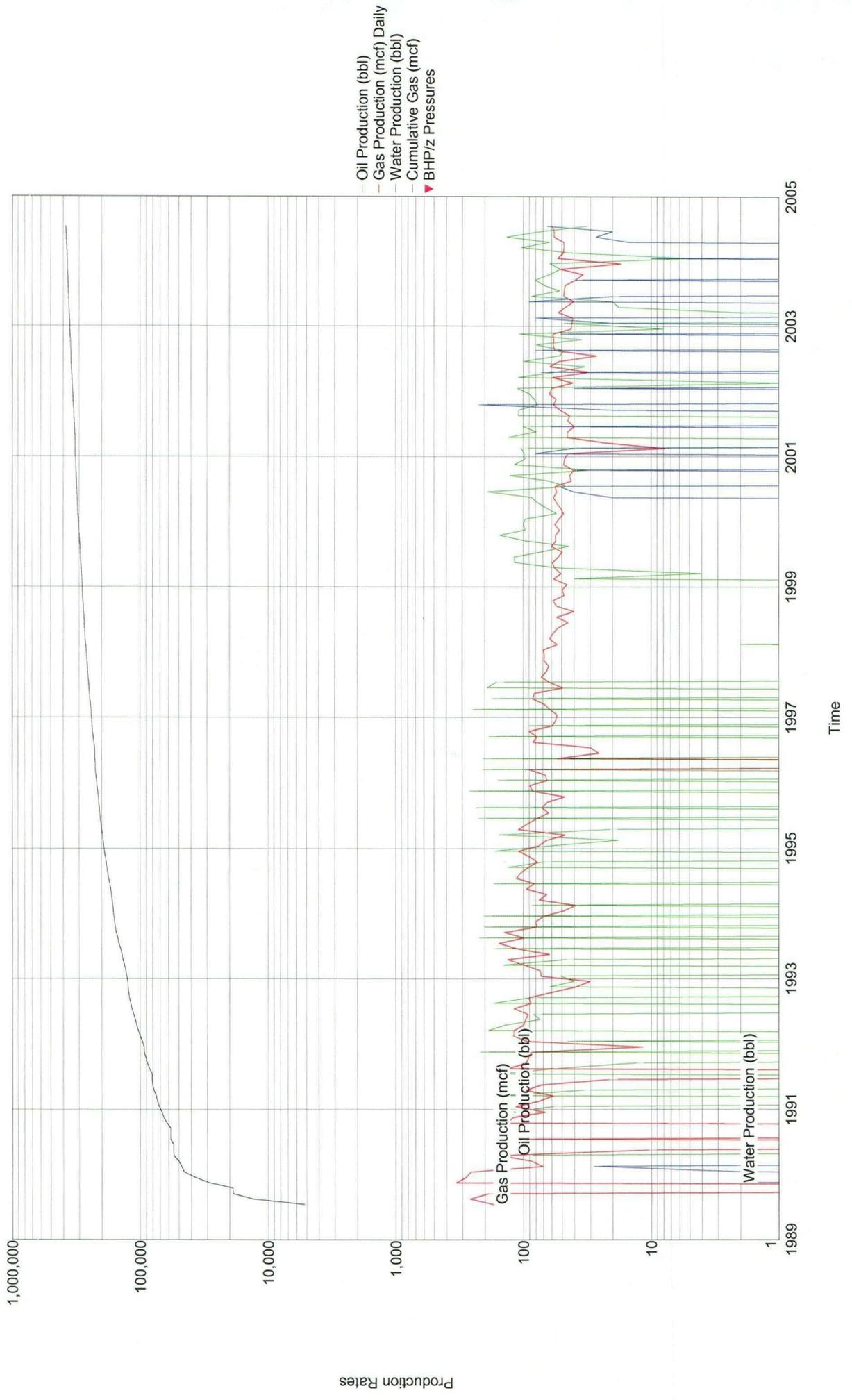
Lease Name: JICARILLA CONTRACT 147 \*  
 County, State: RIO ARBA, NM  
 Operator: CDX RIO LIMITED LIABILITY CORPORATIO  
 Field: MULTIPLE  
 Reservoir: MULTIPLE  
 Location:

JICARILLA CONTRACT 147 - ( MULTIPLE) 147-9E (DK/GP)



