

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

164M

C 34-28N-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. 30-039-25732 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		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. 629 psi (see attachment) (Original) b. 1242 psi (see attachment)	a. b.	a. 951 psi (see attachment) b. 3237 psi (see attachment)
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	BTU 1209		BTU 1117
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 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 ☐ 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. 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 C. Woolverton TITLE Production Engineer DATE 10/20/97TYPE OR PRINT NAME Sean C. Woolverton TELEPHONE NO. (505) 326-9700

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer 00, Artesa, 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
Revised February 21,
Instructions on
Submit to Appropriate District
State Lease - 4 C
Fee Lease - 1 C

☐ AMENDED RE:

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Well Code	Well Name
30-039-	72319/71599	Blanco Mesaverde/Basin Dakota
Property Code	Property Name	Well Number
7462	San Juan 28-6 Unit	164M
GRID No.	Operator Name	Elevation
14538	BURLINGTON RESOURCES OIL & GAS COMPANY	6577'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
C	34	28-N	6-W		790	North	1525	West	R.A.

11 Bottom Hole Location if Different From Surface

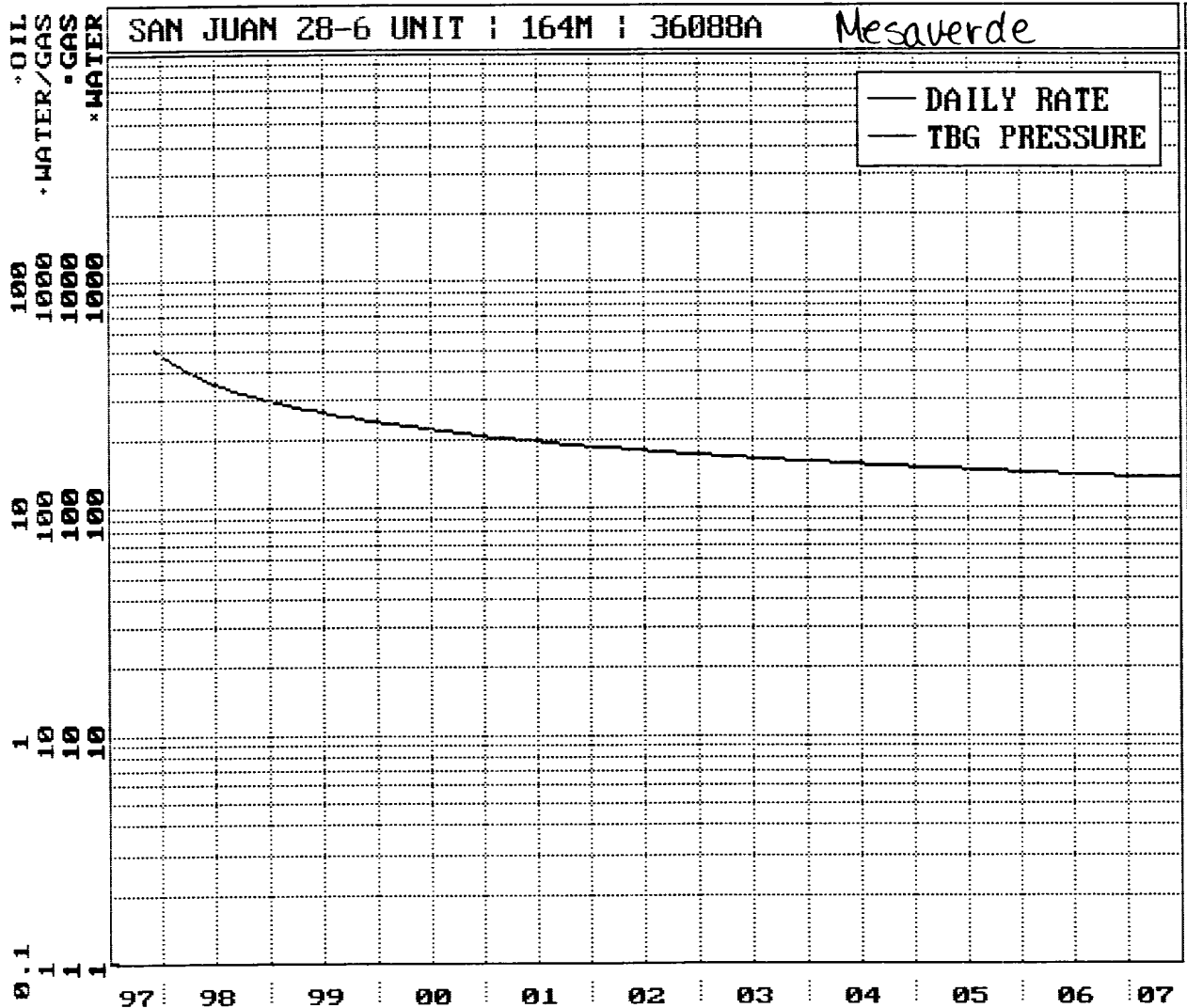
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres 13 Joint or Infill 14 Consolidation Code 15 Order No.
MV-W/324.69
DK-W/324.69

