ABOVE THIS LINE FOR DIVISION USE ONLY

### NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -2040 South Pacheco, Santa Fe, NM 87505





|      |                     | 25 15 555411 2411555, 541141 1 5, 1111 57555  | · mi             | U                 |
|------|---------------------|---|------------------|-------------------|
|      | A                   | DMINISTRATIVE APPLICATION COV   | <b>ERSHEE</b>    | T                 |
| TH   | HIS COVERSHEET IS M | IANDATORY FOR ALL ADMINISTRATIVE APPLICATION FOR EXCEPTIONS T<br>WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANT                               |                  | S AND REGULATIONS |
| Appi | [DHC-Downh          | [NSP-Non-Standard Proration Unit] [NSL-Non-Standar<br>[DD-Directional Drilling] [SD-Simultaneous Dedicole Commingling] [CTB-Lease Commingling] [PLC-I | -                |                   |
|      | [M                  | /FX-Waterflood Expansion] [PMX-Pressure Maintenan<br>[SWD-Salt Water Disposal] [IPI-Injection Pressure  | ce Expansion     | ]                 |
| [1]  | [A]                 | PPLICATION - Check Those Which Apply for [A]  Location - Spacing Unit - Directional Drilling  NSL NSP DD DSD  | EGE!             | 1998              |
|      | Check<br>[B]        | One Only for [B] or [C]  Commingling - Storage - Measurement  ALDHC    CTB    PLC    PC   OLS   | CONSERVATION OLM | NOISIVID NO       |
|      | [C]                 | Injection - Disposal - Pressure Increase - Enhanced Oil R □ WFX □ PMX □ SWD □ IPI □ EOR   | Recovery PPR     |                   |
| [2]  | NOTIFICAT<br>[A]    | ION REQUIRED TO: - Check Those Which Apply, or Delay Working, Royalty or Overriding Royalty Interest Own  |                  | pply              |
|      | [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 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land                           | SLO<br>Office    |                   |
|      | [E]                 | ☐ For all of the above, Proof of Notification or Publication  | ion is Attache   | d, and/or,        |
|      | ſFì                 | Waivers are Attached  |                  |                   |

#### INFORMATION / DATA SUBMITTED IS COMPLETE - Certification [3]

| I hereby certify that I, or person Regulations of the Oil Consers approval is accurate and completion of the Oil Consers approval is common. <i>I understation and any required information and any required in the original accurate the original accurate the original of the original origina</i> | vation Division.<br>ete to the best of m<br>and that any omissi | Further, I assert that the service of the service o | he attached applicate applicable, verify the API numbers, pool | tion for administrative hat all interest (WI, RI |
|--|---|--|--|--|
|  |   |  |  |  |
| Note: Statement  | must be completed by  | an individual with manageri  | ial and/or supervisory ca                                      | apacity.   |
|  | Sagan S   | mahired  | ·  |  |
| Print or Type Name   | Signature   | Titl   | e  | 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

**Burlington Resources Oil and Gas** 

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:

