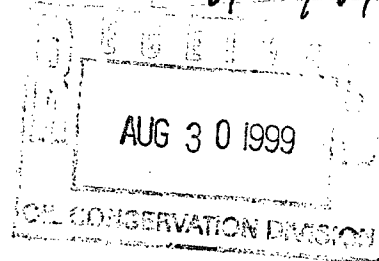


AMEND DHC 9/20/99

# MERRION

OIL & GAS



August 26, 1999

Mr. David Catanach  
New Mexico Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

Fax (505) 827-1389

**Re: Application for Administrative Approval  
Downhole Commingling  
Basin Dakota Pool, Otero Chacra Pool,  
And Aztec Pictured Cliffs Pool  
Fifield Com 1E  
Section 5, T29N, R11W  
San Juan County, New Mexico**

Dear Mr. Catanach:

Through administrative order DHC-2079, Merrion Oil & Gas received approval to commingle the Dakota, Mesaverde and Chacra zones in the subject well. The Mesaverde zone was tested and squeezed off and the well was subsequently completed in the Chacra and Dakota zones. Merrion now plans to add the Pictured Cliffs (PC) zone in the well. Therefore, Merrion requests administrative approval for downhole commingling of the Basin Dakota, the Otero Chacra and the Aztec PC Pools in the subject wellbore. The following information is provided in support of this application:

**I. Proposed Spacing Units**

Exhibit 1 is the ownership plat showing the leases involved and showing the offset operators. Exhibit 2 shows the C-102 plat for the Basin Dakota with a 294 acre spacing unit in the N/2 of Section 5. Exhibit 3 is the C-102 plat for the Otero Chacra Pool with a ±148 acre spacing unit in the NW/4 of Section 5. Exhibit 4, the C-102 plat for the Aztec PC, shows the spacing to be identical to the Otero Chacra spacing.

**II. Justification**

The Chacra and the Dakota zones came in at a combined rate of 200 MCFD and have declined exponentially to around 135 MCFD in six months on line (see Exhibit 5). These rates are insufficient to payout the cost to drill and complete the well.

The Pictured Cliffs zone has already been produced in the Fifield Com 1E spacing unit in the Duff Com #1. This PC well was completed in the early 1950's and cummed 339 MMCF before being P&A'd in the late 1980's (see Exhibit 6). Merrion feels that due to the inefficient completion techniques of the early 1950's, significant reserves have been left behind. Exhibit 6 shows the production plot of the Fifield #2, a similar PC well offset to the Duff Com #1 and Fifield Com #1E. In late 1988 it was stimulated using modern techniques, taking the rate up from 10 MCFD to 300 MCFD. Merrion believes the PC in the Fifield Com #1E is also capable of 200 to 300 MCFD. In an effort to conserve costs, minimize surface impact, and extend the life of the current well, we would like to add the PC in the existing wellbore.

III. Allocation Methodology

Because all zones exhibit similar exponential decline characteristics (see Exhibits 5 and 7). Merrion plans to proportionally split flow between the three zones. The Dakota currently gets 100% of the oil and water and 70% of the gas, while the Chacra receives 30% of the gas. These ratios, relative to each other, shall remain the same. Merrion shall allocate production to the PC by subtracting the calendar day average production in the month prior to well work (i.e., DK and CH production) from the calendar day average production in the month following the workover to add the PC. This incremental PC production, and the ratio it represents of the total production, shall be used for allocations. If future changes in the condensate API gravity or gas BTU content indicate a substantive change in the mix of production from the three zones, the allocation formula will be adjusted based on additional testing.

IV. Reservoir Fluid Compatibility

Water analyses are not available for wells in the immediate area. However, the waters of the Chacra, PC, and Dakota have been generally determined to be compatible across the basin based on other similar applications to the OCD.

V. Cross Flow Between Zones

The current reservoir pressure of the Dakota is estimated to be at  $\pm 700$  psi while the PC is estimated to be at  $\pm 350$  psi, with the Chacra in between. With a flowing line pressure at around 120 psi, crossflow is not anticipated to be a problem.