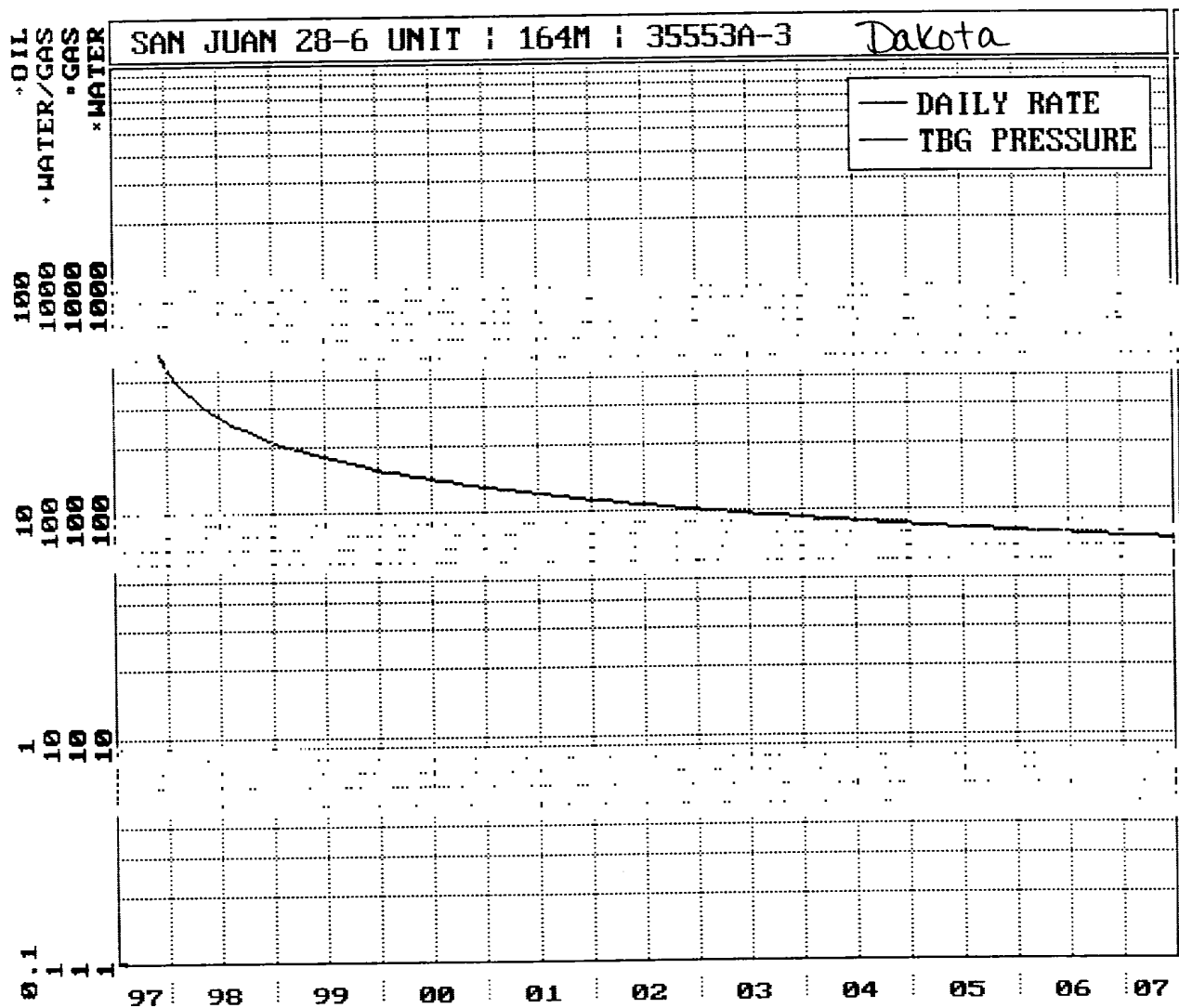
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16	5280.00	17 OPERATOR CERTIFICATE
1525'	790'	I hereby certify that the information contained here is true and complete to the best of my knowledge and
NMSF-079049B		Signature Peggy Bradfield
		Printed Name Regulatory Administrator
		Title
		Date
5357.88	34	18 SURVEYOR CERTIFICATE
		I hereby certify that the well location shown on this was plotted from field notes of actual surveys made or under my supervision, and that the same is true correct to the best of my belief.
		5/23/97
NMSF-079051		Date of Survey
4 3 2 1		Signature and Seal of Professional Surveyor
5280.00		NEALE C. EDWARDS NEW MEXICO 6852 CERTIFIED PROFESSIONAL SURVEYOR
		6852 Certificate Number