\_X\_ Administrative \_\_\_Hearing

### APPLICATION FOR DOWNHOLE COMMINGLING

PO Box 4289, Farmington, NM 87499

EXISTING WELLBORE X\_ YES \_\_\_ NO

| San Juan 28-5 Unit  | #38A  | O 32-28N   | -05W   | Ri                                   | o Arriba   |
|---|---|--|--|--------------------------------------|--|
| ease  | Well No.  | Unit Ltr Sec - Tv  | vp - Rge   |                                      | ounty  |
| OGRID NO14538_ Property Code _  | 7460  | API NO30-0   | 39- 22233  |                                      | t Lease Types: (check 1 or more)<br>_ X , State, Fee |
| The following facts are submitted in support of downhole commingling:   | Upi<br>20   | per  | Intermediate<br>Zone   |                                      | Lower Sau-H  |
| Pool Name and<br>Pool Code  | Tapacito Pic Cli  |  |  |                                      | Blanco Mesaverde - 72319                             |
| Top and Bottom of<br>Pay Section (Perforations)   | 3296'-3356'   |  |  |                                      | 4983'-5815'  |
| 3. Type of production (Oil or Gas)  | Gas   |  |  |                                      | Gas  |
| 4. Method of Production (Flowing or Artificial Lift)  | Flowing   |  |  |                                      | Flowing  |
| 5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current   | (Current)<br>a. \622 psi<br>(see attachme   | nt)  |  | .,                                   | a. 442 psi (see attachment)                          |
| Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original   | (Original)<br>b. 1096 psi<br>(see attachme  | nt)  |  |                                      | b. 953 psi (see attachment)                          |
| 6. Oil Gravity (°API) or<br>Gas BTU Content   | BTU 1150  |  |  |                                      | BTU 1210   |
| 7. Producing or Shut-In?  | Producing   |  |  |                                      | Producing  |
| Production Marginal? (yes or no)  | Yes   |  |  |                                      | No   |
| * If Shut-In and oil/gas/water rates of last production   | Date: N/A<br>Rates:   |  |  |                                      | Date: N/A<br>Rates:                                  |
| Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data                                    |   |  |  |                                      |  |
| * If Producing, give data and<br>oil/gas/water water of recent test<br>(within 60 days)   | Date: 6/18/98<br>Rates: 11 mcfd<br>0.0 bopd   |  |  |                                      | Date: 6/18/98<br>Rates: 191 mcfd<br>0.8 bopd         |
| 8. Fixed Percentage Allocation<br>Formula -% for each zone<br>(total of %'s to equal 100%)  | Will be supplied up   | on completion.   | 1  |                                      | Will be supplied upon completion.                    |
| 9. If allocation formula is based submit attachments with supp 10. Are all working, overriding, an If not, have all working, overriding all offset operators been | nd royalty interest<br>ding, and royalty<br>n given written no  | ts identical in all<br>interests been r<br>itice of the propo          | commingled zones?<br>notified by certified ma<br>osed downhole commin  | iil?<br>ngling?                      | Yes <u>X_</u> No<br>Yes _X_No<br>_X_YesNo            |
| 11. Will cross-flow occur? _X_Y production be recovered, and  |   |  |  |                                      |  |
| <ul><li>2. Are all produced fluids from al</li><li>3. Will the value of production be</li></ul>   | •   | ·  | _  | X_Yes<br>s_attach.e                  | _ No<br>explanation)                                 |
| 4. If this well is on, or communi<br>Bureau of Land Management h  | =   |  | ·  | •                                    | • •  |
| 5. NMOCD Reference Cases for F  |   |  |  |                                      |  |
| 6. ATTACHMENTS:  * C-102 for each zone  * Production curve fo  * For zones with no po  * Data to support alo  | e to be commingle<br>or each zone for a<br>roduction history<br>cation method or<br>Il offset operators | ed showing its sp<br>t least one year,<br>, estimated prod<br>formula. | pacing unit and acreage (If not available, atta<br>luction rates and supp<br>terests for uncommon<br>red to support commir | e dedicat<br>ch explan<br>orting dat | ion.<br>ation.)<br>a.                                |
| hereby certify that the infor   | mation above i  | s true and coi   | mplete to the best o   | of my kno                            | wledge and belief.                                   |
| SIGNATURE J. Jone   | ovel  | TITLE  | Production Engine  | er DA                                | TE 6/23/98   |