VI. Well Ownership Notification

The spacing unit and ownership of the three zones is not the same (see Exhibit 1). Exhibit 8 is a list of all working interest, override, and royalty interest owners in the well who received certified copies of this application.

Page Three  
August 26, 1999

VII. Offset Operator Notification

Exhibit 1 is a plat showing all offset operators. Exhibit 9 is a list of all the offset operators who received a certified copy of this application.

VIII. Summary

None of the zones have the reserves to payout the costs to drill and complete a "stand-alone" well. Commingling the zones will maximize reserves and protect correlative rights. Therefore, we request your approval of this application.

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

Sincerely,



George F. Sharpe  
Manager - Oil & Gas Investments

xc: Offset Operators and Well Owners  
Aztec OCD  
BLM - Farmington

**APPLICATION OF MERRION OIL & GAS CORP.  
TO COMMINGLE THE CHACRA, PICTURED CLIFFS, AND DAKOTA  
IN THE FIFIELD COM 1E**

Objections to this application must be sent to the NMOCD within 20 days of receipt of this application. If you do not object, please sign and return this waiver sheet to George Sharpe.

**WAIVER**

\_\_\_\_\_ hereby waives objection to this application.  
Company or Individual Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II  
811 South First St., Artesia, NM 88210-2835

DISTRICT III  
1000 Rio Brazos Rd, Aztec, NM 87410-1693

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  
New 3-12-96

APPROVAL PROCESS:

\_\_\_ Administrative \_\_\_ Hearing

EXISTING WELLBORE

\_\_\_ YES \_\_\_ NO

APPLICATION FOR DOWNHOLE COMMINGLING

MERRION OIL & GAS CORPORATION 610 Reilly Avenue, Farmington, NM 87401-2634

Operator Address

FiField Com 1E E-05-29N-11W San Juan

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

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 014634 Property Code 22343 API NO. 30-045-29517 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	Aztec Pictured Cliffs	Otero Chacra	Basin Dakota
2. Top and Bottom of Pay Section (Perforations)	2062' - 70'	2572' - 3516'	6497' - 6675'
3. Type of production (Oil or Gas)	Gas	Gas	Gas
4. Method of Production (Flowing or Artificial Lift)	Flow	Flow	Flow
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 350 psi b. (Original) 560 psi	a. 500 psi b. 700 psi	a. 700 psi b. 1358 psi
6. Oil Gravity (°API) or Gas BTU Content	BUT 1100	BTU 1100	BTU 1188
7. Producing or Shut-In?	SI-Not completed	Producing	Producing
Production Marginal? (yes or no)	Yes	Yes	Yes
* If Shut-In, give 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: NA Rates:	Date: NA Rates:	Date: NA Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: NA Rates:	Date: June, 1999 Rates: 38 MCFD 0 BOPD 0 BWPD	Date: June, 1999 Rates: 88 MCFD 1.7 BOPD 1.2 BWPD
8. Fixed Percentage Allocation Formula - % for each zone	Oil: % Gas: % *** Will be provided after Pictured Cliffs is completed.	Oil: % Gas: %	Oil: % Gas: %

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 ☒  
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☒

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).

