

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 & Gas Company

PO Box 4289, Farmington, NM 87499

Operator

Address

San Juan 28-6 Unit

150M

D 35-28N-6W

Rio Arriba

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7462 API NO. 30-039-25733 Federal ☒ State ☐ (and/or) Fee ☐

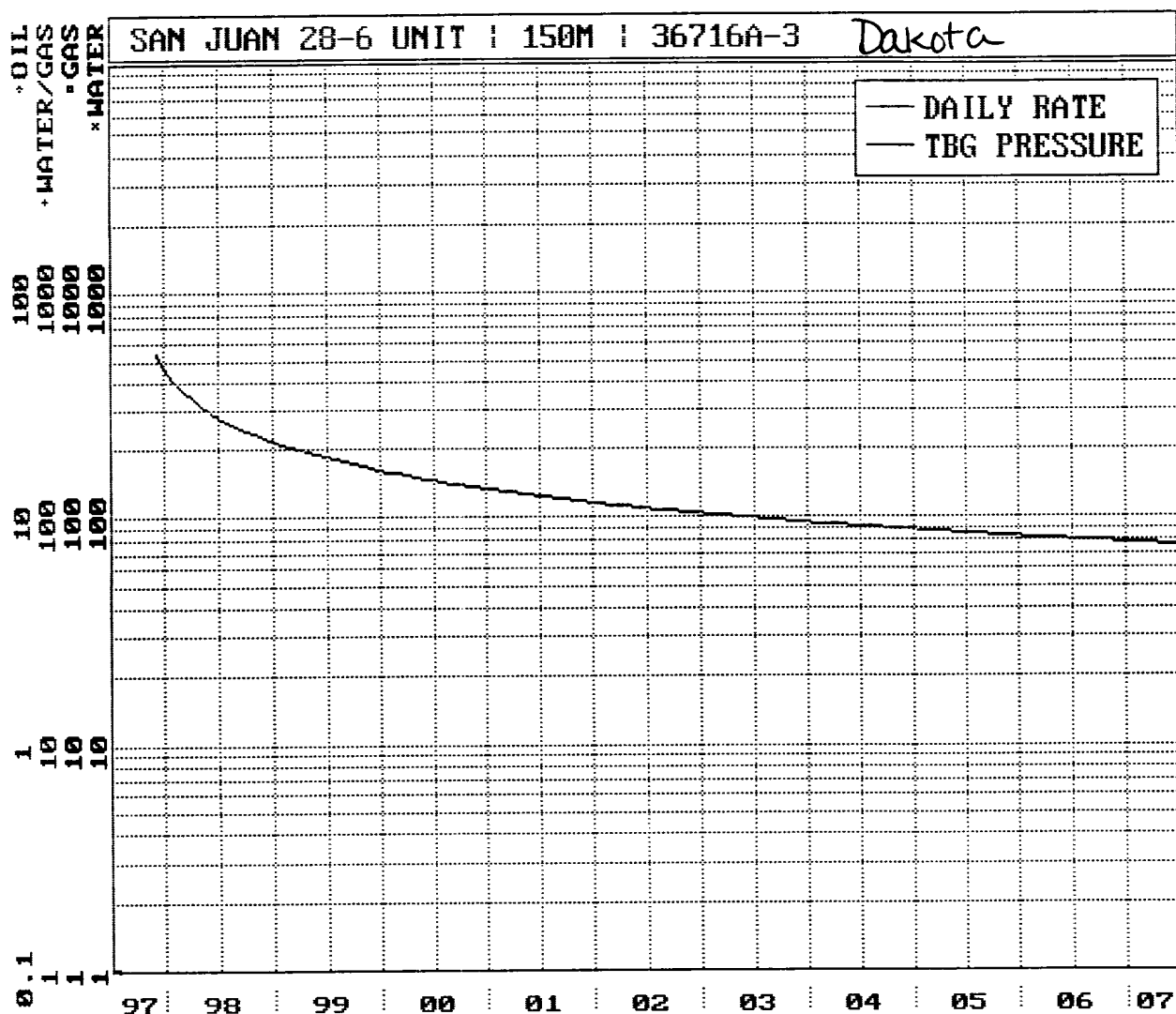
The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Blanco Mesaverde - 72319		Basin Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	will be supplied upon completion	DECEIVED OCT 21 1997	will be supplied upon completion
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 Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Current) a. 723psi (see attachment) (Original) b. 1273 psi (see attachment)	a. b.	a. 1133 psi (see attachment) b. 3252 psi (see attachment)
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	BTU 1223		BTU 1124
7. Producing or Shut-In?	shut-in		shut-in
Production Marginal? (yes or no)	no		yes
* If Shut-In 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: n/a Rates:	Date: Rates:	Date: n/a Rates:
* If Producing, give data and oil/gas/water of recent test (within 60 days)	Date: n/a Rates:	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 ☐ No
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). R-10696
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.