TYPE OR PRINT NAME L. Tom Loveland TELEPHONE NO. ( 505 ) 326-9700

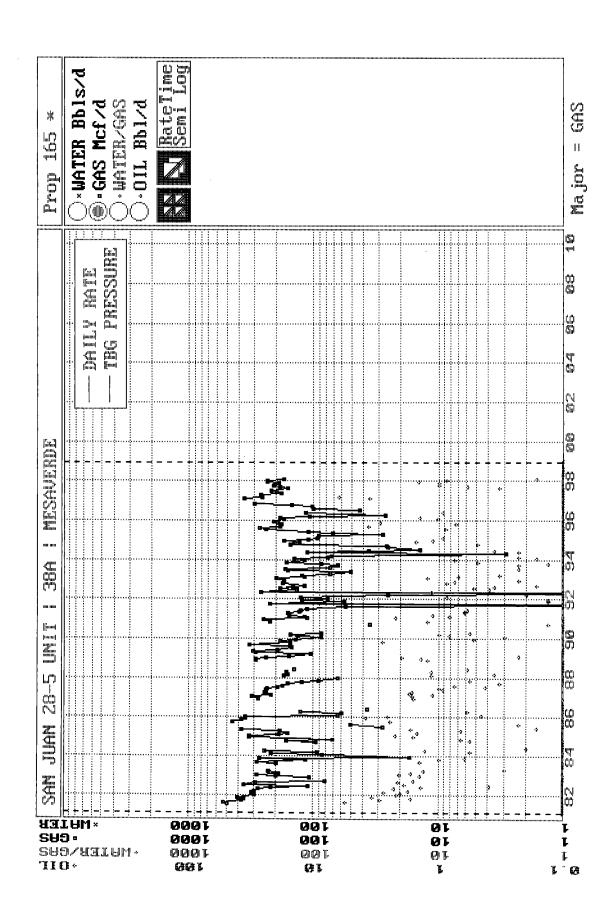
## STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

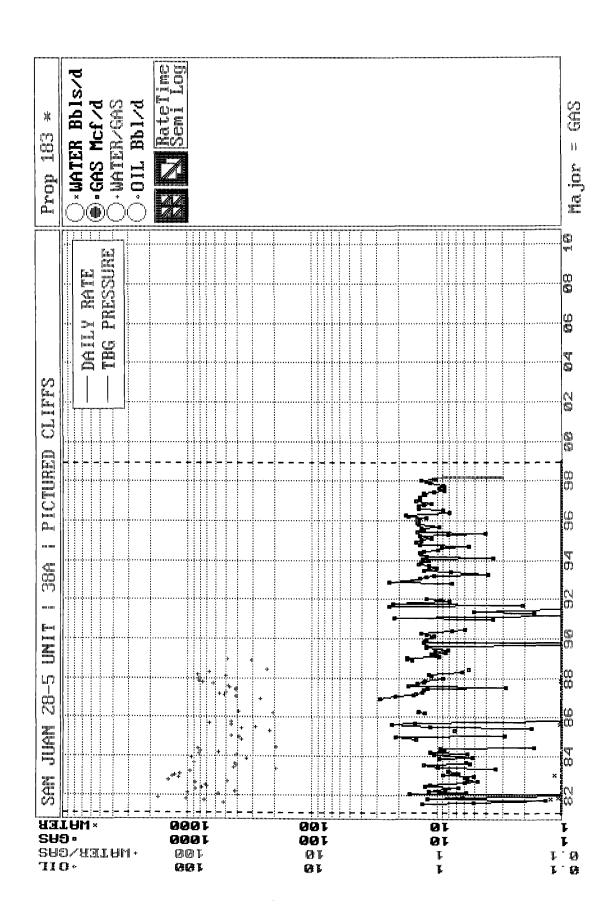
# OIL CONSERVATION DIVISION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