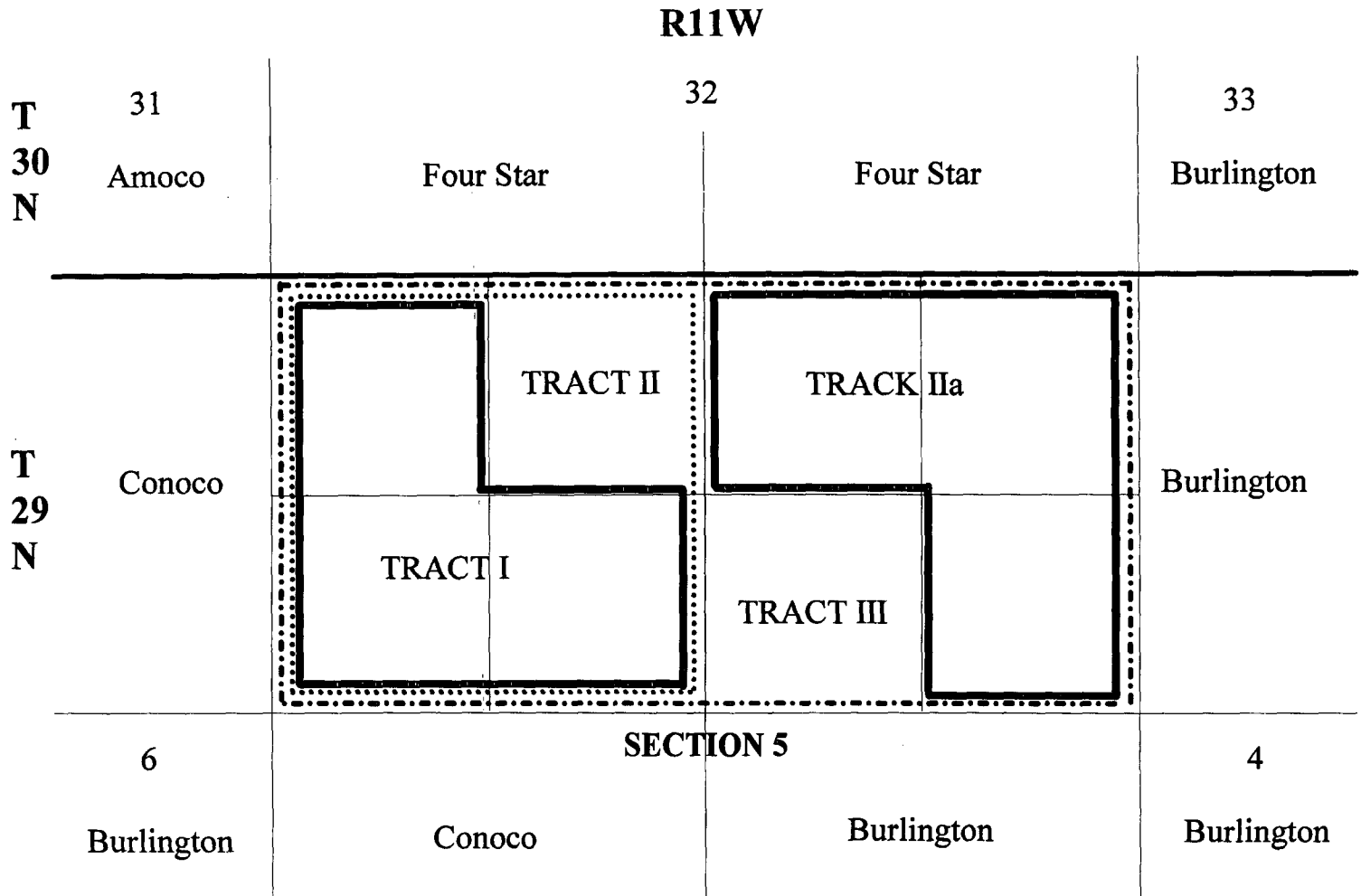
16. ATTACHMENTS:  
\* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.  
\* Production curve for each zone for at least one year. (If not available, attach explanation.)  
\* For zones with no production history, estimated production rates and supporting data.  
\* Data to support allocation method or formula.  
\* Notification list of all offset operators.  
\* 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 George Sharpe TITLE Engineer DATE 8/25/99

TYPE OR PRINT NAME George F. Sharpe TELEPHONE NO. ( 505 ) 327-9801

**EXHIBIT 1**  
**FIFIELD COM #1E**  
**Offset Operator Plat**  
**Lease Ownership Plat**  
**N/2 Section 5, T29N, R11W**  
**San Juan County, NM**



**LEASE OWNERSHIP**

Tract	Acres	Ownership	Chacra
I	114.11	Merrion et al	100.0%
II	33.65	Burlington	100.0%
IIa	105.92	Burlington	100.0%
III	40.00	Burlington	100.0%
<b>TOTAL</b>	<b>293.68</b>		

