STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

ADMINISTRATIVE ORDER DHC-1026

Merrion Oil and Gas Corporation
P.O. Box 840
Farmington, NM 87499

Attention: George F. Sharp

Blueberry Buckle Well No. 1
Unit D, Section 32, Township 30 North, Range 7 West, NMPM,
Rio Arriba County, New Mexico.
Basin-Fruitland Coal and Navajo City-Pictured Cliffs Pools

Dear Mr. Sharp:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the two zones is hereby placed in abeyance.

In accordance with the provisions of Rule 303-C-4., total commingled oil production from the subject well shall not exceed 20 barrels per day, and total water production shall not exceed 40 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's San Juan Basin Gas Proration Schedule.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

Pictured Cliffs gas reserves shall be calculated utilizing actual measured reservoir pressure during completion. A production test shall be conducted on the Pictured Cliffs interval to obtain initial producing rate. Based on initial rate, final rate and gas reserves, a decline rate and resulting production schedule for the Pictured Cliffs shall be calculated. Monthly Fruitland Coal production shall be determined by subtracting the Pictured Cliffs production (obtained from the production schedule) from the well's total monthly producing rate.

A copy of the calculations and Pictured Cliffs production schedule shall be submitted to the Santa Fe and Aztec offices of the division upon completion.

Pursuant to Rule 303-C-5, the commingling authority granted by the order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Approved at Santa Fe, New Mexico on this 2nd day of August, 1994.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

WJL/DRC/amg

cc: Oil Conservation Division - Aztec

Ernie Busch

From: Ernie Busch
To: David Catanach
Subject: MERRION OIL & GAS CORP (DHC)
Date: Monday, July 11, 1994 3:41PM
Priority: High

WELL NAME: BLUEBERRY BUCKLE #1
LOCATION: 32-30N-07W
RECOMMEND: APPROVAL-THE ONLY CONCERN I HAD WAS THE PROXIMITY OF THE WELL TO THE OVERPRESSURED FRUITLAND COAL WELLS, BUT WHEN THE BLUEBERRY BUCKLE #1 WAS DRILLED THROUGH THE FRUITLAND, IT WAS DRILLED WITH WATER AND THERE WAS NOT ANY ABNORMALLY HIGH PRESSURE ENCOUNTERED. THE COAL RESERVOIR PRESSURE SHOULD BE WITHIN THE APPROVAL TOLERANCE REQUIRED.

FAX 505-326-5900

PH. 505-327-9801

MERRION OIL & GAS CORPORATION

610 REILLY AVE • P. O. BOX 840

FARMINGTON, NEW MEXICO 87499

June 24, 1994

Mr. William Lemay, Director
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87503

Re: Application for Administrative Approval
Downhole Commingling
Basin Fruitland Coal and Navajo City Pictured Cliffs Pools
Lease: E-178-8
Blueberry Buckle #1
Section 32, Township 30 North, Range 7 West
Rio Arriba County, New Mexico

Dear Mr. Lemay:

Merrion requests administrative approval for downhole commingling of the Basin Fruitland Coal and Navajo City Pictured Cliffs Pools in the subject wellbore. The following information is provided in support of this application:

I. Background

An APD has been approved for the Blueberry Buckle #1 located 790' FNL and 790' FWL in Section 32, Township 30 North, Range 7 West. After going to hearing, this location was approved as a non-standard Basin Fruitland Coal location by the NMOCD (Order #R-10120). After further study of the logs from the State Pat #1 well (an offset Mesaverde well only 300' from this location), it appears this well has some minor potential in the Pictured Cliffs (PC) Formation. Because the PC zone does not have the reserves to justify a new wellbore or even the incremental cost to dual the existing wellbore, and because it would be mechanically difficult to produce the two zones up separate strings of tubing, we are applying for approval to commingle the zones in the wellbore.

II. Mechanical Justification

Completing this well as a dual Fruitland Coal/PC well would be mechanically difficult for three reasons. First, as can be seen on Exhibit #2, only seven feet separates the bottom coal from the top sand in the PC. A frac job in either of

these zones will possibly extend into the other zone. Therefore, these zones are likely to be commingled outside the wellbore regardless of how we produce the well (or wells) inside the wellbore. If this application is denied and a single coal well is drilled, this possibly will have an adverse impact on the PC owners.

Second, there is some possibility that we will have to pump water from the Fruitland Coal Formation. In a dual well, that will be difficult with the 5 1/2" casing program we have planned. It would require either larger casing, special tubing, or possibly a small sized pump that would limit production rates.

Third, the seven foot interval between the zones leaves very little room for a packer. In addition, it leaves virtually no rathole for the Fruitland Coal. It is likely that coal fines and/or frac sand produced from the Fruitland Coal will fill the hole, cover at least some of the perfs, and possibly stick the packer.

III. Economic Justification

Exhibit 2 shows the State Pat #1 Neutron-Density Log compared to the NE Blanco Unit #405 log. The State Pat #1 directly offsets the proposed Blueberry Buckle #1, while the NEBU 405, located in the SW/4 of Section 21, Township 30 North, Range 7 West, is the only PC well on production within three miles of the proposed well. The NEBU #405 is currently making around 500 MCFD after six or so months on line.

The NEBU #405 has 22' of Neutron-Density cross-over with an average porosity of 18%. The State Pat #1, on the other hand, has only 12' of Neutron-Density crossover with an average porosity of only 14%. We feel that the skinnier pay, the tighter rock, and the "rattyier" nature of the sand may make the PC unproductive in the Blueberry Buckle #1. However, we would hate not to at least try it in this well, as we feel there is a reasonable chance of the zone producing in the 100 MCFD range.

Using volumetrics and an assumed initial pressure of 1000 psi, PC reserves are expected to be ± 349 MMCF (see Exhibit 4, part 1, for calculation parameters). Exhibit 3 displays the economics for that IP and those reserves assuming a.) the well is commingled, b.) the well is dualled, and c.) a new well is drilled. The results are summarized below.

240 est
230

Incremental Pictured Cliffs Economics

Case	Incremental Investment	Operating Cost	ROR	Payout	14% Discounted Profit
Commingle	$ 60,000	500	49%	1.3 yr	$84,200
Dual	$130,000	1000	3%	>10 yr	($25,100)
Drill Separate Well	$230,000	1000	---	---	($126,300)

The economics show that the incremental costs to dual the well (extra string of tubing, packer, separator, tanks, compressor, flowline, meter, etc.) or to drill a new well combined with the incremental costs of operating two well strings versus one will kill the project. Therefore, unless we can commingle the PC with the Fruitland in this well, it is unlikely we will ever produce the reserves out of the PC.

IV. Allocation Formula

Exhibit 4 describes a formula which has been previously approved by the NMOCD for allocating production between the PC and Fruitland where no prior production data existed (Order #R-9881). To summarize, the gas reserves are calculated volumetrically for the PC based on the actual reservoir pressure measured during completion. Based on the test rate during completion, a decline curve and production schedule is generated for the PC to recover the calculated reserves. The difference between the total production from the well and the calculated PC production is allocated to the Fruitland Coal. We feel this is a reasonable method to use for this well. Note that all condensate production will be allocated to the PC.

V. Reservoir Fluid Compatibility

Merrion has no PC or Fruitland Coal water analyses from this specific area. However, the close physical proximity of the PC and the Fruitland during their deposition and burial would indicate that their formation waters are very similar. That conclusion is supported by PC and Fruitland water analyses from nearby areas (see Exhibit 5), where the water compositions are practically identical. Therefore, we expect no problems from fluid incompatibility.