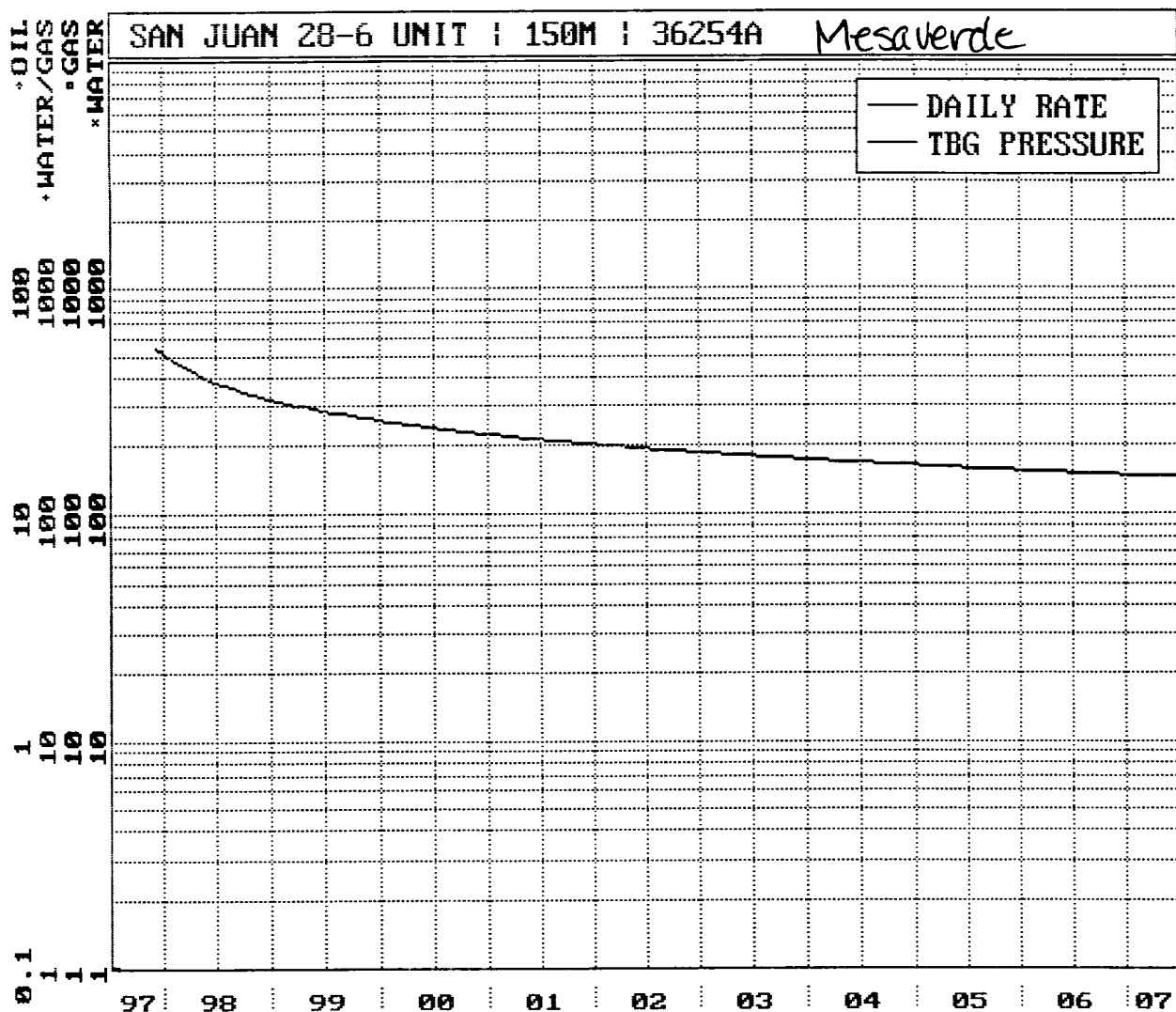
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Sean Woolverton TITLE Production Engineer DATE 10/17/97TYPE OR PRINT NAME Sean Woolverton TELEPHONE NO. (505) 326-9700