EXPECTED PRODUCTION CURVE



EXPECTED PRODUCTION CURVE

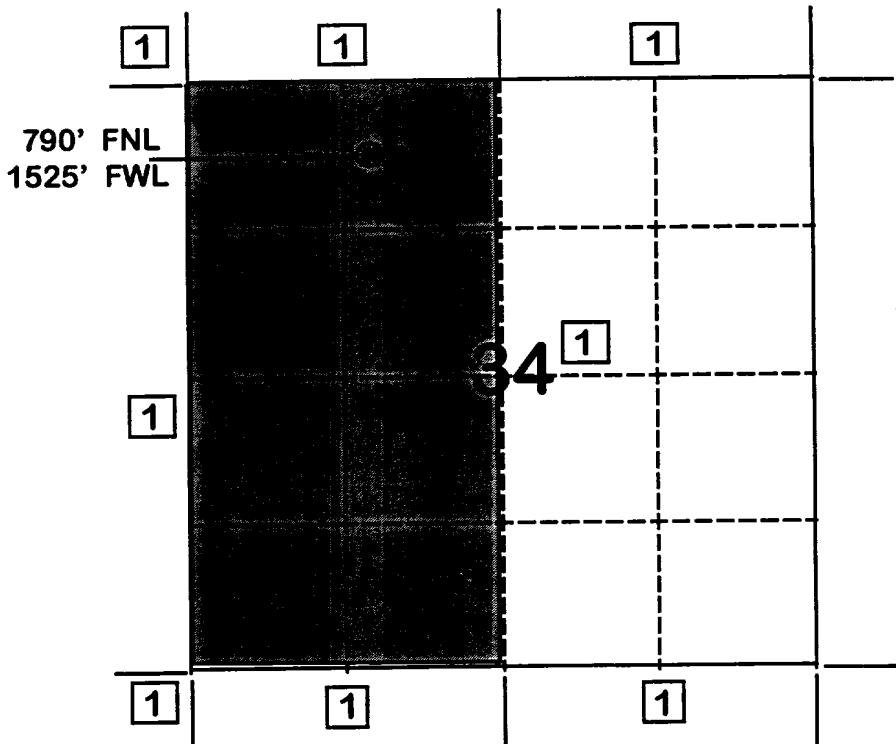


BURLINGTON RESOURCES OIL AND GAS COMPANY

**San Juan 28-6 Unit #164M
OFFSET OPERATOR \ OWNER PLAT**

Mesaverde/Dakota Formations Commingle Well

Township 28 North, Range 6 West



1) Burlington Resources Oil and Gas Company

San Juan 28-6 Unit #164M

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	0.709	GAS GRAVITY	0.654
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.31	%N2	0.17
%CO2	0.8	%CO2	1.18
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5657	DEPTH (FT)	7878
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)	542	SURFACE PRESSURE (PSIA)	791
BOTTOMHOLE PRESSURE (PSIA)	629.2	BOTTOMHOLE PRESSURE (PSIA)	950.5
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.709	GAS GRAVITY	0.654
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.31	%N2	0.17
%CO2	0.8	%CO2	1.18
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5657	DEPTH (FT)	7878
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)	1054	SURFACE PRESSURE (PSIA)	2652
BOTTOMHOLE PRESSURE (PSIA)	1242.0	BOTTOMHOLE PRESSURE (PSIA)	3237.4

Page No.: 7

Print Time: Fri Oct 17 14:11:33 1997

Property ID: 1873

Property Name: SAN JUAN 28-6 UNIT | 164 | 44098A-1

Table Name: K:\ARIES\RR98PDP\TEST.DBF

--DATE-- ---CUM GAS-- M SIWHP
Mcf Psi

08/02/72	0	2652.0	- original
09/27/72	29711	1850.0	
08/21/73	162814	1132.0	
07/31/74	250935	910.0	
09/04/75	329888	988.0	
08/08/77	457692	781.0	
04/17/79	536175	844.0	
09/29/81	642500	834.0	
09/22/83	705160	863.0	
06/07/85	749410	1010.0	
07/08/88	855807	871.0	
06/08/90	945419	802.0	
08/06/92	1033841	791.0	- current