VI. Cross Flow Between Zones

No pressure data is readily available for these two zones in this area. However, due to limited production from these intervals to date, it is expected that both zones will essentially be at virgin reservoir pressure. Because of the close physical proximity of the PC to the Fruitland, we expect the pressures of the two zones to be essentially identical. (Note that we have checked with Meridian on their offset coal wells, and while they won't give us any hard data, they did say that this area is not overpressured in the coal.)

VII. Lease Ownership

Exhibit 1 shows the current ownership of the two leases involved in the commingling of the two zones. As it stands now, Merrion would own 75% of the coal (W/2, Sec. 32) and 50% of the PC (NW/4, Sec. 32), with Cinco General Partnership owning 25% and 50% respectively. We have come to an agreement with Cinco that if commingling is approved, we will equalize ownership in the two formations on a 70% Merrion, 30% Cinco basis. We have come to a similar agreement with the two overriding royalty owners (the Gerbers) who's interest is different in the two formations. Exhibit 6 summarizes the interests before and after equalization. Both Cinco and the Gerbers have been sent copies of this application and, if necessary, can be reached to confirm the nature of our agreements.

VIII. Offset Ownership Notification

Exhibit 1 is a plat showing the offset ownership. All offset owners have been sent a copy of this application. Exhibit 7 is an affidavit to that effect.

IX. Summary

Unless commingling is approved, the PC reserves in the NW/4 of Section 32 will never be produced. Because ownership is (or will be) common, commingling the two zones will minimize costs and maximize reserves and value to all parties involved. Therefore, your prompt approval is requested.

Please call me with any questions or if additional information is required.

Sincerely,

George F. Sharpe
Manager - Oil & Gas Investments

xc: Frank Chavez - NMOCD - Aztec
Meridian Oil Inc.
Cinco General Partnership
Edward Gerber Trust - c/o Ken Dubroff, Cuddy & Feder
Iris Gerber Damson - c/o Ken Dubroff, Cuddy & Feder

Waiver

_____ hereby waives objection to this application.
Company

Name: _____ Date: _____

Exhibits

1 Ownership Plat

2 Offset Logs

3 Economics

4 Allocation Formula

5 PC and Fruitland Coal Water Analyses

6 Equalized Ownership Calculations

7 Affidavit of Notification

8 C-102 Plat - Basin Fruitland Coal Pool

9 C-102 Plat - Navajo City Pictured Cliffs Pool

MERRION OIL & GAS		
Offset Ownership Plot Blueberry Buckle #1 EXHIBIT 1		
	Sec 32, T30N, R7W	6/24/94
790' FNL & 790' FWL	Scale 1:24000.	GFS/SEO

405
250 Tbg Flowing
270 Csg Flowing
656 SI

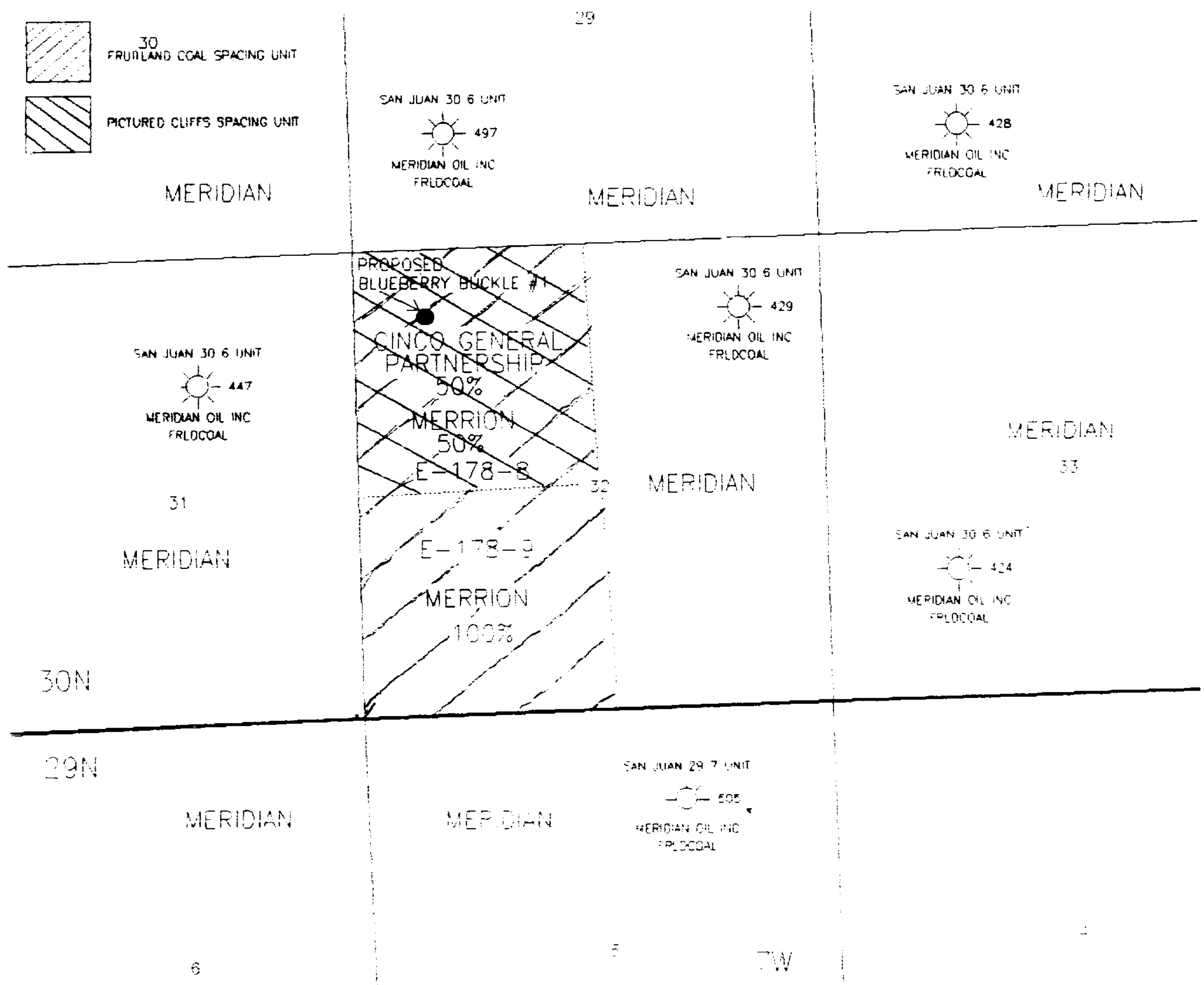
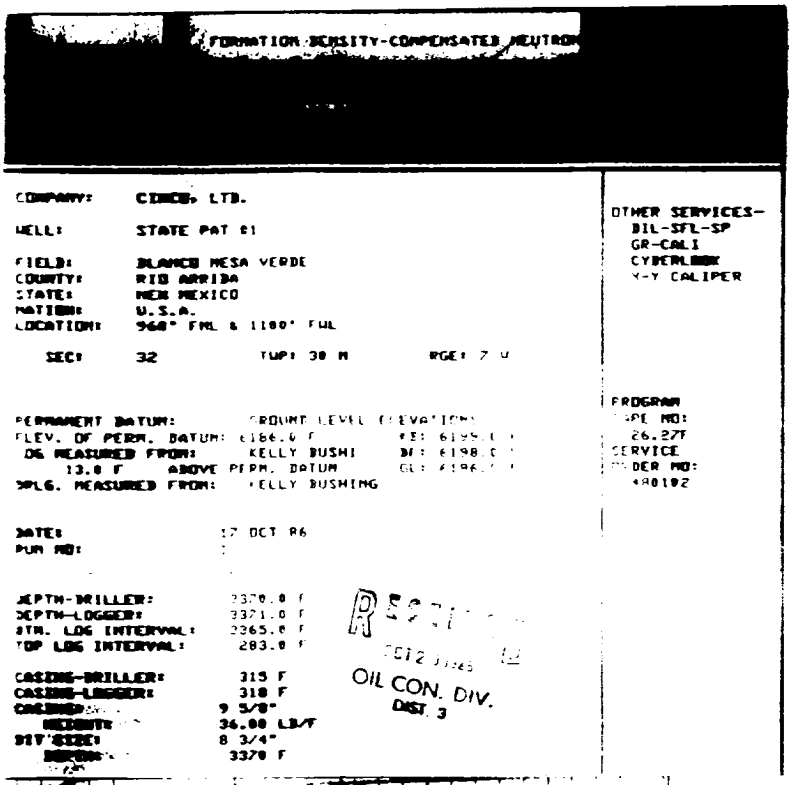
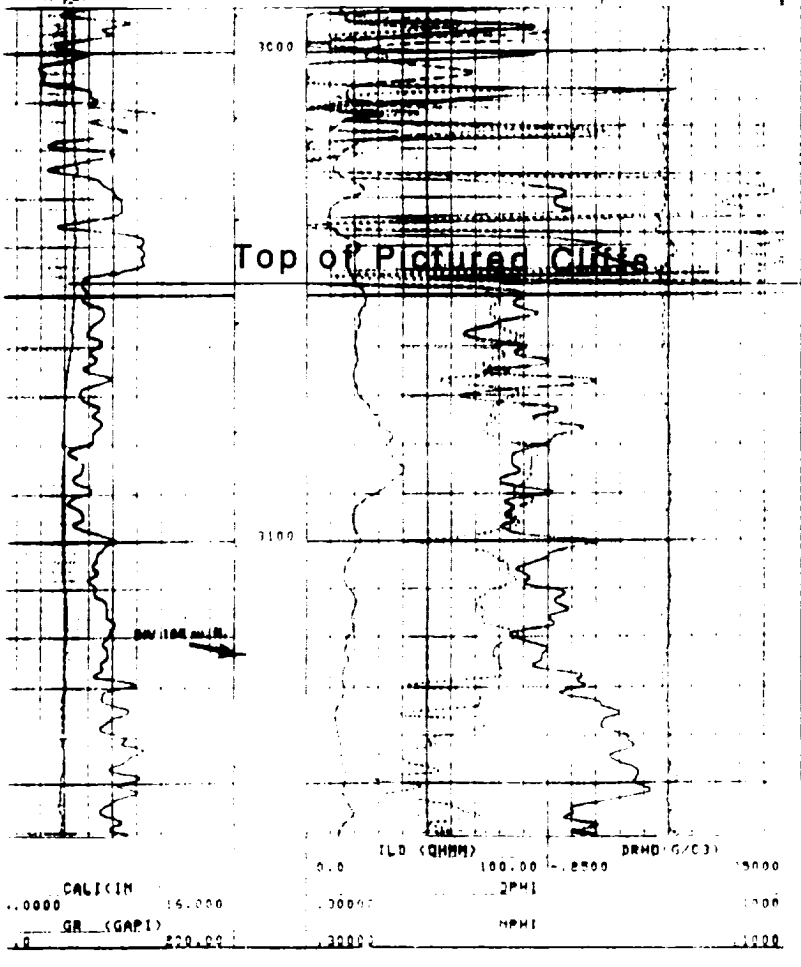