1980 Form C-102 Keylsed 10-1-7

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

| Operator   |  |                           |            |                  |               |                | . 0 -1  |             | ·              |                                       |                  | Well No.                                |
|--|--|---------------------------|------------|------------------|---------------|----------------|---|-------------|----------------|---------------------------------------|------------------|---|
| EL PASO NAT  | URAL   | GAS COMP.                 | ANY        |                  | SAN           | JUAN 2         | 28-5  | UNIT        | (SF-           | 079521                                | )                | 38A                                     |
| Unit Letter  | Section  |                           | Township   |                  | Rang          |                |   | County      |                | • 1                                   |                  |   |
| O<br>Actual Footage Loca   | l  | 32                        | 281        | <u> </u>         |               | 5W             |   | KIC         | Ar             | riba                                  |                  |   |
| 845  |  |                           | uth        | line and         | 1610          |                | fee   | t from the  | •              | East                                  |                  | line                                    |
| Ground Level Elev.<br>6487   |  | Producing For<br>MESA VER |            | CTURED<br>CLIFFS | PoolAby       |                |   | RED CI      |                |                                       | Dedice           | ted Acreage:<br>40 & 318.72 Acres       |
| 1. Outline the   | e acr  | eage dedica               | ted to the |                  | ell by col    |                |   |             |                |                                       |                  |   |
| interest an  | 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). |                           |            |                  |               |                |   |             |                |                                       |                  |   |
| 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc? |  |                           |            |                  |               |                |   |             |                |                                       |                  |   |
| xX Yes   |  | No If an                  | nswer is " | 'yes,'' type c   | of consoli    | dation         |   |             | U              | nitiza                                | ation            | 1                                       |
|  |  |                           | owners an  | d tract desc     | riptions v    | which h        | nave a  | ctually     | been           | consolid                              | ated. (          | Use reverse side of                     |
| this form if   |  |                           | ·          |                  |               | <del></del>    |   | <del></del> |                |                                       |                  |   |
|  |  |                           |            |                  |               |                |   |             |                |                                       |                  | zation, unitization, wed by the Commis- |
|  |  |                           |            |                  |               |                |   |             | <del>-</del> 1 | ····                                  |                  |   |
|  |  | 1                         |            |                  |               | 1              |   |             |                |                                       | CER              | TIFICATION                              |
|  |  | <u> </u>                  |            |                  |               | İ              |   |             | 11             |                                       |                  |   |
|  |  | 1                         |            |                  |               | i              |   |             |                |                                       |                  | that the information con-               |
| Ì  | •  | 1                         | ·          |                  |               | 1              |   |             | 11.            |                                       | 20.0000.00       | true and complete to the                |
| 1  |  | 1                         |            |                  |               | 1              |   |             |                | best of                               | y knowi          | edge and belief.                        |
|  |  | 1                         |            | ·                |               |                |   |             |                | 1/19                                  | l<br>Deser       | Sandfried                               |
|  |  | <u> </u>                  |            |                  |               |                | - <u>                                    </u> |             | _[             | Name                                  | <del>,</del>     |   |
|  |  | 1 ·                       |            | ĵ.               | 10V 02        | 1979           |   |             | D              | r.i.l.l.i                             | ig C             | lerk                                    |
|  |  | 1                         |            |                  | -<br>         | t<br>It enne   | 05M   |             | E              | J Paso                                | o Na             | tural Gas Co.                           |
|  |  | !                         |            |                  | , 1 1.0(2)(A) | je oone        | l ha e  |             |                |                                       | . J. C.          | 1070                                    |
|  |  | 1                         | Sec        |                  |               | 1              |   |             |                | Date                                  | r -10            | , 1979                                  |
|  | $\times$   | 1                         |            |                  |               |                |   |             | <b>*</b>       | · · · · · · · · · · · · · · · · · · · |                  |   |
| K  |  | i                         | k          | 32               |               | 1              |   | k           |                | l hereby                              | certify          | that the well location                  |
| R  |  | 1                         | k          |                  |               | 1              |   | ,           |                | -                                     |                  | at was plotted from field               |
| K  |  | 1                         | l l        | R                |               | !              |   | Į           | -KX            |                                       | •                | surveys made by me or                   |
| ₹  |  |                           |            | X                |               | !              |   | ſ           | KK.            |                                       |                  | ision, and that the same                |
| Sl   |  | 1                         | ſ          | Ŋ                |               | 1              |   | ſ           | YXI.           | is true                               | and cor          | rect to the best of my                  |
| 3  |  | 1                         | SF-0       | )<br>19521       |               | i              |   | ŀ           |                | knowledg                              | e and b          | elief.                                  |
| <b>1</b>   |  | +                         | k          | (1 <sup>2</sup>  |               | <del>i</del> — |   |             | <b>4</b> XI    |                                       |                  | ,                                       |
| #38  | _  | I                         | k          |                  |               | İ              |   |             | KK.            |                                       |                  | •                                       |
| <b>3</b>   | 9  | i                         | l          | K                | <b>0</b>      | 1 16           | 10'   | `           | XX             | Date Surve                            | yed              |   |
| 8  |  | l                         |            | K                | Ť             | ļ              |   |             | KK.            | Augus                                 | والمراجع المراجع | 1773                                    |
| 4  |  | ļ                         | K          | N                | <u>~</u>      | !              |   |             | V X I          | Hegisteryn                            |                  | dottal Galdineer                        |
| R  |  | 1                         | K          | J                | 817           | •              |   |             | (以)            | and/or Kill                           | A SOLVE          | or Chil                                 |
| ď  |  | 1                         | k          |                  |               | 1              |   | }           |                | =                                     | L. J. h          | 今入3106(                                 |
|  |  |                           | XXXXX      |                  | <u> </u>      |                |   |             | -W-            | Fred A                                | RE We            | rt/Jyl-                                 |
| 0 330 660  | 90 1   | 320 1650 198              | 0 2310 26  | 40 2000          | 1500          | 1000           | 0 -   | 900         | ۱۲۷ ,          | Seruifgan.<br>3950                    | 70:2             | 11 M                                    |
|  |  |                           |            | 2000             | 1000          | 1000           | - 5   | ,,,,,       | U I            | ファブペベ                                 | ~ ~ ~            | 1iv //                                  |