**LEGEND**

.....	Aztec Pictured Cliffs and Otero Chacra
----	Spacing Unit
----	Basin Dakota Spacing Unit

District I  
PO 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

RECEIVED  
97 DEC -9 PM 1:06

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code 71599	3 Pool Name Basin Dakota
4 Property Code	5 Property Name Fifield Com		6 Well Number # 1 E
7 OGRID No. 014634	8 Operator Name MERRION OIL & GAS		9 Elevation 5849'

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
E	5	29 N	11 W	SWNW	1562	North	886	West	San Juan

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 320	13 Joint or Infill	14 Consolidation Code		15 Order No. Will be communitized					

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

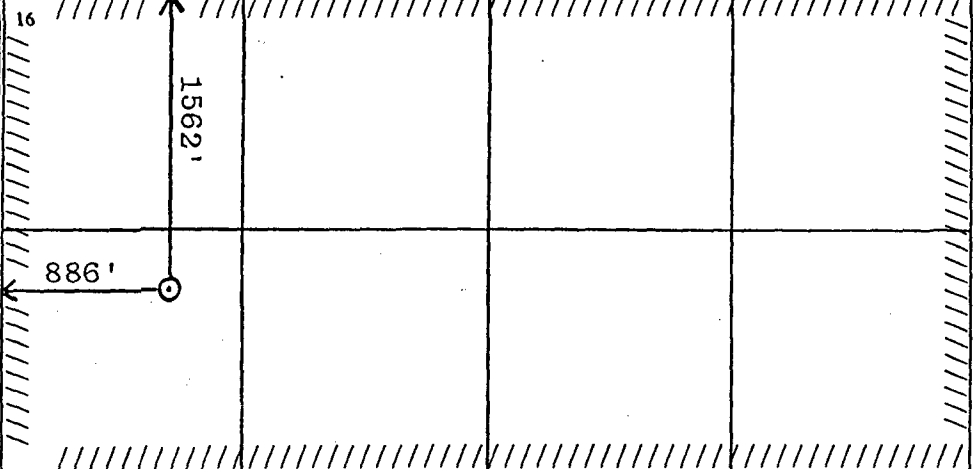
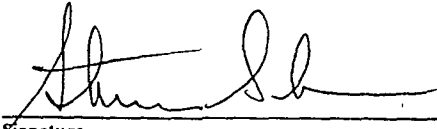
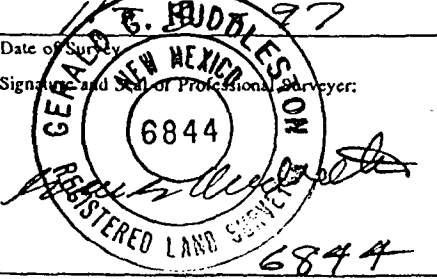
	<b>17 OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief   Signature Steven S. Dunn Printed Name Drig & Prod Manager Title 12/8/97 Date
	<b>18 SURVEYOR CERTIFICATION</b> I hereby certify that the well location 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.   Date of Survey Signature and Seal of Professional Surveyor Certificate Number 6844

Exhibit 2

District I  
FO Box 1980, Hobbs, NM 88241-1980  
District II  
811 South First, Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-102  
Revised October 18, 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

<sup>1</sup> API Number 30-045-29517		<sup>2</sup> Pool Code 82329	<sup>3</sup> Pool Name OTERO CHACRA <i>EXT</i>
<sup>4</sup> Property Code 22343	<sup>5</sup> Property Name FiField Com		<sup>6</sup> Well Number 1E
<sup>7</sup> OGRID No. 014634	<sup>8</sup> Operator Name ✓ MERRION OIL & GAS CORPORAITON		<sup>9</sup> Elevation 5849

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	05	29N	11W	SWNW	1562	NORTH	886	WEST	SAN JUAN

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres 148	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code		<sup>15</sup> Order No. Will be communitized					