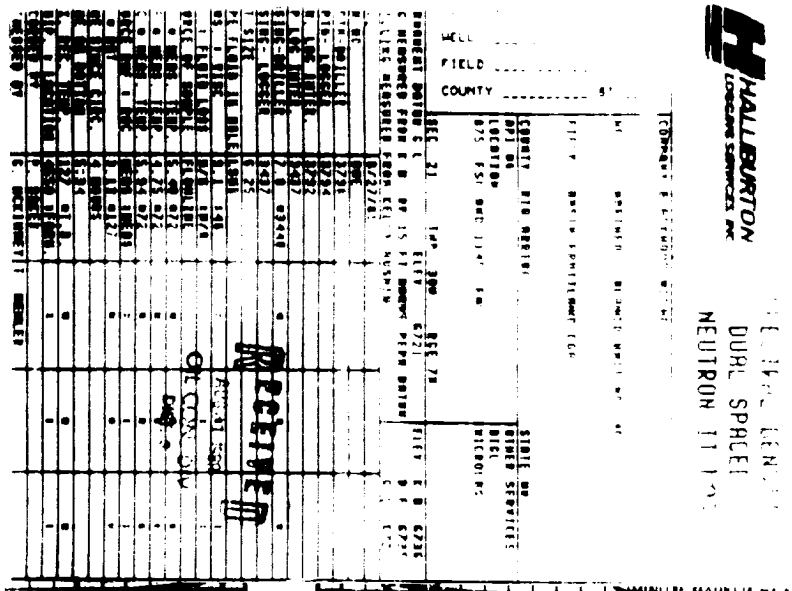
EXHIBIT 2

STATE PAT #1
NW/4 SEC. 32, T30N, R7W





NE BLANCO UNIT #405
SW/4 SEC. 21, T30N, R7W



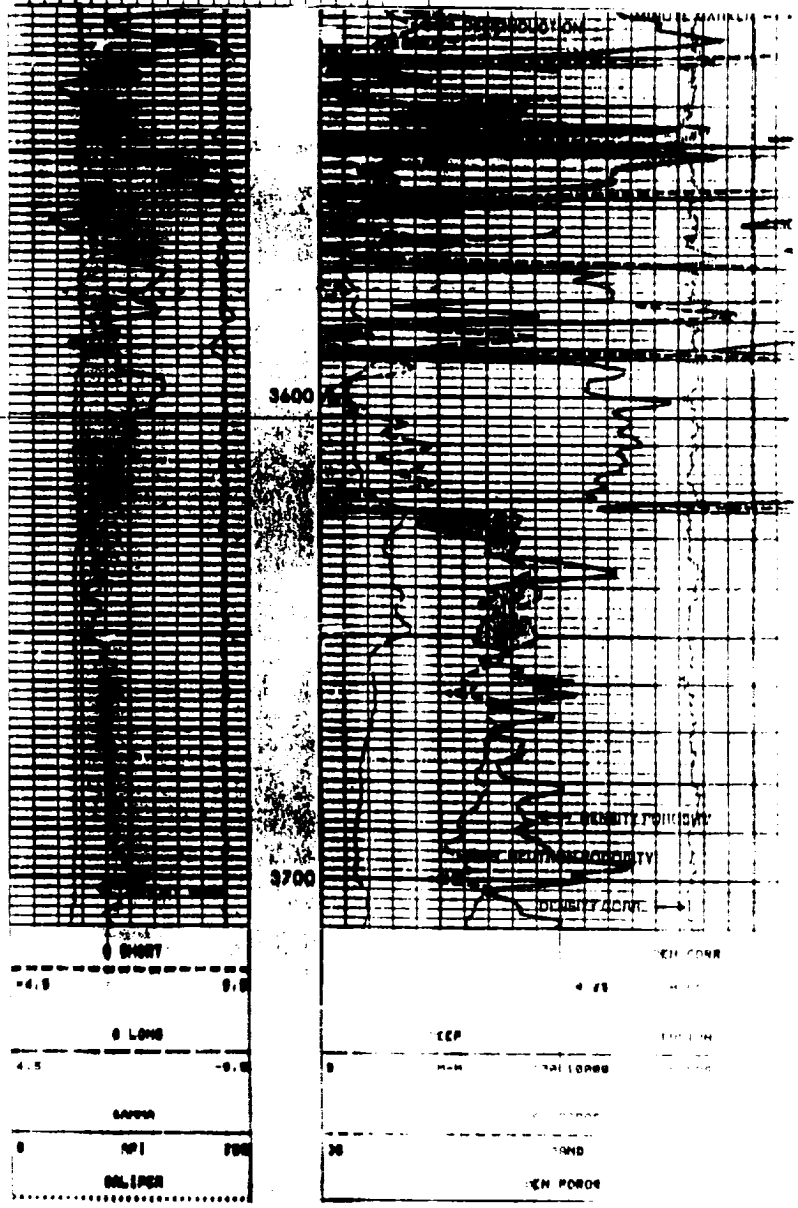


EXHIBIT 3

PICTURED CLIFFS ECONOMICS - COMMINGLE

Economic Data		Well Type (Oil,Gas):	GAS
Working Interest	100.00%		
Net Revenue Interest	70.00%		
Production Tax- G	9.10%		
Oil	8.28%		
Operating Cost	500	$/mo	
Gas btu Value	1150	btu/scf	
Prod Price Escalator		%/yr	
Op Cost Escalator		per yr	
P&A cost		M$	
Constant Prices:	NO	(yes/no)	
Beg Oil Price	17.00	$/bbl	
Beg Gas Price	1.60	$/mmbtu	

Economic Indicators		
Payout =	1.8	Years
DcfROR =	48.7%	
IROI =	4.01	$/$
EROI =	5.01	$/$
Interest rate =	20%	
Investment =	60.0	M$
Project Risk Factor -		
Average Oil Price-	$17.00	/bbl
Average Gas Price-	$1.60	/mmbtu

Oil Production	
1-1-94 Reserves	0 stb
1-1-94 Qo	0.00 bopd
Qei	0.00 bopd
Decline Fraction	0.080 per yr
Life	29.00 years

Gas Production	
1-1-94 Reserves	348907 mcf
1-1-94 Qg	100 mcfd
Qei	20 mcfd
Decline Fraction	0.083 per yr
Life	19.00 years

Present Worth Profile	
% Disc	Value M$
	234.5
6%	146.7
8%	127.0
10%	110.4
12%	96.3
14%	84.2
16%	73.7
18%	64.6
20%	56.6
35%	18.3
50%	(1.3)

		OIL PRODUCTION					GAS PRODUCTION					PRICE	
	Year	Begin Qo bopd	End Qo bopd	Avg Prod bopd	Yearly Prod stb	Cum Prod stb	Begin Qg mcfd	End Qg mcfd	Avg Prod mcfd	Yearly Prod mcf	Cum Prod mcf	Oil Price $/Bbl	Gas Price $/mmbtu
	1/1/94												
1	1994	0.0	0.0	0.0	0	0	100	92	96	35,026	35,026	17.00	1.60
2	1995	0.0	0.0	0.0	0	0	92	85	88	32,236	67,263	17.00	1.60
3	1996	0.0	0.0	0.0	0	0	85	78	81	29,669	96,932	17.00	1.60
4	1997	0.0	0.0	0.0	0	0	78	72	75	27,306	124,238	17.00	1.60
5	1998	0.0	0.0	0.0	0	0	72	66	69	25,131	149,368	17.00	1.60
6	1999	0.0	0.0	0.0	0	0	66	61	63	23,129	172,498	17.00	1.60
7	2000	0.0	0.0	0.0	0	0	61	56	58	21,287	193,785	17.00	1.60
8	2001	0.0	0.0	0.0	0	0	56	51	54	19,592	213,376	17.00	1.60
9	2002	0.0	0.0	0.0	0	0	51	47	49	18,031	231,407	17.00	1.60
10	2003	0.0	0.0	0.0	0	0	47	44	45	16,595	248,002	17.00	1.60
11	2004	0.0	0.0	0.0	0	0	44	40	42	15,273	263,276	17.00	1.60
12	2005	0.0	0.0	0.0	0	0	40	37	39	14,057	277,332	17.00	1.60