San Juan 28-6 Unit

#164m

Dakota offset

Page No.: 3

Print Time: Fri Oct 17 14:11:31 1997

Property ID: 4017

Property Name: SAN JUAN 28-6 UNIT | 41 | 49161A-1

Table Name: K:\ARIES\RR98PDP\TEST.DBF

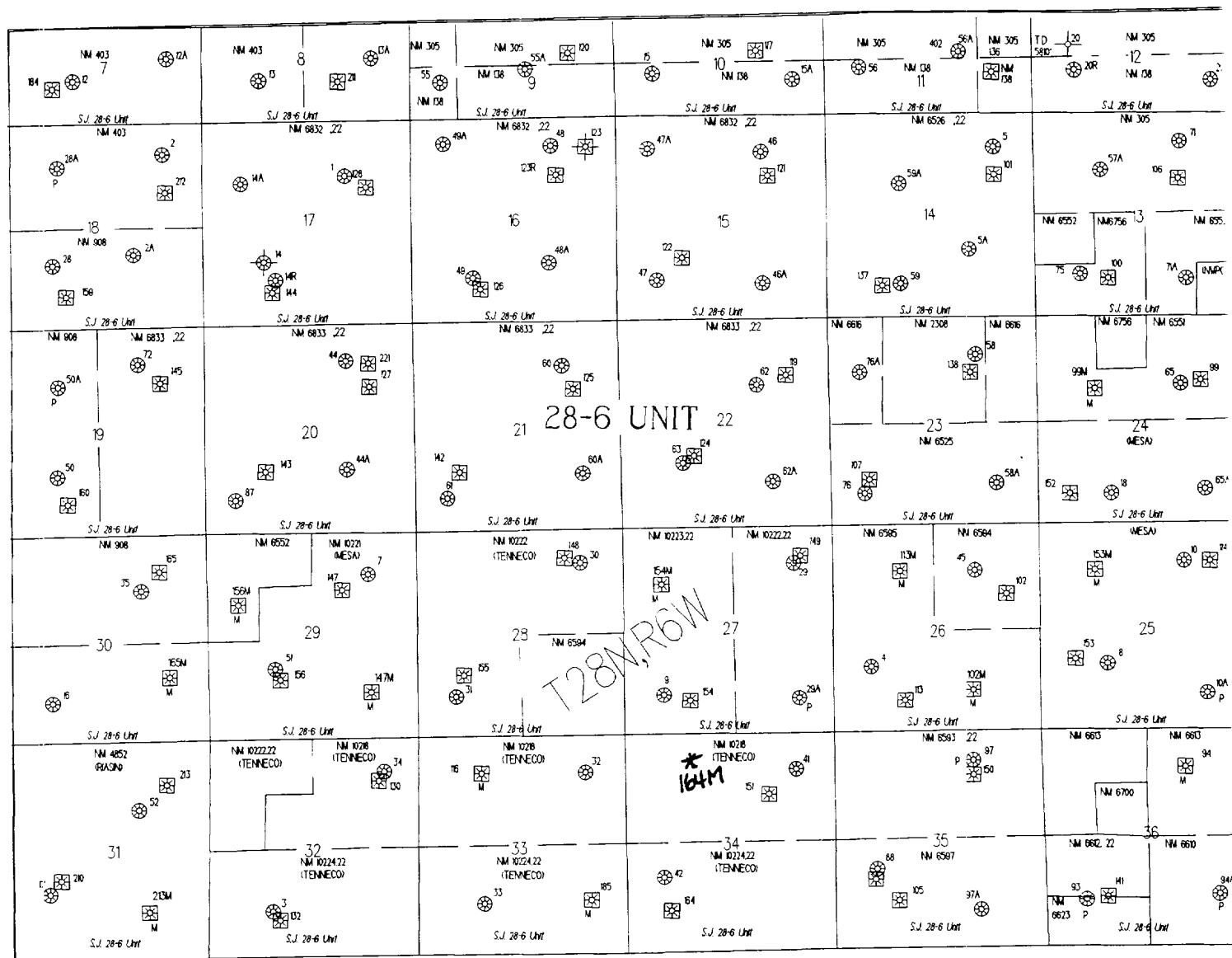
--DATE-- ---CUM GAS-- M SIWHP
Mcf Psi

12/20/55	0	1054.0 - original
08/24/56	85000	712.0
10/30/57	164000	694.0
11/06/58	228000	635.0
06/14/59	255000	718.0
06/14/60	285000	749.0
06/13/61	336000	684.0
05/29/62	373000	679.0
05/16/63	414000	658.0
05/26/64	461000	593.0
03/08/65	501000	590.0
04/12/66	554000	575.0
03/22/67	594000	590.0
04/01/68	634000	601.0
05/25/70	722242	601.0
05/04/71	768570	562.0
05/22/72	812999	552.0
07/31/74	897982	577.0
07/12/76	956696	596.0
05/15/78	1014679	630.0
10/13/80	1066149	500.0
05/18/82	1118249	632.0
06/06/84	1165244	579.0
04/07/86	1211250	593.0
09/18/89	1286936	582.0
06/05/91	1322844	612.0
06/17/91	1322969	600.0
05/03/93	1377653	542.0 - current

San Juan 28-6 Unit
#164 M

Mesa Verde Offset

San Juan 28-6 Unit #164M
Blanco Mesaverde / Basin Dakota
28N-06W-34C



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.