

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 Gas 100 % 60 %	Oil Gas % %	Oil Gas 0% 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: _____

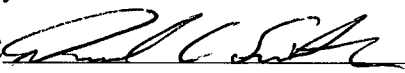
- Attachments:
- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
 - Production curve for each zone for at least one year. (If not available, attach explanation.)
 - For zones with no production history, estimated production rates and supporting data.
 - Data to support 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  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

PWV 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 $\frac{3}{4}$ 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

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

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

¹⁰ Surface Location

UL or lot no. F	Section 7	Township 25N	Range R5W	Lot Idn	Feet from the 1950	North/South line NORTH	Feet from the 1950	East/West line WEST	County RIO ARRIBA
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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
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¹² Dedicated Acres	¹³ Joint or Infill	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

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

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WELL LOCATION AND ACREAGE DEDICATION PLAT

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

¹⁰ **Surface Location**

UL or lot no. F	Section 7	Township 25N	Range R5W	Lot Idn	Feet from the 1950	North/South line NORTH	Feet from the 1950	East/West line WEST	County RIO ARriba
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¹¹ **Bottom Hole Location If Different From Surface**

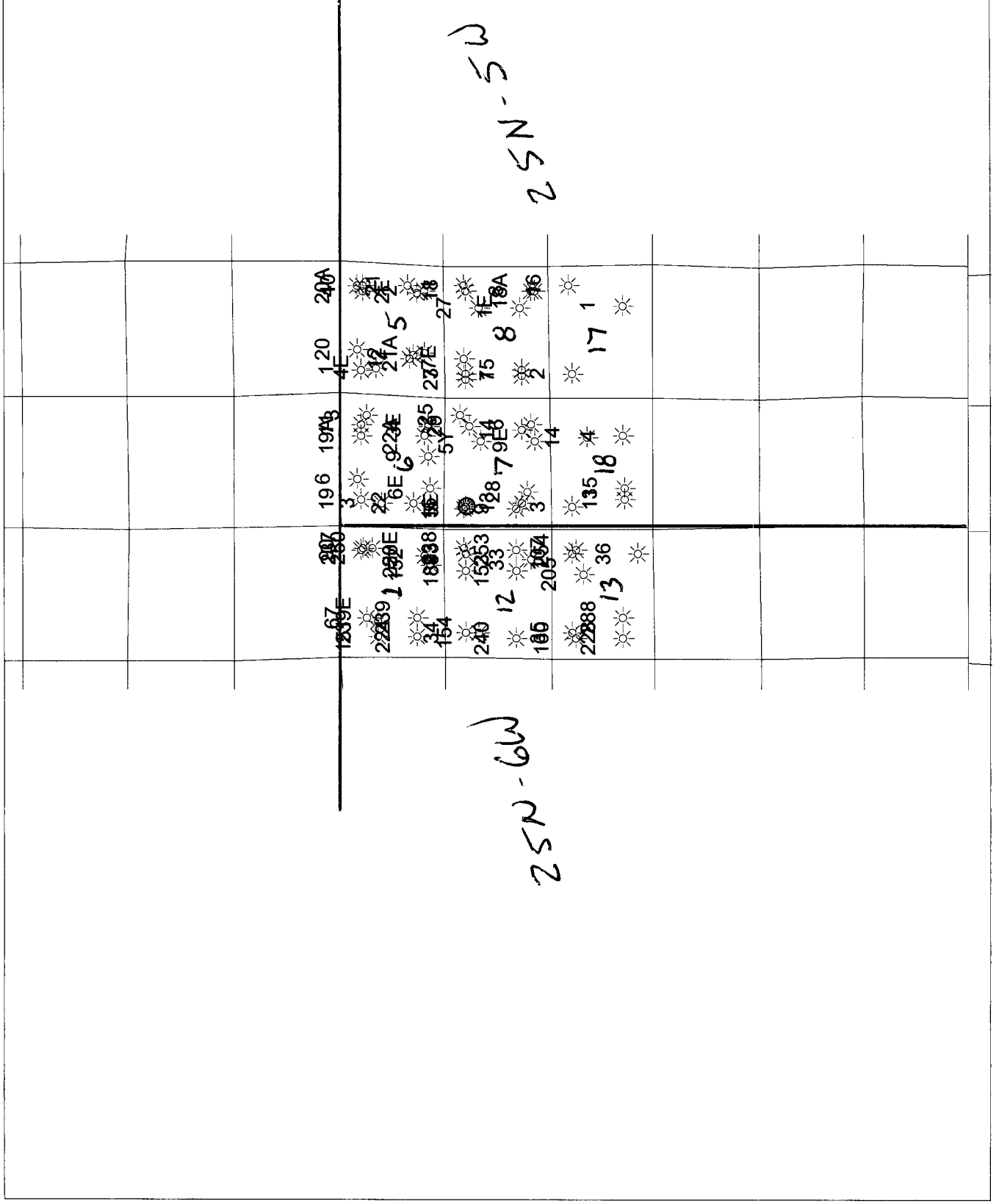
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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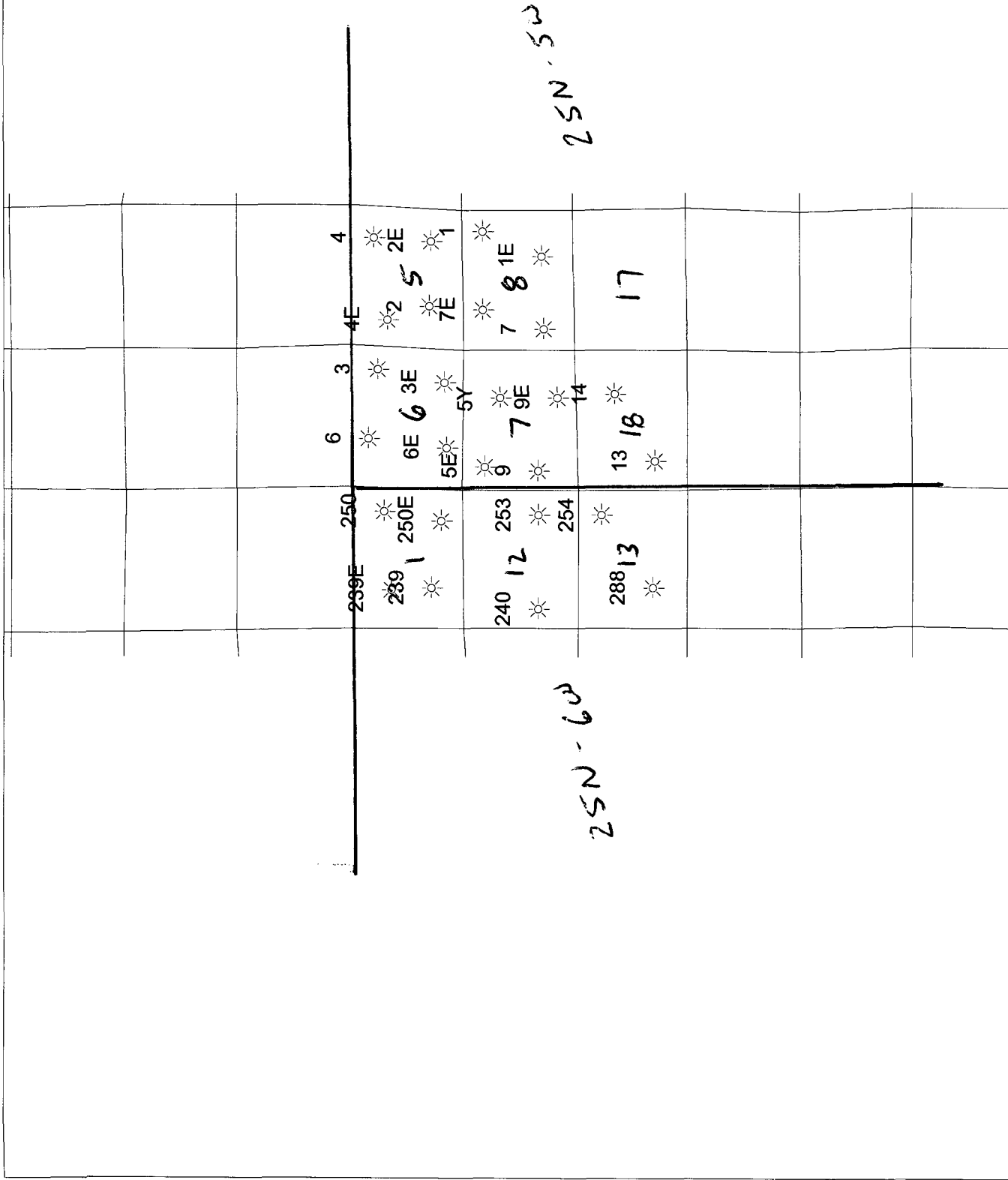
PI/Dwights PLUS on CD Map Report

