

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

NO. OF OTHER SECTIONS	
DISTRICT	
COUNTY	
FILE	
U.S.G.A.	
LAND OFFICE	
TRANSPORTER	OIL
	NAT
OPERATOR	
PERMITS OFFICE	

OIL CONSERVATION DIVISION
P. O. BOX 1088
SANTA FE, NEW MEXICO 87501

Form C-104
Revised 10-21-75
Formal 08-01-83
Page 1

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

I. Operator
El Paso Natural Gas Company
Address
P. O. Box 4289, Farmington, NM 87499
Reason(s) for filing (Check proper box)
☐ New Well ☐ Change in Transporter of: ☐ Oil ☐ Dry Gas
☐ Recompletion ☐ Coalbed Gas ☒ Condensate
☐ Change in Ownership Other (Please explain)

If change of ownership give name and address of previous owner

II. DESCRIPTION OF WELL AND LEASE

Lease Name San Juan 28-5 Unit	Well No. 89	Pool Name, including Formation Basin Dakota	Kind of Lease State (Federal) or Fee SF 079250	Lease No.
Location Unit Letter P : 990 Feet From The South Line and 800 Feet From The East Line of Section 9 Township 28N Range 5W, NMPM, Rio Arriba County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent) P. O. Box 1599, Aztec, New Mexico 87410			
Name of Authorized Transporter of Coalbed Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent) P. O. Box 4289, Farmington, NM 87499			
If well produces oil or liquids, give location of tanks.	Unit P	Sec. 9	Twp. 28N	Req. SW
Is gas actually connected?			When	

If this production is commingled with that from any other lease or pool, give commingling order number

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.

1994 Drak
Signature
Drill
(Date)
5-1-86
JUN 1 1986

OIL CONSERVATION DIVISION

APPROVED
BY Frank J. Gandy
TITLE SUPERVISOR DISTRICT

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter or other such change of condition.

Separate Forms C-104 must be filed for each pool in multiply completed wells.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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	GAS
OPERATOR	
PRODUCTION OFFICE	

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

Form C-104
Revised 10-01-78
Format 06-01-83
Page 1

REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

I. Operator
Meridian Oil Inc.

Address
P. O. Box 4289, Farmington, NM 87499

Reason(s) for filing (Check proper box)

<input type="checkbox"/> New Well	Change in Transporter of:	Other (Please explain) Meridian Oil Inc. is Operator for El Paso Production Company
<input type="checkbox"/> Recompletion	<input type="checkbox"/> Oil	
<input checked="" type="checkbox"/> Change in Ownership	<input type="checkbox"/> Casinghead Gas	
	<input type="checkbox"/> Dry Gas	
	<input type="checkbox"/> Condensate	

If change of ownership give name and address of previous owner El Paso Natural Gas Company, P. O. Box 4289, Farmington, NM 87499

II. DESCRIPTION OF WELL AND LEASE

Lease Name San Juan 28-5 Unit	Well No. 89	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Fee	Lease No. SF 079250
Location Unit Letter <u>P</u> ; <u>990</u> Feet From The <u>South</u> Line and <u>800</u> Feet From The <u>East</u> Line of Section <u>9</u> Township <u>28N</u> Range <u>5W</u> , NMPM, <u>Rio Arriba</u> County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
Meridian Oil Inc.	P. O. Box 4289, Farmington, NM 87499
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Company	P. O. Box 4289, Farmington, NM 87499
If well produces oil or liquids, give location of tanks.	Is gas actually connected? When
Unit <u>P</u> Sec. <u>9</u> Twp. <u>28N</u> Rge. <u>5W</u>	

If this production is commingled with that from any other lease or pool, give commingling order number: _____

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.

Peggy L. Cook
(Signature)
Drilling Clerk
(Title)
11-1-86
(Date)

OIL CONSERVATION DIVISION

NOV 01 1986

APPROVED _____, 19____
BY 3. W. J.
TITLE SUPERVISION DISTRICT #3

This form is to be filed in compliance with RULE 1104.
If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.
All sections of this form must be filled out completely for allowable on new and recompleted wells.
Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.
Separate Forms C-104 must be filed for each pool in multiply completed wells.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well
GAS

2. Name of Operator

**BURLINGTON
RESOURCES**

OIL & GAS COMPANY

3. Address & Phone No. of Operator

PO Box 4239, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M

990' FSL, 300' FEL, Sec. 9, T-28-N, R-5-W, NMPM

5. Lease Number
SF-0792501

6. If Indian, All. or
Tribe Name

7. Unit Agreement Name
San Juan 28-5 Unit

8. Well Name & Number
San Juan 28-5 Unit #89

9. API Well No.
300392047200

10. Field and Pool
Blanco Mesaverde\
Basin Dakota

11. County and State
Rio Arriba Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

Type of Action

☒ Notice of Intent

☐ Abandonment

☐ Change of Plans

☐ Subsequent Report

☒ Recompletion

☐ New Construction

☐ Final Abandonment

☐ Plugging Back

☐ Non-Routine Fracturing

☐ Casing Repair

☐ Water Shut off

☐ Altering Casing

☐ Conversion to Injection

☐ Other -

13. Describe Proposed or Completed Operations

It is intended to recompleate the subject well in the Mesaverde formation according to the attached procedure and wellbore diagram. The well will then be down hole commingled. A down hole commingle order will be applied for with the New Mexico Oil Conservation Division.

