

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
811 South First St., Artesia, NM 88210-2835
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410-1693

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

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

APPROVAL PROCESS :

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☐ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Burlington Resources Oil & Gas Company

PO Box 4289, Farmington, NM 87499

Operator

San Juan 28-6 Unit

104M

Address
C/F 08-27-6

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. 30-039-25629 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	RECEIVED MAR 17 1997	will be supplied upon completion
3. Type of production (Oil or Gas)	gas		gas
4. Method of Production (Flowing or Artificial Lift)	flowing	OIL CON. DIV. DIST. 3	flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Current) a. 456 psi (see attachment) (Original) b. 1274 psi (see attachment)	a. b.	a. 739 psi (see attachment) b. 3221 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1173		BTU 1083
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 ☐ 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). Reference R-10696 attached
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 3/12/97

TYPE OR PRINT NAME Sean Woolverton TELEPHONE NO. (505) 326-9700

#8, Hobbs, NM 88241-1988

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised February 21, 1994

District II
Drawer DD, Artesa, NM 88211-0719
District III
1000 Rio Grande 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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-	Pool Code 72319/71599	Pool Name Blanco Mesaverde/Basin Dakota
Property Code 7462	Property Name San Juan 28-6 Unit	Well Number 104M
OGRID No. 14538	Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	Elevation 6184'

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	8	27-N	6-W		790	North	1815	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 Dedication Acres MV-W/320 DK-W/320	13 Joint or Infill	14 Consolidation Code	15 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

17 OPERATOR CERTIFICATION

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

Signature: Peggy Bradford
Printed Name: Peggy Bradford
Title: Regulatory Administrator
Date: 1-14-97

18 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.

Date of Survey: 11/7/96
Signature and Seal of Professional Surveyor: C. EDWARDS
Certificate Number: 6857

