

3/25/03	SUSPENSE NA	ENGINEER WVS	LOGGED IN MW	TYPE DHC	APPROVAL #821
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ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



### 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  
☐ 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 \_\_\_\_\_

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MAR 25 2003

Oil Conservation Division

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

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

[B] ☐ 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.

PEGGY COLE  
 Print or Type Name

Signature

Title

Date

Regulatory Supr. 3-24-03  
 pcole@br-inc.com  
 e-mail Address

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

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

Form C-107A  
Revised May 15, 2000

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

APPLICATION FOR DOWNHOLE COMMINGLING

BURLINGTON RESOURCES OIL & GAS COMPANY PO BOX 4289, FARMINGTON, NM 87499

Operator Address  
Jicarilla 150 #10M I-12-26N-5W Rio Arriba

Lease Well No. Unit Letter-Section-Township-Range County  
OGRID No. 14538 Property Code 16344 API No. 30-039-21779 Lease Type: X Federal State Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	OTERO CHACRA ✓	BLANCO MESAVERDE <i>Pro Gas</i> ✓	BASIN DAKOTA <i>Pro Gas</i> ✓
Pool Code	82329 ✓	72319 ✓	71599
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	WILL BE SUPPLIED UPON COMPLETION	5509'-6217'	8096'-8250'
Method of Production (Flowing or Artificial Lift)	NEW ZONE	ARTIFICIAL LIFT PLUNGER	ARTIFICIAL LIFT PLUNGER
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)	Original 449 psi From Jicarilla 150 #12 offset (see attachment)	Original 1055 psi Current 383 psi	Original 2945 psi Current 1073 psi
Oil Gravity or Gas BTU (Degree API or Gas BTU)	BTU 1240 <i>From Jicarilla 150 #12 offset</i>	BTU 1192 ✓	BTU 1192 ✓
Producing, Shut-In or New Zone	New Zone	Producing ✓	Producing ✓
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: N/A  Rates: See Attachment	Date: 12/31/02  Rates: 63 Mcfd	Date: 12/31/02  Rates: 95 Mcfd
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	WILL BE SUPPLIED UPON COMPLETION	WILL BE SUPPLIED UPON COMPLETION	WILL BE SUPPLIED UPON COMPLETION

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes X No

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

Will commingling decrease the value of production? Yes No X

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 X 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.
- 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 *L. Tom Loveland* TITLE SR. RESERVOIR ENGINEER DATE 3/24/03  
nxo  
TYPE OR PRINT NAME L. Tom Loveland TELEPHONE NO. ( 505 ) 326-9700

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
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State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

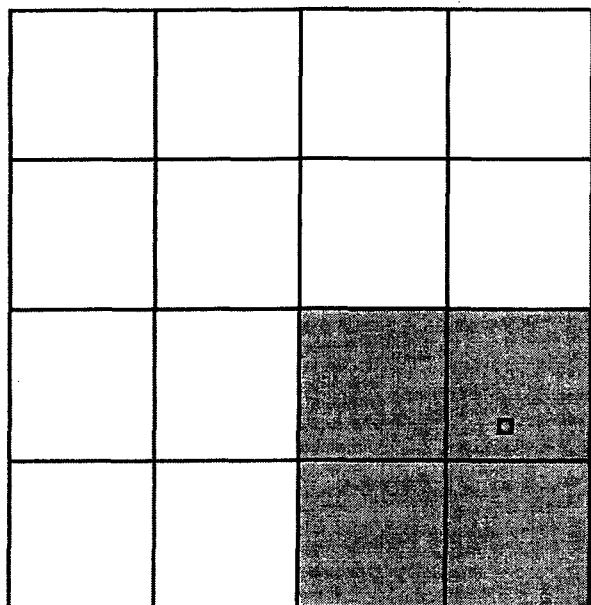
Form C-102

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number 30-039-21779	Pool Name OTERO CHACRA (GAS)	Pool Code 82329
Property Code 16344	Property Name JICARILLA 150	Well No. 010M
OGRID No. 14538	Operator Name Burlington Resources Oil and Gas Company	Elevation 7182

**Surface And Bottom Hole Location**

UL or Lot I	Section 12	Township 26N	Range 05W	Lot Idn	Feet From 1600	N/S Line S	Feet From 790	E/W Line E	County Rio Arriba
Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.						