RECEIVED
FEB 20 1997

OIL CON. DIV
BML 3

14. I hereby certify that the foregoing is true and correct.

Signed *Regan Brinkley* (scw) Title Regulatory Administrator Date 2/4/97

(This space for Federal or State Office use)

APPROVED BY *TS/ Duane W. Spencer*

Title

Date

FEB 18 1997

CONDITION OF APPROVAL, if any:

Need H. Corda

NMOC

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO 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

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

010 P.O. Box 2088, Santa Fe, NM 87504-2088 ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-20472		Pool Code 72319/71599		Pool Name Blanco Mesaverde/Basin Dakota	
Property Code 7460		Property Name San Juan 28-5 Unit			Well Number 89
OGRID No. 14538		Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY			Elevation 6690'

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
P	9	28-N	5-W		990	South	800	East	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
MV-282.36
DK-322.36

13 Joint or Infill

14 Consolidation Code

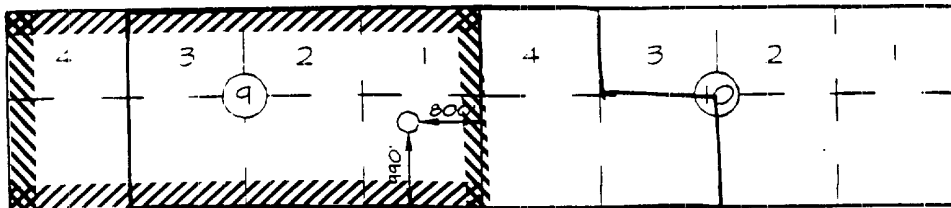
15 Order No.

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

RECEIVED
FEB 20 1997

OIL CON. DIV.
BML 2

Not resurveyed, prepared from a plat
by David G. Vilven dated 1-27-92



17 OPERATOR CERTIFICATION

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

Peggy Bradfield
Signature
Peggy Bradfield
Printed Name
Regulatory Administrator
Title
2-10-97
Date

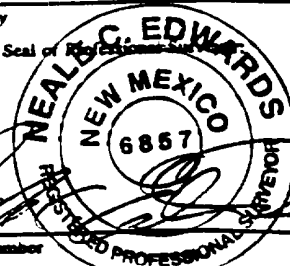
18 SURVEYOR CERTIFICATION

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.