All Wells



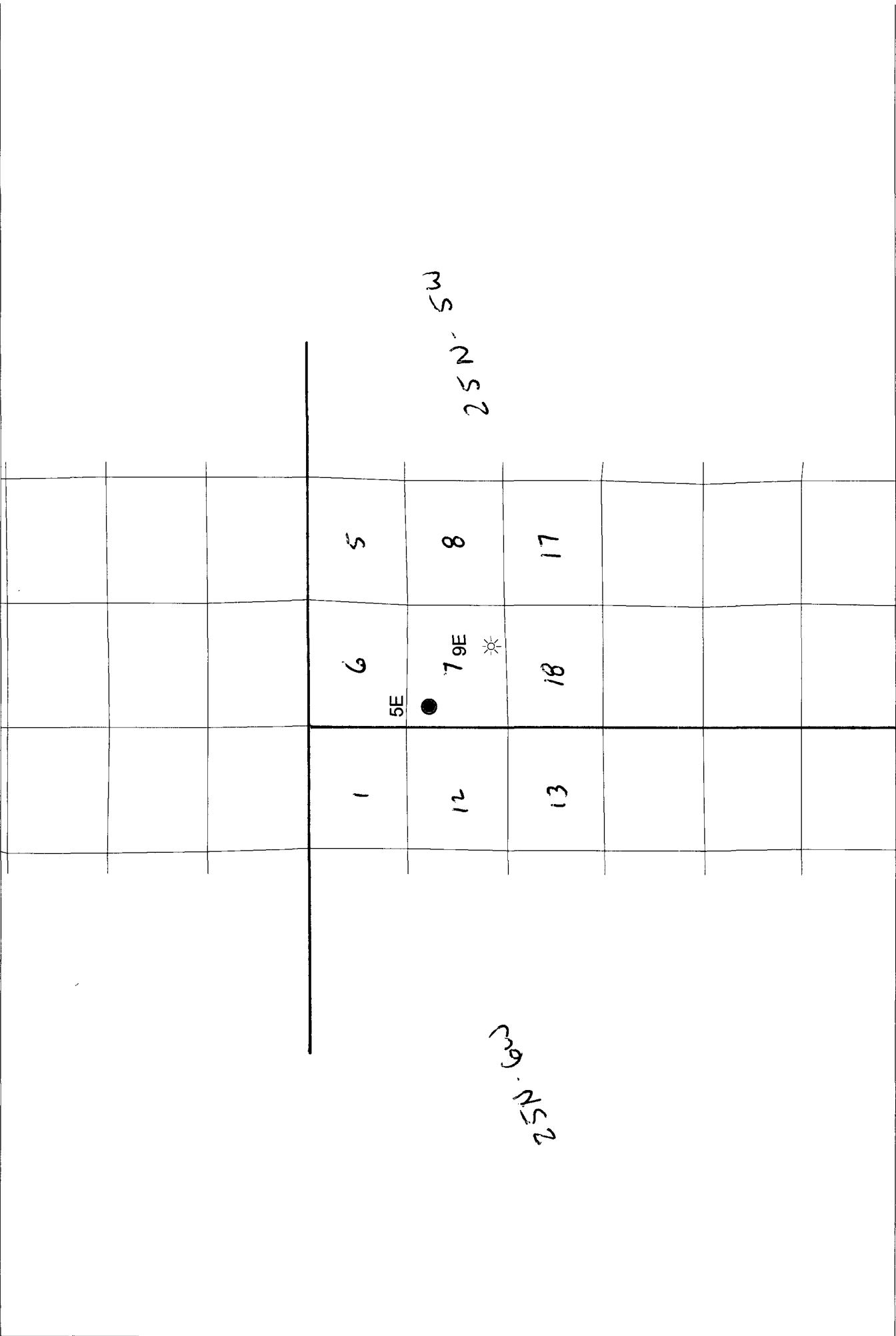
PI/Dwights PLUS on CD Map Report

DAKOTA



PI/Dwights PLUS on CD Map Report

GALUP



PI/Dwights PLUS on CD Well Summary Report

General Information
 State : NEW MEXICO
 County : RIO ARRIBA
 Field : LINDRITH WEST
 Operator Name : AMERADA HESS CORP
 Lease Name : JICARILLA APACHE F
 Well Number : 16
 API Number : 30039252560000
 Regulatory API :
 Init Lahee Class : WO
 Final Lahee Class : WOE
 Permit Number :
 Geologic Province : SAN JUAN BASIN
 Formation at TD : 602DKOT DAKOTA
 Oldest Age Pen : 602 CRETACEOUS COMANCHEAN
 Producing Formation : 602DKOT DAKOTA
 Township : 25 N
 Range : 5 W
 Base Meridian : NEW MEXICO

 Final Status : GAS
 Drill Total Depth : 7345
 Log Total Depth :
 True Vertical Depth :
 Spud Date : OCT 06, 1994
 Comp Date : APR 24, 1995
 Hole Direction : VERTICAL
 Reference Elevation : 6642 KB
 Ground Elevation : 6629
 KB Elevation : 6642

Section : 17 SEC
 Spot : NE NE

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
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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	