**OPERATOR CERTIFICATION**

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

Electronically Signed By: *James Lee*

Title:

Date: *1-14-03*

**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.*

Electronically Signed By: James Leese

Date of Survey: 4/21/1978

Certificate Number: 1463

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-102

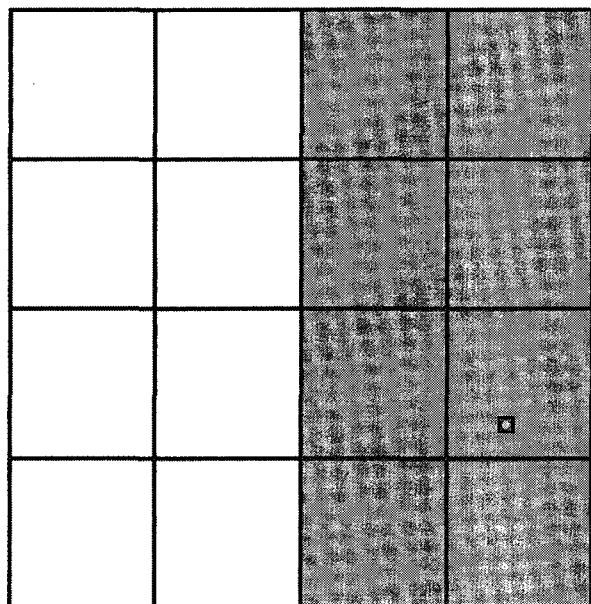
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number 30-039-21779	Pool Name BLANCO-MESAVERDE (PRORATED GAS)	Pool Code 72319
Property Code 16344	Property Name JICARILLA 150	Well No. 010M
OGRID No. 14538	Operator Name Burlington Resources Oil and Gas Company	Elevation 7182

**Surface And Bottom Hole Location**

UL or Lot I	Section 12	Township 26N	Range 05W	Lot Idn	Feet From 1600	N/S Line S	Feet From 790	E/W Line E	County Rio Arriba
Dedicated Acres 320		Joint or Infill		Consolidation Code		Order No.			



**OPERATOR CERTIFICATION**

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

Electronically Signed By:

Title:

Date:

**SURVEYOR CERTIFICATION**

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State of New Mexico  
Energy, Minerals and Natural Resources  
  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

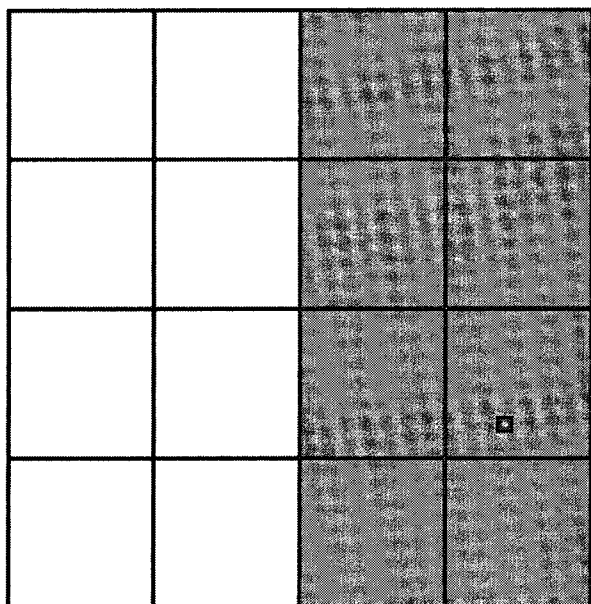
Form C-102

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number 30-039-21779	Pool Name BASIN DAKOTA (PRORATED GAS)	Pool Code 71599
Property Code 16344	Property Name JICARILLA 150	Well No. 010M
OGRID No. 14538	Operator Name Burlington Resources Oil and Gas Company	Elevation 7182

**Surface And Bottom Hole Location**

UL or Lot I	Section 12	Township 26N	Range 05W	Lot Idn	Feet From 1600	N/S Line S	Feet From 790	E/W Line E	County Rio Arriba
Dedicated Acres 320		Joint or Infill		Consolidation Code		Order No.			