2/07/97

Date of Survey

Signature and Seal of Registered Surveyor



Certificate Number

San Juan 28-5 Unit #89

Blanco Mesaverde/Basin Dakota

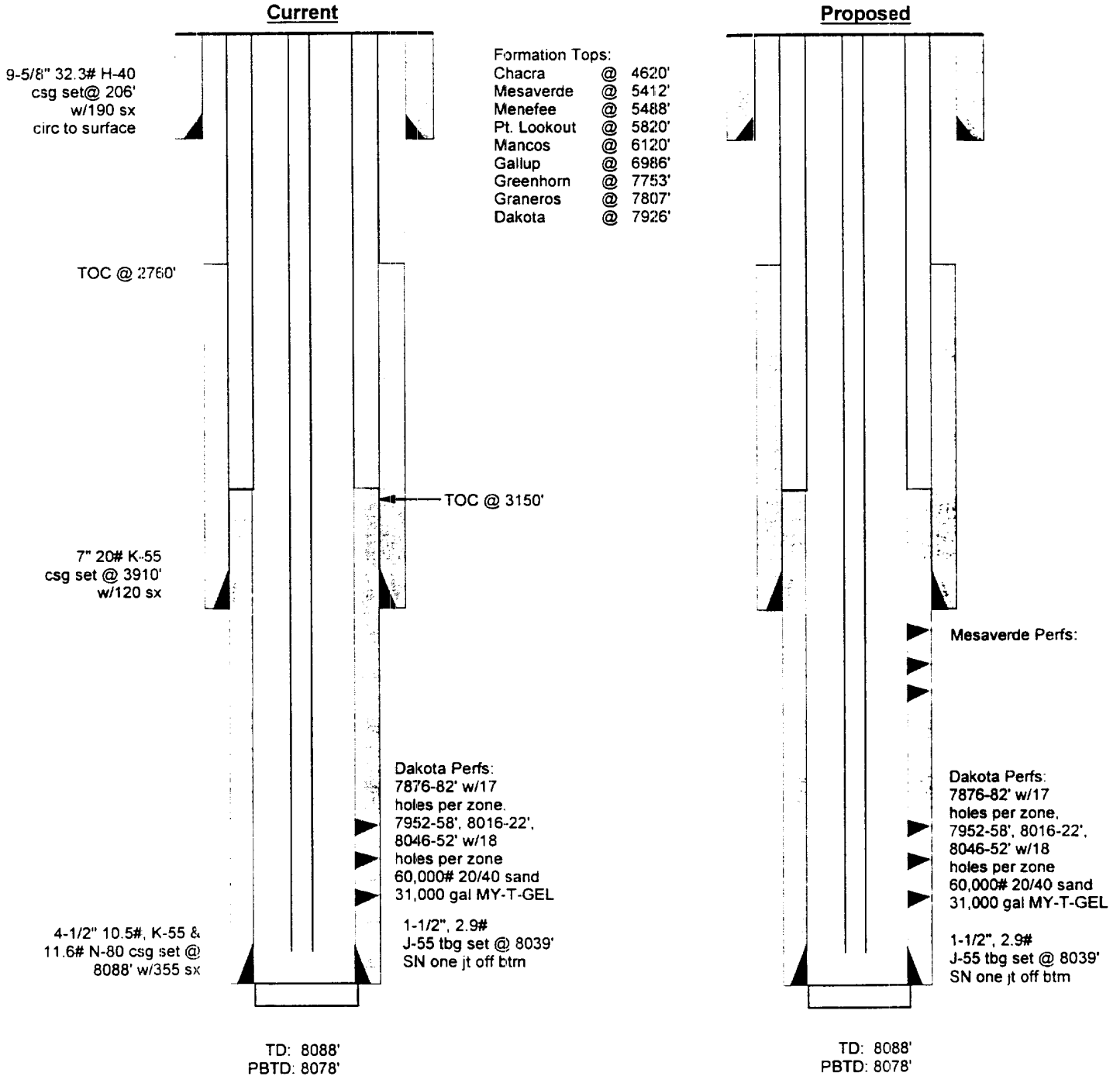
Unit P, Section 9, T28N, R5W

Rio Arriba County, NM

Elevation: 6690' GL

LAT: 36° 40' 16" / LONG: 107° 21' 28"

date spud: 05-24-72



PERTINENT DATA SHEET
SAN JUAN 28-5 UNIT #89

<u>Location:</u>	990' FSL, 800' FEL Unit P, Section 09, T28N, R5W Rio Arriba County, New Mexico	<u>Elevation:</u>	6690' GL
<u>Field:</u>	Blanco Mesaverde/Basin Dakota	<u>LAT:</u>	36° 40' 16"
<u>TD:</u>	8088'	<u>LONG:</u>	107° 21' 28"
<u>PBTD:</u>	8078'	<u>DP#:</u>	44063A - DK 36116A - MV
<u>Spud Date:</u>	05-24-72	<u>GW:</u>	69.61% (DK)
<u>Completion Date:</u>	07-19-72	<u>NRI:</u>	58.90% (DK)
		<u>GW:</u>	73.17% (MV)
		<u>NRI:</u>	62.36% (MV)

Casing Record:

<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight & Grade</u>	<u>Depth Set</u>	<u>Sxs Cmt</u>	<u>Cement Top</u>
12-1/4"	9-5/8"	32.3#, H-40	206'	190 (224 ft3)	surface
8-3/4"	7"	20.0#, K-55	3910'	120 (245 ft3)	2760' (TS)
6-1/4"	4-1/2"	10.5#, K-55	6436'		
		11.6#, N-80	6436-8088'	355 (653 ft3)	3150' (TS)
		Float collar @ 8078'			

Tubing Record:

<u>Tubing Size</u>	<u>Weight & Grade</u>	<u>Depth Set</u>	<u>BHA</u>
1-1/2"	2.9#, J-55	8039'	SN one jt above btm

Formation Tops:

Chacra	4620'	Pt. Lookout	5820'	Greenhorn	7753'
Mesaverde	5412'	Mancos	6120'	Graneros	7807'
Menefee	5488'	Gallup	6986'	Dakota	7926'

Logging Record:

FDC-GR / I-GR / Temp Survey

Stimulation:

Dakota: Treated w/60,000# 20/40 sand & 31,000 gal MY-T-GEL
Perfd: 7876-82' w/17 holes per zone / 7952-58', 8016-22', & 8046-52' w/18 holes per zone

Workover History:

NONE

Production History:

Latest Deliverability	0 MCFD	0 BOPD
Initial Deliverability	256 MCFD	ISIP: 2370 (csg) 544 (tbg)
Cums:	767 MMCF	545 BO

Transporter:

Oil/Condensate: Giant Gas: El Paso

Burlington Resources - Mesaverde Initial Completion
Lat-Long: 36° 40' 16"- 107° 21' 28"

General Well Data:**Well Name:** San Juan 28-5 Unit #89**Location:** Unit P, Section 09, T28N, R05W, 990' FSL, 800' FEL**County, State:** Rio Arriba County, New Mexico**Field:** Blanco Mesaverde**Formation:** Mesaverde**Project Objective:**

Recomplete Mesaverde PUD in existing Dakota wellbore. Commingle Mesaverde with Dakota production. Current Dakota production is 0 MCFD. Anticipated initial Mesaverde production 409 MCFD.

Equipment and Material Requirements:

Deliver the following equipment to location:

1. 8220' of 2-3/8" 4.7# J-55 tubing
2. Sixteen (16) - 400 bbls frac tanks to be spotted and filled w/ 2% KCL
3. 4-1/2" wellhead isolation tool (2 jts of 2-7/8 6.5# J-55 tubing and 4-1/2" packer)
4. 3-7/8" bit/mill
5. Six 3-1/8" drill collars

Below are materials required for fracture stimulations:

	<u>Mesaverde</u>	
1. Fluid Type	Slickwater	
2. Stages	Two	
3. Acid Volume	60	bbls
4. Fluid Volume 2% KCL	4852	bbls
5. Sand Type	Arizona	
6. Sand Size	20/40	
7. Sand Volume	200,000	#'s

Fill frac tanks w/ 3# biocide/tank & 2% KCL water. Put one load of fresh water in each tank before adding 20% concentrated KCL water. Set Location proppant container and fill with sand. Contact Production Engineering and discuss stimulation water source and quality. Run fluid tests on water. Filter water based on Stimulation company solids water analysis.