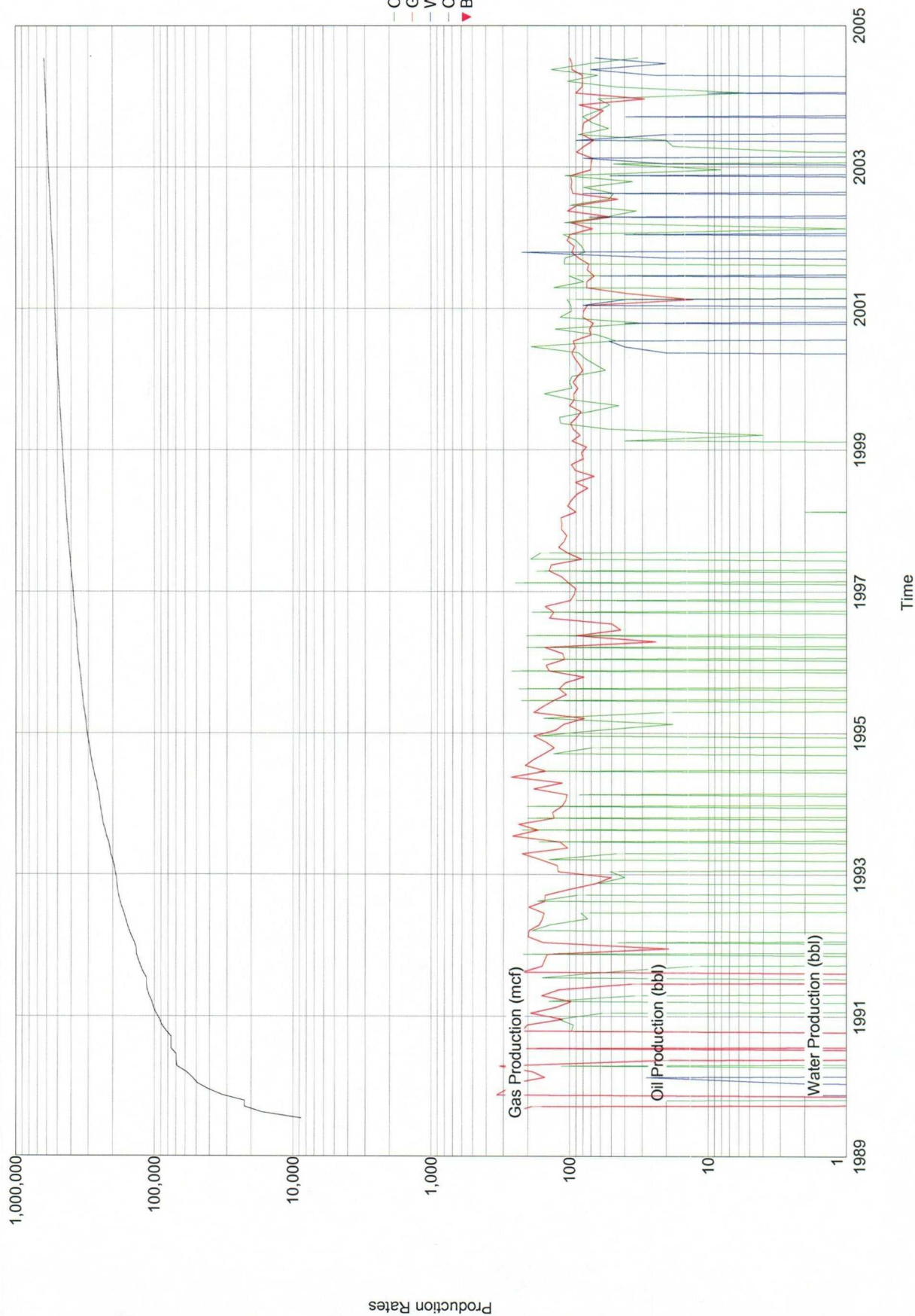
Dwights Energydata Narrative

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

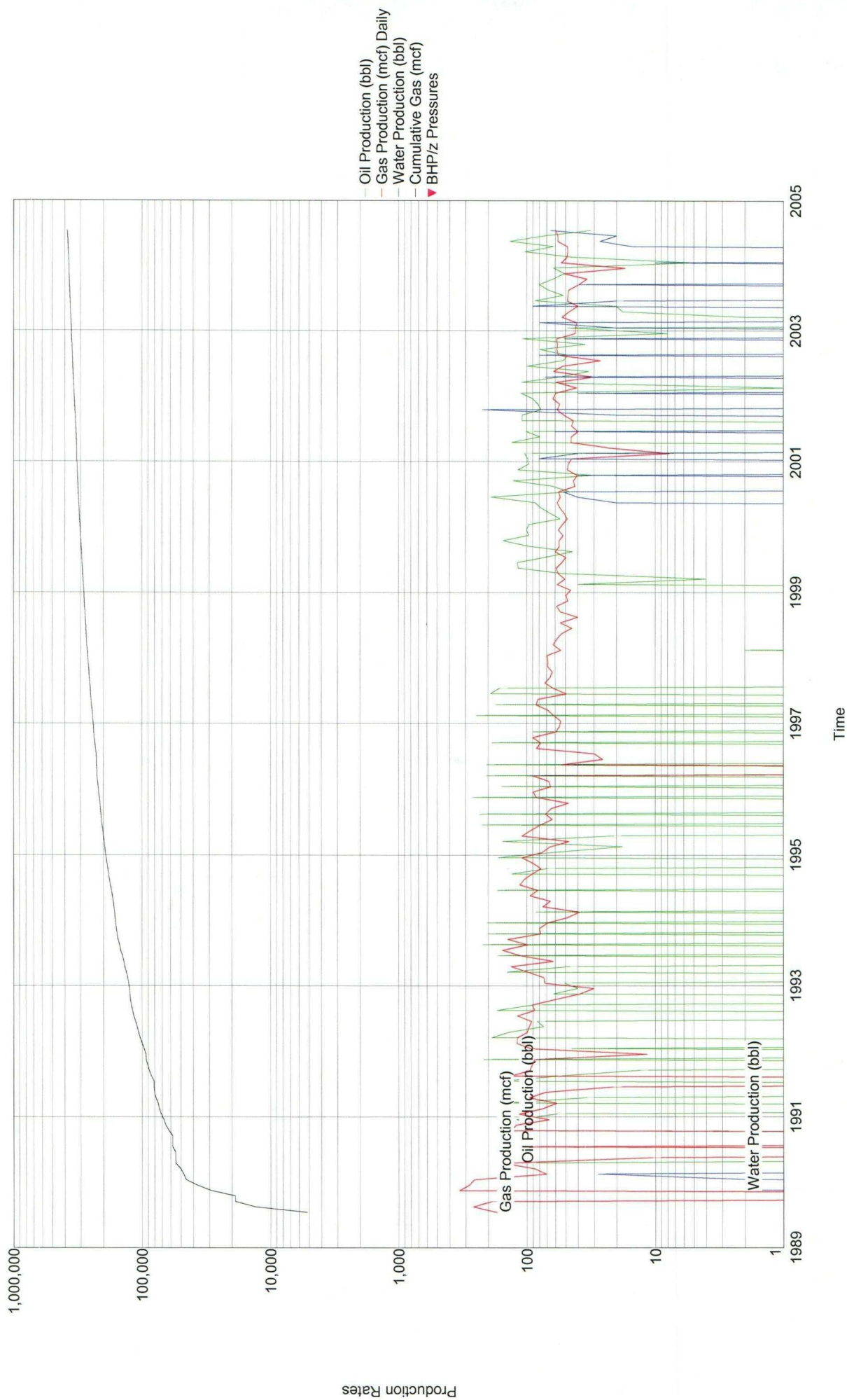
Lease Name: JICARILLA CONTRACT 147 -
County, State: RIO ARBA, NM
Operator: CDX RIO LIMITED LIABILITY CORPORATIO
Field: MULTIPLE
Reservoir: MULTIPLE
Location:

