

DATE IN 9/23/98	SUSPENSE 10/13/98	ENGINEER DC	LOGGED BY KV	TYPE DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 2040 South Pacheco, Santa Fe, NM 87505



2115

**ADMINISTRATIVE APPLICATION COVERSHEET**

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATION FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]  
 [DD-Directional Drilling] [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 - Directional Drilling

☐ NSL ☐ NSP ☐ DD ☐ 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

[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] **INFORMATION / DATA SUBMITTED IS COMPLETE** - Certification

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

Signature

Title

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 87505-6429Form C-107-A  
New 3-12-96

## APPROVAL PROCESS :

☒ Administrative ☐ Hearing

## APPLICATION FOR DOWNHOLE COMMINGLING

## EXISTING WELLBORE

☒ YES ☐ NO

Burlington Resources Oil &amp; Gas Company

PO Box 4289, Farmington, NM 87499

Operator

Address

San Juan 28-5 Unit

54E

C 20-28N-05W

Rio Arriba

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7460 API NO. 30-039-23813 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	Wildcat Munoz Canyon Gallup - 96767		Basin Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	6912' - 7333'		7712' - 7902'
3. Type of production (Oil or Gas)	gas		gas
4. Method of Production (Flowing or Artificial Lift)	flowing		flowing
5. Bottomhole Pressure	(Current) a. 2298	a.	a. 1313
Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Original) b. 2298	b.	b. 3215
6. Oil Gravity (°API) or Gas BTU Content	BTU 1185		BTU 1032
7. Producing or Shut-In?	producing		Shut-in
Production Marginal? (yes or no)	yes		no
* If Shut-In and oil/gas/water rates of last production	Date: n/a Rates:	Date: Rates:	Date: n/a Rates: 0/105/0
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data			
* If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: n/a Rates: 40 MCF/D	Date: Rates:	Date: n/a Rates:
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: % Gas: % will be supplied upon completion	Oil: % Gas: %	Oil: % Gas: % 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  
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No11. 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 ☐ No13. 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. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10695

## 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 Jennifer Dobson TITLE Production Engineer DATE 9-21-98TYPE OR PRINT NAME Jennifer Dobson TELEPHONE NO. ( 505 ) 326-9700

1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-10  
Revised February 21, 1997  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

District II  
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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number' 30-039-23813	'Pool Code' 96767/71599	'Pool Name' WC:Munoz Canyon Gallup/Basin Dakota
'Property Code' 7460	'Property Name' SAN JUAN 28-5 UNIT	'Well Number' 54E
'GRID No.' 14538	'Operator Name' BURLINGTON RESOURCES OIL & GAS COMPANY	'Elevation' 6644'

<sup>10</sup> Surface Location

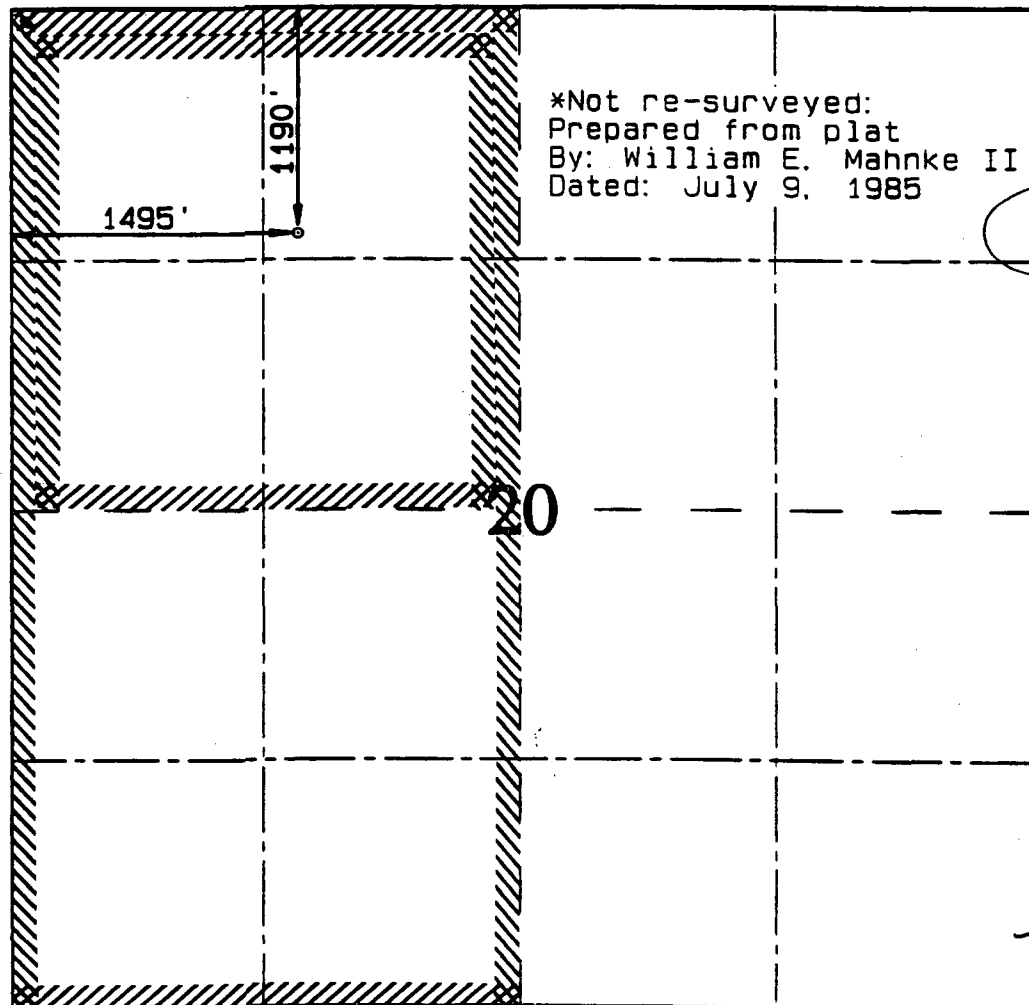

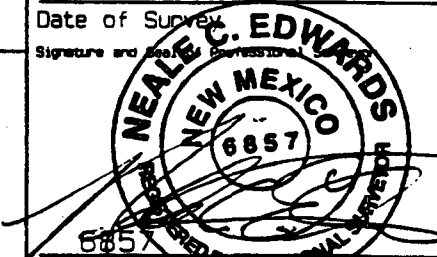
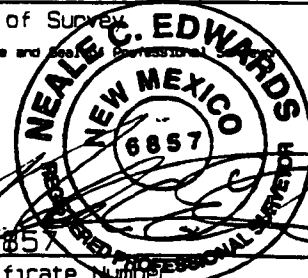
UL or lot no. C	Section 20	Township 28N	Range 5W	Lot Idn	Feet from the 1190	North/South line North	Feet from the 1495	East/West line West	County RIO ARriba
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<sup>11</sup> Bottom Hole Location If Different From Surface