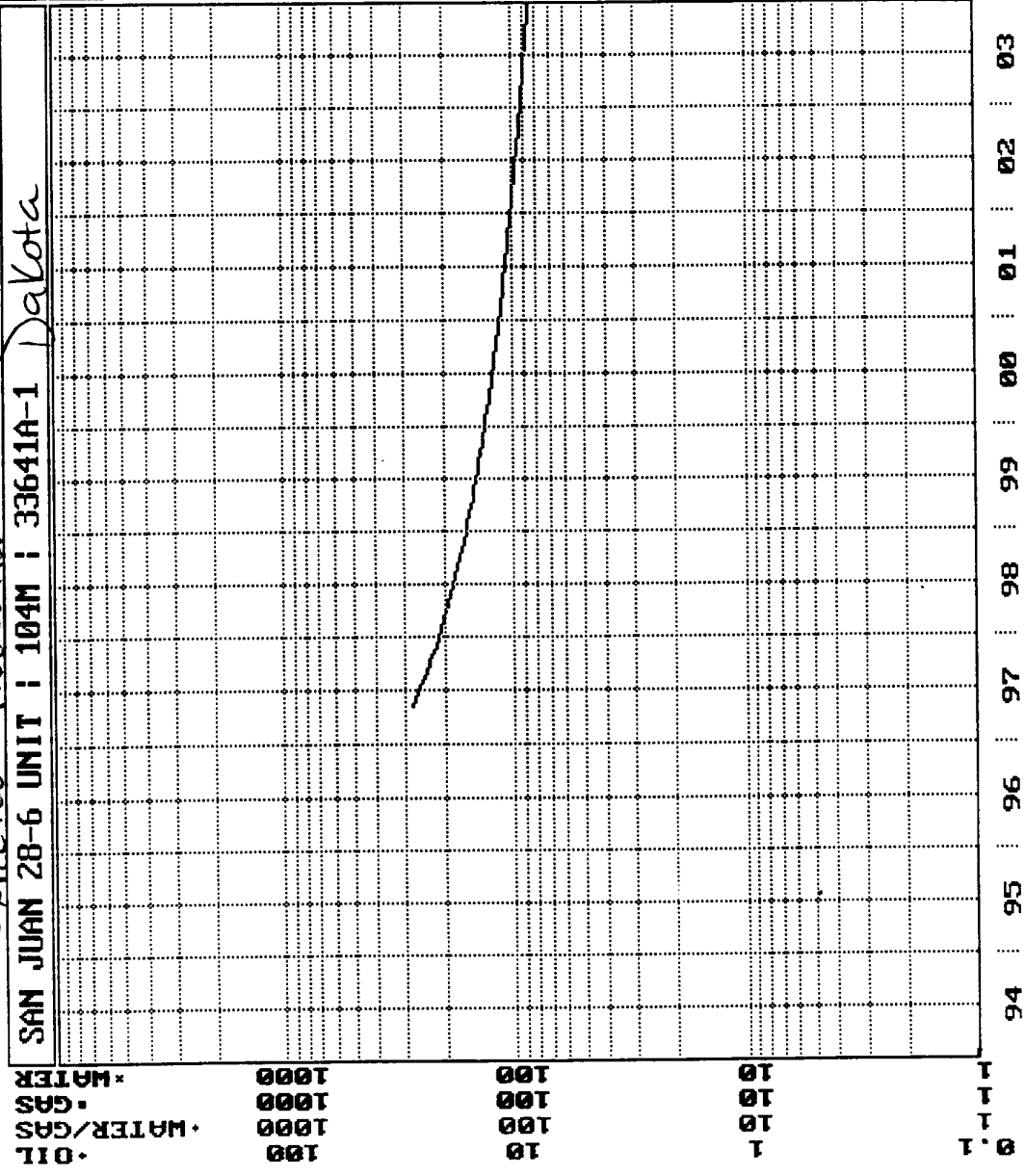
Expected Production Curve

SAN JUAN 28-6 UNIT : 104M : 33641A-1 Dakota

Prop 255

☐ WATER Bbls/d
☒ GAS Mcf/d