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



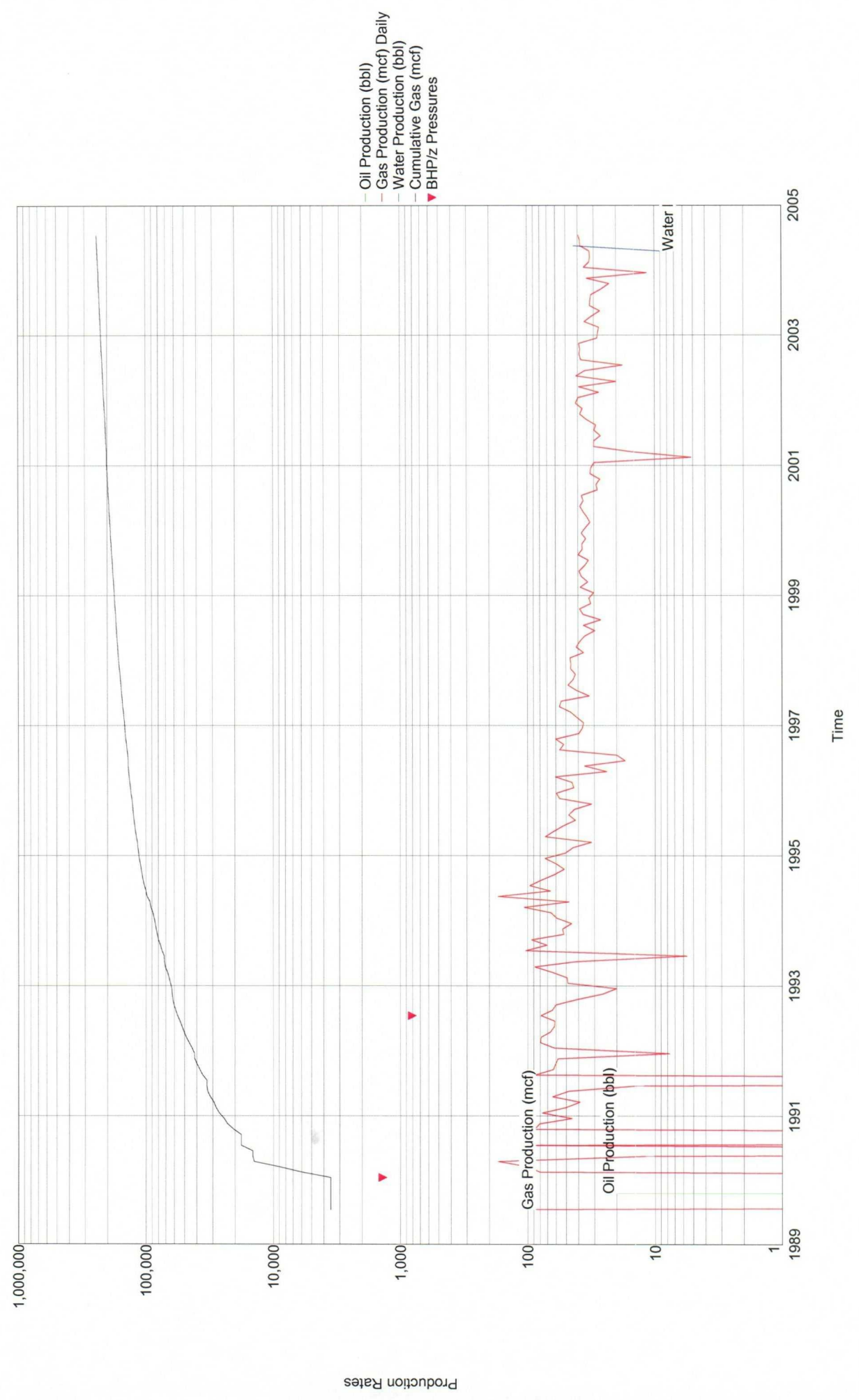
Lease Name: JICARILLA CONTRACT 147
County, State: RIO ARBA, NM
Operator: CDX RIO LIMITED LIABILITY CORPORATIO
Field: WILDCAT
Reservoir: GALLUP
Location: 7 25N 5W NE SW SE