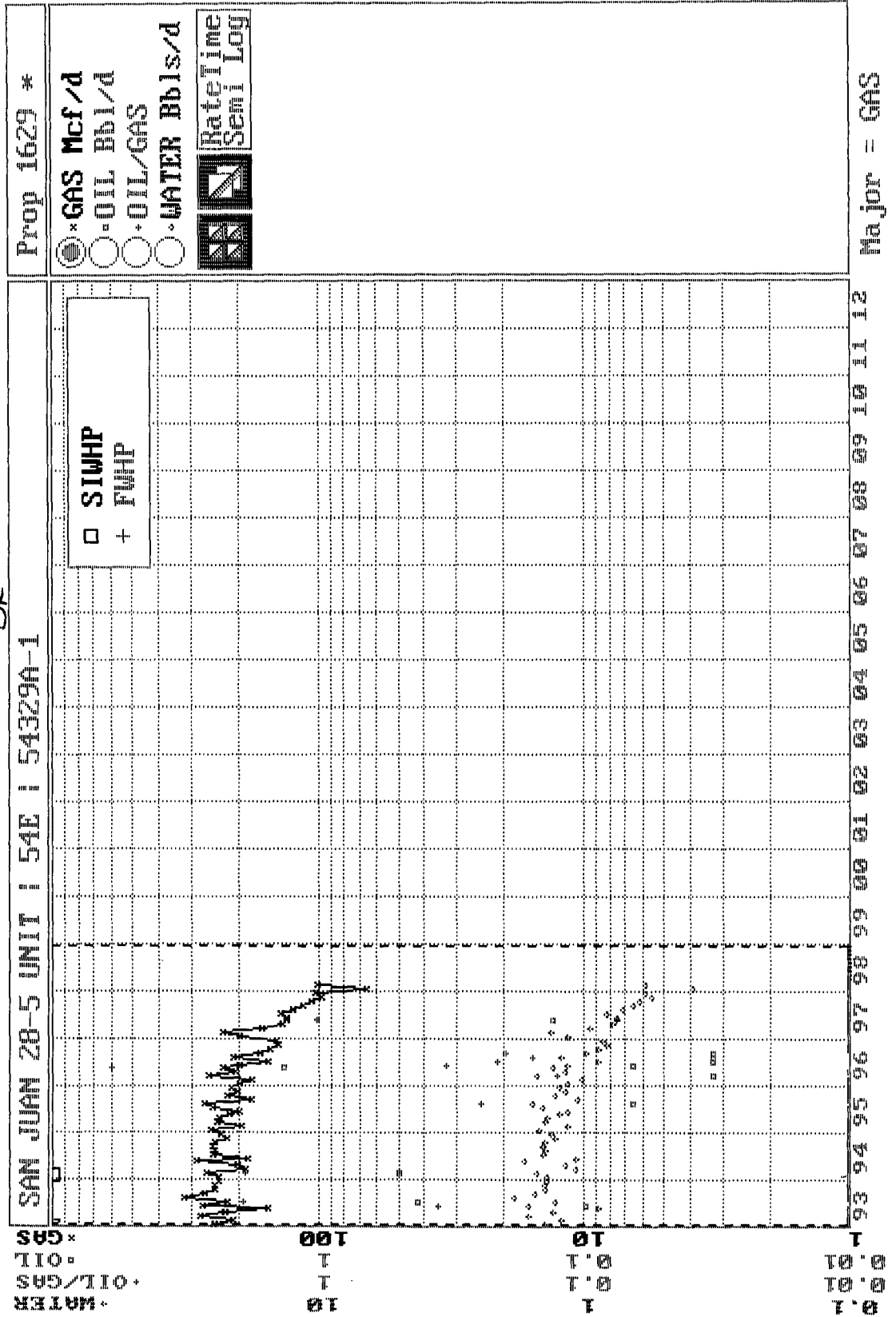
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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<sup>12</sup> Dedicated Acres Gal - 160 DK - W/320	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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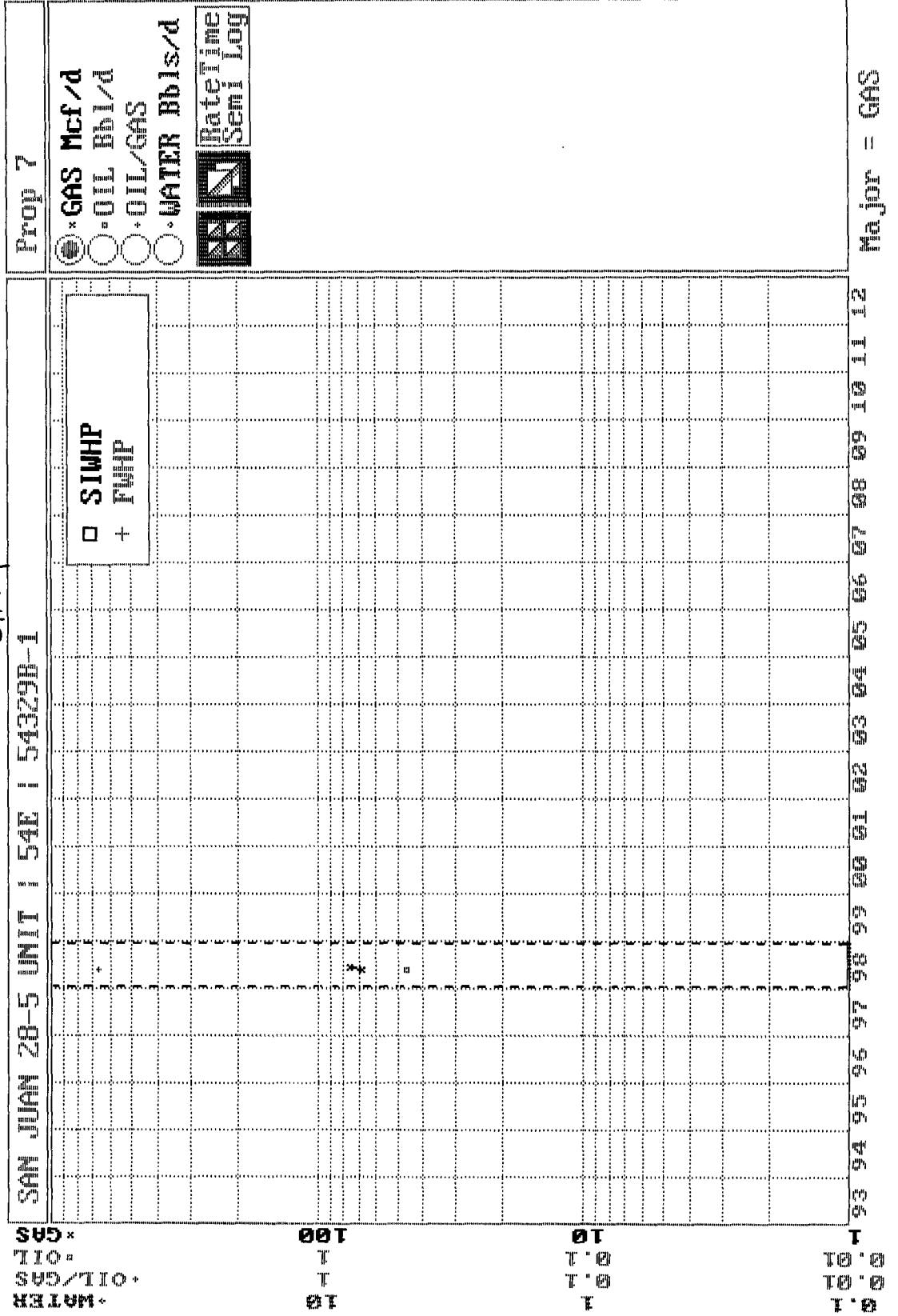
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>*Not re-surveyed: Prepared from plat By: William E. Mahnke II Dated: July 9, 1985</p>	<p><sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p> Signature Peggy Bradfield Printed Name Regulatory Administrator Title 12-2-97 Date</p> <p><sup>18</sup> 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.</p> <p>NOVEMBER 20, 1997 Date of Survey  Signature and Seal  Certificate Number</p>
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DK



