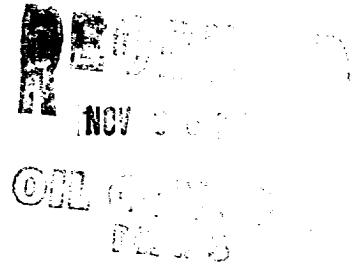


well file

MERRION

OIL & GAS



November 28, 1995

Mr. William J. LeMay
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

**Re: Order DHC-1026
Production Allocation Formula
Basin Fruitland Coal and Blanco Pictured Cliffs Extension Pools
Blueberry Buckle #1
Section 32, T30N, R7W
Rio Arriba County, New Mexico**

Dear Mr. LeMay:

The referenced order approved the commingling of the Fruitland Coal and the Pictured Cliffs formations in the Blueberry Buckle #1. The order specified an allocation procedure where the Pictured Cliffs production schedule is set based on reservoir pressure, volumetrics, and production tests. Fruitland Coal allocated production will then be the difference between total production and PC production.

Attached, per the order, is the calculated PC production schedule that Merrion plans to use for allocation purposes. Please call me at (505) 327-9801 with questions or comments.

Sincerely,

George Sharpe
Manager - Oil & Gas Investments

xc: Esther, Well File
✓ Frank Chavez - NMOCD - Aztec

PICTURED CLIFFS - FRUITLAND COAL ALLOCATION
BLUE BERRY BUCKLE #1
S 32, T30N, R7W - RIO ARRIBA CO., N.M.

I. CALCULATE PC RESERVES

$$G_p = 7758 \cdot \phi \cdot h \cdot A \cdot (1 - S_w) \cdot R_f / (5.04 \cdot z \cdot T/P)$$

$$G_p = 7758 \cdot .14 \cdot 12 \cdot 160 \cdot (1 - .5) \cdot .85 / (5.04 \cdot .9 \cdot 560/P)$$

$$G_p = 349 \text{ Mcf/psia} \cdot P$$

$$P = 620 \text{ psia (FROM BUILDUP TEST)}$$

$$G_p = 349 \cdot 620 = 216 \text{ MMCF}$$

II. CALCULATE PC INITIAL RATE

$$\text{Total October 1995 Commingled Flow} = 30302 \text{ MCF/mo}$$

$$\text{September 1995 Production - Fruitland Coal Alone} = 10002 \text{ MCF/mo}$$

$$\text{PC Initial Production Rate} = 30302 - 10002 = 20300 \text{ MCF/mo}$$

III. CALCULATE PC MONTHLY DECLINE RATE

$$D = (Q_i - Q_{el})/G_p$$

$$D = (20300 - 416) / (216000 - 20300/2) = 0.0966/\text{mo}$$

IV. GENERATE PC PRODUCTION SCHEDULE

PC RATE: $Q_{n+1} = Q_n * e^{(-D)} = Q_n * e^{(-.0966)} = 0.907924 * Q_n$

FRUITLAND COAL RATE = TOTAL RATE - PC RATE

	PC	CUM
	PROD	PC
<u>MONTH</u>	<u>Mcf/mo</u>	<u>MMcf</u>
Oct-95	20,300	20.3
Nov-95	18,431	38.7
Dec-95	16,734	55.5
Jan-96	15,193	70.7
Feb-96	13,794	84.5
Mar-96	12,524	97.0
Apr-96	11,371	108.3
May-96	10,324	118.7
Jun-96	9,373	128.0
Jul-96	8,510	136.6
Aug-96	7,727	144.3
Sep-96	7,015	151.3
Oct-96	6,369	157.7
Nov-96	5,783	163.4
Dec-96	5,250	168.7
Jan-97	4,767	173.5
Feb-97	4,328	177.8
Mar-97	3,930	181.7
Apr-97	3,568	185.3
May-97	3,239	188.5
Jun-97	2,941	191.5
Jul-97	2,670	194.1
Aug-97	2,424	196.6
Sep-97	2,201	198.8
Oct-97	1,998	200.8
Nov-97	1,814	202.6
Dec-97	1,647	204.2
Jan-98	1,496	205.7
Feb-98	1,358	207.1
Mar-98	1,233	208.3
Apr-98	1,119	209.4
May-98	1,016	210.4
Jun-98	923	211.4
Jul-98	838	212.2
Aug-98	761	213.0
Sep-98	691	213.7
Oct-98	627	214.3
Nov-98	569	214.9
Dec-98	517	215.4
Jan-99	469	215.8
Feb-99	426	216.3