EXPECTED PRODUCTION CURVE



EXPECTED PRODUCTION CURVE

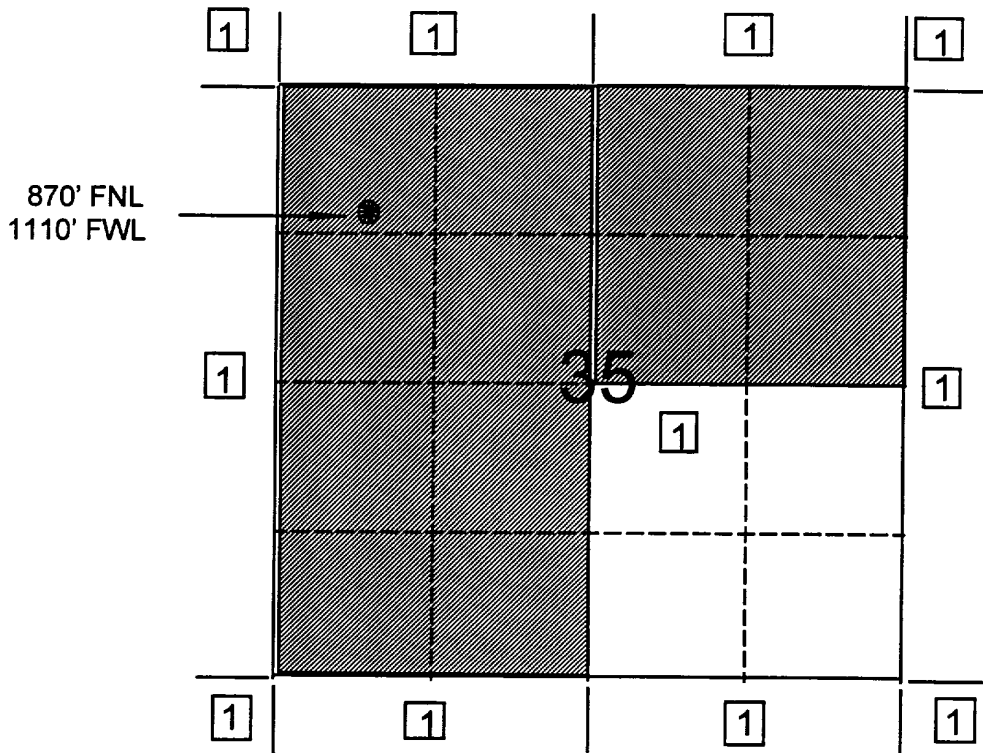


BURLINGTON RESOURCES OIL AND GAS COMPANY

**San Juan 28-6 Unit #150M
OFFSET OPERATOR \ OWNER PLAT**

Mesaverde (W/2) / Dakota (N/2) Formations Commingle Well

Township 28 North, Range 6 West



1) Burlington Resources Oil and Gas Company

San Juan 28-6 Unit #150M

Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method
Version 1.0 3/13/94

Mesaverde		Dakota	
<u>MV-Current</u>		<u>DK-Current</u>	
GAS GRAVITY	0.719	GAS GRAVITY	0.657
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.44	%N2	0.17
%CO2	0.74	%CO2	1.07
%H2S	0	%H2S	0
DIAMETER (IN)	1.25	DIAMETER (IN)	1.5
DEPTH (FT)	5616	DEPTH (FT)	7793
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	137	BOTTOMHOLE TEMPERATURE (DEG F)	198
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	620	SURFACE PRESSURE (PSIA)	940
BOTTOMHOLE PRESSURE (PSIA)	722.5	BOTTOMHOLE PRESSURE (PSIA)	1132.5
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.719	GAS GRAVITY	0.657
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.44	%N2	0.17
%CO2	0.74	%CO2	1.07
%H2S	0	%H2S	0
DIAMETER (IN)	1.25	DIAMETER (IN)	1.5
DEPTH (FT)	5616	DEPTH (FT)	7793