Gallup



**SJ 28-5 #54E**  
Bottom Hole Pressures  
Cullender and Smith Method  
Version 1.0 3/13/94

<b>Dakota</b>	
<b><u>DK-Current</u></b>	
GAS GRAVITY	<u>0.621</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.15</u>
%CO2	<u>1.22</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>1.5</u>
DEPTH (FT)	<u>7967</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>148</u>
FLOWRATE (MCFPD)	<u>113</u>
SURFACE PRESSURE (PSIA)	<u>1083</u>
BOTTOMHOLE PRESSURE (PSIA)	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">1313.5</div>

<b><u>DK-Original</u></b>	
GAS GRAVITY	<u>0.621</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.15</u>
%CO2	<u>1.22</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>1.5</u>
DEPTH (FT)	<u>7967</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>148</u>
FLOWRATE (MCFPD)	<u>113</u>
SURFACE PRESSURE (PSIA)	<u>2625</u>
BOTTOMHOLE PRESSURE (PSIA)	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">3215.2</div>

OK Parent

Page No.: 1  
Print Time: Thu Aug 20 16:55:42 1998  
Property ID: 1628  
Property Name: SAN JUAN 28-5 UNIT | 54 | 50693A-1  
Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

--DATE-- ---CUM GAS-- M FWHP- M FBHP- M SIWHP M SIBHP  
\*\*\*\*\*Mcf\*\*\*\*\*Psi\*\*\*\*\*Psi\*\*\*\*\*Psi\*\*\*\*\*Psi\*\*\*\*\*

12/24/62	0	0.0	<i>Orig</i> 2625.0	3097.0
01/15/63	0		2629.0	
05/06/63	41000		1679.0	
04/22/64	137000		1348.0	
06/21/65	256000		1229.0	
05/23/66	361000		1141.0	
05/26/67	473000		984.0	
05/20/68	572000		957.0	
06/19/70	755870	436.0	858.0	1002.0
04/27/71	822634	386.0	822.0	959.0
05/15/72	905811	460.0	833.0	972.0
07/23/73	972655	431.0	1046.0	1224.0
05/05/75	1057586	249.0	1132.0	1326.0
07/05/77	1137950	274.0	1182.0	1386.0
10/04/79	1206041	422.0	1182.0	1386.0
08/12/81	1252029	306.0	1224.0	1436.0
12/12/85	1351967	308.0	1160.0	1360.0
10/04/88	1410682	369.0	1112.0	1303.0
04/08/90	1431387	352.0	1522.0	1790.0
04/04/94	1512579		<i>Cur</i> 1083.0	

OPR008M2 0092

0008 CHROMATOGRAPH GAS SAMPLE DETAIL

17:56:26.8 08/20/98

DK Parent

	MOL %	GPM (AT 14.73)
HYDROGEN	_____	
HELIUM	_____	
NITROGEN	___0.15	
OXYGEN	_____	
HYDROGEN SULFIDE	_____	
CARBON DIOXIDE	___1.22	
METHANE	___91.71	
ETHANE	___4.62	1.2359
PROPANE	___1.29	0.3555
ISO-BUTANE	___0.26	0.0850
N-BUTANE	___0.30	0.0946
ISO-PENTANE	___0.12	0.0439
N-PENTANE	___0.08	0.0290
HEXANE	_____	
HEXANE PLUS	___0.25	0.1091
HEPTANE PLUS	_____	
TOTALS	100.00	1.9530

\*\* DATA AT 14.730 PSIG UNLESS NOTED \*\*

MP NUMBER 73516

EFFECTIVE DATE 19970101

-- GASOLINE CONTENT (GPM) --

26/70 GASOLINE \_\_\_\_\_

100% PROPANE \_\_\_\_\_

EXCESS BUTANES \_\_\_\_\_

TOTAL

----- SPECIFIC GRAVITY -----

CALCULATED \_0.6210

MEASURED \_\_\_\_\_

SULPHUR GRAINS / 100 CU FT \_\_\_\_\_

03=MAIN SCREEN

24=HELP

PA1=TERMINATE



REQUESTED RECORD NOT FOUND (NEXT RECORD DISPLAYED)

OPR008M1 0092

0008 CHROMATOGRAPH TEST MAIN SCREEN

17:56:17.2 08/20/98

FUNCTION (A,C,D,I) I \*\* DATA AT TEST PRESSURE UNLESS NOTED \*\*  
MP NUMBER 73516 SAN JUAN 28-5 UNIT 54  
EFFECTIVE DATE 19970101  
REGION CD 42 SAN JUAN  
MP TYPE CODE 10 GAS METER - WELLHEAD SALES

