

District I
1027 N. Fourth Street, Hobbs, NM 88240

District II
1301 W. Grand Avenue, Artesia, NM 88210

District III
1000 E. Platte Road, Aztec, NM 87410

District IV
1250 R. R. French Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-107A
Revised June 10, 2003

APPLICATION TYPE
☒ Single Well
Establish Pre-Approved Pools
EXISTING WELLBORE
☒ Yes ☐ No

APPLICATION FOR DOWNHOLE COMMINGLING

Operator BLACK HILLS GAS RESOURCES, INC. c/o Mike Pippin LLC (agent), 3104 N. Sullivan, Farmington, NM 87401
Address

Lease JICARILLA 459-17 #24 Well No. H SEC. 17 T30N R03W Unit Letter-Section-Township-Range Rio Arriba County

OGRID No. 013925 Property Code 22211 API No. 30-039-29324 Lease Type: ☒ Federal ☐ State ☐ Fee

THIS IS PART OF THE BLACK HILLS CLEAN-UP PROGRAM

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	<u>Cabresto Canyon Tertiary</u>	<u>Basin Fruitland Coal</u>	<u>East Blanco Pictured Cliffs</u>
Pool Code	<u>97037</u>	<u>71629</u>	<u>72400</u>
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	<u>1578'-2224'</u>	<u>3668'-98'</u>	<u>3735'-92'</u>
Method of Production (Flowing or Artificial Lift)	<u>Plan to Pump</u>	<u>Plan to Pump</u>	<u>Plan to Pump</u>
Bottomhole Pressure (Note: If vacuum data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	<u>258</u>	<u>1130</u>	<u>1150</u>
Oil Gravity or Gas BTU (Degree API or Gas BTU)	<u>1052</u>	<u>1165</u>	<u>1175</u>
Producing, Shut-In or New Zone	<u>Shut-in</u>	<u>Shut-in</u>	<u>Shut-in</u>
Date 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: <u>11/6/06</u> Rates: <u>250 MCF/D</u>	Date: <u>11/6/06</u> Rates: <u>72 MCF/D</u>	Date: <u>11/6/06</u> Rates: <u>91 MCF/D</u>
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil <u>0%</u> Gas <u>61%</u>	Oil <u>0%</u> Gas <u>17%</u>	Oil <u>100%</u> Gas <u>22%</u>

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones?
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?

Yes ☒ No ☐
Yes ☐ No ☐

Are all produced fluids from all commingled zones compatible with each other?

Yes ☒ No ☐

Will commingling decrease the value of production?

Yes ☐ No ☒

If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application?

Yes ☐ No ☐

NMOC Reference Case No. applicable to this well: _____

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, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:
List of other orders approving downhole commingling within the proposed Pre-Approved Pools
List of all operators within the proposed Pre-Approved Pools
Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
Bottomhole pressure data.

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

SIGNATURE Mike Pippin TITLE Petroleum Engineer - Agent DATE November 14, 2006

TYPE OR PRINT NAME Mike Pippin TELEPHONE NO. (505) 327-4573

E-MAIL ADDRESS mike@mippinllc.com

Jicarilla 459-17 #24
Current Wellbore Diagram
API # 30-039-29324
SE NE Sec. 17, T30N, R3W

Elev. GL= 7166'
Elev. KB= 7179'

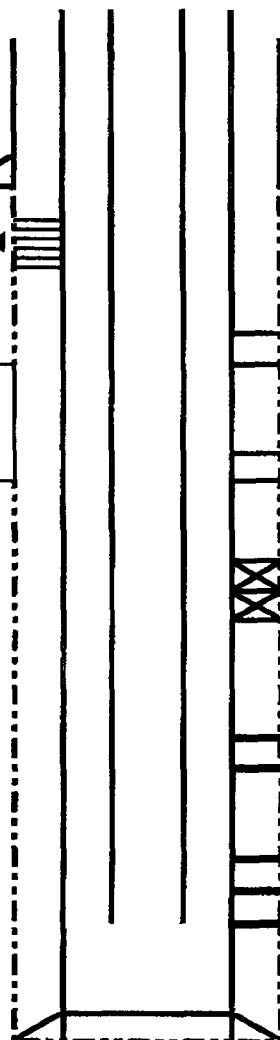
SURF CSG

8 5/8" 24# J-55 @267' KB,
Cementw/ 175 sx Circ
cement to surf. TOC surf

SQ holes @ 350', 56 sx
cement, did not circ to
surf.