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	137	BOTTOMHOLE TEMPERATURE (DEG F)	198
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1077	SURFACE PRESSURE (PSIA)	2667
BOTTOMHOLE PRESSURE (PSIA)	1272.5	BOTTOMHOLE PRESSURE (PSIA)	3252.4

Page No.: 5
 Print Time: Wed Oct 08 11:47:51 1997
 Property ID: 1832
 Property Name: SAN JUAN 28-6 UNIT | 113 | 50754A-1
 Table Name: K:\ARIES\RR98PDP\TEST.DBF

--DATE-- ---CUM GAS-- M SIWHP
 :::::McF:::::Psi:::::

10/07/63	0	2667.0	-original
10/30/63	0	2666.0	
10/01/64	93000	1351.0	
09/08/65	178000	1182.0	
04/12/66	247000	1035.0	
03/22/67	319000	1250.0	
04/01/68	382000	1092.0	
08/19/69	494101	867.0	
05/25/70	542382	991.0	
05/04/71	608545	1015.0	
05/22/72	677963	933.0	
08/21/73	757073	911.0	
06/24/75	866668	992.0	
08/08/77	1008401	825.0	
04/24/79	1106719	890.0	
09/29/81	1226002	954.0	
09/22/83	1283949	976.0	
11/07/85	1344595	1004.0	
01/07/86	1361852	920.0	
10/15/88	1431430	1052.0	
06/08/90	1505898	1002.0	
03/29/92	1576332	940.0	- current

San Juan 28-6 Unit
 #150 M

 Dakota Offset

Page No.: 3
 Print Time: Wed Oct 08 11:47:50 1997
 Property ID: 4086
 Property Name: SAN JUAN 28-6 UNIT | 88 | 50188A-1
 Table Name: K:\ARIES\RR98PDP\TEST.DBF