-----  
SAMPLE TYPE CODE (GAS,LIQ,BTU) GAS ----- BTU/CF -----  
SAMPLE DATE 19961207 --- (AT 14.73 PSIG) --  
SAMPLE LINE PRESSURE (PSIG) \_\_\_\_\_ WET 1066.136 DRY 1085.000  
SAMPLE LINE TEMPERATURE (DEG F) \_\_\_\_\_  
TEST DATE \_\_\_\_\_ ----- BTU/CF -----  
TEST PRESSURE (PSIG) \_14.730 WET \_1066.136 DRY \_1085.000  
TEST TEMPERATURE (DEG F) 60 VAPOR FACTOR \_\_\_\_\_  
TEST LIFE (MONTHS) \_6  
TESTER SOURCE BA NUMBER 098795 EL PASO FIELD SERVICES  
TEST PURPOSE CODE \_\_\_\_\_

-----  
03=DETAIL SCR 04=MP-NM BRWS 06=MP/DS LST 07=MP/WN LST  
11=PREV SCR 12=MAIN MENU 20=NEXT REC  
21=REFRESH SCR 22=PREV MENU 24=HELP PA1=TERMINATE \_\_\_\_\_

Page No.: 1  
 Print Time: Tue Aug 11 09:59:10 1998  
 Property ID: 1629  
 Property Name: SAN JUAN 28-5 UNIT | 54E | 54329A-1  
 Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

--DATE--	---	CUM GAS--	M FWHP-	M FBHP-	M SIWHP	M SIBHP
■■■■■■■■■■	■■■■■■■■■■	Mcf■■■■■■■■■■	■■■■■■■■■■ Psi■■■■■■■■■■	■■■■■■■■■■ Psi■■■■■■■■■■	■■■■■■■■■■ Psi■■■■■■■■■■	■■■■■■■■■■ Psi■■■■■■■■■■
10/07/85		0			1602.0	<i>original</i>
12/12/85		42225	315.0		1057.0	0.0
09/19/86		117591	318.0		882.0	0.0
12/18/87		260717	379.0		728.0	0.0
10/04/88		329905	358.0		702.0	0.0
04/08/90		401308	389.0		912.0	0.0
09/29/92		573187			619.0	
01/31/94		694337			501.0	<i>Current</i>

OPR008M1 1153      0008 CHROMATOGRAPH TEST MAIN SCREEN      17:20:33.3 07/22/98

SAMPLE TYPE CODE (GAS, LIQ, BTU)	GAS	----- BTU/CF -----
SAMPLE DATE	19961210	--- (AT 14.73 PSIG) --
SAMPLE LINE PRESSURE (PSIG)	_____	WET 1014.057 DRY <u>1032.000</u>
SAMPLE LINE TEMPERATURE (DEG F)	_____	
TEST DATE	_____	----- BTU/CF -----
TEST PRESSURE (PSIG)	<u>14.730</u>	WET <u>1014.057</u> DRY <u>1032.000</u>
TEST TEMPERATURE (DEG F)	60	VAPOR FACTOR _____
TEST LIFE (MONTHS)	<u>6</u>	
TESTER SOURCE BA NUMBER	098795	EL PASO FIELD SERVICES
TEST PURPOSE CODE		

```
03=DETAIL SCR      04=MP-NM BRWS      06=MP/DS LST      07=MP/WN LST
11=PREV SCR        12=MAIN MENU          20=NEXT REC
21=REFRESH SCR     22=PREV MENU          24=HELP          PA1=TERMINATE
```

	MOL %	GPM (AT 14.73)
HYDROGEN	_____	
HELIUM	_____	
NITROGEN	__0.17	
OXYGEN	_____	
HYDROGEN SULFIDE	_____	
CARBON DIOXIDE	__1.63	
METHANE	__95.03	
ETHANE	__2.39	0.6393
PROPANE	__0.35	0.0965
ISO-BUTANE	__0.12	0.0393
N-BUTANE	__0.08	0.0252
ISO-PENTANE	__0.06	0.0220
N-PENTANE	__0.03	0.0109
HEXANE	_____	
HEXANE PLUS	__0.14	0.0611
HEPTANE PLUS	_____	
TOTALS	100.00	0.8943

\*\* DATA AT 14.730 PSIG UNLESS NOTED \*\*

MP NUMBER 95515

EFFECTIVE DATE 19970101

-- GASOLINE CONTENT (GPM) --

26/70 GASOLINE \_\_\_\_\_

100% PROPANE \_\_\_\_\_

EXCESS BUTANES \_\_\_\_\_

TOTAL

----- SPECIFIC GRAVITY -----

CALCULATED \_0.5940

MEASURED \_\_\_\_\_

SULPHUR GRAINS / 100 CU FT \_\_\_\_\_

03=MAIN SCREEN

24=HELP

PA1=TERMINATE

DP NO: 54329A

DATE: 980504 (YYMMDD FORMAT)

SAN JUAN 28-5 UNIT *OK*

54E

SCROLL FORWARD BY DATE: \_

S

E	DATE	HOURS	-OIL PRODN-	-GAS PRODN-	-WATER PRODN-
L PRODUCED	ON	(BOPD	BOPM)	(MCFD MCFM)	(BWPD BWPM)
05/04/98	0.0	0.00	0.00	0 0	0.00 0.00
05/03/98	0.0	0.00	0.00	0 0	0.00 0.00
05/02/98	0.0	0.00	0.00	0 0	0.00 0.00
05/01/98	6.3	0.00	0.00	0 0	0.00 0.00
04/30/98	24.0	0.00	0.00	12 3138	0.00 0.00
04/29/98	24.0	0.00	0.00	12 3126	0.00 0.00
04/28/98	24.0	0.00	0.00	71 3114	0.00 0.00
04/27/98	24.0	0.00	0.00	79 3043	0.00 0.00
04/26/98	24.0	0.00	0.00	98 2964	0.00 0.00
04/25/98	24.0	0.00	0.00	102 2866	0.00 0.00
04/24/98	24.0	0.00	0.00	93 2764	0.00 0.00

ENTER I UNDER SEL FOR MAINTENANCE

PF6=NRI PF10=BROWSE MENU PF11=INQ/UPDATE MENU  
 PF12=MAIN MENU ENTER=BACKWARDS PF24=HELP

FDG055M4 1153

WELL PRODUCTION 8/8'S VOLUME

07/22/98 17:16:59

START OF DATA

DP NO: 54329B

DATE: 980720 (YYMMDD FORMAT)