JICARILLA CONTRACT 147 - 9E (GALLUP)



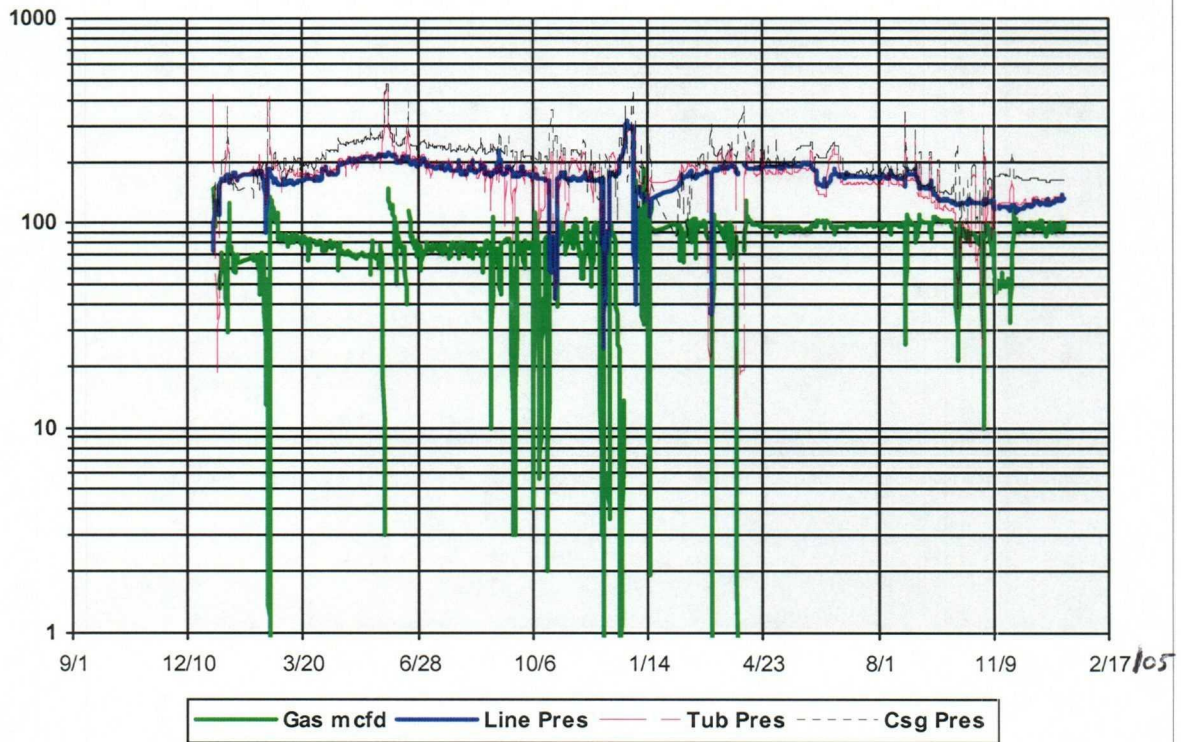
Lease Name: JICARILLA CONTRACT 147
County, State: RIO ARBA, NM
Operator: CDX RIO LIMITED LIABILITY CORPORATIO
Field: BASIN
Reservoir: DAKOTA
Location: 7 25N 5W NE SW SE

JICARILLA CONTRACT 147 - 9E (DAKOTA)



Current DK/GP Production

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



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