13	2006	0.0	0.0	0.0	0	0	37	34	35	12,937	290,269	17.00	1.60
14	2007	0.0	0.0	0.0	0	0	34	31	33	11,907	302,176	17.00	1.60
15	2008	0.0	0.0	0.0	0	0	31	29	30	10,958	313,134	17.00	1.60
16	2009	0.0	0.0	0.0	0	0	29	27	28	10,086	323,220	17.00	1.60
17	2010	0.0	0.0	0.0	0	0	27	24	25	9,282	332,502	17.00	1.60
18	2011	0.0	0.0	0.0	0	0	24	22	23	8,543	341,045	17.00	1.60
19	2012	0.0	0.0	0.0	0	0	22	21	22	7,862	348,907	17.00	1.60
20	2013	0.0	0.0	0.0	0	0	21	19	20	7,236	356,144	17.00	1.60

		INVESTMENT		EXPENSES	NET CASH FLOW						
	Year	Gross Invest M$	Net Invest M$	Operating M$	Annual Revenue Oil M$	Annual Revenue Gas M$	Annual Profit M$	Cum Profit M$	20% Discount Factor	Discounted Annual Profit M$	Discounted Cum Profit M$
	1/1/94	60.0	60.0								
1	1994			6.0	0.0	41.0	(60.0)	(60.0)	1.00	(60.0)	(60.0)
2	1995			6.0	0.0	37.7	35.0	(25.0)	0.83	29.2	(30.8)
3	1996			6.0	0.0	34.7	31.7	6.8	0.69	22.0	(8.8)
4	1997			6.0	0.0	32.0	28.7	35.5	0.58	16.6	7.8
5	1998			6.0	0.0	29.4	26.0	61.5	0.48	12.5	20.4
6	1999			6.0	0.0	27.1	23.4	84.9	0.40	9.4	29.8
7	2000			6.0	0.0	24.9	21.1	106.0	0.33	7.1	36.8
8	2001			6.0	0.0	22.9	18.9	124.9	0.28	5.3	42.1
9	2002			6.0	0.0	21.1	16.9	141.8	0.23	3.9	46.1
10	2003			6.0	0.0	19.4	15.1	156.9	0.19	2.9	49.0
11	2004			6.0	0.0	17.9	13.4	170.4	0.16	2.2	51.2
12	2005			6.0	0.0	16.5	11.9	182.2	0.13	1.6	52.8
13	2006			6.0	0.0	15.1	10.5	192.7	0.11	1.2	53.9
14	2007			6.0	0.0	13.9	9.1	201.8	0.09	0.9	54.8
15	2008			6.0	0.0	12.8	7.9	209.8	0.08	0.6	55.4
16	2009			6.0	0.0	11.8	6.8	216.6	0.06	0.4	55.9
17	2010			6.0	0.0	10.9	5.8	222.4	0.05	0.3	56.2
18	2011			6.0	0.0	10.0	4.9	227.3	0.05	0.2	56.4
19	2012			6.0	0.0	9.2	4.0	231.3	0.04	0.2	56.5
20	2013			6.0	0.0	8.5	3.2	234.5	0.03	0.1	56.6
							2.5	237.0	0.03	0.1	56.7

PICTURED CLIFFS ECONOMICS - DUAL

Economic Data		Well Type (Oil,Gas): GAS
Working Interest	100.00%	
Net Revenue Interest	70.00%	
Production Tax- G	9.10%	
Oil	8.28%	
Operating Cost	1,000 $/mo	
Gas btu Value	1150 btu/scf	
Prod Price Escalator	%/yr	
Op Cost Escalator	per yr	
P&A cost	M$	
Constant Prices:	NO (yes/no)	
Beg Oil Price	17.00 $/bbl	
Beg Gas Price	1.60 $/mmbtu	