SAN JUAN 28-5 UNIT *gl*

54E

SCROLL FORWARD BY DATE: \_

S

E	DATE	HOURS	-OIL PRODN-	-GAS PRODN-	-WATER PRODN-
L PRODUCED	ON	(BOPD	BOPM)	(MCFD MCFM)	(BWPD BWPM)
-	07/20/98	24.0	0.00	0.00	41 808 0.00 0.00
-	07/19/98	24.0	0.00	0.00	41 767 0.00 0.00
-	07/18/98	24.0	0.00	0.00	43 726 0.00 0.00
-	07/17/98	24.0	0.00	0.00	56 683 0.00 0.00
-	07/16/98	19.6	0.00	0.00	78 627 0.00 0.00
-	07/15/98	3.6	0.00	0.00	0 549 0.00 0.00
-	07/14/98	24.0	0.00	0.00	50 549 0.00 0.00
-	07/13/98	24.0	0.00	0.00	49 499 0.00 0.00
-	07/12/98	24.0	0.00	0.00	41 450 0.00 0.00
-	07/11/98	24.0	0.00	0.00	36 409 0.00 0.00
-	07/10/98	24.0	0.00	0.00	38 373 0.00 0.00

ENTER I UNDER SEL FOR MAINTENANCE

-----

PF12=MAIN MENU	PF6=NRI	PF10=BROWSE MENU	PF11=INQ/UPDATE MENU
	ENTER=BACKWARDS		PF24=HELP

DP NO: 54329B

DATE: 980709 (YYMMDD FORMAT)

SAN JUAN 28-5 UNIT *GL*

54E

SCROLL FORWARD BY DATE: \_

S

E	DATE	HOURS	-OIL PRODN-	-GAS PRODN-	-WATER PRODN-
L	PRODUCED	ON	(BOPD BOPM)	(MCFD MCFM)	(BWPD BWPM)
—	07/09/98	24.0	0.00	0.00	40 335 0.00 0.00
—	07/08/98	24.0	0.00	0.00	36 295 0.00 0.00
—	07/07/98	24.0	0.00	0.00	36 259 0.00 0.00
—	07/06/98	24.0	0.00	0.00	36 223 0.00 0.00
—	07/05/98	24.0	0.00	0.00	31 187 0.00 0.00
—	07/04/98	24.0	0.00	0.00	38 156 0.00 0.00
—	07/03/98	24.0	0.00	0.00	48 118 0.00 0.00
—	07/02/98	24.0	0.00	0.00	33 70 0.00 0.00
—	07/01/98	24.0	0.00	0.00	37 37 0.00 0.00
—	06/30/98	24.0	0.00	0.00	65 2381 0.00 0.00
—	06/29/98	24.0	0.00	0.00	48 2316 0.00 0.00

ENTER I UNDER SEL FOR MAINTENANCE

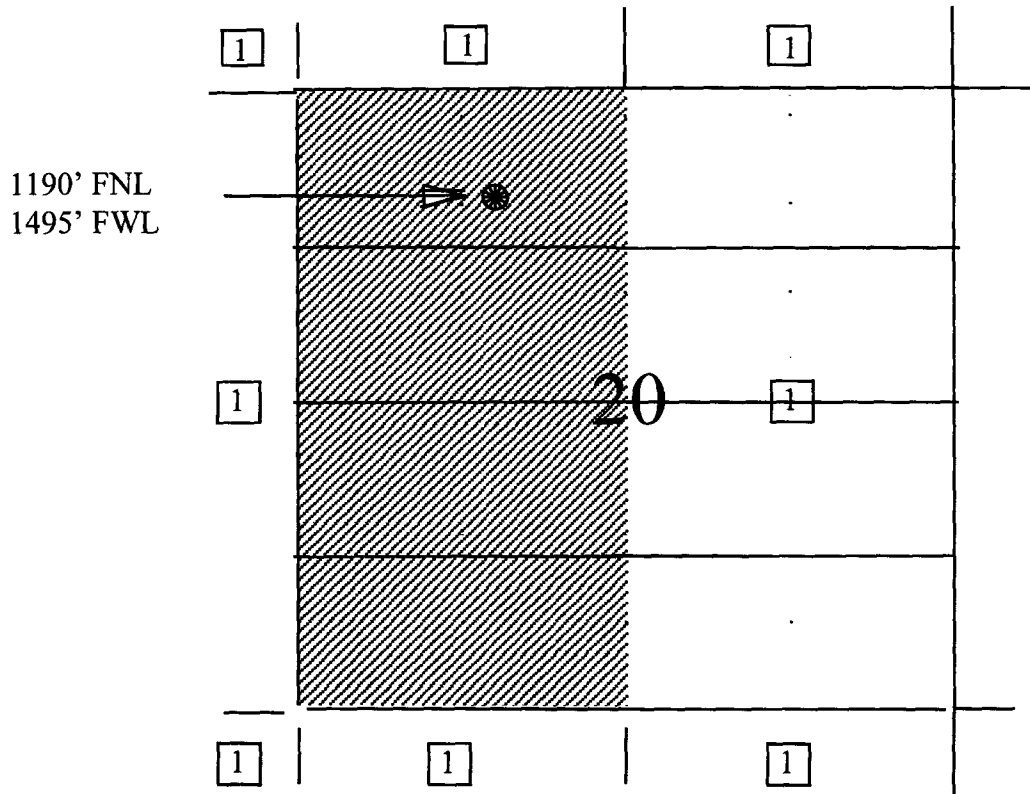
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 PF12=MAIN MENU ENTER=BACKWARDS PF24=HELP