**OPERATOR CERTIFICATION**

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

Electronically Signed By:

Title:

Date:

**SURVEYOR CERTIFICATION**

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Electronically Signed By: James Leese

Date of Survey: 4/21/1978

Certificate Number: 1463

**Jicarilla 150 #10M**  
**Bottom Hole Pressures**  
**Flowing and Static BHP**  
**Cullender and Smith Method**  
Version 1.0 1/14/98

<b>Chacra</b>		<b>Mesaverde</b>	
<u><b>CH-Current</b></u>		<u><b>MV-Current</b></u>	
GAS GRAVITY	0	GAS GRAVITY	0.689
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0	%N2	0.00
%CO2	0	%CO2	0.01018
%H2S	0	%H2S	0
DIAMETER (IN)	0	DIAMETER (IN)	4.5
DEPTH (FT)	0	DEPTH (FT)	5863
SURFACE TEMPERATURE (DEG F)	0	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	0	BOTTOMHOLE TEMPERATURE (DEG F)	143.7
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	0	SURFACE PRESSURE (PSIA)	332
BOTTOMHOLE PRESSURE (PSIA)	#DIV/0!	BOTTOMHOLE PRESSURE (PSIA)	383.1
<u><b>CH-Original</b></u>		<u><b>MV-Original</b></u>	
GAS GRAVITY	0.719	GAS GRAVITY	0.6684
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.00573	%N2	0.37
%CO2	0.00865	%CO2	0.944
%H2S	0	%H2S	0
DIAMETER (IN)	7	DIAMETER (IN)	4.5
DEPTH (FT)	1959	DEPTH (FT)	5863
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	92.7	BOTTOMHOLE TEMPERATURE (DEG F)	143.7
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	425	SURFACE PRESSURE (PSIA)	906
BOTTOMHOLE PRESSURE (PSIA)	448.5	BOTTOMHOLE PRESSURE (PSIA)	1054.5



**Jicarilla 150 #10M**  
**Bottom Hole Pressures**  
**Flowing and Static BHP**  
**Cullender and Smith Method**  
Version 1.0 1/14/98

Dakota		Dakota	
<u>DK-Current</u>		<u>DK-Current</u>	
GAS GRAVITY	0.689	GAS GRAVITY	0
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.0037	%N2	0.00
%CO2	0.01018	%CO2	0
%H2S	0	%H2S	0
DIAMETER (IN)	2.375	DIAMETER (IN)	0
DEPTH (FT)	8173	DEPTH (FT)	0
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	0
BOTTOMHOLE TEMPERATURE (DEG F)	176.7	BOTTOMHOLE TEMPERATURE (DEG F)	0
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	868	SURFACE PRESSURE (PSIA)	0
BOTTOMHOLE PRESSURE (PSIA)	1072.8	BOTTOMHOLE PRESSURE (PSIA)	#DIV/0!
<u>DK-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.6684	GAS GRAVITY	0
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.368	%N2	0.00
%CO2	0.944	%CO2	0
%H2S	0	%H2S	0
DIAMETER (IN)	2.375	DIAMETER (IN)	0
DEPTH (FT)	8173	DEPTH (FT)	0
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	0
BOTTOMHOLE TEMPERATURE (DEG F)	176.7	BOTTOMHOLE TEMPERATURE (DEG F)	0
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	2357	SURFACE PRESSURE (PSIA)	0
BOTTOMHOLE PRESSURE (PSIA)	2944.8	BOTTOMHOLE PRESSURE (PSIA)	#DIV/0!

