

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
811 South First St., Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410
DISTRICT IV
2040 S. Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

Form C-107-A
Revised August 1999

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Burlington Resources Oil and Gas

Operator **Grenier** Address **D-7-31N-11W** County **San Juan**

Lease Well No. Unit Ltr. - Sec - Twp - Rge

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. **14538** Property Code **18530** API NO. **30-045-10949** Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Blanco Pictured Cliffs- 72359		Blanco Mesaverde - 72319
2. Top and Bottom of Pay Section (Perforations)	2906-2929		5140-5242
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 238 psi (see attachment) b. (Original) 875 psi (see attachment)	a. 425 psi (see attachment) b. 1265 psi (see attachment)	
6. Oil Gravity (EAPI) or Gas BTU Content	BTU 1195		BTU 1247
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		Yes
* If Shut-In, give date and oil/gas/water rates of last production	Date: Rates:	Date: Rates:	Date: Rates:
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: 9/2/99 Rates: 18 mcf/d	Date: Rates:	Date: 9/2/99 Rates: 94 mcf/d
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)			
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Will be supplied upon completion.		Will be supplied upon completion.

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes ☐ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☒ Yes ☐ No

11. Will cross-flow occur? ☒ Yes ☐ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☒ Yes ☐ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No

13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)

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

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S) _____

16. 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, overriding, and royalty interests for uncommon interest cases.
- * Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Mary Ellen Lutey TITLE PRODUCTION ENGINEER DATE 10-8-99

TYPE OR PRINT NAME Mary Ellen Lutey TELEPHONE NO. (505) 326-9700



Environmental Services

Well Name:	Grenier #4 Separator
Well Legals:	Unit D, Sec 7, T31N, R11W
Pit Type:	Separator
Horizontal Distance to Surface Water:	Greater than 1,000 feet
Groundwater Depth:	Greater than 100 feet

RISK ANALYSIS

PNM requests closure of their former pit on the Grenier #4 Separator well site using a limited risk analysis based on the following conditions:

1. Groundwater is estimated to be at a depth of 126 feet based upon the elevation of the site and the elevation of the nearest "listed" or "named" wash. (Reference: Adobe Downs Ranch, NM series 7.5 minute topographic map.)
2. PNM excavated 133 cubic yards of soil from the former pit. Subsurface lateral contamination has been remediated (see attached map and analytical results for the side wall profiles). Source removal minimizes the possibility of surface water contamination.
3. Sandstone was encountered at 9 feet below ground surface. Bedrock/sandstone provides a barrier between remaining contamination and groundwater. Vertical migration through bedrock or sandstone to groundwater is unlikely.
4. PNM excavated and performed remediation to the maximum depth and horizontal extent practicable.

PNM believes their former pit on the Grenier #4 Separator well site poses minimal threat to groundwater, human health and the environment based upon our past experience in excavating over 1,000 pits.