***BURLINGTON RESOURCES OIL AND GAS COMPANY***

**San Juan 28-5 Unit #54E  
OFFSET OPERATOR \ OWNER PLAT  
Downhole Commingle**

**Dakota (W/2) / Gallup (NW/4) Formations Well**

**Township 28 North, Range 5 West**



1) Burlington Resources



DATE: July 28, 1998  
NAME: SAN JUAN 28-5 UNIT 54E  
FORM: DAKOTA  
LOCATION  
UNIT: C  
SEC: 20  
TWN: 28N  
RNG: 5W

<p>11/85  San Juan 28-5 Unit 61E  52/256 (97)  0/0</p> <p>7/59  San Juan 28-5 Unit 34  83/2690 (97)  0/4</p>	<p>12/62  San Juan 28-5 Unit 61  91/1973 (97)  0/0</p> <p>11/85  San Juan 28-5 Unit 34E  92/550 (97)  0/0</p>	<p>9/68  San Juan 28-5 Unit 75  73/1404 (97)  0/0</p> <p>12/68  INA  0/0</p> <p>11/85  San Juan 28-5 Unit 33  0/2298 (98)  0/0</p>	<p>4/71  San Juan 28-5 Unit 84  168/2931 (97)  [16] 0/1</p> <p>9/69  San Juan 28-5 Unit 83  115/2332 (97)  0/0</p> <p>1/86  San Juan 28-5 Unit 84E  221/1161 (97)  0/2</p>
<p>7/82  San Juan 28-5 Unit 57M  119/829 (97)  0/1</p> <p>11/59  San Juan 28-5 Unit 35  62/1500 (97)  0/1</p>	<p>12/62  San Juan 28-5 Unit 57  0/1822 (97)  0/0</p> <p>11/85  San Juan 28-5 Unit 54E  140/966 (97)  0/0</p> <p>11/85  San Juan 28-5 Unit 63  247/4876 (97)  0/1</p>	<p>11/62  San Juan 28-5 Unit 76M  168/678 (97)  0/0</p> <p>9/68  San Juan 28-5 Unit 76  28/1591 (97)  [21] 0/1</p> <p>6/67  San Juan 28-5 Unit 67  76/2083 (97)  0/0</p> <p>2/86  San Juan 28-5 Unit 67M  81/514 (97)  0/0</p>	<p>2/86  San Juan 28-5 Unit 76  28/1591 (97)  [21] 0/1</p> <p>2/86  San Juan 28-5 Unit 67M  81/514 (97)  0/0</p>
<p>11/81  San Juan 28-5 Unit 59M  172/1030 (97)  0/1</p> <p>10/62  San Juan 28-5 Unit 59  80/2677 (97)  [30] 0/1</p> <p>10/62  San Juan 28-5 Unit 58  82/2109 (97)  0/0</p>	<p>11/62  San Juan 28-5 Unit 60  84/3762 (97)  0/0</p> <p>5/97  San Juan 28-5 Unit 60M  167/35 (97)  0/0</p> <p>1/97  San Juan 28-5 Unit 58M  507/154 (97)  0/0</p>	<p>11/62  San Juan 28-5 Unit 64M  228/83 (97)  1/0</p> <p>7/97  San Juan 28-5 Unit 66M  96/14 (97)  1/0</p> <p>12/62  San Juan 28-5 Unit 66  357/6008 (97)  0/4</p> <p>12/96  San Juan 28-5 Unit 64  278/4898 (97)  1/14</p>	<p>2/63  San Juan 28-5 Unit 64  278/4898 (97)  1/14</p> <p>12/62  San Juan 28-5 Unit 65  594/8749 (97)  0/13</p> <p>7/97  San Juan 28-5 Unit 65M  237/36 (97)  0/0</p>

T  
28  
N

LEGEND  
COMPLETION DATE  
WELL NAME  
MCF/D-CUM(MMF)  
BOP/D-CUM(MBO)

R-5-W

DATE: July 28, 1998  
 NAME: SAN JUAN 28-5 UNIT 54E  
 FORM: GALLUP  
 LOCATION  
 UNIT: C  
 SEC: 20  
 TWN: 28N  
 RNG: 5W

LEGEND  
 COMPLETION DATE \*  
 WELL NAME  
 MCF/D-CUM(MMCF)  
 BOP/D-CUM(MBO)

[16]	[17]	[18]
[21]	5/98 * San Juan 28-5 Unit 54E 208/2 (98) 0/0	[19]
[28]	[29]	[30]

T 28 N

Company: BURLINGTON RESOURCES  
Well: SAN JUAN 28-5 UNIT #54E  
Field: CALLUP FORMATION  
Engineer:  
Gauge Type: AMERADA  
Gauge Range: 0-3000  
Gauge Depth: 7300 ft  
Serial No.: 31196

County: RIO ARriba  
State: NEW MEXICO  
Date: 05/20/1998  
Well Type:  
Test Type: STATIC GRADIENT  
Status: SHUT-IN  
File Name: 31918

Tubing: 1 1/2" TO 7328  
Tubing: TO  
Casing: TO  
Perfs.: 6912-7333  
Shut-in Time 168 hrs

PBTD 7380 ft  
Oil Level  
H2O Level 7254 ft

Shut-in BHP 2298 @ 7300 ft Shut-in BHT 0 F @ 0 ft  
Shut-in WHP 1830 Shut-in WHT 0 F  
Casing CSGP 1830

[ Tefteller Incorporated ]

#	MD	TVD	PRESSURE	PSI/ft
1	0	0	1830.00	
2	2000	2000	1965.00	0.068
3	4000	4000	2098.00	0.067
4	6000	6000	2215.00	0.058
5	6900	6900	2264.00	0.054
6	7100	7100	2272.00	0.040
7	7300	7300	2298.00	0.130

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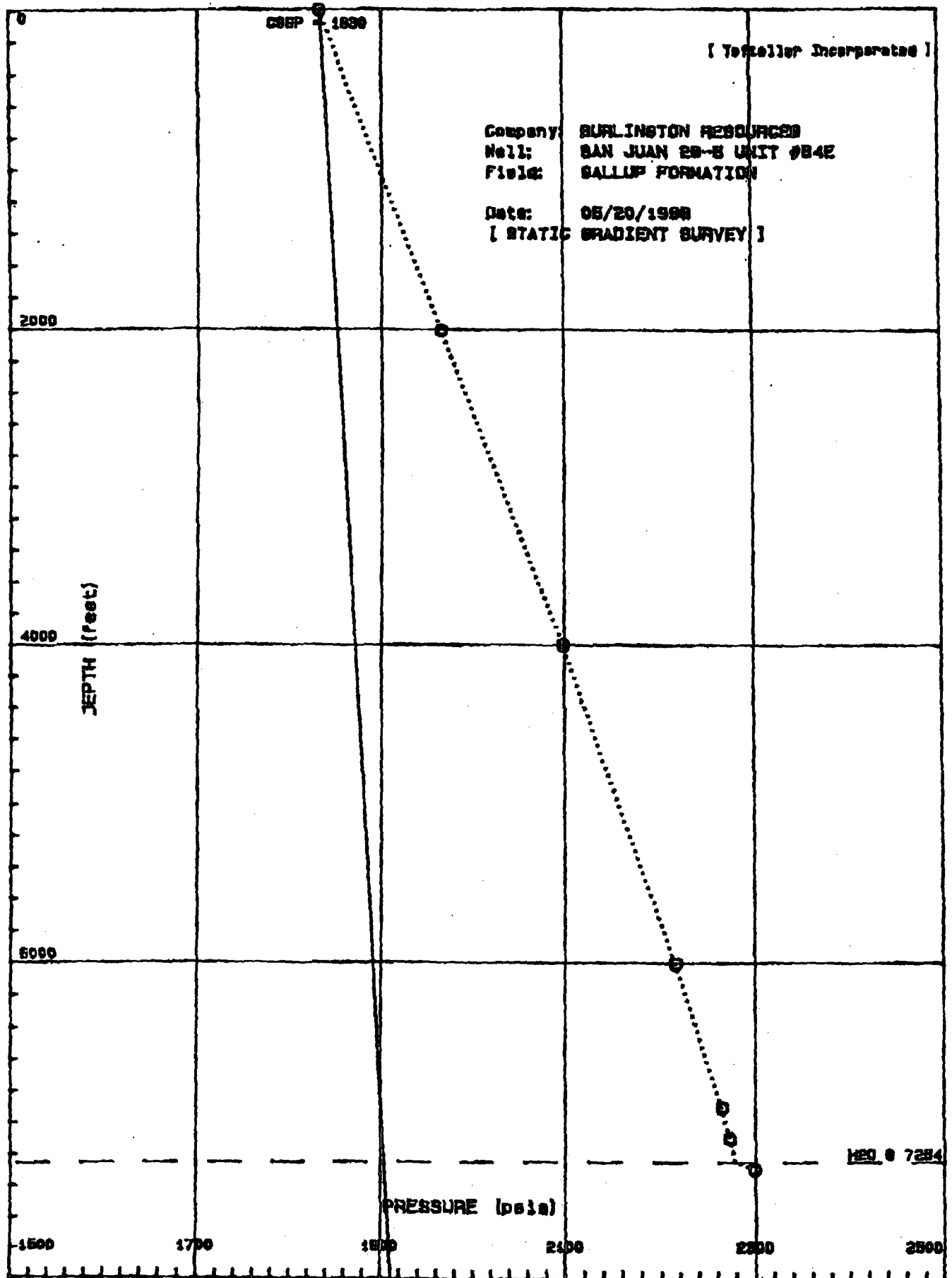
TEFTELLER INC.