### San Juan 28-5 Unit #38A Bottom Hole Pressures Flowing and Static BHP

### **Cullender and Smith Method**

Version 1.0 1/14/98

| Pictured Cliffs  | Mesaverde  |
|--|--|
| PC-Current   | MV-Current   |
| GAS GRAVITY 0.676 COND. OR MISC. (C/M) C %N2 1.32 %CO2 0.53 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 3326 SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 571  BOTTOMHOLE PRESSURE (PSIA) 621.9 | GAS GRAVITY 0.692 COND. OR MISC. (C/M) C %N2 0.30 %CO2 0.92 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 5399 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 147 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 387 BOTTOMHOLE PRESSURE (PSIA) 442.1 |
| PC-Original  | MV-Original  |
| GAS GRAVITY 0.676  COND. OR MISC. (C/M) C  %N2 1.32  %CO2 0.53  %H2S 0  DIAMETER (IN) 7  DEPTH (FT) 3326  SURFACE TEMPERATURE (DEG F)  BOTTOMHOLE TEMPERATURE (DEG F) 114  FLOWRATE (MCFPD) 0  SURFACE PRESSURE (PSIA) 1096.3                  | GAS GRAVITY 0.692 COND. OR MISC. (C/M) C %N2 0.30 %CO2 0.92 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 5399 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 147 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 826 BOTTOMHOLE PRESSURE (PSIA) 953.4 |

Page No.: 23
Print Time: Fri May 08 08:28:41 1998

Property ID: 183
Property Name: SAN JUAN 28-5 UNIT | 38A | PICTURED CLIFFS
Table Name: S:\ARIES\78LTL\TEST.DBF

| DATECUM_OIL- |       | M_SIWHP |          |           |          |      |
|--------------|-------|---------|----------|-----------|----------|------|
| Bbl          | Mcf   | Psi     |          |           |          |      |
| , .          |       |         | 1        |           |          |      |
| 01/27/81     | 0     | 1000.0  | Original |           |          |      |
| 02/23/82     | 1866  | 730.0   | J        |           |          |      |
| 05/31/82     | 2693  | 665.0   |          |           |          |      |
| 09/19/83     | 6146  | 604.0   |          |           |          |      |
| 02/13/84     | 7095  | 619.0   |          |           |          |      |
| 04/17/86     | 11881 | 620.0   |          |           |          |      |
| 05/10/89     | 21443 | 677.0   |          |           |          |      |
| 09/10/91     | 27287 | 777.0   |          |           |          |      |
| 04-101 198   | 52636 | 571,0   | Current  | estimated | from P/z | data |