Workover Procedure:

1. Hold safety meeting. MIRU completion rig. Place fire and safety equipment in strategic locations. Comply with all MOI, BLM, and NMOCD rules and regulations. Record all tubing, casing, and bradenhead, and line pressures. RU flowlines. Blowdown tbg and csg.
2. Kill well w 2% KCL down tubing. ND wellhead. Replace any failed valves or seals on wellhead. NU BOP's and stripping head.

3. TOOH with 8039' of 1-1/2", 2.9#, 10rnd tubing. Rabbit and strap tubing. Inspect and replace any bad joints.
4. PU 3-7/8 bit and csg scraper. TIH to 7850'. **Pitot test for 1hr.** Cleanout to PBTD of 8078'. POOH to 7850'. **Pitot test for 1 hr.** Contact engineering with results. Based upon results a decision will be made to test Dakota through separator prior to setting CIBP in step 5.
5. MIRU wireline unit. PU 4-1/2" CIBP and RIH. Under a lubricator, wireline set CIBP at 6110'. POOH. RD wireline.
6. Load hole with 2% KCL. Pressure test casing and CIBP to 1000 psi for 15 min.
7. NU wireline. RIH with CBL/CCL/GR log. Under 1000 psi, log from 6110' to 200' above TOC. Cement bond required from 6110' to 5250'. POOH. RD wireline.
8. XO to 2-7/8" pipe rams and slips. PU 4-1/2" packer on 2 jts of 2-7/8" tubing. TIH and set packer @ 60'. RU stimulation company. Pressure test casing to 3800 psi for 15 min. Record results. Unseat packer and TOOH.

Point Lookout and Lower Menefee Fracture Stimulation (1st Stage):

9. NU wireline company. Under a lubricator, RIH with 3-1/8" HSC casing gun. Select fire perforate Point Lookout and Menefee with 1 SPF, 0.34" diameter, 11 3" penetration, 10 gram charges (Owen, 301) at the following depths:

5708,	5711,	5718,	5722,	5732,	5797,	5805,	5825,	5830,	5837,
5841,	5856,	5863,	5912,	5921,	5931,	5938,	5958,	5961,	5980,
5983,	6009,	6012							

(17 total Intervals, 23 total holes, 304' of gross interval)

POOH and ND wireline. Inspect casing gun to ensure all perforations fired.

10. PU 4-1/2" packer on 2 jts of 2-7/8" tubing. TIH and set packer @ 60'. NU stimulation company. Pressure test surface lines to 4800 psi. Prepare to breakdown perforations. Pump into perforations to establish injection rate at maximum pressure of 3800 psi. Record breakdown pressure and rate and ISIP. **Note: Calculate the number of perforations open at beginning of the job. If 90% (or more) of the holes calculate to be open, pump acid but do not drop balls. Be prepared to continue right into frac job.** If less than 90% of holes are open proceed to next step. If an injection rate of > 5 BPM can be established, prepare to balloff. If an injection rate cannot be established, TIH with 2-3/8 tubing and spot 5 bbls 15% HCL across perforations. TOOH.
11. Begin balloff. Pump 25 bbls of 15% HCL (Add 2/1000 gallons corrosion inhibitor and 1/1000 gallons surfactant to acid.) and flush with 2% KCL at maximum rate pressure will allow. Drop a total of 46, 7/8" 1.3 SG RCN ball sealers spaced evenly throughout job. Maximum pressure at balloff is 3800 psi. ND stimulation company. Unseat packer and TOOH.
12. NU wireline company. Under lubricator, RIH with 4-1/2" junk basket to recover ball sealers. Run basket by perforations several times to ensure maximum ball recovery. POOH and ND wireline company. Record number of hits and balls recovered.
13. PU 4-1/2" packer and reset @ 60'. NU stimulation company. Hold safety meeting. Pressure test surface lines to 4800 psi. Maximum surface treating pressure during frac is 3800 psi. Fracture stimulate Point Lookout / Lower Menefee interval per attached schedule at 50 BPM, with 100,000 #'s of 20/40 Arizona sand and 2429 bbls of slickwater. Quick flush at 2 ppg with 2% KCL. Flush with 89 bbls of 2% KCL to 100' of top perforation. Cut pump rate throughout flush as pressure will allow. Shutdown and record

ISIP, 5, 10 and 15 min shut-in pressures. ND stimulation company. Unseat packer and TOO. H.

14. NU wireline company. Under and lubricator RIH with 4-1/2" CIBP and set @ 5686'. POOH. ND wireline company. PU 4-1/2" packer on 2 jts of 2-7/8" tubing and set @ 60'. RU stimulation company. Pressure test CIBP to 3800 psi for 15 min. Record results. Unseat packer and TOO. H.

Upper Menefee and Cliff House perforating and fracture stimulation (2nd Stage):

15. NU wireline company. Under a full lubricator, RIH with 3-1/8" HSC casing gun. Select fire perforate the Menefee and Cliff House with 1 SPF, 0.34" diameter, 11.3" penetration, 10 gram charges (Owen, 301) at the following depths:

5295,	5337,	5401,	5420,	5444,	5457,	5467,	5473,	5481,	5487,
5498,	5505,	5529,	5532,	5550,	5552,	5559,	5633,	5637,	5667,
5669									

(13 total Intervals, 21 total holes, 374' of gross interval)

POOH and ND wireline. Inspect casing gun to ensure all perforations fired.