JUL-14 98 09:34 FROM:TEFTELLER INC

9156947602

TO:TEFTELLER

002  
PAGE:02





2030 AFTON PLACE  
FARMINGTON, N.M. 87401  
(505) 325-6622

ANALYSIS NO. BUR80751  
CUST. NO. 52100- 15725

### WELL/LEASE INFORMATION

CUSTOMER NAME BURLINGTON RESOURCES  
WELL NAME SAN JUAN 28-5 #54E  
COUNTY/ STATE  
LOCATION  
FIELD  
FORMATION GALLUP  
CUST.STN.NO.

SOURCE  
PRESSURE 265 PSIG  
SAMPLE TEMP 83 DEG.F  
WELL FLOWING N/A  
DATE SAMPLED 6/16/98  
SAMPLED BY STEVE ADAMS  
FOREMAN/ENGR. LARY BYARS

### REMARKS

### ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR *
NITROGEN	3.196	0.0000	0.00	0.0309
CO2	0.754	0.0000	0.00	0.0115
METHANE	79.897	0.0000	808.80	0.4426
ETHANE	9.823	2.6277	174.23	0.1020
PROPANE	3.451	0.9511	87.03	0.0525
I-BUTANE	0.655	0.2143	21.35	0.0131
N-BUTANE	0.940	0.2964	30.74	0.0189
I-PENTANE	0.405	0.1482	16.24	0.0101
N-PENTANE	0.251	0.0909	10.09	0.0063
HEXANE PLUS	0.628	0.2740	32.29	0.0202
TOTAL	100.000	4.6025	1,180.77	0.7080

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\* @ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z) 1.0032  
BTU/CU.FT (DRY) CORRECTED FOR (1/Z) 1,184.5  
BTU/CU.FT (WET) CORRECTED FOR (1/Z) 1,163.9  
REAL SPECIFIC GRAVITY 0.7104

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

DRY BTU @ 14.650 1,178.1  
DRY BTU @ 14.696 1,181.8  
DRY BTU @ 14.730 1,184.5  
DRY BTU @ 15.025 1,208.3

CYLINDER # 335-9  
CYLINDER PRESSURE 236 PSIG  
DATE RUN 6/17/98  
ANALYSIS RUN BY DAVE MARTIN



BURLINGTON RESOURCES  
WELL ANALYSIS COMPARISON

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LEASE : SAN JUAN 28-5 #54E  
STN.NO. :

METER RUN  
GALLUP

6/17/98  
52100 - 15725

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SMPL DATE	6/16/98	5/26/98
TEST DATE	6/17/98	6/11/98
RUN NR.	BUR80751	BUR80748
NITROGEN	3.196	6.257
CO2	0.754	0.630
METHANE	79.897	75.711
ETHANE	9.823	9.763
PROPANE	3.451	3.714
I-BUTANE	0.655	0.819
N-BUTANE	0.940	1.198
I-PENTANE	0.405	0.604
N-PENTANE	0.251	0.387
HEXANE +	0.628	0.917
BTU	1,184.5	1,190.1
GPM	4.6025	5.0421
SP.GRAV.	0.7104	0.7444

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED  
BY THE OIL CONSERVATION DIVISION FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 11627  
ORDER NO. R-10695

APPLICATION OF BURLINGTON RESOURCES  
OIL & GAS COMPANY FOR THE ESTABLISHMENT  
OF A DOWNHOLE COMMINGLING "REFERENCE  
CASE" FOR ITS SAN JUAN 28-5 UNIT PURSUANT  
TO DIVISION RULE 303.E. AND THE ADOPTION  
OF SPECIAL ADMINISTRATIVE RULES THEREFOR,  
~~SAN JUAN~~ COUNTY, NEW MEXICO.

*Rio ARRIBA*

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on October 17 and November 7, 1996, at Santa Fe, New Mexico, before Examiners David R. Catanach and Michael E. Stogner, respectively.

NOW, on this 12th day of November, 1996, the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Burlington Resources Oil & Gas Company (Burlington), pursuant to the provisions of Division Rule 303.E., seeks to establish a downhole commingling "reference case" to provide exceptions for (a) marginal economic criteria, (b) pressure criteria, (c) allocation formulas and (d) modification of notification rules on a unit-wide basis for downhole commingling of Dakota, Mesaverde, Fruitland Coal and Pictured Cliffs gas production within existing or future drilled wells within the San Juan 28-5 Unit, San Juan County, New Mexico.

(3) Division Rule No. 303.E., amended by Order No. R-10470-A, currently states:

"If sufficient data exists on a lease, pool, formation, geographic area, etc., so as to render it unnecessary to repeatedly provide such data on Form C-107-A, an operator may except any of the various criteria required under Paragraph 303.D. of this rule by establishing a "reference case". The Division, upon its own motion, or by application from an operator, may establish "reference cases" either administratively or by hearing. Upon Division approval of such "reference cases" for specific criteria, subsequent applications to downhole commingle (Form C-107-A) will be required only to cite the Division order number which established such exceptions and shall not be required to submit data for those criteria."