☐ WATER/GAS
☐ OIL Bbl/d

☒ Rate Time
☒ Rate Cum



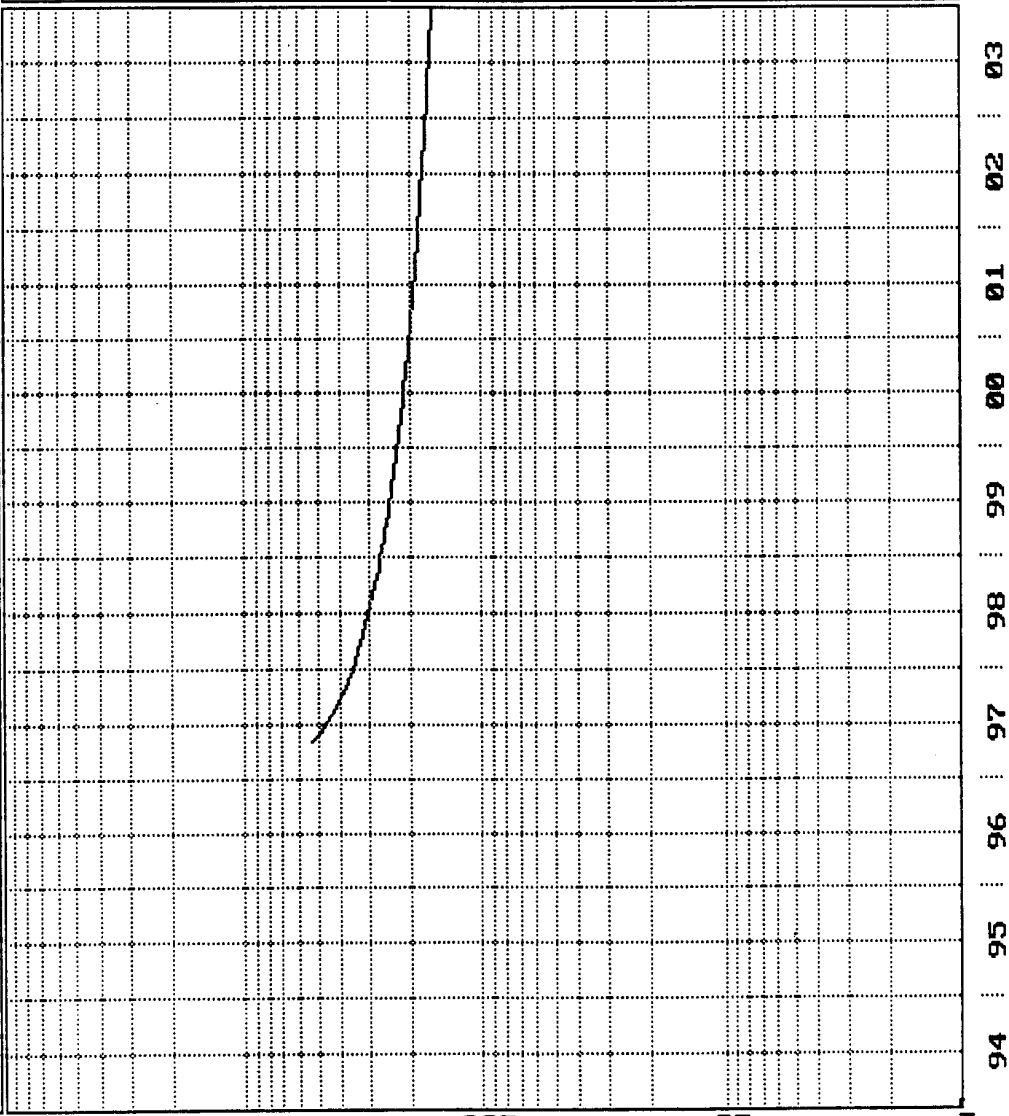
SAN JUAN 28-6 UNIT : 104M : 33718A-1 Mesaverde