16. PU 4-1/2" packer on 2 jts of 2-7/8" tubing. TIH and set packer @ 60'. NU stimulation company. Pressure test surface lines to 4800 psi. Prepare to breakdown perforations. Pump into perforations to establish injection rate at maximum pressure of 3800 psi. Record breakdown pressure and rate and ISIP. **Note: Calculate the number of perforations open at beginning of the job. If 90% (or more) of the holes calculate to be open, pump acid but do not drop balls. Be prepared to continue right into frac job.** If less than 90% of holes are open proceed to next step. If an injection rate of > 5 BPM can be established, prepare to balloff. If an injection rate cannot be established, TIH with 2-3/8" tubing and spot 5 bbls 15% HCL across perforation. TOO. H.
17. Begin balloff. Pump 25 bbls of 15% HCL (Add 2/1000 gallons corrosion inhibitor and 1/1000 gallons surfactant to acid.) and flush with 2% KCL at maximum rate pressure will allow. Drop a total of 42, 7/8" 1.3 SG RCN ball sealers spaced evenly throughout job. Maximum pressure at balloff is 3800 psi. ND stimulation company. Unseat packer and TOO. H.
18. NU wireline company. Under lubricator, RIH with 4-1/2" junk basket to recover ball sealers. Run basket by perforations several times to ensure maximum ball recovery. POOH and ND wireline company. Record number of hits and balls recovered.
19. PU 4-1/2" packer and reset @ 60'. NU stimulation company. Hold safety meeting. Pressure test surface lines to 4800 psi. Maximum surface treating pressure during frac is 3800 psi. Fracture stimulate Cliff House / Upper Menefee interval per attached schedule at 50 BPM, with 100,000 #'s of 20/40 Arizona sand and 2422 bbls of slickwater. Quick flush at 2 ppg with 2% KCL. Flush with 80 bbls of 2% KCL to 200' of top perforation. Cut pump rate throughout flush as pressure will allow. Shutdown and record ISIP, 5, 10, and 15 min shut-in pressures. RD stimulation company. Unseat packer and TOO. H. XO to 2-3/8" pipe rams and slips.
20. PU 3-7/8" bit and six drill collars on 2-3/8" tubing. Clean out to CIBP set and 5686'. Obtain pitot gauge. Drill out CIBP at 5686'. Clean out to CIBP set at 6110'. Clean up to less than 5 BPH water and trace of sand. Obtain stabilized pitot gauges at 15, 30, 45, and 60 min for the Mesaverde interval. Record on WIMS report.
21. Based upon Dakota testing in step 4, a decision will be made to test Mesaverde through separator prior to drilling CIBP set at 6110' or to temporally abandon the Dakota. If decision is to abandon the Dakota, go to step 23. Run 2-3/8", 4.7# J-55 tubing in place of 1-1/2". Land tubing at +/- 6012.

22. Clean out to PBTD of 8078'. Clean up to less than 5 BPH and trace of sand. Obtain stabilized pitot gauges at 15, 30, 45, and 60 min for the commingled zones. TOOH laying down 2-3/8" tubing, drill collars, and bit.
23. XO to 1-1/2" pipe rams. PU 1-1/2" tubing. TIH with one joint of 1-1/2", 2.9# J-55 tubing with expendable check, a seat-nipple, and the remaining 1-1/2" tubing. Land tubing at +/- 8039. Broach tubing while running in hole to seat-nipple with sandline. POOH
24. ND BOP's. NU Tree and manifold assembly. Pump off expendable check. Make swab run to kick well off if needed. Obtain stabilized pitot gauges at 15, 30, 45, and 60 min for the entire well. Record on WIMS report. SI well. RD and MOL.

Compiled By:

Sean Woolverton 1/21/97
S. C. Woolverton
Production Engineer

Approval:

1/30/97
Regional Engineer

1/31/97
Drilling Superintendent

Engineers -

Sean Woolverton
Office - (326-9837)
Home - (326-4525)
Pager - (326-8931)

James A. Smith
Office - (326-9713)
Home - (327-3061)
Pager - (324-2420)

Frac Consultants

Mark Byars
Pager - (327-8470)
Mobile - (320-0349)
Home - (327-0096)

Mike Martinez
Pager - (599-7429)
Mob - (860-7518)
Home - (326-4861)

VENDORS:

CASED HOLE:
STIMULATION:

SERVICE COMPANY
TBA
TBA

PHONE NUMBER

q:\area\mvpud\1997\sj28589\PROCED.doc

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	Address		
San Juan 28-5 Unit	89	P 09-28-5	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. 30-039-20472	Federal <input checked="" type="checkbox"/> , State <input type="checkbox"/> , (and/or) Fee <input type="checkbox"/>

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. 579 psi (see attachment) (Original) b. 1235 psi (see attachment)	a. b.	a. 1706 psi (see attachment) b. 2859 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1182		BTU 1034
7. Producing or Shut-In?	shut in		producing
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. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). ☐ Reference Order R-10695 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 2/21/97

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

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Mio Brasse 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 C-101
Revised February 21, 199-
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

070 FRI, FEB 11, 1997
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-20472	Pool Code 72319/71599	Pool Name Blanco Mesaverde/Basin Dakota
Property Code 7460	Property Name San Juan 28-5 Unit	Well Number 89
OGRID No. 14538	Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	Elevation 6690'

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
P	9	28-N	5-W		990	South	800	East	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 Dedications Acres
MV-282.36
DK-322.36

