

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

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

BURLINGTON RESOURCES OIL & GAS COMPANY
OperatorPO Box 4289, Farmington, NM 87499
Address

HOWELL C

2A

J, Sec. 03 T29N, R08W

SAN JUAN

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7120 API NO. 30-039-21635 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 PIC.CLIFFS-72359		Blanco MESAVERDE-72319
2. Top and Bottom of Pay Section (Perforations)	3023'-3082'		4642'-5468'
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	(Current) a. 325 psia @ 3053' (Original) b. 692 psia @ 3053'	a. b.	a. 180.5 psia @ 5055' b. 727 psia @ 5055'
6. Oil Gravity (API) or Gas BTU Content	1160 BTU		1252 BTU
7. Producing or Shut-In?	PRODUCING		PRODUCING
Production Marginal? (yes or no)	YES		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: Rates:	Date: Rates:	Date: Rates:
* If Producing, give data and oil/gas/water of recent test (within 60 days)	Date: 12/14/99 Rates: 58MCF/D, 1-BO/MO, 0-BWD	Date: Rates:	Date: 12/14/99 Rates: 53MCF/D, 0-BOP, 0-BWD
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: Gas: Will supply after commingling	Oil: Gas: Will supply after commingling	Oil: Gas: Will supply after commingling

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 ☐ 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). _____

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 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 Mike Haddenham TITLE Operations Engineer DATE 12-29-99TYPE OR PRINT NAME MIKE HADDENHAM TELEPHONE NO. (505) 326-9577

LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

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

Operator El Paso Natural Gas Company			Lease Howell C (SF-078596)		Well No. 2A
Unit Letter J	Section 3	Township 29N	Range 8W	County San Juan	
Actual Footage Location of Well: 1535 feet from the South line and 1550 feet from the East line					
Ground Level Elev. 6276	Producing Formation Pic. Cliffs Mesa Verde		Pool Blanco Pic. Cliffs Mesa Verde	Dedicated Acreage: 160.08 323.20 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
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?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

Note: Plat
reissued to show
addition of PC
Formation.
4-11-85

RECEIVED
APR 15 1985

BUREAU OF LAND MANAGEMENT
U.S. DEPARTMENT OF THE INTERIOR

Section 3

SF-078596

1550'

1535'

CERTIFICATION

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

Name
Drilling Clerk
Position
El Paso Natural Gas Co
Company
April 12, 1985
Date

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 knowledge and belief.

Date Surveyed
December 17, 1971

Registered Professional Land Surveyor

David B. Ford

2050

0 330 660 990 1320 1650 1980 2310 2640 2970 3300

Howell C #2A
Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method
Version 1.0 3/13/94

Mesaverde		Pictured Cliffs	
<u>MV-Current</u>		<u>PC-Current</u>	
GAS GRAVITY	0.726	GAS GRAVITY	0.639
COND. OR MISC. (C/M)	M	COND. OR MISC. (C/M)	M
%N2	0.26	%N2	0.63
%CO2	1	%CO2	0.75
%H2S	0	%H2S	0
DIAMETER (IN)	4.052	DIAMETER (IN)	6.456
DEPTH (FT)	5055	DEPTH (FT)	3053
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	140	BOTTOMHOLE TEMPERATURE (DEG F)	120
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	159	SURFACE PRESSURE (PSIA)	303
BOTTOMHOLE PRESSURE (PSIA)	180.5	BOTTOMHOLE PRESSURE (PSIA)	324.9
<u>MV-Original</u>		<u>PC-Original</u>	
GAS GRAVITY	0.726	GAS GRAVITY	0.639
COND. OR MISC. (C/M)	M	COND. OR MISC. (C/M)	M
%N2	0.26	%N2	0.63
%CO2	1	%CO2	0.75
%H2S	0	%H2S	0
DIAMETER (IN)	4.052	DIAMETER (IN)	6.456
DEPTH (FT)	5055	DEPTH (FT)	3053
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	140	BOTTOMHOLE TEMPERATURE (DEG F)	120
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	632	SURFACE PRESSURE (PSIA)	643
BOTTOMHOLE PRESSURE (PSIA)	726.8	BOTTOMHOLE PRESSURE (PSIA)	692.2