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

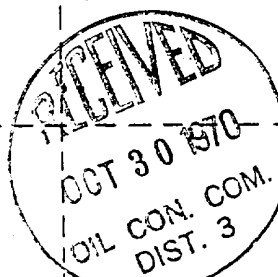
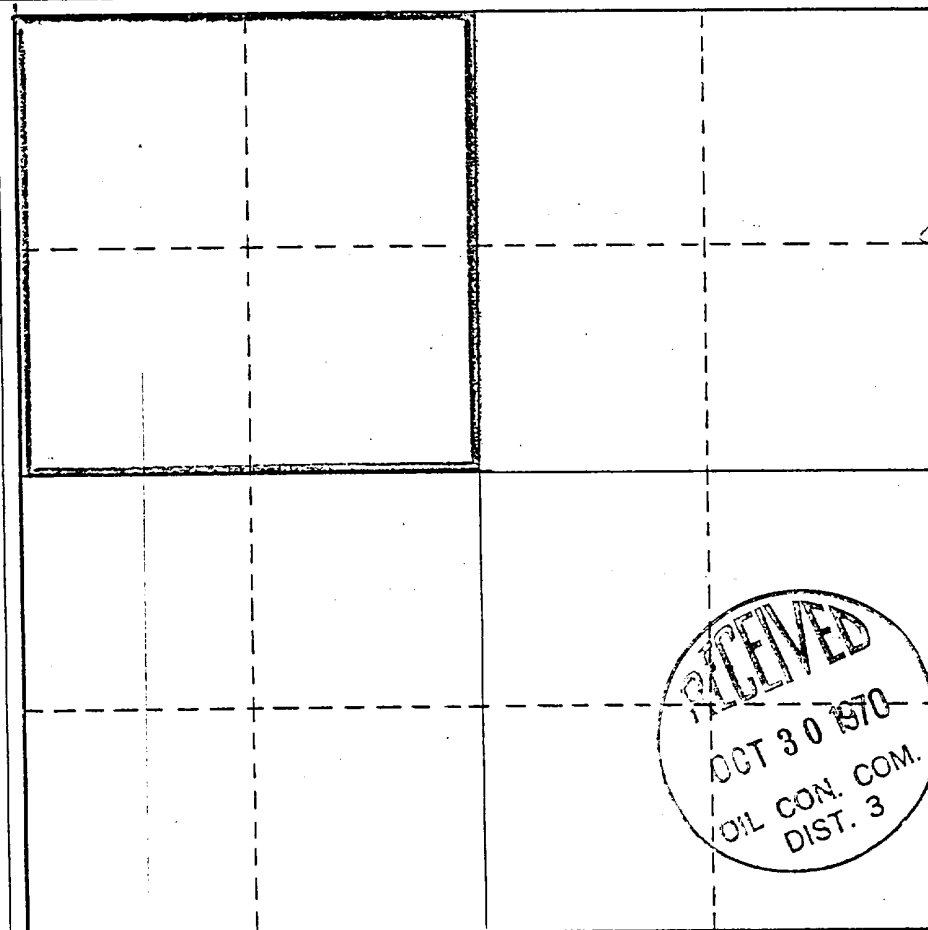
Operator Aztec Oil & Gas Co.			Lease Grenier		Well No. 4
Unit Letter D	Section 7	Township 31N	Range 11W	County San Juan	
Actual Footage Location of Well: 990 feet from the North line and 990 feet from the West line					
Ground Level Elev. 6296 GL	Producing Formation Pictured Cliffs		Pool Blanco Pictured Cliffs	Dedicated Acreage 158.90 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Name

John H. Watkins

Position

Office Manager

Company

Aztec Oil & Gas Co.

Date

October 30, 1970

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 knowledge and belief.

Date Surveyed

Registered Professional Engineer
and/or Land Surveyor

Certificate No.