- * OIL
- * WATER/GAS
- * GAS
- * WATER

SAN JUAN 28-6 UNIT : 104M : 33718A-1 Mesaverde

Prop 209 *

- ☐ *WATER Bbls/d
☒ *GAS Mcf/d
☐ *WATER/GAS
☐ *OIL Bbl/d

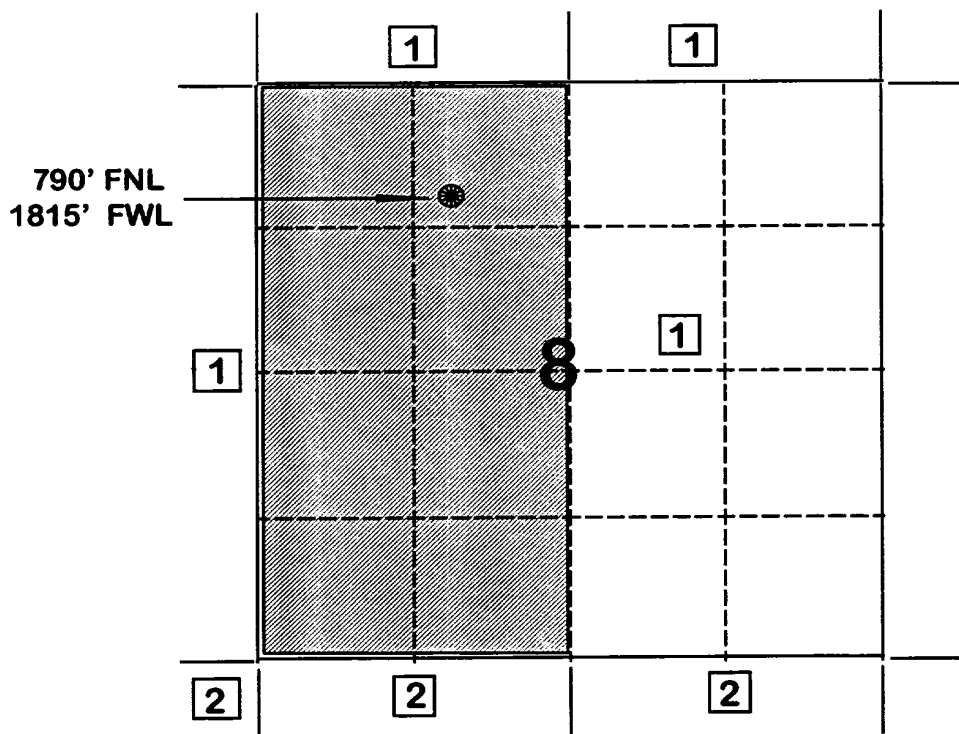


BURLINGTON RESOURCES OIL AND GAS COMPANY

**San Juan 28-6 Unit #104M
OFFSET OPERATOR \ OWNER PLAT**

Mesaverde/Dakota Formations Commingle Well

Township 27 North, Range 6 West



- 1) Burlington Resources Oil and Gas Company
- 2) UNOCAL Corp.
1004 North Big Spring, Suite 300
Midland, TX 79702

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.631
COND. OR MISC. (C/M)	C
%N2	0.18
%CO2	1.12
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	7312
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	630
BOTTOMHOLE PRESSURE (PSIA)	739.0

SAN JUAN 28-6 UNIT #104 DAKOTA -CURRENT

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.631
COND. OR MISC. (C/M)	C
%N2	0.18
%CO2	1.12
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	7312
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	2701
BOTTOMHOLE PRESSURE (PSIA)	3221.3

SAN JUAN 28-6 UNIT #104 DAKOTA - ORIGINAL

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.689
COND. OR MISC. (C/M)	C
%N2	0.27
%CO2	0.97
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5153
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	402
BOTTOMHOLE PRESSURE (PSIA)	456.1

SAN JUAN 28-6 UNIT #53 MESAVERDE - CURRENT

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**
VERSION 1.0 3/13/94

GAS GRAVITY	0.689
COND. OR MISC. (C/M)	C
%N2	0.27
%CO2	0.97
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5153
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1105
BOTTOMHOLE PRESSURE (PSIA)	1273.8

SAN JUAN 28-6 UNIT #53 MESAVERDE - ORIGINAL

Page No.: 5
Print Time: Tue Mar 04 08:51:21 1997
Property ID: 4036
Property Name: SAN JUAN 28-6 UNIT | 53 | 49689A-1
Table Name: K:\ARIES\RR97PDP\TEST.DBF

SJ 28-6 # 104m
Mesaverde Offset

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

09/30/56	0	1105.0	← original
10/11/56	0	1104.0	
04/24/57	34000	997.0	
09/06/58	387000	811.0	
03/14/59	554000	757.0	
10/06/60	782000	743.0	
12/20/61	887000	708.0	
04/09/62	921000	696.0	
05/07/63	994000	686.0	
05/08/64	1057000	672.0	
05/03/65	1114000	653.0	
06/07/66	1179000	637.0	
06/02/67	1238000	609.0	
10/17/68	1292000	611.0	
10/16/70	1350431	573.0	
07/07/71	1393361	537.0	
05/30/72	1437838	524.0	
05/09/73	1495132	330.0	
07/23/74	1572134	455.0	
04/23/76	1645183	452.0	
05/10/78	1741593	410.0	
06/16/80	1821951	427.0	
05/01/93	1978071	402.0	← Current