Sample Date: 19960924

Hydrocarbon Fractions	Impurities	
Mol % C1: 85.75	Mol % H2: 0	Test Pressure: 14.73
Mol % C2: 7.99	Mol % He: 0	Test Temperature: 60
Mol % C3: 2.9	Mol % N2: 0.63	Wet BTU Factor (BTU/CF at 14.73): 1139.832
Mol % iC4: 0.51	Mol % O2: 0	Dry BTU Factor (BTU/CF at 14.73): 1160
Mol % nC4: 0.69	Mol % H2S: 0	Measured Specific Gravity: 0
Mol % iC5: 0.25	Mol % CO2: 0.75	Calculated Specific Gravity: 0.667
Mol % nC5: 0.17		
Mol % C6: 0		
Mol % C6+: 0.36		
Mol % C7: 0		

Sample Date: 19920723

Hydrocarbon Fractions	Impurities	
Mol % C1: 90.35	Mol % H2: 0	Test Pressure: 14.73
Mol % C2: 4.65	Mol % He: 0	Test Temperature: 60
Mol % C3: 2.4	Mol % N2: 0.16	Wet BTU Factor (BTU/CF at 14.73): 1103.475
Mol % iC4: 0.45	Mol % O2: 0	Dry BTU Factor (BTU/CF at 14.73): 1123
Mol % nC4: 0.58	Mol % H2S: 0	Measured Specific Gravity: 0
Mol % iC5: 0.19	Mol % CO2: 0.79	Calculated Specific Gravity: 0.639
Mol % nC5: 0.13		
Mol % C6: 0		
Mol % C6+: 0.3		
Mol % C7: 0		

Sample Date: 19980113**Hydrocarbon Fractions****Mol % C1: 81.12****Mol % C2: 9.31****Mol % C3: 4.44****Mol % iC4: 0.81****Mol % nC4: 1.31****Mol % iC5: 0.5****Mol % nC5: 0.39****Mol % C6: 0****Mol % C6+: 0.86****Mol % C7: 0****Impurities****Mol % H2: 0****Mol % He: 0****Mol % N2: 0.26****Mol % O2: 0****Mol % H2S: 0****Mol % CO2: 1****Test Pressure: 14.73****Test Temperature: 60****Wet BTU Factor (BTU/CF at 14.73): 1230.232****Dry BTU Factor (BTU/CF at 14.73): 1252****Measured Specific Gravity: 0****Calculated Specific Gravity: 0.726**

Sample Date: 19960319**Hydrocarbon Fractions****Mol % C1: 81.85****Mol % C2: 9.4****Mol % C3: 4.33****Mol % iC4: 0.75****Mol % nC4: 1.18****Mol % iC5: 0.4****Mol % nC5: 0.29****Mol % C6: 0****Mol % C6+: 0.49****Mol % C7: 0****Impurities****Mol % H2: 0****Mol % He: 0****Mol % N2: 0.29****Mol % O2: 0****Mol % H2S: 0****Mol % CO2: 1.02****Test Pressure: 14.73****Test Temperature: 60****Wet BTU Factor (BTU/CF at 14.73): 1201.737****Dry BTU Factor (BTU/CF at 14.73): 1223****Measured Specific Gravity: 0****Calculated Specific Gravity: 0.708**

OIL CONSERVATION DIVISION

API # 30-045-21635

Page 1
Revised 10/01/78

Thus form is not to
be used for reporting
packer leakage tests
in Southeast New Mexico

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator BURLINGTON RESOURCES OIL & GAS CO. Lease HOWELL C Well No. 2A