## Jicarilla 150 #10M - SICP/Z Data

### Zone: Mesaverde

Date	SICP (psig)	Chromatograph Used	Z-Factor	SICP/Z (psig)	Cum Qg (MMCF)	Slope	Y Intercept
1/2/1979	906	10/1/2002	0.923	982	0	N/A	982
1/1/1980	730	10/1/2002	0.9302	785	87.786	-2.241865	982
9/25/1981	698	10/1/2002	0.9329	748	175.116	-1.332701	982
8/25/1982	676	10/1/2002	0.9348	723	221.375	-1.167397	982
5/2/1984	529	10/1/2002	0.948	558	305.47	-1.386601	982
3/12/1986	577	10/1/2002	0.9436	611	362.635	-1.020569	982
11/1/1989	612	10/1/2002	0.9405	651	401.734	-0.82359	982
2/12/1991	585	10/1/2002	0.9429	620	410.997	-0.87873	982
4/1/1993	572	10/2/2002	0.9441	606	440.149	-0.853606	982
???	41	N/A	1	41	1057.447	-0.889484	982
						↓	↓
12/31/2002	???	10/1/2002	???	346	714.498	-0.889484	982

Z-Factor = 0.96  
SICP (psig) = 332

### Zone: Dakota

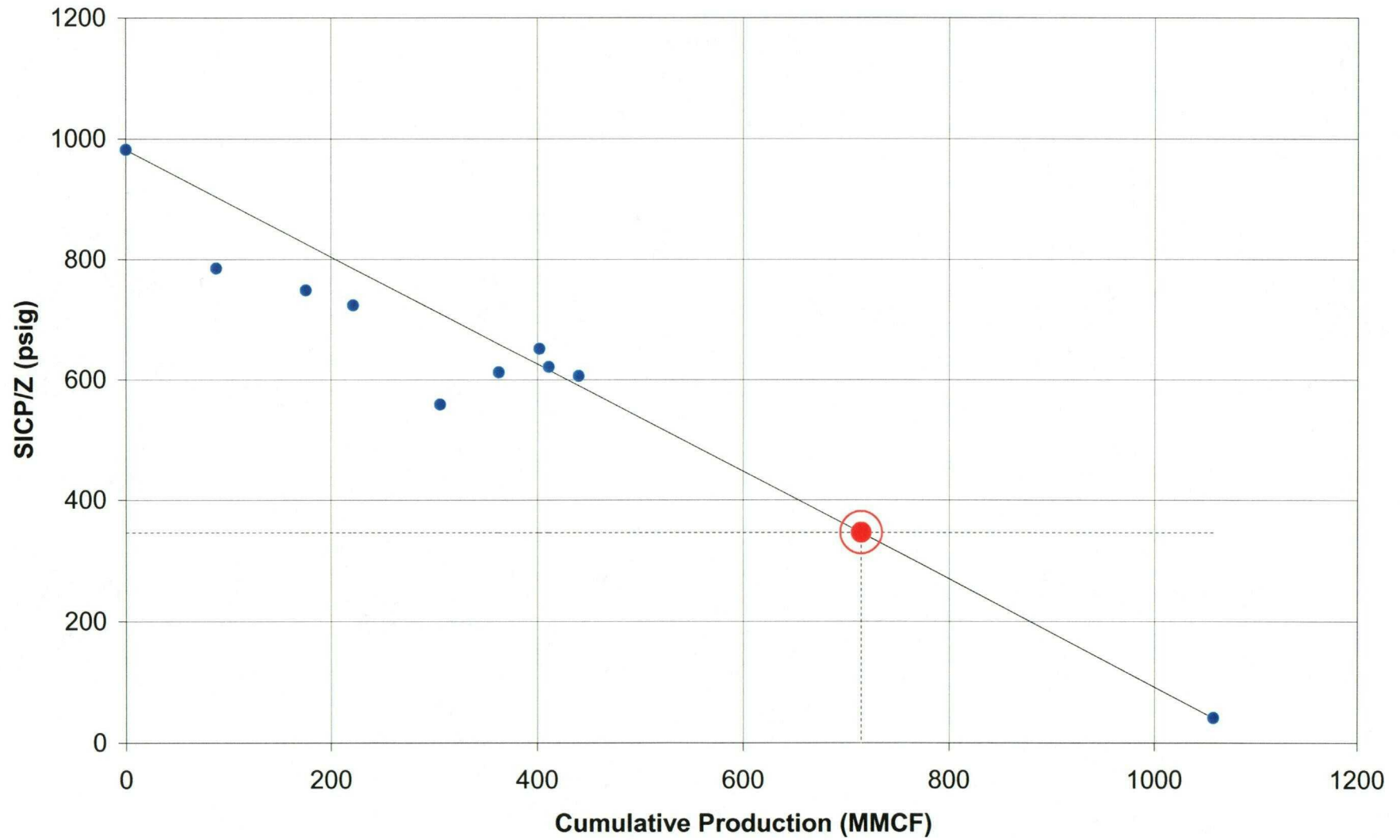
Date	SICP (psig)	Chromatograph Used	Z-Factor	SICP/Z (psig)	Cum Qg (MMCF)	Slope	Y Intercept
1/23/1979	2357	10/1/2002	0.8608	2738	0	N/A	2738
9/16/1980	1179	10/1/2002	0.8957	1316	142.773	-9.958897	2738
9/25/1981	885	10/1/2002	0.9173	965	212.17	-8.358216	2738
4/8/1983	624	10/1/2002	0.9394	664	298.444	-6.949032	2738
7/3/1985	1089	10/2/2002	0.9019	1207	408.843	-3.743979	2738
4/20/1988	892	10/3/2002	0.9168	973	500.138	-3.529428	2738
8/8/1990	944	10/4/2002	0.9127	1034	560.324	-3.040842	2738
???	41	N/A	1	41	1514.48	-1.780909	2738
						↓	↓
12/31/2002	???	10/1/2002	???	914	1024.19	-1.780909	2738