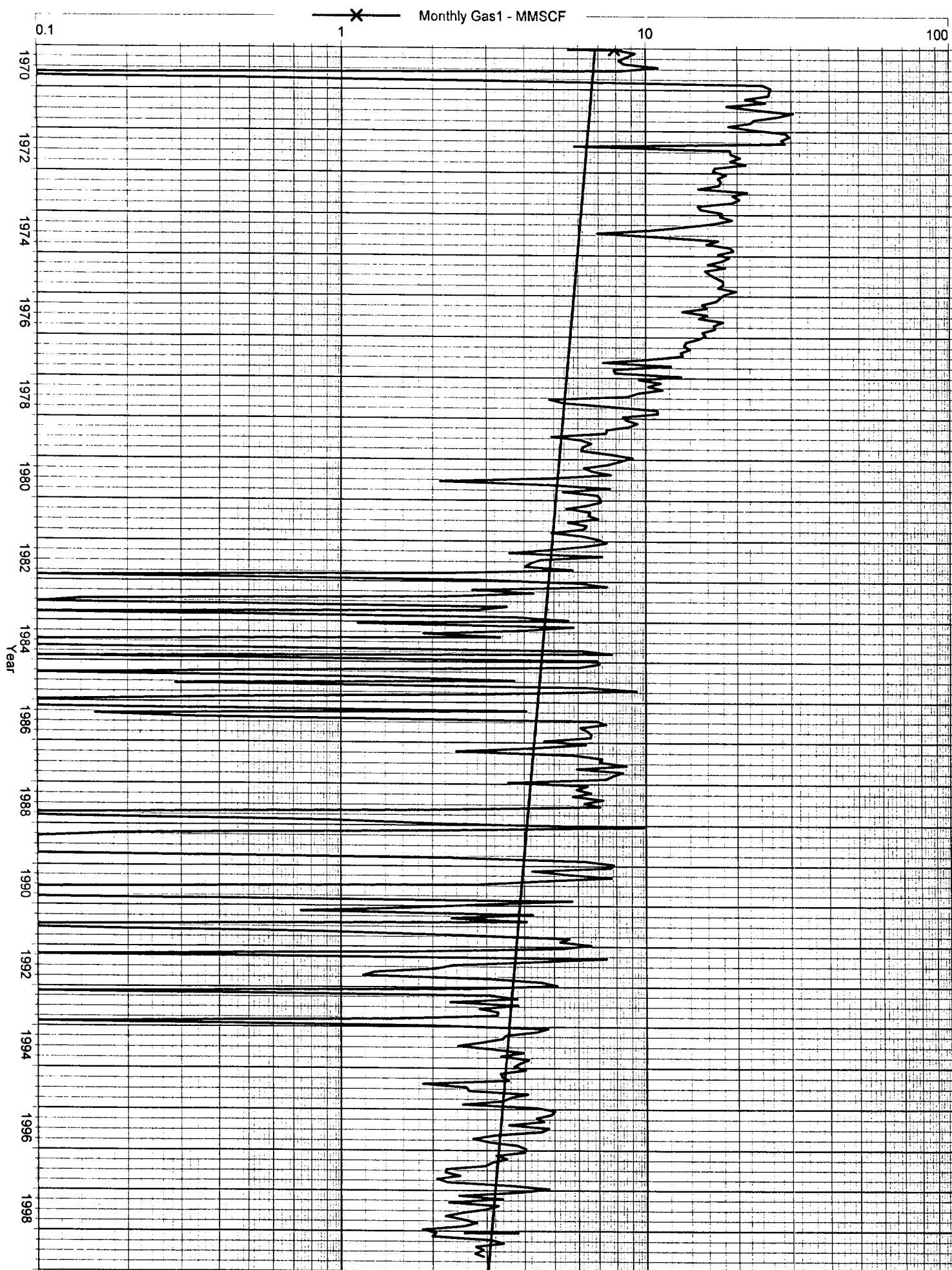
0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