Location

of Well: Unit J Sect 03 Twp. 029N Rge. 008W County SAN JUAN

	NAME OF RESERVOIR OR POOL	TYPE OF PROD. (Oil or Gas)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
Upper Completion	PICTURED CLIFFS	Gas	Flow	Tubing
Lower Completion	MESAVERDE	Gas	Flow	Tubing

PRE-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
	06/11/1999	144 Hours	303	
Lower Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
	06/11/1999	96 Hours	159	

FLOW TEST NO. 1

Commenced at (hour,date)*		06/15/1999		Zone producing (Upper or Lower)	
TIME (hour,date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE	REMARKS
		Upper Completion	Lower Completion	TEMP	
6/16/199	120 Hours	181	167		
6/17/199	144 Hours	141	172		

Production rate during test

Oil: _____ BOPD based on _____ Bbls. in _____ Hours. _____ Grav. _____ GOR _____

Gas: _____ MCFPD; Tested thru (Orifice or Meter): _____

MID-TEST SHUT-IN PRESSURE DATA

Upper Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)
Lower Completion	Hour, date shut-in	Length of time shut-in	SI press. psig	Stabilized? (Yes or No)

(Continue on reverse side)

HOWELL C #2A
Sec. 03, T29N R08W
San Juan County, New Mexico

Production Allocation Based On Cumulative Production Through 11/1/99

	Cumulative Production			% Allocation	
	MCF	Bbl Oil		% Gas	% Oil
Pictured Cliffs	43	0		9.37%	0.00%
Mesaverde	416	0		90.63%	0.00%
Total	459	0		100.00%	0.00%

Gas Allocation:

Pictured Cliffs (Total Pictured Cliffs Production) 43 MCF

(Total Combined Production) 459 MCF = 9.37%

Mesaverde (Total Mesaverde Production) 416 MCF

(Total Combined Production) 459 MCF = 90.63%

Oil Allocation:

Pictured Cliffs (Total Pictured Cliffs Production) 0 Bbl Oil

(Total Combined Production) 0 Bbl Oil = 0.00%

Mesaverde (Total Mesaverde Production) 0 Bbl Oil

(Total Combined Production) 0 Bbl Oil = 0.00%

12/16/1999

Pressure Base 14.73

4795401 HOWELL C 2A

BURLINGTON RESOURCES OIL & GAS COMPANY
DAILY HISTORY REPORT - ESTIMATED PRODUCTION VOLUMES BY WELL
FOR MONTH ENDING: 1999-10-31

MV
 4/16 mcf/d
 avg

Date	Gas Sales	Net Gas	Est. Oil	Net Oil	Est. Water
10/01/99	400.000	344.000	0.622	0.535	0.000
10/02/99	399.000	343.140	0.622	0.535	0.000
10/03/99	398.000	342.280	0.622	0.535	0.000
10/04/99	401.000	344.860	0.622	0.535	0.000
10/05/99	402.000	345.720	0.622	0.535	0.000
10/06/99	399.000	343.140	0.622	0.535	0.000
10/07/99	399.000	343.140	0.622	0.535	0.000
10/08/99	399.000	343.140	0.622	0.535	0.000
10/09/99	398.000	342.280	0.622	0.535	0.000
10/10/99	400.000	344.000	0.622	0.535	0.000
10/11/99	397.000	341.420	0.622	0.535	0.000
10/12/99	410.000	352.600	0.622	0.535	0.000
10/13/99	408.000	350.880	0.622	0.535	0.000
10/14/99	406.000	349.160	0.622	0.535	0.000
10/15/99	406.000	349.160	0.622	0.535	0.000
10/16/99	406.000	349.160	0.622	0.535	0.000
10/17/99	406.000	349.160	0.622	0.535	0.000
10/18/99	406.000	349.160	0.622	0.535	0.000
10/19/99	406.000	349.160	0.622	0.535	0.000
10/20/99	406.000	349.160	0.622	0.535	0.000
10/21/99	406.000	349.160	0.622	0.535	0.000
10/22/99	406.000	349.160	0.622	0.535	0.000
10/23/99	406.000	349.160	0.622	0.535	0.000
10/24/99	401.000	344.860	0.622	0.535	0.000
10/25/99	393.000	337.980	0.622	0.535	0.000
10/26/99	400.000	344.000	0.622	0.535	0.000
10/27/99	400.000	344.000	0.477	0.410	0.000
10/28/99	400.000	344.000	0.477	0.410	0.000
10/29/99	400.000	344.000	0.477	0.410	0.000
10/30/99	400.000	344.000	0.477	0.410	0.000