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

<div data-bbox="99 1023 1071 1985"> <p><sup>16</sup></p> <p>1562'</p> <p>886'</p> <p>Exhibit 3</p> <p>RECEIVED AUG 31 1998 OIL CON. DIV. DIST. 3</p> </div>	<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p>Signature <i>George Sharpe</i></p> <p>Printed Name George F. Sharpe</p> <p>Title Engineer</p> <p>Date 8/28/98</p>
	<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyer:</p>
	<p>Certificate Number</p>
	<p>SEP 14 1998</p>

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

State of New Mexico  
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-102  
Revised March 17, 1999

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

* API Number 30-045-29517		* Pool Code 71280	* Pool Name Aztec Pictured Cliffs
* Property Code 022343	* Property Name FiField Com		* Well Number 1E
* OGRID No. 014634	* Operator Name Merrion Oil & Gas Corporation		* Elevation 5849'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	05	29N	11W	SWNW	1562	North	886	West	San Juan

<sup>11</sup> 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

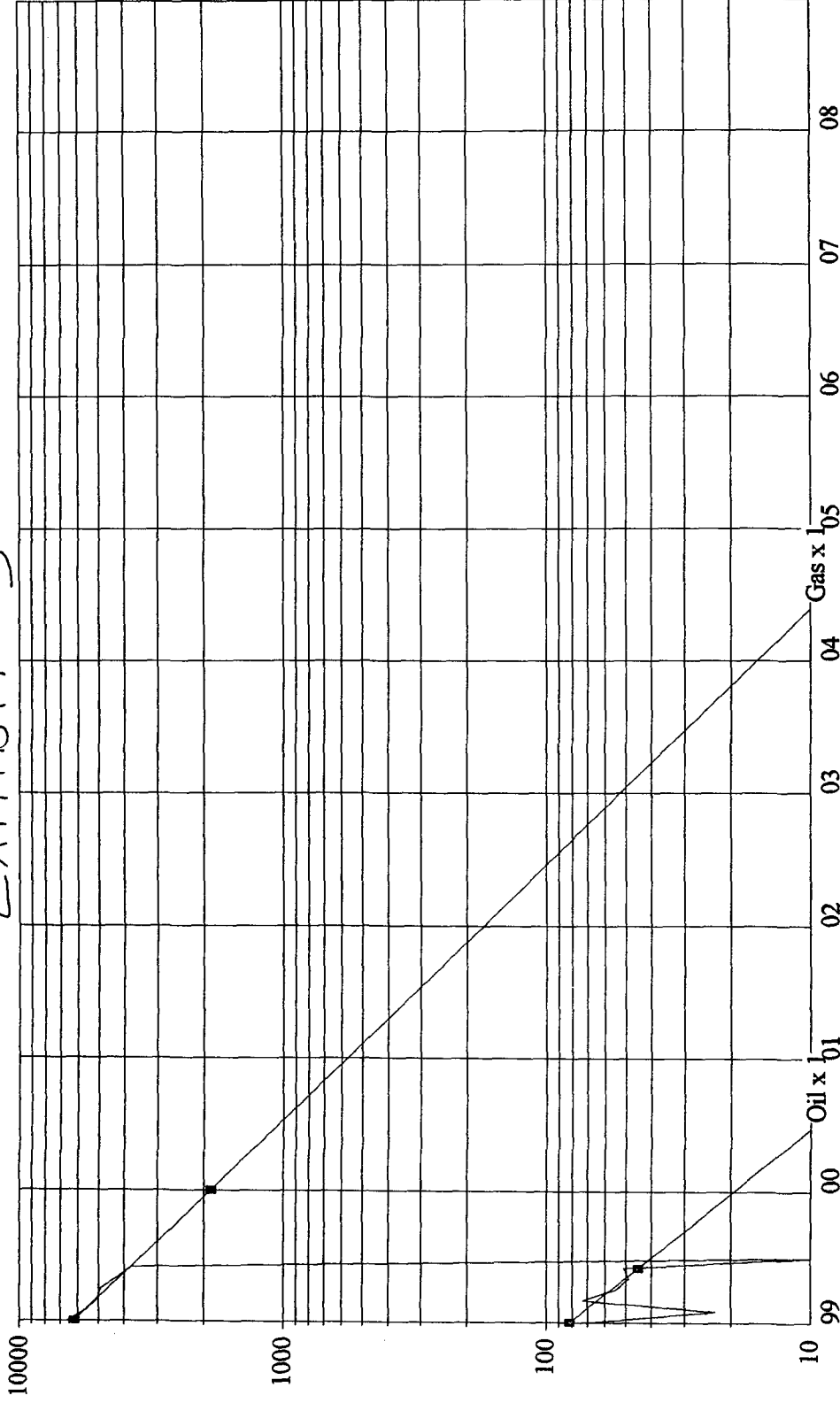
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
148			