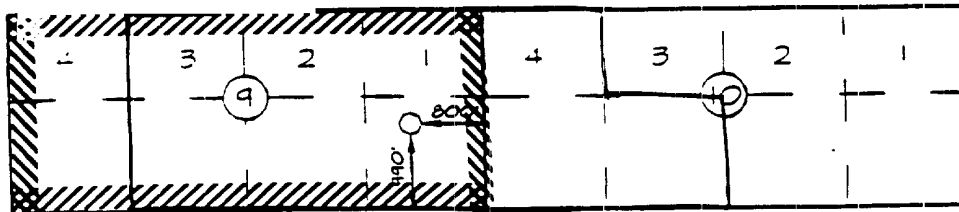
13 Joint or Infill

14 Consolidation Code

15 Order No.

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

Not resurveyed, prepared from a plat
by David O. Vilven dated 1-21-72



17 OPERATOR CERTIFICATION

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

Peggy Bradfield
Signature
Peggy Bradfield
Printed Name
Regulatory Administrator
Title
2-10-97
Date

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of a recent survey made or under my supervision, and that the same is true, correct to the best of my belief.

2/07/97

Date of Survey
Signature and Seal of Surveyor
NEAL G. EDWARDS
NEW MEXICO
6867
Professional Surveyor
Certificate Number

Expected Production Curve



• OIL
• WATER/GAS
• GAS
• WATER

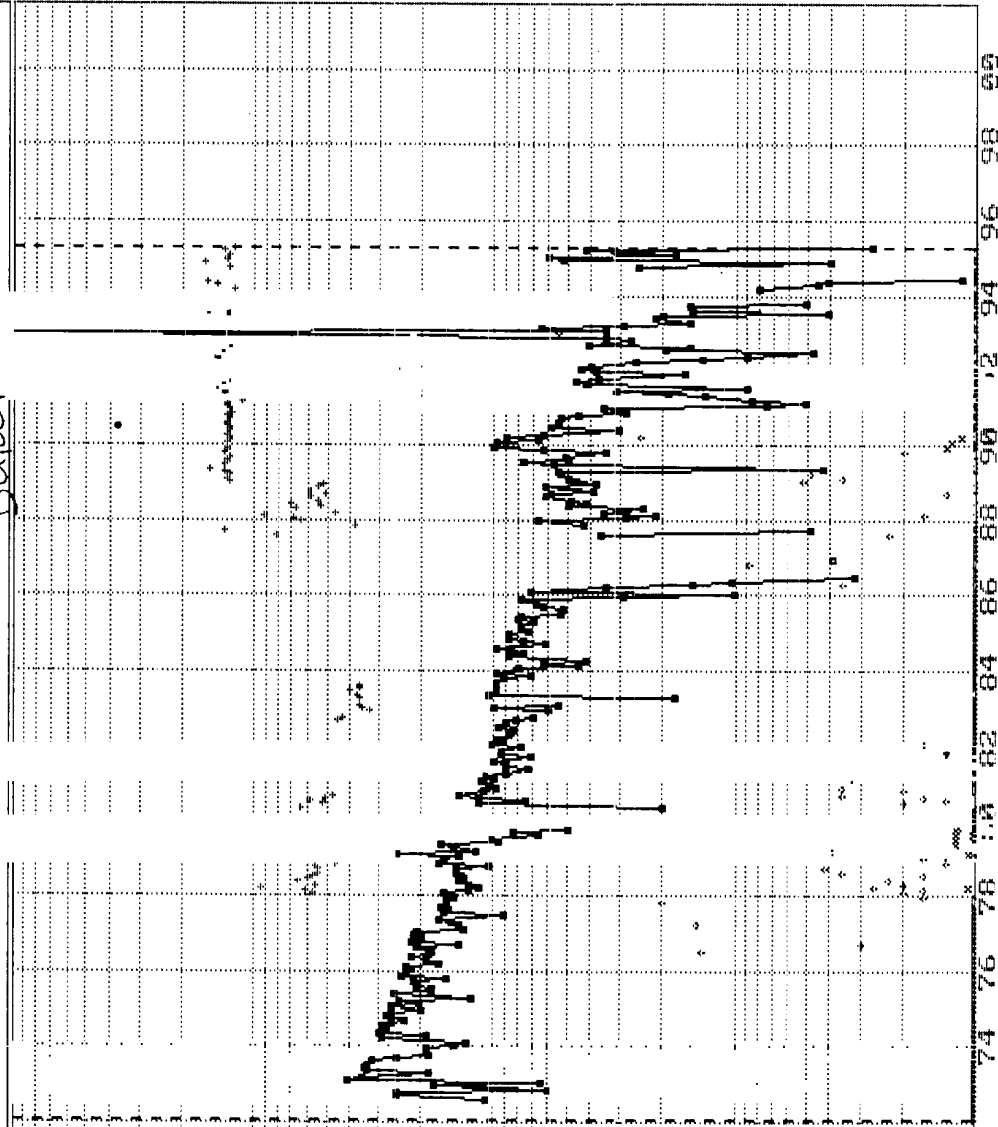
SAN JUAN 28 5 UNIT : 89 :