Page No.: 5
Print Time: Fri May 08 08:28:38 1998

Property ID: 165
Property Name: SAN JUAN 28-5 UNIT | 38A | MESAVERDE Table Name: S:\ARIES\78LTL\TEST.DBF

| DATECUM_OIL-<br>Bbl | CUM_GAS<br>Mcf | M_SIW <u>HP</u><br>Psi |                                 |
|---------------------|----------------|------------------------|---------------------------------|
|                     | _              |                        |                                 |
| 01/27/81            | 0              | 826.0                  | Original                        |
| 10/01/81            | 53678          | 641.0                  | 5                               |
| 05/31/82            | 118455         | 561.0                  |                                 |
| 09/19/83            | 190321         | 596.0                  |                                 |
| 05/02/84            | 222729         | 575.0                  |                                 |
| 04/17/86            | 337860         | 443.0                  | •                               |
| 05/10/89            | 489525         | 713.0                  |                                 |
| 04/15/91            | 576388         | 463.0                  |                                 |
| 09/10/91            | 589326         | 475.0                  |                                 |
| 08/30/93            | 680869         | 492.0                  |                                 |
| 64/01/98            | 912509         | 387.0                  | Current estimated from P/z data |

## Package Preparation Volume Data

| DPNo: 6341              |                        | AN JUAN 28-5           |              |            | iA. '- <sub>ing</sub> |                          |            | m: PC     |            |
|-------------------------|------------------------|------------------------|--------------|------------|-----------------------|--------------------------|------------|-----------|------------|
| Supt: 60<br>Pipeline: \ | KEN RAYE<br>NFS        | ON F<br>Plunger:       | F: 335<br>No | LARY BYARS | ual: Yes              | MS:                      | 378 GARY N |           | No         |
| Ow                      | nership (No            | Trust)                 |              | Pr         | ior Year              |                          | Cur        | rent Year |            |
| GWI:                    | <u>Gas</u><br>64.1250% | <u>Oil</u><br>64.1250% |              | MCF/M      | ВОРМ                  | <u>Days</u><br><u>On</u> | MCF/M      | BOPM      | Days<br>On |
| GNI:                    | 53.2547%               | 53.2547%               | Jan          | 331        | 0.0                   | 31                       | 327        | 0.0       | 31         |
|                         |                        |                        | Feb          | 349        | 0.0                   | 28                       | 236        | 0.0       | 28         |
| <b>Volumes</b>          |                        |                        | Mar          | 334        | 0.0                   | 31                       | 202        | 0.0       | 31         |
| (Days On)               | MCF                    | D BOPD                 | Apr          | 298        | 0.0                   | 30                       | 308        | 0.0       | 30         |
| 7 Day Avg               | 13                     | 0.0                    | May          | 308        | 0.0                   | 31                       | 0          | 0.0       | 26.9       |
| 30 Day Avg              | 13                     | 0.0                    | Jun          | 241        | 0.0                   | 30                       | 0          | 0.0       | 0          |
| 60 Day Avg              | 11                     | 0.0                    | Jul          | 178        | 0.0                   | 31                       | 0          | 0.0       | 0          |
| 3 Mo Avg                | 8                      | 0.0                    | Aug          | 204        | 0.0                   | 31                       | 0          | 0.0       | 0          |
| 6 Mo Avg                | 9                      | 0.0                    | Sept         | 180        | 0.0                   | 30                       | 0          | 0.0       | 0          |
| 12 MoAvg                | 8                      | 0.0                    | Oct          | 208        | 0.0                   | 25                       | 0          | 0.0       | 0          |
|                         |                        |                        | Nov          | 265        | 0.0                   | 30                       | 0          | 0.0       | 0          |
| Volumes                 |                        |                        | Dec          | 290        | 0.0                   | 31                       | 0          | 0.0       | 0          |
| (Days in Mo             | nth) MCF               | D BOPD                 | Total        | 3,186      | 0.0                   |                          | 1.073      | 0.0       |            |
| 30 Day Avg              | 11                     | 0.0                    | 1 Otal       | 3,100      | 0.0                   |                          | 1,073      | 0.0       |            |
| 60 Day Avg              | 11                     | 0.0                    |              |            | ,                     |                          |            |           |            |
| 3 Mo Avg                | 8                      | 0.0                    |              |            |                       |                          | Prin       | nt Form   |            |
| 6 Mo Avg                | 9                      | 0.0                    |              |            |                       |                          |            |           |            |
| 12 Mo Avg               | 8                      | 0.0                    |              |            |                       |                          | EXIL Vo    | lumes C   | )ata       |
| 6/18/98                 |                        |                        |              |            |                       |                          |            |           |            |