BURLINGTON RESOURCES OIL & GAS COMPANY
DAILY HISTORY REPORT - ESTIMATED PRODUCTION VOLUMES BY WELL
FOR MONTH ENDING: 1999-10-31

12/16/1999

Pressure Base 14.73

4795401 HOWELL C 2A

Date	Gas Sales	Net Gas	Est. Oil	Net Oil	Est. Water
10/31/99	401.000	344.860	0.477	0.410	0.000
Asset Identifier 4795401	12465.000	10719.900	18.557	15.960	0.000

12/16/1999

Pressure Base 14.73

4795402 HOWELL C 2A

BURLINGTON RESOURCES OIL & GAS COMPANY
DAILY HISTORY REPORT - ESTIMATED PRODUCTION VOLUMES BY WELL
FOR MONTH ENDING: 1999-10-31

PC
43 MCF/D
avg

Date	Gas Sales	Net Gas	Est. Oil	Net Oil	Est. Water
10/01/99	43.000	36.980	0.000	0.000	0.040
10/02/99	43.000	36.980	0.000	0.000	0.040
10/03/99	43.000	36.980	0.000	0.000	0.040
10/04/99	43.000	36.980	0.000	0.000	0.040
10/05/99	43.000	36.980	0.000	0.000	0.040
10/06/99	43.000	36.980	0.000	0.000	0.040
10/07/99	42.000	36.120	0.000	0.000	0.039
10/08/99	42.000	36.120	0.000	0.000	0.039
10/09/99	41.000	35.260	0.000	0.000	0.039
10/10/99	42.000	36.120	0.000	0.000	0.039
10/11/99	42.000	36.120	0.000	0.000	0.039
10/12/99	42.000	36.120	0.000	0.000	0.039
10/13/99	42.000	36.120	0.000	0.000	0.039
10/14/99	42.000	36.120	0.000	0.000	0.039
10/15/99	42.000	36.120	0.000	0.000	0.039
10/16/99	42.000	36.120	0.000	0.000	0.039
10/17/99	42.000	36.120	0.000	0.000	0.039
10/18/99	42.000	36.120	0.000	0.000	0.039
10/19/99	42.000	36.120	0.000	0.000	0.039
10/20/99	42.000	36.120	0.000	0.000	0.039
10/21/99	42.000	36.120	0.000	0.000	0.039
10/22/99	42.000	36.120	0.000	0.000	0.039
10/23/99	42.000	36.120	0.000	0.000	0.039
10/24/99	42.000	36.120	0.000	0.000	0.039
10/25/99	41.000	35.260	0.000	0.000	0.039
10/26/99	41.000	35.260	0.000	0.000	0.039
10/27/99	43.000	36.980	0.000	0.000	0.040
10/28/99	43.000	36.980	0.000	0.000	0.040
10/29/99	43.000	36.980	0.000	0.000	0.040
10/30/99	43.000	36.980	0.000	0.000	0.040

12/16/1999

Pressure Base 14.73

4795402 HOWELL C 2A

BURLINGTON RESOURCES OIL & GAS COMPANY
DAILY HISTORY REPORT - ESTIMATED PRODUCTION VOLUMES BY WELL
FOR MONTH ENDING: 1999-10-31

43 MCF/D
avg

Date	Gas Sales	Net Gas	Est. Oil	Net Oil	Est. Water
10/31/99	42.000	36.120	0.000	0.000	0.039
Asset Identifier 4795402					
					1.219