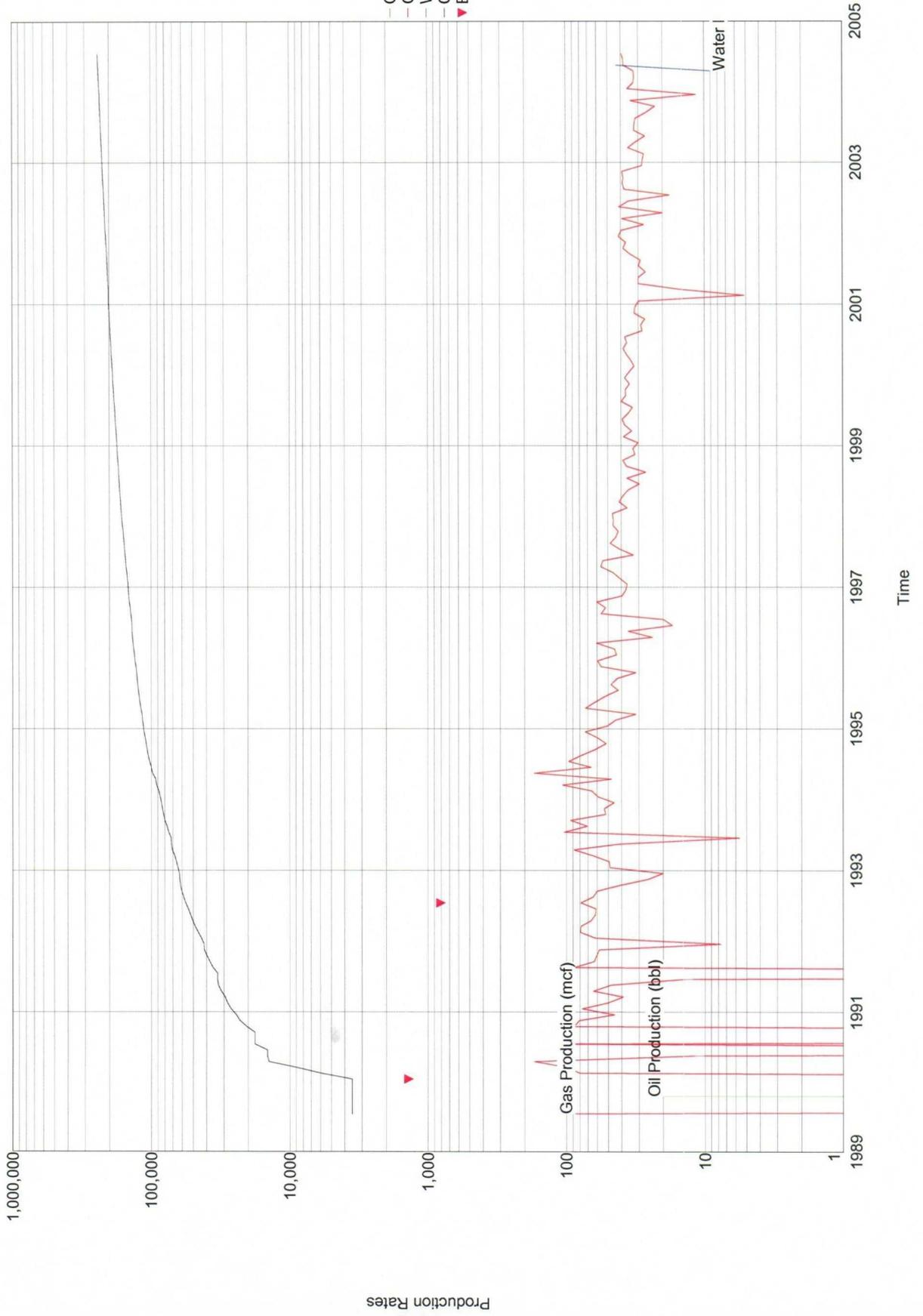
Lease Name: JICARILLA CONTRACT 147  
 County, State: RIO ARBA, NM  
 Operator: CDX RIO LIMITED LIABILITY CORPORATIO  
 Field: WILDCAT  
 Reservoir: GALLUP  
 Location: 7 25N 5W NE SW SE

JICARILLA CONTRACT 147 - 9E ( GALLUP)