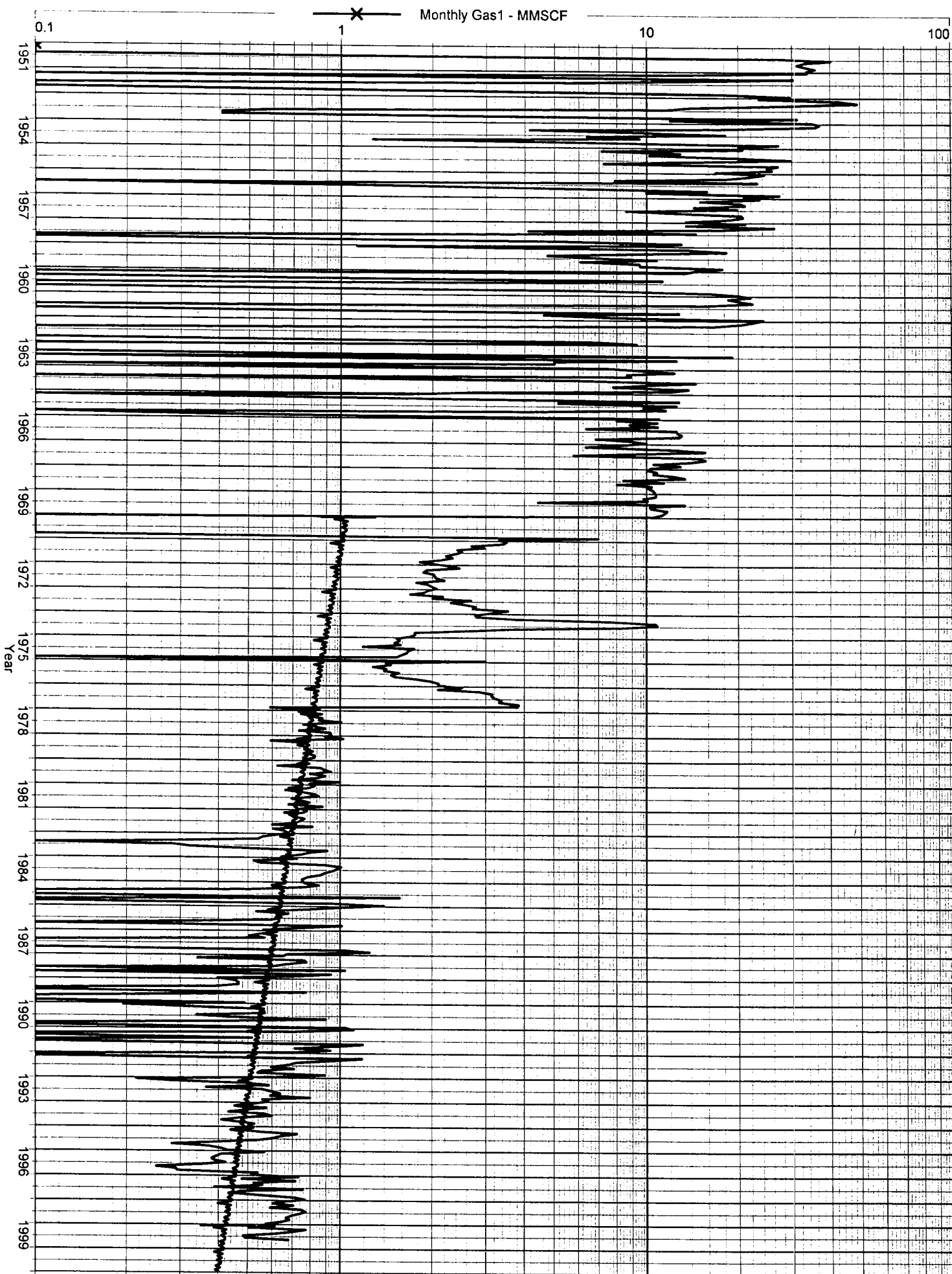
		year	month	day	wh psi	cum prod	
PC	GRENIER 4/2562501	1970		8	8	796	original
	GRENIER 4	1971		1	10	572	
	GRENIER 4	1972		4	18	510	
	GRENIER 4	1973		5	2	434	
	GRENIER 4	1974		8	2	400	
	GRENIER 4	1976		8	2	325	
	GRENIER 4	1978		1	2	369	
	GRENIER 4	1978		1	10	357	
	GRENIER 4	1980		8	16	360	
	GRENIER 4	1982		4	16	346	
MV	GRENIER 4	1984		5	30	360	
						210	3080.97 current estimate from P/Z data
	GRENIER 4/2562502	1951		6	2	1,073.00	original
	GRENIER 4	1970		10	26	682	
	GRENIER 4	1971		5	18	594	
	GRENIER 4	1972		5	26	547	
	GRENIER 4	1973		5	2	549	
	GRENIER 4	1974		6	2	434	
	GRENIER 4	1978		5	18	412	
	GRENIER 4	1980		8	24	491	
	GRENIER 4	1982		4	16	445	
	GRENIER 4	1984		5	30	464	
	GRENIER 4	1986		4	2	508	
	GRENIER 4	1990		2	14	383	
	GRENIER 4	1991		5	15	393	
	GRENIER 4	1991		5	29	405	
	GRENIER 4	1993		6	30	382	
						360	2668.35 current estimate from P/Z data

Grenier #4
Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method
Version 1.0 1/14/98

Pictured Cliffs		Mesaverde	
<u>PC-Current</u>		<u>MV-Current</u>	
GAS GRAVITY	<u>0.682</u>	GAS GRAVITY	<u>0.723</u>
COND. OR MISC. (C/M)	<u>M</u>	COND. OR MISC. (C/M)	<u>M</u>
%N2	<u>0.25</u>	%N2	<u>0.29</u>
%CO2	<u>0.53</u>	%CO2	<u>0.96</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>5.5</u>	DIAMETER (IN)	<u>1.5</u>
DEPTH (FT)	<u>2918</u>	DEPTH (FT)	<u>5191</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>113</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>155</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>222</u>	SURFACE PRESSURE (PSIA)	<u>372</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>238.4</u>	BOTTOMHOLE PRESSURE (PSIA)	<u>425.1</u>
<u>PC-Original</u>		<u>MV-Original</u>	
GAS GRAVITY	<u>0.682</u>	GAS GRAVITY	<u>0.723</u>
COND. OR MISC. (C/M)	<u>M</u>	COND. OR MISC. (C/M)	<u>M</u>
%N2	<u>0.25</u>	%N2	<u>0.29</u>
%CO2	<u>0.53</u>	%CO2	<u>0.96</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>5.5</u>	DIAMETER (IN)	<u>1.5</u>
DEPTH (FT)	<u>2918</u>	DEPTH (FT)	<u>5191</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>113</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>155</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>808</u>	SURFACE PRESSURE (PSIA)	<u>1085</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>875.0</u>	BOTTOMHOLE PRESSURE (PSIA)	<u>1264.7</u>