Economic Indicators		
Payout =	6.0	Years
DcfROR =	7.9%	
IROI =	1.44	$/$
EROI =	1.44	$/$
Interest rate =	20%	
Investment =	130.0	M$
Project Risk Factor -		
Average Oil Price-	$17.00	/bbl
Average Gas Price-	$1.60	/mmbtu

Present Worth Profile	
% Disc	Value M$
	50.5
6%	9.7
8%	(0.7)
10%	(9.8)
12%	(17.9)
14%	(25.1)
16%	(31.5)
18%	(37.3)
20%	(42.4)
35%	(68.8)
50%	(83.2)

Oil Production	
1-1-94 Reserves	0 stb
1-1-94 Qo	0.00 bopd
Qei	0.00 bopd
Decline Fraction	0.080 per yr
Life	29.00 years

Gas Production	
1-1-94 Reserves	348907 mcf
1-1-94 Qg	100 mcfd
Qei	20 mcfd
Decline Fraction	0.083 per yr
Life	19.00 years

		OIL PRODUCTION					GAS PRODUCTION					PRICE	
	Year	Begin Qo bopd	End Qo bopd	Avg Prod bopd	Yearly Prod stb	Cum Prod stb	Begin Qg mcfd	End Qg mcfd	Avg Prod mcfd	Yearly Prod mcf	Cum Prod mcf	Oil Price $/Bbl	Gas Price $/mmbtu
	1/1/94												
1	1994	0.0	0.0	0.0	0	0	100	92	96	35,026	35,026	17.00	1.60
2	1995	0.0	0.0	0.0	0	0	92	85	88	32,236	67,263	17.00	1.60
3	1996	0.0	0.0	0.0	0	0	85	78	81	29,669	96,932	17.00	1.60
4	1997	0.0	0.0	0.0	0	0	78	72	75	27,306	124,238	17.00	1.60
5	1998	0.0	0.0	0.0	0	0	72	66	69	25,131	149,368	17.00	1.60
6	1999	0.0	0.0	0.0	0	0	66	61	63	23,129	172,498	17.00	1.60
7	2000	0.0	0.0	0.0	0	0	61	56	58	21,287	193,785	17.00	1.60
8	2001	0.0	0.0	0.0	0	0	56	51	54	19,592	213,376	17.00	1.60
9	2002	0.0	0.0	0.0	0	0	51	47	49	18,031	231,407	17.00	1.60
10	2003	0.0	0.0	0.0	0	0	47	44	45	16,595	248,002	17.00	1.60
11	2004	0.0	0.0	0.0	0	0	44	40	42	15,272	263,276	17.00	1.60
12	2005	0.0	0.0	0.0	0	0	40	37	39	14,057	277,332	17.00	1.60
13	2006	0.0	0.0	0.0	0	0	37	34	35	12,937	290,269	17.00	1.60
14	2007	0.0	0.0	0.0	0	0	34	31	33	11,907	302,176	17.00	1.60
15	2008	0.0	0.0	0.0	0	0	31	29	30	10,958	313,134	17.00	1.60
16	2009	0.0	0.0	0.0	0	0	29	27	28	10,086	323,220	17.00	1.60
17	2010	0.0	0.0	0.0	0	0	27	24	25	9,282	332,502	17.00	1.60
18	2011	0.0	0.0	0.0	0	0	24	22	23	8,543	341,045	17.00	1.60
19	2012	0.0	0.0	0.0	0	0	22	20	21	7,862	348,907	17.00	1.60
20	2013	0.0	0.0	0.0	0	0	20	19	20	7,226	356,134	17.00	1.60

		INVESTMENT		EXPENSES	NET CASH FLOW						Discounted	
	Year	Gross Invest M$	Net Invest M$	Operating M$	Annual Revenue Oil M$	Annual Revenue Gas M$	Annual Profit M$	Cum Profit M$	20% Discount Factor	Annual Profit M$	Cum Profit M$
	1/1/94	130.0	130.0				(130.0)	(130.0)	1.00	(130.0)	(130.0)
1	1994			12.0	0.0	41.0	29.0	(101.0)	0.83	24.2	(105.8)
2	1995			12.0	0.0	37.7	25.7	(75.2)	0.69	17.9	(87.9)
3	1996			12.0	0.0	34.7	22.7	(52.5)	0.58	13.2	(74.8)
4	1997			12.0	0.0	32.0	20.0	(32.5)	0.48	9.6	(65.2)
5	1998			12.0	0.0	29.4	17.4	(15.1)	0.40	7.0	(58.2)
6	1999			12.0	0.0	27.1	15.1		0.33	5.1	(53.1)
7	2000			12.0	0.0	24.9	12.9	12.9	0.28	3.6	(49.5)
8	2001			12.0	0.0	22.9	10.9	23.8	0.23	2.5	(47.0)
9	2002			12.0	0.0	21.1	9.1	32.9	0.19	1.8	(45.2)
10	2003			12.0	0.0	19.4	7.4	40.4	0.16	1.2	(44.0)
11	2004			12.0	0.0	17.9	5.9	46.2	0.13	0.8	(43.2)
12	2005			12.0	0.0	16.5	4.5	50.7	0.11	0.5	(42.7)
13	2006			12.0	0.0	15.1	3.1	53.8	0.09	0.3	(42.4)
14	2007			12.0	0.0	13.9	1.9	55.8	0.08	0.2	(42.3)
15	2008			12.0	0.0	12.8	0.8	56.6	0.06	0.1	(42.2)
16	2009			12.0	0.0	11.8	(0.2)	56.4	0.05		(42.2)
17	2010			12.0	0.0	10.9	(1.1)	55.3	0.05	(0.1)	(42.3)
18	2011			12.0	0.0	10.0	(2.0)	53.3	0.04	(0.1)	(42.3)
19	2012			12.0	0.0	9.2	(2.8)	50.5	0.03	(0.1)	(42.4)
20	2013			12.0	0.0	8.5	(3.5)	47.0	0.03	(0.1)	(42.5)

PICTURED CLIFFS ECONOMICS - NEW WELL

Economic Data		Well Type (Oil,Gas):	GAS
Working Interest	100.00%		
Net Revenue Interest	70.00%		
Production Tax- G	9.10%		
Oil	8.28%		
Operating Cost	1,000	$/mo	
Gas btu Value	1150	btu/scf	
Prod Price Escalator		%/yr	
Op Cost Escalator		per yr	
P&A cost	15	M$	
Constant Prices:	NO	(yes/no)	
Beg Oil Price	17.00	$/bbl	
Beg Gas Price	1.60	$/mmbtu	

Economic Indicators		
Payout =	#REF!	Years
DcfROR =	#NUM!	
EROI =	(0.18)	$/$
EROI =	0.82	$/$
Interest rate =	20%	
Investment =	230.0	M$
Project Risk Factor -		
Average Oil Price-	$17.00	/bbl
Average Gas Price-	$1.60	/mmbtu

Present Worth Profile	
% Disc	Value M$
	(64.5)
6%	(95.2)
8%	(104.1)
10%	(112.3)
12%	(119.7)
14%	(126.3)
16%	(132.4)
18%	(137.9)
20%	(142.9)
35%	(168.8)
50%	(183.3)

Oil Production

1-1-94 Reserves	0	stb
1-1-94 Qo	0.00	bopd
Qei	0.00	bopd
Decline Fraction	0.080	per yr
Life	29.00	years