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

	<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p>Signature: <i>George F. Sharpe</i></p> <p>Printed Name: George F. Sharpe</p> <p>Title: Engineer</p> <p>Date: 8/25/99</p>	
	<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date of Survey: _____</p> <p>Signature and Seal of Professional Surveyor: _____</p> <p>Certificate Number: _____</p>	
<p>Exhibit 4</p>		

Fifield 1 E (000001 - 100%), DK/CH

EXHIBIT 5



Fifield 1 E (000001 - 100%)  
DK/CH

San Juan, NM

Cumulative:  
Remaining:  
Ultimate:

Oil (bbl)  
316  
Recalculate  
Recalculate

Gas (mcf)  
30,129  
Recalculate  
Recalculate

Water (bbl)  
0  
Recalculate  
Recalculate

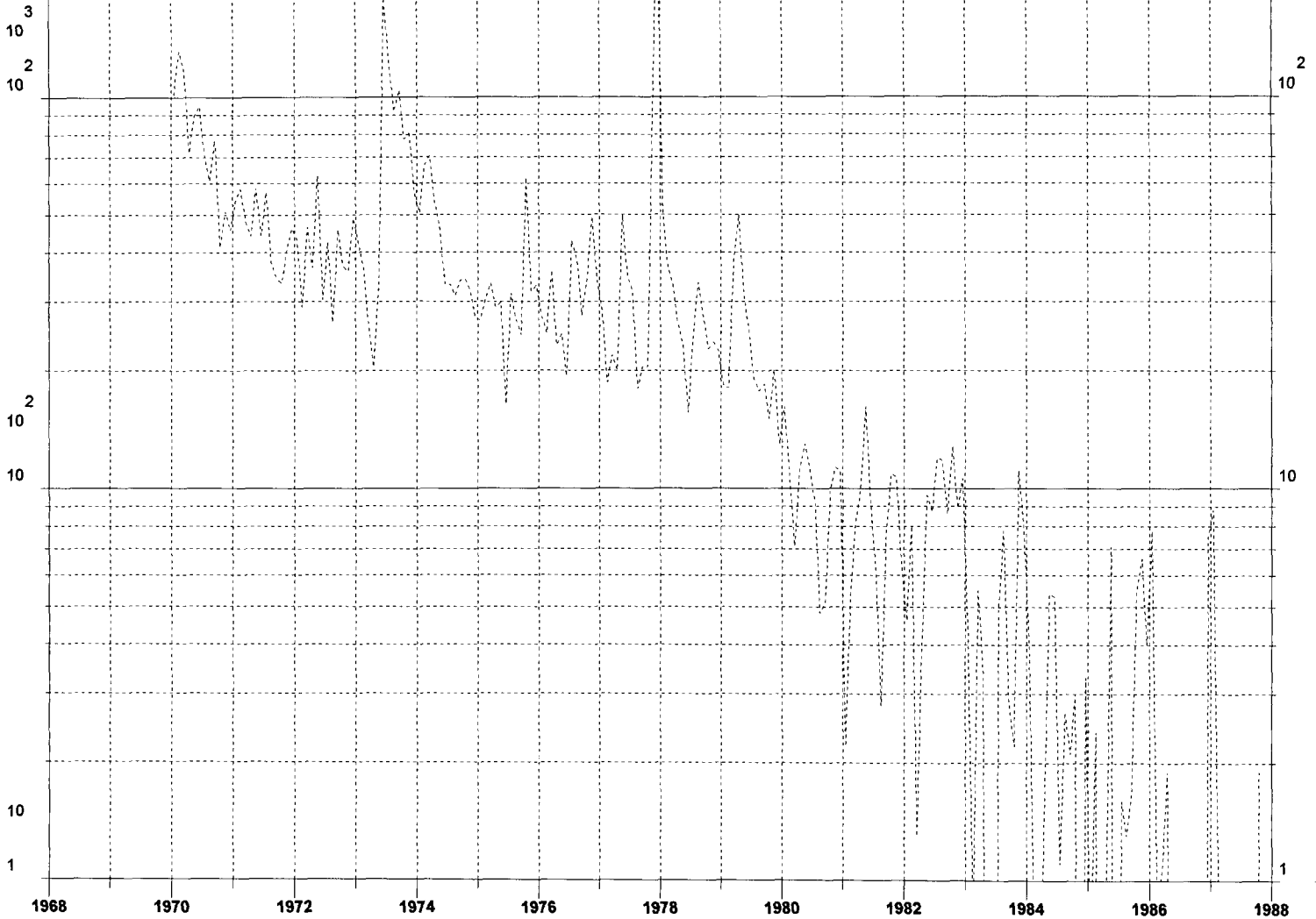
# Dwights

Lease: DUFF (000001)

08/25/99

Retrieval Code: 251,045,29N11W05E00PC

EXHIBIT 6  
Duff 1 Production - PC



Water (bbl/mo)

County: SAN JUAN

F.P. Date: 06/53

Oil (bbl/mo)

Gas (mcf/mo)