my





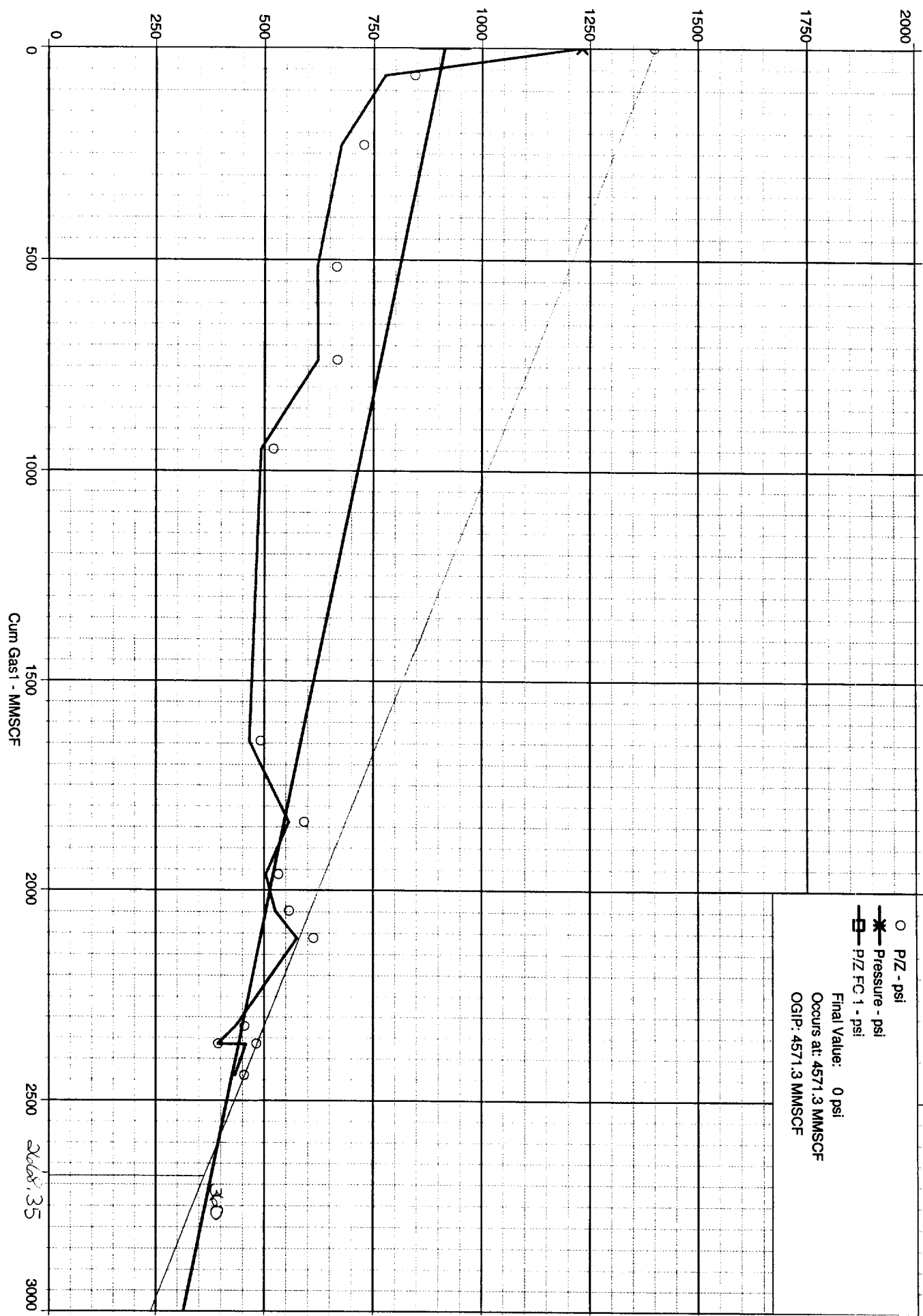
265587052018.191 GRENIER 4 (265587052018.191) Data: Jun.1951-Jun.1999