PROD CASING

5 1/2" 17# @3885' KB;
cmt; 750 sx Circ 60 bbls to
surf. TOC= Surf



2-3/8" 4.7# J-55 TBG @ 3812'

San Jose perms: 1578-1680', frac with 54980# sand in 50Q
N2 foam

Nacimiento perms: 2132-2224', frac 20600 # sand in 50Q
N2 foam

Ojo Alamo perms: 3178-3210', frac w/ 93260# in 70Q N2
foam. SQ w/ 308 sx cement

Fruitland Sand perms: 3668-3698, Formic, N2

Pictured Cliffs perms: 3736-3792', frac 65760# 20/40 in 66Q
foam

PBTD=3848'
TD = 3885'

Prepared: 14-Nov-06

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1391 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number 30-039-29324	² Pool Code 97037	³ Pool Name Cabresto Canyon Tertiary
⁴ Property Code 22211	⁵ Property Name Jicarilla 459-17	⁶ Well Number 24
⁷ OGRID No. 013925	⁸ Operator Name Black Hills Gas Resources, Inc.	⁹ Elevation 7166' GL

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	17	30-N	3-W		1795'	North	425'	East	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

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

¹² Dedicated Acres 160 - NE/4	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.

	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division. Signature: <i>Mike Pippin</i> Date: 6-22-06 Printed Name: Mike Pippin
	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: Signature and Seal of Professional Surveyor:
	Certificate Number

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-29324	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 22211	⁵ Property Name Jicarilla 459-17	⁶ Well Number 24
⁷ OGRB No. 013925	⁸ Operator Name Black Hills Gas Resources, Inc.	⁹ Elevation 7166' GL

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	17	30-N	3-W		1795'	North	425'	East	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

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

¹² Dedicated Acres 320 - E/2	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.

	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Mike Pippin</i> 6-23-06 Signature Date</p> <p>Mike Pippin Printed Name</p>		
		<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date of Survey Signature and Seal of Professional Surveyor:</p> <p>Certificate Number</p>	

BLACK HILLS GAS RESOURCES, INC.
JICARILLA 459-17 #24 PC / FRTC
H Section 17 T30N R03W
6/22/06

OLD

Commingle Allocation Calculations

DHC-3737

OIL

The Basin Fruitland Coal gas pool does not make any oil in the vicinity of the subject well. The East Blanco Pictured Cliffs gas pool does produce a little oil. Therefore, any and all oil will be assigned to the Pictured Cliffs.

GAS

During workover operations in June & July 2005, stabilized gas tests were taken on the PC alone, then on the FRTC alone.

Orifice well tester (1") on FRTC alone for 12 hours (6/14/05): 175 MCF/D.

The Pictured Cliffs (only) choke test stabilized at 20 psi on a ½" choke for a 2 hour period on 6/14/05.

$Q = .0555 \cdot C \cdot P$ $C = \text{coefficient for } \frac{1}{2}'' \text{ choke} = 112.72$
 $P = \text{gauge pressure} + 15 \text{ psi} = 35 \text{ psi.}$

$Q = .0555 \cdot 112.72 \cdot 35 = 219 \text{ MCF/D.}$

Total gas = 175 + 219 = 394 MCF/D.

% Pictured Cliffs = $\frac{219}{394} = 56\%$

% FRTC = $\frac{175}{394} = 44\%$