Field: AZTEC (PICTURED CLIFFS) PC

Oil Cum: 0 bbl

Reservoir: PICTURED CLIFFS

Gas Cum: 339.0 mmcf

Operator: BURLINGTON RES O&G CO

Location: 5E 29N 11W

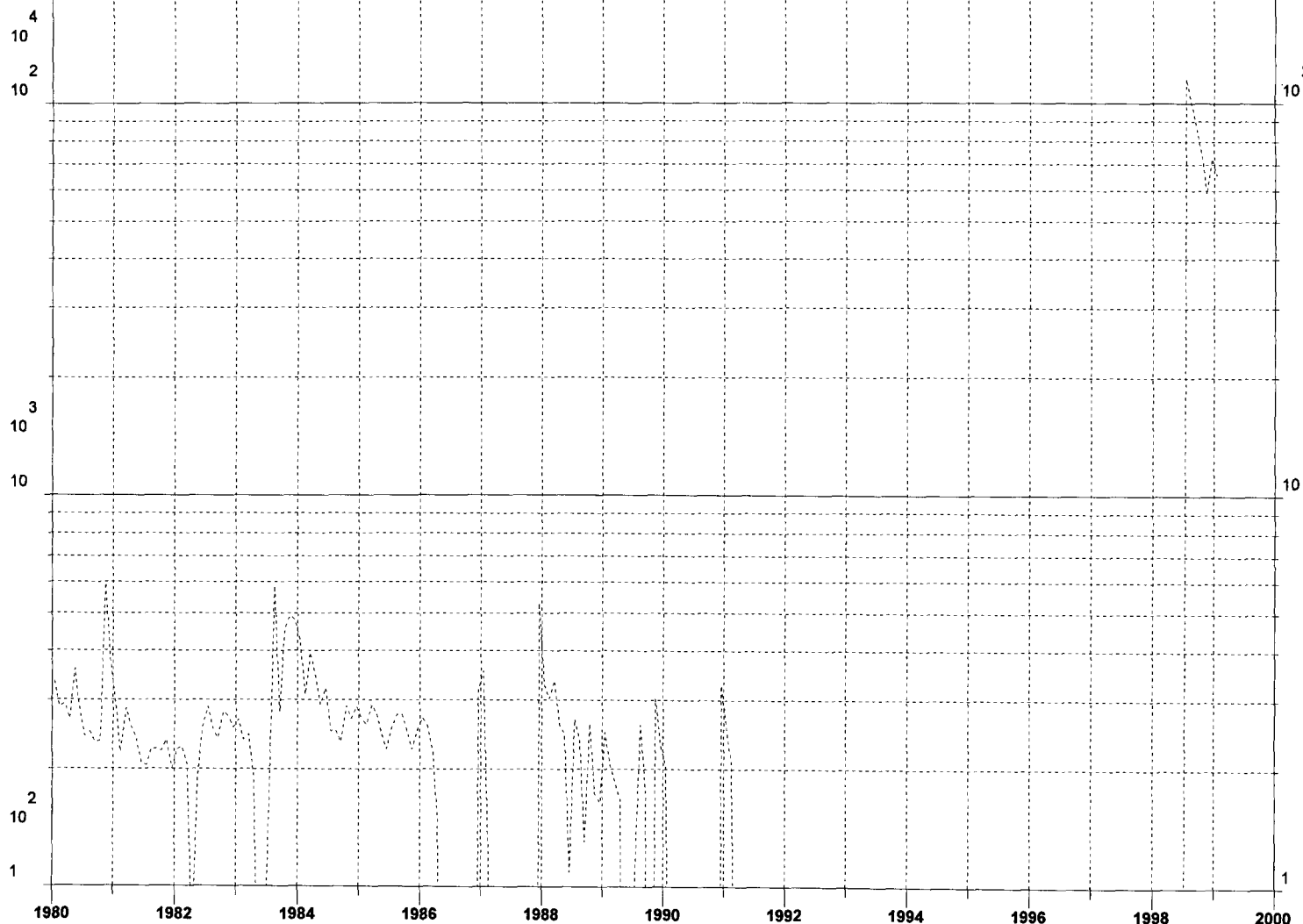
# Dwights

Lease: FIFIELD (000002)

08/25/99

Retrieval Code: 251,045,29N11W05100PC

EXHIBIT 7  
Fifield 2 PC Production



Water (bbl/mo) — — — —

Gas (mcf/mo) . . . . .

County: SAN JUAN

F.P. Date: 03/55

Oil (bbl/mo) — — — —

Field: AZTEC (PICTURED CLIFFS) PC

Oil Cum: 79 bbl

Reservoir: PICTURED CLIFFS

Gas Cum: 959.1 mmcf

Operator: BURLINGTON RES O&G CO

Location: 51 29N 11W

## EXHIBIT 8

### Fifield Com #1E Commingling Application Notification of Owners in Well

#### Working Interest Owners:

Burlington Resources  
Attn: Dean Price  
P.O. Box 4289  
Farmington, NM 87499-4289

#### Royalty Interest Owners:

Department of the Interior  
Minerals Management Service  
P.O. Box 5810  
Denver, CO 80217-5810

Catherine L. Fifield  
6412 Prairie NE  