Operator: BURLINGTON RESOURCES OG
Field: BLANCO MESAVERDE (PRORATED GAS
Zone:
Type: Gas
Group: None

OGIP: 4571.3 MMSCF

P/Z FC 1 (P/Z Analysis)
Based On: P/Z
Vs: Cum Gas1
Final Value: 0 psi
Occurs at: 4571.3 MMSCF

Production Cums
Oil: 0 MSTB
Gas: 2668.35 MMSCF
Water: 0.821001 MSTB
Cond: 11.8613 MSTB



282994802791.761 GRENIER 4 (282994802791.761) Data: Jan. 1951-Jun. 1999

P/Z FC 1 (P/Z Analysis)

Operator: BURLINGTON RESOURCES OG
Field: BLANCO PICTURED CLIFFS (GAS)

Zone:

Type: Gas

Group: None

Based On: P/Z

Vs: Cum Gas1

Final Value: 0 psi

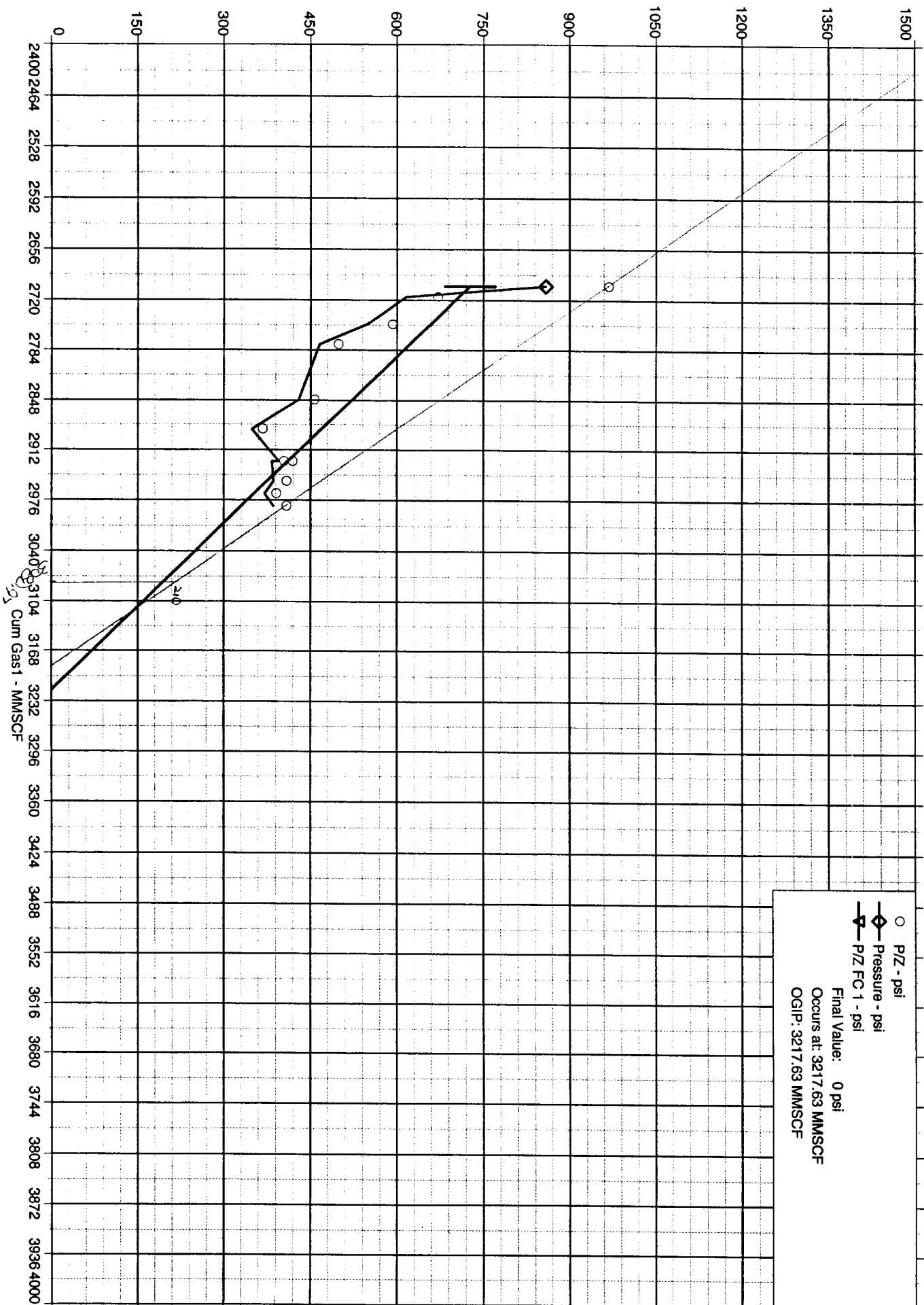
Occurs at: 3217.63 MMSCF

Production Cums
Oil: 0 MSTB

Gas: 3080.97 MMSCF

Water: 0.586 MSTB

Cond: 6.122 MSTB



Monthly Prod History (DM)

Tuesday, September 01, 1998 Through Tuesday, August 31, 1999

Select By : Completions

Sort By : Pressure Base : None
Units :
Rounded (y/n) : No

Page No : 1
Report Number : R_027
Print Date : 09/23/1999, 1:33:24 P

PROD MO.	TY	ST	PM	DAYS ON	PROD	OIL	SOL	PROD	GAS SOLD	INJ	PROD	WATER INJ	SUPP
Well: GRENIER 4													
10/98	PG	P	FL	0	70.11	0.00	0.00	0	0	0	0	0.00	0.00
11/98	PG	P	FL	0	27.95	0.00	0.00	2,525	0	0	0	0.00	0.00
12/98	PG	P	FL	31	0.00	0.00	0.00	1,853	0	0	0	0.00	0.00