Gas Production

1-1-94 Reserves	348907	mcf
1-1-94 Qg	100	mcfd
Qei	20	mcfd
Decline Fraction	0.083	per yr
Life	19.00	years

		OIL PRODUCTION					GAS PRODUCTION					PRICE	
	Year	Begin Qo bopd	End Qo bopd	Avg Prod bopd	Yearly Prod stb	Cum Prod stb	Begin Qg mcfd	End Qg mcfd	Avg Prod mcfd	Yearly Prod mcf	Cum Prod mcf	Oil Price $/Bbl	Gas Price $/mmbtu
	1/1/94												
1	1994	0.0	0.0	0.0	0	0	100	92	96	35,026	35,026	17.00	1.60
2	1995	0.0	0.0	0.0	0	0	92	85	88	32,236	67,263	17.00	1.60
3	1996	0.0	0.0	0.0	0		85	78	81	29,669	96,932	17.00	1.60
4	1997	0.0	0.0	0.0	0		78	72	75	27,306	124,238	17.00	1.60
5	1998	0.0	0.0	0.0	0		72	66	69	25,131	149,368	17.00	1.60
6	1999	0.0	0.0	0.0	0	0	66	61	63	23,129	172,498	17.00	1.60
7	2000	0.0	0.0	0.0	0	0	61	56	58	21,287	193,785	17.00	1.60
8	2001	0.0	0.0	0.0	0		56	51	54	19,592	213,376	17.00	1.60
9	2002	0.0	0.0	0.0	0		51	47	49	18,031	231,407	17.00	1.60
10	2003	0.0	0.0	0.0	0		47	43	45	16,595	248,002	17.00	1.60
11	2004	0.0	0.0	0.0			43	40	42	15,273	263,276	17.00	1.60
12	2005	0.0	0.0	0.0			40	37	39	14,057	277,332	17.00	1.60
13	2006	0.0	0.0	0.0	0	0	37	34	35	12,937	290,269	17.00	1.60
14	2007	0.0	0.0	0.0	0	0	34	31	33	11,907	302,176	17.00	1.60
15	2008	0.0	0.0	0.0	0	0	31	29	30	10,958	313,134	17.00	1.60
16	2009	0.0	0.0	0.0	0	0	29	27	28	10,086	323,220	17.00	1.60
17	2010	0.0	0.0	0.0	0		27	24	25	9,282	332,502	17.00	1.60
18	2011	0.0	0.0	0.0			24	22	23	8,543	341,045	17.00	1.60
19	2012	0.0	0.0	0.0			22	20	21	7,862	348,907	17.00	1.60
20	2013	0.0	0.0	0.0			20	18	19	7,236	356,144	17.00	1.60

		INVESTMENTS		EXPENSES	NET CASH FLOW					Discounted	
	Year	Gross Invest M$	Net Invest M$	Operating M$	Annual Revenue Oil M$	Annual Revenue Gas M$	Annual Profit M$	Cum Profit M$	20% Discount Factor	Annual Profit M$	Cum Profit M$
	1/1/94	230.0	230.0				(230.0)	(230.0)	1.00	(230.0)	(230.0)
1	1994			12.0	0.0	41.0	29.0	(201.0)	0.83	24.2	(205.8)
2	1995			12.0	0.0	37.7	25.7	(175.2)	0.69	17.9	(187.9)
3	1996			12.0	0.0	34.7	22.7	(152.5)	0.58	13.2	(174.8)
4	1997			12.0	0.0	32.0	20.0	(132.5)	0.48	9.6	(165.2)
5	1998			12.0	0.0	29.4	17.4	(115.1)	0.40	7.0	(158.2)
6	1999			12.0	0.0	27.1	15.1	(100.0)	0.33	5.1	(153.1)
7	2000			12.0	0.0	24.9	12.9	(87.1)	0.28	3.6	(149.5)
8	2001			12.0	0.0	22.9	10.9	(76.2)	0.23	2.5	(147.0)
9	2002			12.0	0.0	21.1	9.1	(67.1)	0.19	1.8	(145.2)
10	2003			12.0	0.0	19.4	7.4	(59.6)	0.16	1.2	(144.0)
11	2004			12.0	0.0	17.9	5.9	(53.8)	0.13	0.8	(143.2)
12	2005			12.0	0.0	16.5	4.5	(49.3)	0.11	0.5	(142.7)
13	2006			12.0	0.0	15.1	3.1	(46.2)	0.09	0.3	(142.4)
14	2007			12.0	0.0	13.9	1.9	(44.2)	0.08	0.2	(142.3)
15	2008			12.0	0.0	12.8	0.8	(43.4)	0.06	0.1	(142.2)
16	2009			12.0	0.0	11.8	(0.2)	(43.6)	0.05		(142.2)
17	2010			12.0	0.0	10.9	(1.1)	(44.7)	0.05	(0.1)	(142.3)
18	2011			12.0	0.0	10.0	(2.0)	(46.7)	0.04	(0.1)	(142.3)
19	2012	15	15.0	12.0	0.0	9.2	(17.8)	(64.5)	0.03	(0.6)	(142.9)
20	2013			12.0	0.0	8.5	(3.5)	(68.0)	0.03	(0.1)	(143.0)

EXHIBIT 4

BLUEBERRY BUCKLE #1
MONTHLY GAS PRODUCTION ALLOCATION FORMULA

GENERAL METHODOLOGY

1. CALCULATE PICTURED CLIFFS (PC) RESERVES FROM VOLUMETRICS.

2. CALCULATE PC INITIAL MONTHLY PRODUCTION PRODUCTION RATE BASED ON INITIAL FLOW TEST.

3. BASED ON OPERATING COSTS OF $500/MO. CALCULATE PC ABANDONMENT RATE.

4. KNOWING INITIAL RATE, FINAL RATE, AND RESERVES, CALCULATE PC DECLINE RATE.

5. CAN NOW GENERATE PC PRODUCTION SCHEDULE FROM NOW TILL ABANDONMENT.

6. CALCULATE FRUITLAND COAL PRODUCTION RATE FOR EACH MONTH BY SUBTRACTING PC RATE FROM TOTAL RATE.

1. CALCULATE PC RESERVES FROM VOLUMETRICS

Gp = [7758 * O * h * A * (1 - Sw) / Bg] * Rf * BTU Factor

where:

Gp = Ultimate PC gas reserves in MMBTU.

7758 = Bbls/ac-ft conversion.

O = porosity = 14%

h = Net pay = 12 Feet

A = Drainage area = 160 ac.

Sw = water saturation = 50%.

Bg = gas formation volume factor (RVB/Mcf) = 5.04 * z * T / P.

z = gas deviation factor at reservoir conditions = 0.90.

T = Reservoir temperature = 100 F = 560 R.

P = reservoir pressure as measured during initial completion of PC.

Rf = gas recovery factor = 85%

BTU Factor = MMBTU/MCF from initial PC gas analysis.

THEREFORE:

Gp = [7758 * .14 * 12 * 160 * (1-.5) / (5.04 * .90 * 560 / P)] * .85 * BTU Factor

Gp (mmbtu) = 349 (mcf/psia) * P (psia) * BTU Factor (mmbtu/mcf)

2. CALCULATE PC INITIAL MONTHLY PRODUCTION RATE

Qpc(1) = Qt(1)*{Qpc(test) / [Qpc(test) + Qfc(test)]}

and

Qpci(decline) = Qpc(1) * 30.4 / Days Prod(1)

where

Qpc(1) = first month PC production in mmbtu/mo.

Qt(1) = first month total production in mmbtu/mo.