Saluda

Prop 1851

- • WATER Bbls/d
- • GAS Mcf/d
- • WATER/GAS
- • OIL Bbl/d

RateTime
Semi Log



Major = GAS

BURLINGTON RESOURCES OIL AND GAS COMPANY

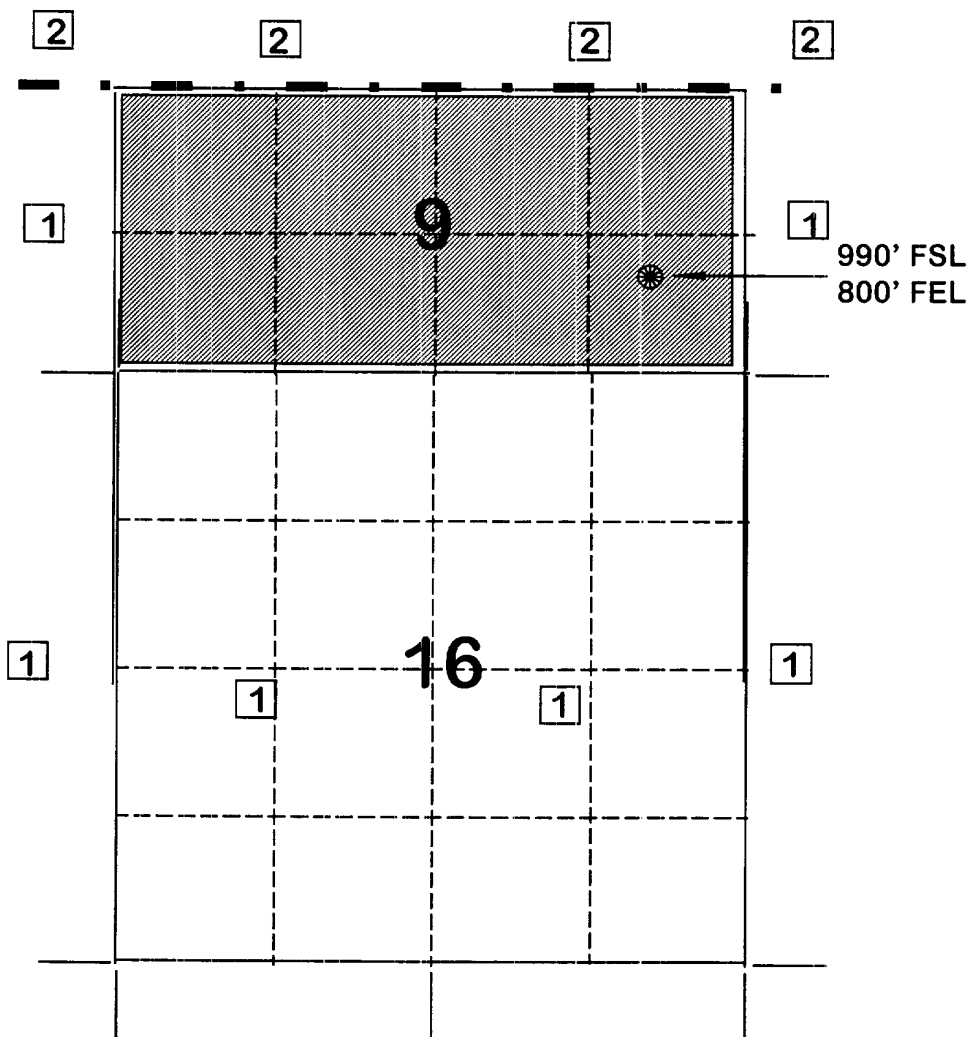
San Juan 28-5 Unit #89

OFFSET OPERATOR \ OWNER PLAT

Non Standard Section

Mesaverde/Dakota Formations Commingle Well

Township 28 North, Range 5 West



- 1) Burlington Resources Oil and Gas Company Successor to Meridian Oil Inc.
- 2) Phillips Petroleum Company
5525 Hwy. 64, NBU 3004
Farmington, NM 87401

Page No.: 9

Print Time: Thu Jan 02 14:42:14 1997

Property ID: 1812

Property Name: SAN JUAN 28-5 UNIT | 89 | 44063A-1

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

87435

--DATE-- ---CUM GAS-- M SIWHP

.....Mcf.....Psi

07/19/72	0	2371.0
09/20/72	11080	2208.0
04/24/73	56895	1929.0
02/26/75	225394	1634.0
04/15/75	236837	1657.0
06/15/77	388156	1592.0
06/05/79	496110	1531.0
05/05/81	543968	1527.0
11/02/83	617147	1492.0
09/26/85	666261	1457.0
08/02/88	690226	1472.0
05/08/90	726352	1421.0

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

VERSION 1.0 3/13/94

GAS GRAVITY	0.611
COND. OR MISC. (C/M)	C
%N2	0.37
%CO2	1.69
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	8039
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	2371
BOTTOMHOLE PRESSURE (PSIA)	2858.7

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

VERSION 1.0 3/13/94

GAS GRAVITY	0.611
COND. OR MISC. (C/M)	C
%N2	0.37
%CO2	1.69
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	8039
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1421
BOTTOMHOLE PRESSURE (PSIA)	1706.0

Page No.: 2

Print Time: Fri Jan 03 14:19:47 1997

Property ID: 3915

Property Name: SAN JUAN 28-5 UNIT | 13 | 49695A-1 28-5 # 39 mv offset

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

--DATE-- ---CUM_GAS-- M SIWHP

-----Mcf-----Psi-----

09/01/56	0	1057.0
09/11/56	0	1056.0
07/30/57	57000	674.0
11/06/58	140000	692.0
11/06/59	189000	665.0
08/14/60	225000	623.0
08/13/61	275000	609.0
03/21/62	296000	613.0
06/14/63	345000	584.0
10/22/64	372000	600.0
01/26/65	380000	573.0
08/01/66	433000	647.0
08/04/67	472000	631.0
05/10/68	503000	621.0
08/25/69	555263	574.0
06/19/70	589382	525.0
04/27/71	621509	492.0
05/15/72	665121	436.0
05/09/74	745388	457.0
04/09/76	808573	472.0
05/16/78	903087	417.0
05/13/80	989679	422.0
06/10/82	1064691	431.0
07/10/84	1124690	449.0
12/02/86	1189244	613.0
11/07/89	1272077	461.0
06/17/91	1307464	468.0
08/16/91	1310264	480.0
03/29/93	1348993	502.0