(4) The applicant is the current operator of the San Juan 28-5 Unit which encompasses some 17,399 acres in Township 28 North, Range 5 West, NMPM, San Juan County, New Mexico.

(5) Within the San Juan 28-5 Unit, the applicant currently operates sixty-seven (67) Basin-Dakota Gas Pool wells, seventy-one (71) Blanco-Mesaverde Gas Pool wells, sixteen (16) Gobernador-Pictured Cliffs, Oso-Pictured Cliffs and Tapacito-Pictured Cliffs Gas Pool wells, and nineteen (19) Basin-Fruitland Coal Gas Pool wells.

(6) According to its evidence and testimony, Burlington seeks to:

- a) establish a "reference case" for marginal economic criteria in the Dakota and Pictured Cliffs formations whereby these formations and/or pools may be identified as "marginal" on Form C-107-A's subsequently filed for wells within the San Juan 28-5 Unit. The applicant further proposes that the data provided in the immediate case serve as supplemental data or confirmation that these formations and/or pools should be classified as "marginal";
- b) establish a "reference case" for pressure criteria in the Dakota and Pictured Cliffs formations whereby the Division may utilize data provided in the immediate case to verify the pressure data provided on Form C-107-A's subsequently filed for wells within the San Juan 28-5 Unit;



- c) establish a "reference case" whereby the Division utilizes the data presented in the immediate case to endorse or approve certain methods of allocating production whereby the applicant need not submit additional data or justification when proposing a certain method of allocating production on Form C-107-A's subsequently filed for wells within the San Juan 28-5 Unit; and,
- d) establish a "reference case" or an administrative procedure for authorizing the downhole commingling of existing or future drilled wells within the San Juan 28-5 Unit without additional notice to each affected interest owner as required by Division Rule No. 303.D.

(7) In support of its request to except marginal economic criteria, the applicant presented geologic and engineering evidence and testimony which indicates that within the San Juan 28-5 Unit:

- a) the structure and thickness of the Dakota and Pictured Cliffs formations are very consistent;
- b) the average recoverable Dakota and Pictured Cliffs gas reserves underlying an undeveloped drill block are approximately 1,258 MMCFG and 77 MMCFG, respectively;
- c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 276 MCFGD and 136 MCFGD, respectively; and,
- d) the estimated ultimate gas recoveries and initial producing rates from the Dakota and Pictured Cliffs formations are insufficient to justify drilling stand alone wells and/or dually completed wells to recover such gas reserves.

(8) The evidence and testimony presented by the applicant indicates that the Dakota and Pictured Cliffs formations within the San Juan 28-5 Unit should be properly classified as "marginal".

(9) In support of its request to except pressure criteria within the Dakota and Pictured Cliffs formations within the San Juan 28-5 Unit, the applicant presented engineering evidence and testimony which indicates that:

- a) the average shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations at the time of initial development were approximately 3,149 psi and 1,143 psi, respectively; and,
- b) the average current shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations are approximately 1,059 psi and 714 psi, respectively.

(10) There is sufficient pressure data available within the San Juan 28-5 Unit so as to except pressure criteria as proposed by the applicant.

(11) The applicant testified that various allocation methods will be utilized for downhole commingled wells within the San Juan 28-5 Unit depending on the circumstances. Some of the methods and circumstances are described as follows:

- a) the subtraction method will likely be utilized in those instances involving the Basin-Fruitland Coal Gas Pool and in those instances where a zone with a well established decline rate is commingled with a newly completed zone;
- b) a fixed allocation formula will be utilized in those instances where production history for both zones is available, or in those instances where newly completed zones are tested and stabilized flow rates obtained.

(12) The allocation methods proposed by the applicant are routinely utilized by industry and approved by the Division and therefore, the proposal to except allocation formulas should be approved.

(13) In support of its request to establish a "reference case" or administrative procedure for providing notice within the San Juan 28-5 Unit the applicant presented evidence and testimony which indicates that:

- a) the interest ownership between two zones within a given wellbore in the San Juan 28-5 Unit is generally not common;
- b) pursuant to Division Rule No. 303.D., applicant is currently required to notify all interest owners within the San Juan 28-5 Unit every time a Form C-107-A is submitted to the Division. There are a considerable number of such interest owners within the unit;

- c) providing notice to each interest owner within the San Juan 28-5 Unit of subsequent downhole comminglings is unnecessary and is an excessive burden on the applicant;
- d) the downhole commingling of wells within the San Juan 28-5 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 28-5 Unit should not violate the correlative rights of any interest owner;
- e) no interest owner appeared at the hearing in opposition to the establishment of a "reference case" or administrative procedure for notice.

(14) An administrative procedure should be established within the San Juan 28-5 Unit for obtaining approval for subsequent downhole commingled wells without notice to Unit interest owners, provided however that, all other provisions contained within Division Rule No. 303.C. are complied with.

(15) Approval of the proposed "reference cases" for marginal economic criteria, pressure criteria, allocation formulas and notice will lessen the burden on the applicant insofar as providing the data required pursuant to Division Rule No. 303.D. and Form C-107-A, will provide the applicant a streamlined method for obtaining downhole commingling approvals within the San Juan 28-5 Unit, and will not violate correlative rights.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Burlington Resources Oil & Gas Company to establish a "reference case" for (a) marginal economic criteria, (b) pressure criteria, (c) allocation formulas and (d) modification of notification rules on a unit-wide basis for downhole commingling of Dakota, Mesaverde, Fruitland Coal and Pictured Cliffs gas production within existing or future drilled wells within the San Juan 28-5 Unit, San Juan County, New Mexico, is hereby approved.

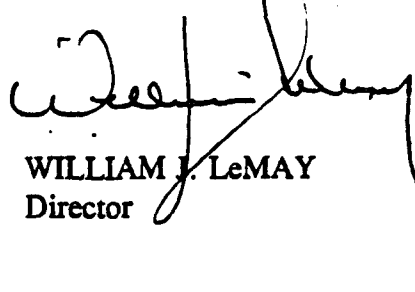
(2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 28-5 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify the Pictured Cliffs and Dakota pressure information provided, and support or justification for utilizing a given method or formula for allocation of production, provided however, in the event any of the data described above appearing on Form C-107-A appears to be beyond the data range provided in this case, the Division may require the submittal of additional supporting data.

(3) In order to obtain Division authorization to downhole commingle wells within the San Juan 28-5 Unit, the applicant shall file a Form C-107-A with the Santa Fe and Aztec Offices of the Division. Such application shall contain all the information required under Rule No. 303.C. of the Division Rules and Regulations, provided however that the applicant shall not be required to provide notice to all interest owners within the San Juan 28-5 Unit of such proposed commingling.

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LeMAY  
Director

S E A L