## Package Preparation Volume Data

DPNo: 53417B SAN JUAN 28-5 UNIT 38A Form: MV KEN RAYBON FF: 335 LARY BYARS MS: 378 GARY NELSON Supt: 60 Pipeline: WFS Plunger: No Dual: Yes Compressor: No Ownership (No Trust) Prior Year **Current Year** Gas <u>Oil</u> **Days Days** <u>On</u> <u>On</u> GWI: 73.1659% 73.1659% MCF/M **BOPM** MCF/M **BOPM** GNI: 62.3562% 62.3562% Jan 0 0.0 0 7,212 26.0 31 Feb 11,198 108.0 24.9 5,326 5.0 28 **Volumes** Mar 8,028 190.0 6,064 31 5.0 31 (Days On) **MCFD BOPD** Apr 8,104 0.0 30 4,722 14.0 30 7 Day Avg 229 9.4 May 5,527 0.0 31 0 0.0 26.9 30 Day Avg 222 0.9 Jun 6,191 0.0 30 0 0.0 0 60 Day Avg 188 0.7 Jul 6,811 0.0 0 31 0.0 0 3 Mo Avg 181 0.3 Aug 4,972 10.0 31 0 0.0 0 201 0.7 6 Mo Avg Sept 5,674 18.0 30 0 0.0 0 12 MoAvg 200 0.5 Oct 6,508 30.0 27 0 0.0 0 30.0 Nov 5,867 30 0 0.0 0 **Volumes** 7,199 44.0 Dec 31 0 0.0 0 (Days in Month) **MCFD BOPD Total** 76,079 430.0 23,324 50.0 30 Day Avg 191 0.8 60 Day Avg 174 0.6 3 Mo Avg 181 0.3 Print Form 199 0.7 6 Mo Avg Exit Volumes Data 12 Mo Avg 197 0.5

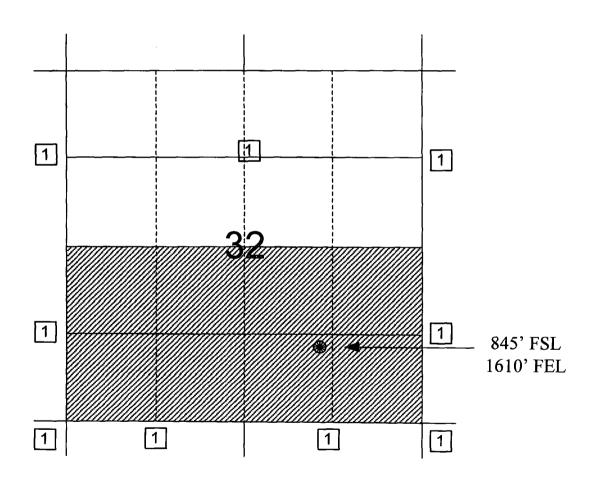
6/18/98

# BURLINGTON RESOURCES OIL AND GAS COMPANY San Juan 28-5 Unit #38A

### Offset Operator/Owner Plat

### Pictured Cliffs (SE/4) / Mesaverde (S/2) Formations Commingle Well

Township 28 North, Range 5 West



1) Burlington Resources

| 30                  |                             | <sub>9</sub> 2<br>⊗ | 9   | 235,2<br>\$<br>\$<br>50 | 8                           | 229<br>***<br>44 |
|---------------------|-----------------------------|---------------------|---|-------------------------|-----------------------------|------------------|
| 31                  | 51<br><b>⊕</b>              | SJ 28               | © <sup>41</sup> ⇒ 240 2  -5 Unit              | 38 <b>A</b>             | 52<br><b>3</b> 11A <b>6</b> | 15<br><b>⇔</b>   |
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SJ 28-5 Unit 38A Sec. 32, T28N, R5W Mesaverde/Pictured Cliffs

# 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.

### 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

VILLIAM J. LeMAY

Director

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