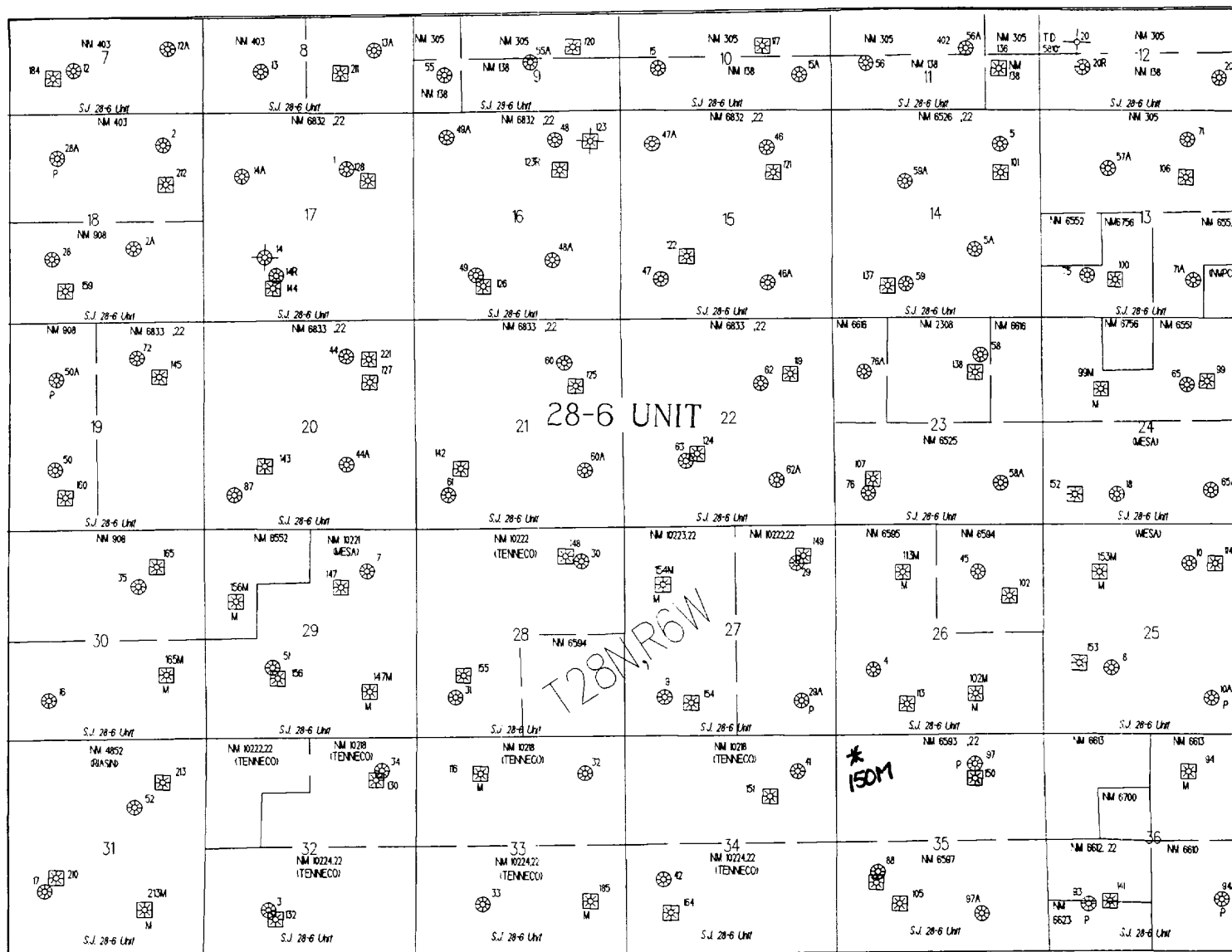
--DATE-- ---CUM_GAS-- M SIWHP
 :::::McF:::::Psi:::::

07/30/58	0	1077.0	- original
10/13/58	0	1080.0	
06/14/59	39000	977.0	
06/14/60	145000	735.0	
06/13/61	186000	748.0	
05/29/62	254000	735.0	
05/09/63	335000	709.0	
05/20/64	414000	645.0	
09/08/65	490000	620.0	
04/12/66	518000	669.0	
03/22/67	557000	656.0	
10/10/68	625000	655.0	
12/22/69	688638	591.0	
05/25/70	716362	564.0	
05/04/71	785483	516.0	
05/22/72	847033	501.0	
08/21/73	934555	368.0	
07/31/74	990464	432.0	
07/12/76	1106479	408.0	
05/15/78	1169837	492.0	
04/18/80	1241758	517.0	
04/07/86	1382054	595.0	
09/18/89	1461979	612.0	
09/04/91	1481817	632.0	
10/21/91	1485207	620.0	- current

San Juan 28-6 Unit
 #150M

Mesaverde Offset

28-6 UNIT



**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. 11628
ORDER NO. R-10696**

**APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 28-6 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 28-6 Unit, San Juan County, New Mexico.

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

- 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 28-6 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 28-6 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 28-6 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 449 MMCFG and 186 MMCFG, respectively;
- c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 254 MCFGD and 216 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 28-6 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 28-6 Unit, the applicant presented engineering evidence and testimony which indicates that:

- c) providing notice to each interest owner within the San Juan 28-6 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 28-6 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 28-6 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 28-6 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 28-6 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 28-6 Unit, San Juan County, New Mexico, is hereby approved.