Albuquerque, NM 87109

Ethel F. Garrison Zenor  
19502 Keystone Drive  
Sun City West, AZ 85375

Myra Frances E. Clark, Trustee  
Estate of Lois F. Everett, Dec'd.  
P.O. Box 1094  
Prescott, AZ 86302-1094

#### Overriding Royalty Interest Owners:

Gayle D. Fogelson  
300 Crescent Court, Suite 920  
Dallas, TX 75201-1841

Chase Oil Corporation  
P.O. Box 1767  
Artesia, NM 88211-1767

Henrietta E. Schultz, Trustee  
Henrietta Schultz Revocable Trust  
500 N. Akard Street, #2160  
Dallas, TX 75201

**EXHIBIT 9**

**Fifield Com #1E Commingling Application**  
**Notification of Offset Operators**

Amoco Production Company  
Attn: Steve Trefz  
P.O. Box 800  
Denver, CO 80201-0800

Burlington Resources  
Attn: Dean Price  
P.O. Box 4289  
Farmington, NM 87499-4289

Conoco Inc.  
Attn: Steve Klein  
10 Desta Drive, Suite 100W  
Midland, TX 79705-4500

Four Star Oil & Gas Co.  
Attn: Chuck Snure  
P.O. Box 2100  
Denver, CO 80201-2100