Qpc(test) = final PC flow test in mmbtu/day.

Qfc(test) = final Fruitland Coal flow test in mmbtu/day.

Days Prod(1) = number of days the well was on in the first month.

Qpci(decline) = initial monthly production rate to be used in forcasting future PC production . Units are in MMBTU/MO.

3. CALCULATE PC ABANDONMENT RATE

Qpca = Op Cost / {Price * NRI * (1 - Tax)}

where

Qpca = PC abandonment rate in mmbtu/mo.

Op Cost = monthly operating expense = $500/mo.

Price = wellhead gas price = $1.66/mmbtu.

NRI = average net revenue interest = 80%.

Tax = state & local severance and advalorem taxes = 9%.

THEREFORE

Qpca = 500 / {1.65 * .80 * (1-.09)}

Qpca = 416 mmbtu/mo

4. CALCULATE PC DECLINE RATE

D = {Qpci(decline) - Qpca} / Gp

where

D = nominal decline rate (fraction/mo)

Qpci(decline) = initial monthly production rate in mmbtu/mo as calculated in Step 2.

Qpca = PC abandonment rate in mmbtu/mo = 396 mmbtu/mo.

Gp = Ultimate PC gas reserves in MMBTU as calculated in step 1.

5. CALCULATE PC PRODUCTION IN FUTURE MONTH "X"

Qpc(x) = Qpci(decline) * exp {-D * t(x)}

where

Qpc(x) = PC production in mmbtu for month "x".

Qpci(decline) = initial monthly production rate in mmbtu/mo as calculated in Step 2.

D = nominal decline rate (fraction/mo) as calculated in Step 4.

t(x) = number of months from initial production to month "x".

6. CALCULATE FRUITLAND COAL RATE IN FUTURE MONTH "X"

$$Qfc(x) = Qt(x) - Qpc(x)$$

where

Qfc(x) = Fruitland Coal production in mmbtu in month "x".

Qt(x) = total well production in mmbtu in month "x".

Qpc(x) = PC production in mmbtu for month "x" as calculated in Step 5.

EXHIBIT 5 ALYSIS NO. S1-34-91

API FORM 45-1

FIELD RECEIPT NO. _____

API WATER ANALYSIS REPORT FORM

Company		Sample No.	Date Sampled
Merrion Oil & Gas			02-13-91
Field	**Legal Description**	**County or Parish**	**State**
	Sec. 9 T26N, 12W	San Juan	NM
Lease or Unit	**Well**	**Depth**	**Formation**	**Water, B/D**
	Susco #3		Fruitland Coal	
Type of Water (Produced, Supply, etc.)	**Sampling Point**		**Sampled By**

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	2340	101.74
Calcium, Ca	60	3.00
Magnesium, Mg	22	1.80
Barium, Ba	—	—
Potassium, K^+	34	.87

ANIONS		
Chloride, Cl	3609	101.81
Sulfate, SO_4	0	0
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	342	5.60
Hydroxide, OH	0	0

Total Dissolved Solids (calc.) 6407

Iron, Fe (total) ~~#,HT~~ 0.0 ppm

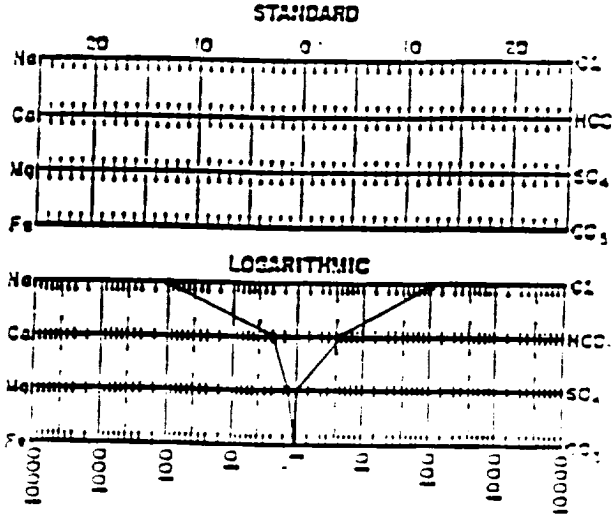
Sulfide, as H_2S neg

REMARKS & RECOMMENDATIONS:

OTHER PROPERTIES

pH	7.85
Specific Gravity, 60/60 F.	1.003
Resistivity (ohm-meters) 74 F.	.90
Total hardness	240

WATER PATTERNS — me/l



ANALYST: Lee

THE WESTERN COMPANY OF
NORTH AMERICA, FARMINGTON,
(505) 327-6222

Please refer any questions to: BRIAN AULT, District Engineer

Date 11/12/87

Analysis 54 36 87

Field Receipt

API FORM 45-1

API WATER ANALYSIS REPORT FORM

Company	Sample No.	Date Sampled
Merrion Oil & Gas		

Field	Legal Description	County or Parish	State
	NW/NW S.35 T27N R13W	San Juan	N.M

Lease or Unit	Well	Depth	Formation	Water, B/D
NM 33049 Hi Roll	#4		Pictured Cliffs	

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By
produced	drip pot	J. Meriatt

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	2076	90.66
Calcium, Ca	47	1.17
Magnesium, Mg	16	.66
Barium, Ba		
Potassium, K	25	.64

ANIONS		
Chloride, Cl	3172	89.4
Sulfate, SO_4	50	.52
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	196	3.21
Hydroxide, OH	0	0

Total Dissolved Solids (calc.) 5582

(meas.)

Iron, Fe (total) Fe=3 Fe=0

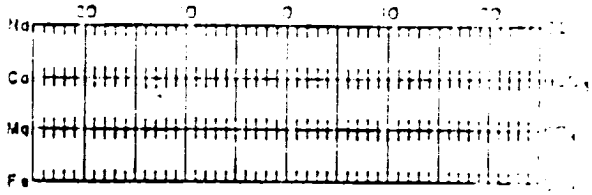
Sulfide, as H_2S non present

OTHER PROPERTIES

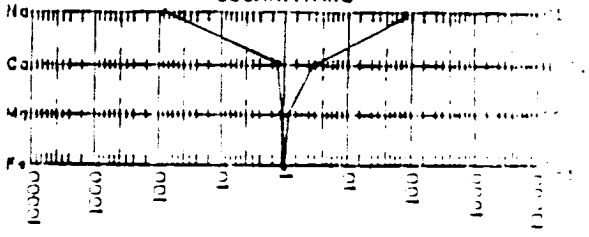
pH	6.59
Specific Gravity, 60/60 F.	1.004
Resistivity (ohm-meters) 59° F.	1.61
Total Hardness	140

WATER PATTERNS — me/l

STANDARD



LOGARITHMIC



REMARKS & RECOMMENDATIONS:

Analyst C. Ochart

Questions regarding this analysis may be directed to the [illegible] in the Farmington, NM District (505) [illegible].