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

VERSION 1.0 3/13/94

GAS GRAVITY	0.681
COND. OR MISC. (C/M)	C
%N2	1.07
%CO2	0.73
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5770
SURFACE TEMPERATURE (DEG F)	50
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1057
BOTTOMHOLE PRESSURE (PSIA)	1234.8

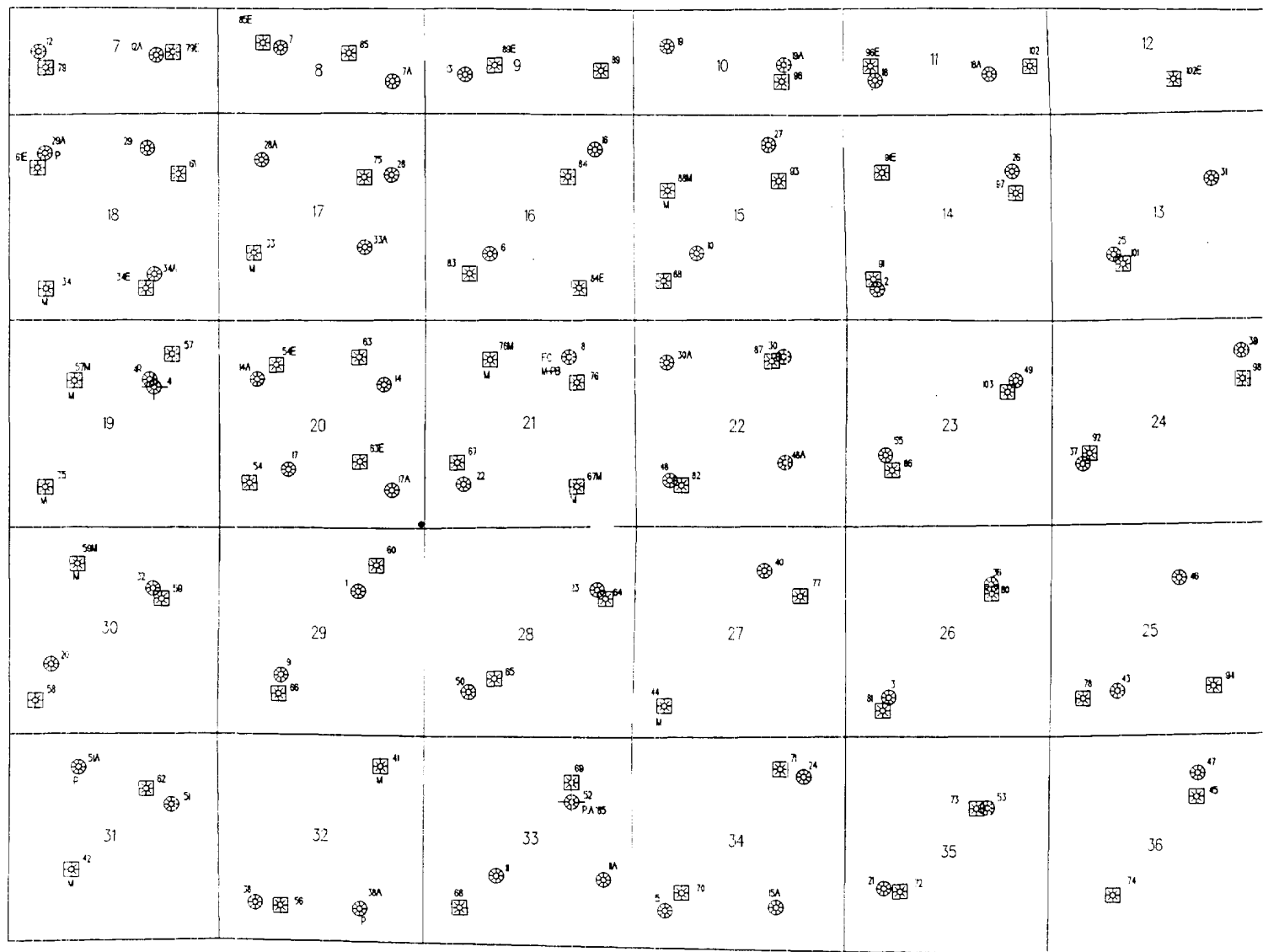
**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.681
COND. OR MISC. (C/M)	C
%N2	1.07
%CO2	0.73
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5770
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	502
BOTTOMHOLE PRESSURE (PSIA)	578.6

SAN JUAN 28-5 UNIT #13 MESAVERDE - CURRENT

SAN JUAN 28-5 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. 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 commingling (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.

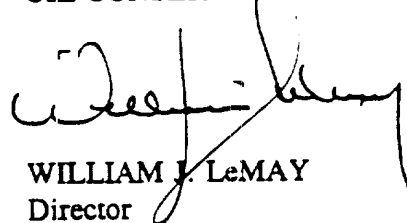
(2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 28-5 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify 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