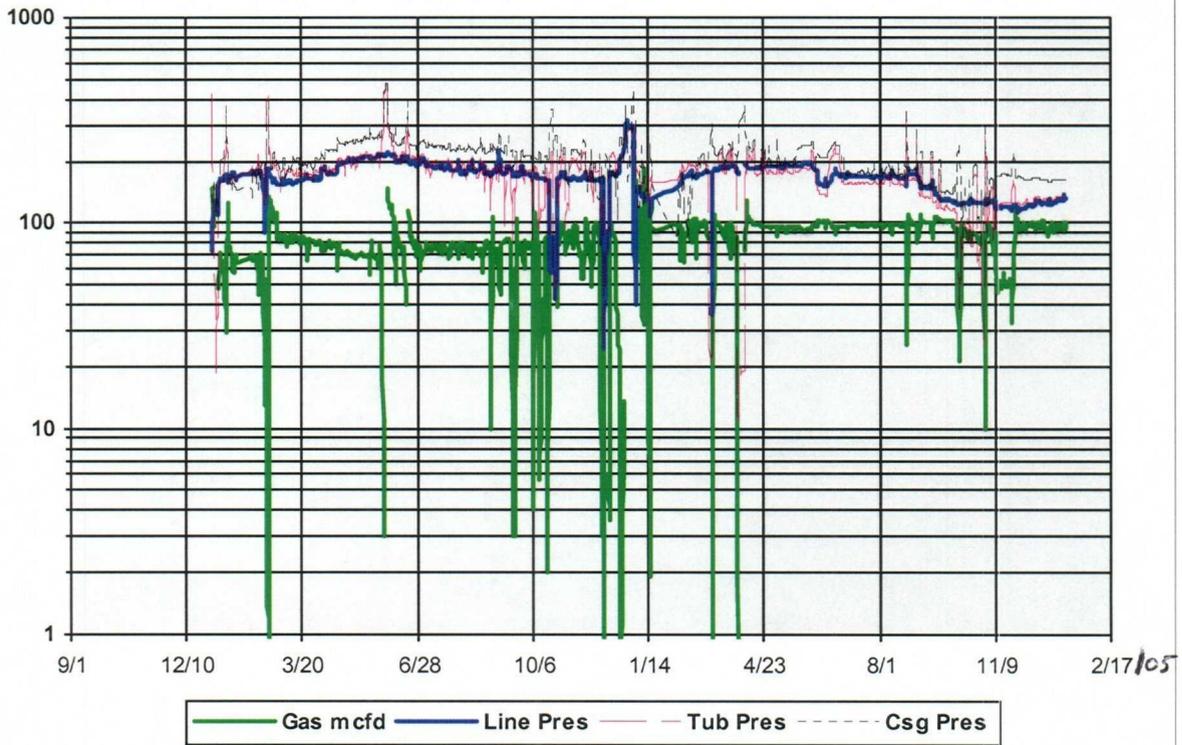
Lease Name: JICARILLA CONTRACT 147  
 County, State: RIO ARBA, NM  
 Operator: CDX RIO LIMITED LIABILITY CORPORATIO  
 Field: BASIN  
 Reservoir: DAKOTA  
 Location: 7 25N 5W NE SW SE

JICARILLA CONTRACT 147 - 9E ( DAKOTA)



# Current DK/GP Production

'JICARILLA CONT 147 009E-DK API: 30-039-23253' (7/25/02 - 1/10/05)



WF

CHEMICAL & GEOLOGICAL LABORATORIES  
A SUBSIDIARY OF CORE LABORATORIES, INC.

P.O. Box 2794  
Casper, Wyoming 82602

GAS ANALYSIS REPORT

Company Amoco Production Company Date 1-11-84 Lab. No. A40006-2  
 Well No. #9E Location   
 Field Jicarillo Contract #147 Formation Basin Dakota  
 County Rio Arriba Depth   
 State New Mexico Sampling point   
 Line pressure 85 psig; Sample pressure 58 psig; Temperature 58 ° F; Container number #76  
 Remarks 12-30-83 11:00 am

Component	Mole % or Volume %	Gallons per MCF
Oxygen	0	
Nitrogen	0.23	
Carbon dioxide	0.62	
Hydrogen sulfide	Nil	
Methane	85.35	
Ethane	8.63	0.818
Propane	2.98	0.179
Iso-butane	0.55	0.261
N-butane	0.83	0.102
Iso-pentane	0.28	0.069
N-pentane	0.19	0.157
Hexanes & higher	0.34	
Total	100.00	1.586

GPM of pentanes & higher fraction 0.328  
 Gross btu/cu. ft. @ 60° F. & 14.7 psia (dry basis) 1173  
 Specific gravity (calculated from analysis) 0.671

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_