BBKEQUAL.XLS

EXHIBIT 6
INTEREST EQUALIZATION

I. PICTURED CLIFFS OWNERSHIP

A. NW/4 SEC 32, LEASE # E-178-8

	BEFORE EQUALIZATION		AFTER EQUALIZATION	
	WI	NRI	WI	NRI
MERRION OIL & GAS CORP	0.50000	0.35000	0.70000	0.48880
CINCO GENERAL PARTNERSHIP	0.50000	0.42383	0.30000	0.25430
EDWARD GERBER TRUST		0.03691		0.05228
IRIS GERBER DAMSON		0.03691		0.05228
SIDNEY LAUB		0.02734		0.02734
STATE OF NEW MEXICO (RLTY)		0.12500		0.12500
	1.00000	1.00000	1.00000	1.00000

II. FRUITLAND COAL OWNERSHIP

A. NW/4 SEC 32, LEASE # E-178-8 (50%)

	BEFORE EQUALIZATION		AFTER EQUALIZATION	
	WI	NRI	WI	NRI
MERRION OIL & GAS CORP	0.50000	0.35000	0.40000	0.23450
CINCO GENERAL PARTNERSHIP	0.50000	0.42383	0.60000	0.50859
EDWARD GERBER TRUST		0.03691		0.05228
IRIS GERBER DAMSON		0.03691		0.05228
SIDNEY LAUB		0.02734		0.02734
STATE OF NEW MEXICO (RLTY)		0.12500		0.12500
	1.00000	1.00000	1.00000	1.00000

B. SW/4 SEC 32, LEASE # E-178-9 (50%)

	BEFORE EQUALIZATION		AFTER EQUALIZATION	
	WI	NRI	WI	NRI
MERRION OIL & GAS CORP	1.00000	0.70000	1.00000	0.74310
CINCO GENERAL PARTNERSHIP	0.00000	0.00000	0.00000	0.00000
EDWARD GERBER TRUST		0.07383		0.05228
IRIS GERBER DAMSON		0.07383		0.05228
SIDNEY LAUB		0.02734		0.02734
STATE OF NEW MEXICO (RLTY)		0.12500		0.12500
	1.00000	1.00000	1.00000	1.00000

C. NET FRUITLAND OWNERSHIP

	BEFORE EQUALIZATION		AFTER EQUALIZATION	
	WI	NRI	WI	NRI
MERRION OIL & GAS CORP	0.75000	0.52500	0.70000	0.48880
CINCO GENERAL PARTNERSHIP	0.25000	0.21191	0.30000	0.25430
EDWARD GERBER TRUST		0.05537		0.05228
IRIS GERBER DAMSON		0.05537		0.05228
SIDNEY LAUB		0.02734		0.02734
STATE OF NEW MEXICO (RLTY)		0.12500		0.12500
	1.00000	1.00000	1.00000	1.00000

Exhibit 7

Affidavit of Notification

The following companies were sent certified copies of the application for downhole commingling of the Basin Fruitland Coal and the Navajo City Pictured Cliffs Pools in the Blueberry Buckle #1.

1.) Meridian Oil Inc.
P. O. Box 4289
Farmington, New Mexico 87499

2.) Cinco General Partnership
P. O. Box 451
Albuquerque, New Mexico 87103

3.) Edward Gerber Trust and Iris Gerber Damson
c/o Mr. Kenneth Dubroff
Cuddy & Feder
90 Maple Ave.
White Plains, New York 10601

Signed _____ Date _____
George F. Sharpe

ACKNOWLEDGEMENT

STATE OF NEW MEXICO)
ss
COUNTY OF SAN JUAN)

The foregoing instrument was acknowledged before me this _____ of _____, 1994, by George F. Sharpe.

My commission expires: _____
Notary Public

_____

EXHIBIT 8

Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
30-039-25415	71629	Basin Fruitland Coal

⁴ Property Code	⁵ Property Name	⁶ Well Number
15047	BLUEBERRY BUCKLE	# 1

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
014634	MERRION OIL & GAS CORPORATION	6208'

¹⁰ Surface Location

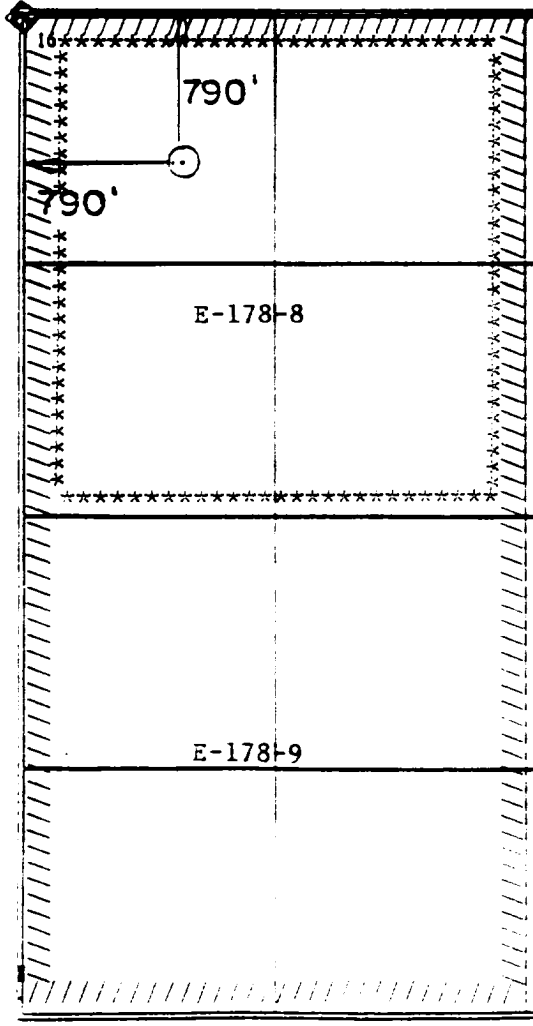
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	32	30N	7W		790	NORTH	790	West	RIO ARRIBA

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

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320	Y	P	

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



Note: Division of Interest Attached

RECEIVED
MAY 27 1994
OIL CON. DIV.
DIST. 3

¹⁷ OPERATOR CERTIFICATION

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

Signature

Steven S. Dunn
Printed Name

Operations Manager
Title

MAY 26 1994
Date

¹⁸ 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.

GERALD G. HUDDLESTON
Date of Survey

NEW MEXICO 6844 REGISTERED LAND SURVEYOR
Signature and Seal of Professional Surveyor

6844
Certificate Number

EXHIBIT 9

District I
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-10
Revised February 21, 199
Instructions on bac
Submit to Appropriate District Offic
State Lease - 4 Copie
Fee Lease - 3 Copie

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
30-039-25415	96141	Navajo City Pictured Cliffs

⁴ Property Code	⁵ Property Name	⁶ Well Number
15047	BLUEBERRY BUCKLE	# 2

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
014634	MERRION OIL & GAS CORPORATION	6208'

¹⁰ Surface Location

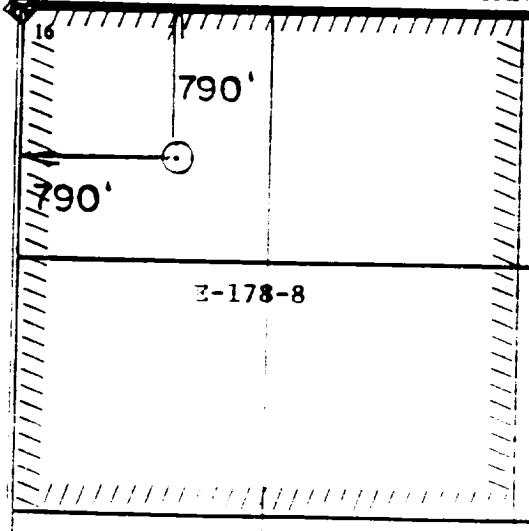
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	32	30N	7W		790	NORTH	790	West	RIO ARRIBA

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

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
160	Y		

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



¹⁷ OPERATOR CERTIFICATION

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

Signature

Steven S. Dunn
Printed Name

Operations Manager
Title

MAY 26, 1994
Date

¹⁸ 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.

APRIL 19, 1994
Date of Survey

Signature and Seal of Professional Surveyor

NEW MEXICO 6844 REGISTERED LAND SURVEYOR

6844
Certificate Number

RECEIVED
MAY 27 1994
OIL CON. DIV.
DIST. 3