10/98	PG	P	FL	0	0.00	0.00	0.00	0	0	0	0	0.00	0.00
11/98	PG	P	FL	0	0.00	0.00	0.00	648	0	0	0	0.00	0.00
12/98	PG	P	FL	31	0.00	0.00	0.00	573	0	0	0	0.00	0.00
Totals :	1998				98.06	0.00	0.00	5,598.94	0.00	0	0.00	0.00	0.00
01/99	PG	P	FL	0	19.80	0.00	0.00	2,048	0	0	0	0.00	0.00
02/99	PG	P	FL	28	16.30	0.00	0.00	1,996	0	0	0	0.00	0.00
03/99	PG	P	FL	31	11.64	0.00	0.00	3,096	0	0	0	0.00	0.00
04/99	PG	P	FL	30	31.73	0.00	0.00	3,401	0	0	0	0.00	0.00
05/99	PG	P	FL	31	9.14	184.88	0.00	2,765	0	0	0	0.00	0.00
06/99	PG	P	FL	30	12.88	0.00	0.00	2,927	0	0	0	0.00	0.00
07/99	PG	P	FL	31	1.17	0.00	0.00	2,749	0	0	0	0.00	0.00
08/99	PG	P	FL	31	0.00	0.00	0.00	2,923	0	0	0	0.00	0.00
01/99	PG	P	FL	31	0.00	0.00	0.00	615	0	0	0	0.00	0.00
02/99	PG	P	FL	28	0.00	0.00	0.00	503	0	0	0	0.00	0.00
03/99	PG	P	FL	31	0.00	0.00	0.00	771	0	0	0	0.00	0.00
04/99	PG	P	FL	30	0.00	0.00	0.00	707	0	0	0	0.00	0.00
05/99	PG	P	FL	31	0.00	0.00	0.00	614	0	0	0	0.00	0.00
06/99	PG	P	FL	30	0.00	0.00	0.00	484	0	0	0	0.00	0.00
07/99	PG	P	FL	31	0.00	0.00	0.00	490	0	0	0	0.00	0.00
08/99	PG	P	FL	31	0.00	0.00	0.00	679	0	0	0	0.00	0.00
Totals :	1999				102.66	184.88	0.00	26,767.91	0.00	0	0.00	0.00	0.00
Totals GRENIER 4					200.72	184.88	0.00	32,366.85	0.00	0	0.00	0.00	0.00