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Page No.: 1

Print Time: Tue Mar 04 08:30:33 1997

Property ID: 1824

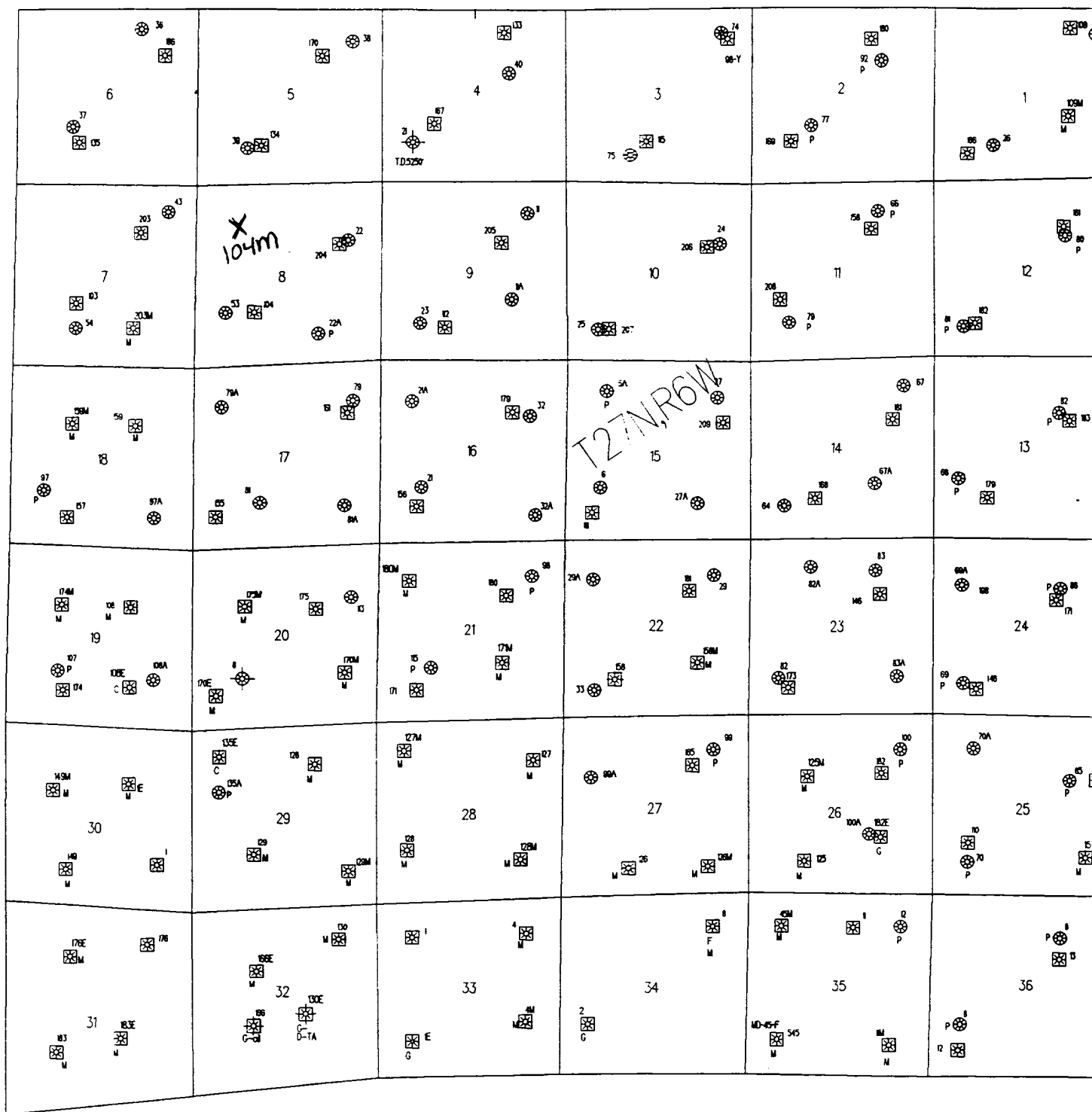
Property Name: SAN JUAN 28-6 UNIT | 104 | 44078A-1

Table Name: K:\ARIES\RR97PDP\TEST.DBF

SJ 28-6 #104m
Dakota Offset

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

05/31/79	0	2701.0	← original
06/07/79	0	2702.0	
10/02/79	65278	1802.0	
06/16/80	201030	1088.0	
07/06/81	337441	936.0	
11/02/83	530394	935.0	
12/10/85	681863	781.0	
08/31/88	826077	749.0	
04/09/90	906114	791.0	
07/28/92	1011593	630.0	← current



**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.