Z-Factor = 0.95  
SICP (psig) = 868

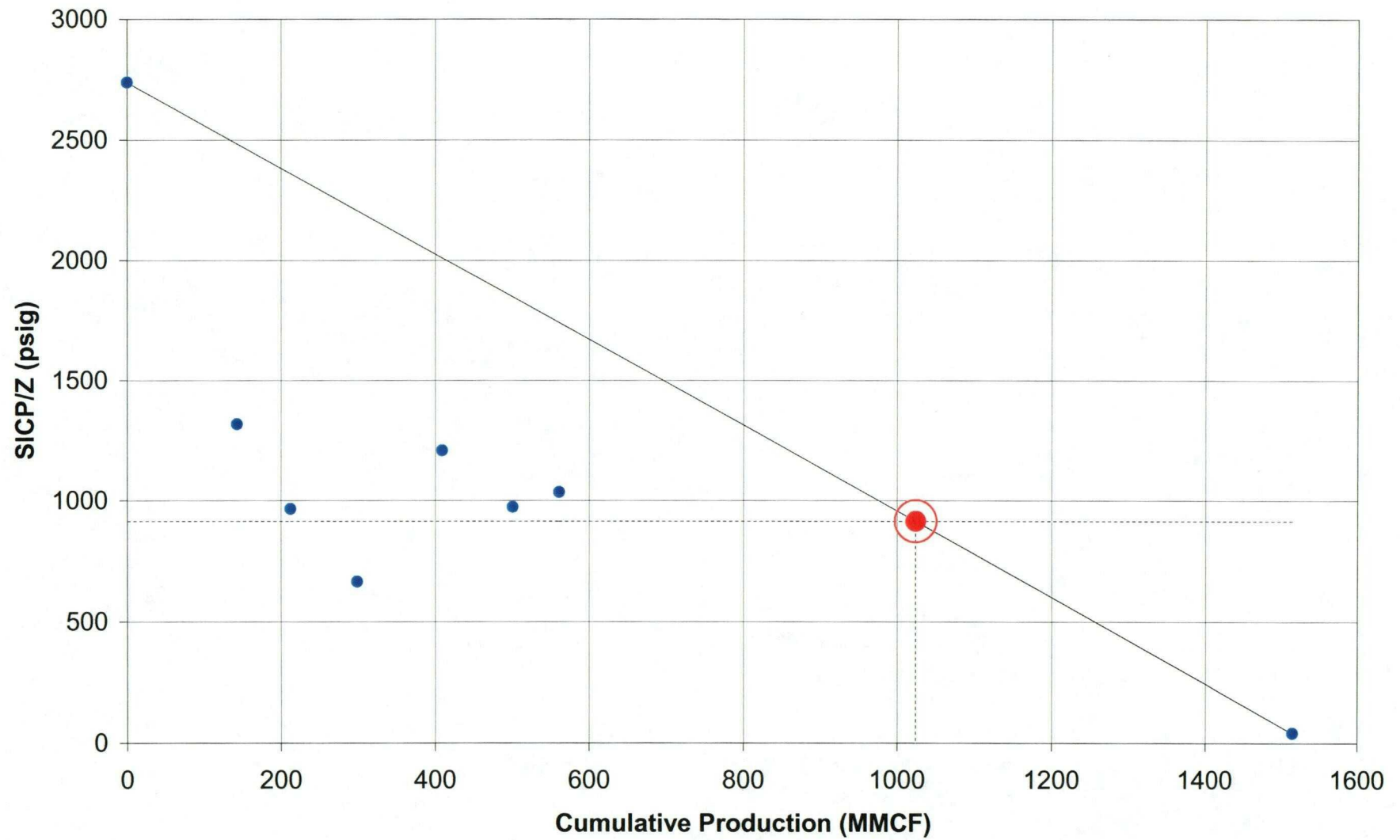
NOTE: THESE ARE ESTIMATES OF THE CURRENT RESERVOIR PRESSURE IN EACH ZONE. IT IS REALIZED THAT THE NEAR-WELLBORE PRESSURES FOR EACH ZONE SHOULD BE SIMILAR, DUE TO THEIR COMMINGLED STATUS.

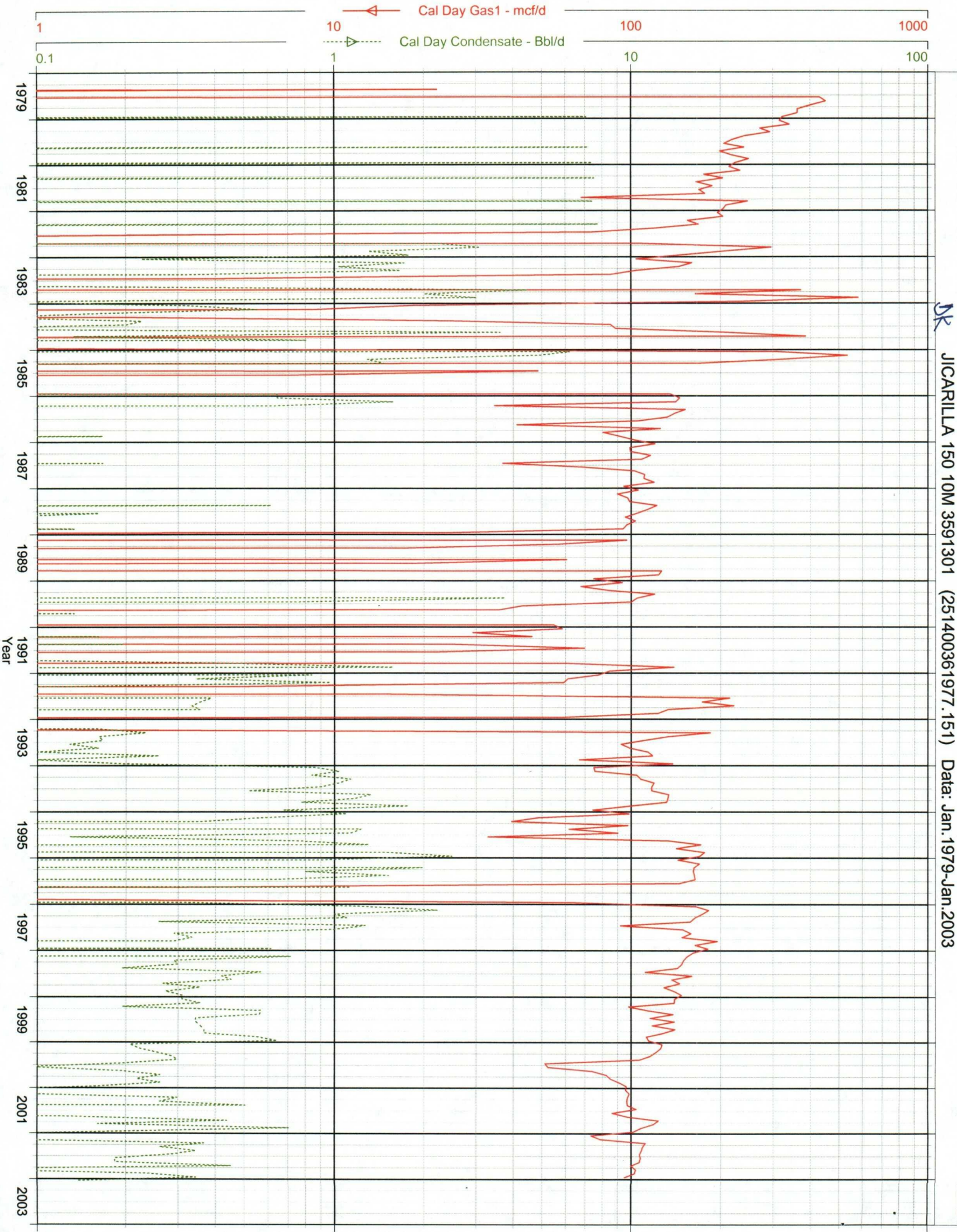


### Jicarilla 150 #10M (MV)



# Jicarilla 150 #10M (DK)



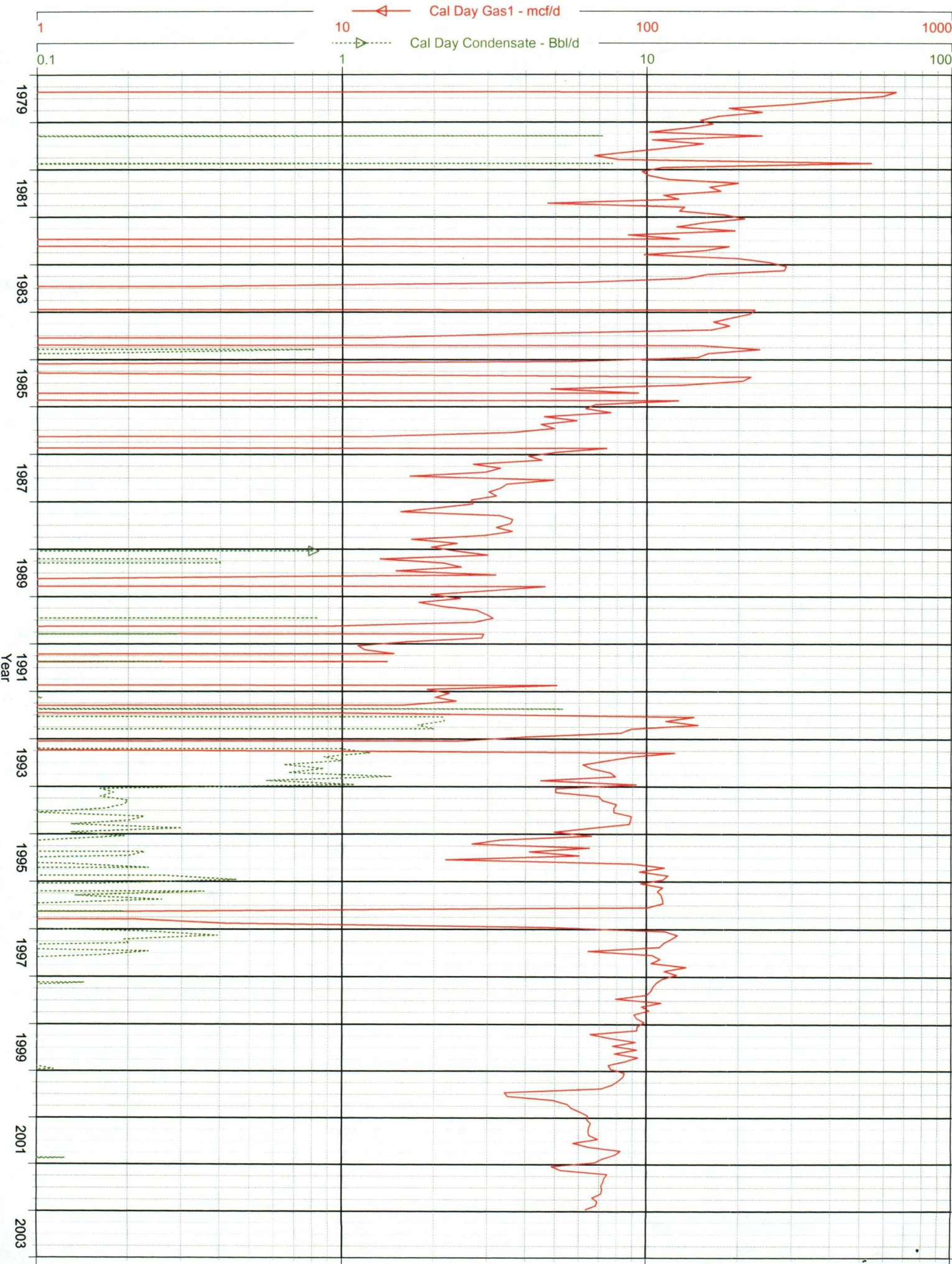


JK JICARILLA 150 10M 3591301 (251400361977.151) Data: Jan. 1979-Jan. 2003



my

JICARILLA 150 10M 3591302 (268916066318.867) Data: Jan. 1979-Jan. 2003





**TO:** New Mexico Oil Conservation Division  
**FROM:** Lewis Implementation Team, Burlington Resources  
**DATE:** December 2, 2002  
**RE:** 2003 Chacra Recompletion Program Expected Production

Chacra-only production from 73 wells completed after 1970 was normalized and forecasted to result in the production model presented in Table 1. A graphical representation of this normalized production forecast is shown in the attached Figure 1. These wells are located in or near the Chacra Fairway in T-27-N, R-08-W; T-27-N, R-09-W; T-28-N, R-08-W; T-28-N, R-09-W; T-28-N, R-10-W; T-28-N, R-11-W; T-29-N, R-09-W; T-29-N, R-10-W; and T-29-N, R-11-W. Actual results from the individual payadds will certainly vary, but this production model represents the average results that should be achieved. Further delineation in the area will be made in 2003.

**Table 1: 2003 Chacra production model.**

Decline Type	Hyp to Exp
Initial Incremental Rate (MCF/D)	260
Initial Decline (%/yr, effective)	62
Final Decline (%/yr, effective)	1.6
Final Incremental Rate (MCF/D)	15
Hyperbolic Exponent, n	2.0
EUR (MMCF)	496

**Figure 1. Graphical representation of the 2003 Chacra production model.**

