7/27/06 DHC WOJ pWJ 062142319

District I
1625 N. French Drive, Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis 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
X Single Well
___ Establish Pre-Approved Pools
EXISTING WELLBORE
X Yes ___ No

APPLICATION FOR DOWNHOLE COMMINGLING

2006 JUL 27 PM 2 47

DHC-3755

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

JICARILLA 457-10 #44 — P SEC. 10 T30N R03W — Rio Arriba
Lease — Well No. — Unit Letter-Section-Township-Range — County

OGRID No. 013925 Property Code 22860 API No. 30-039-29321 Lease Type: X Federal ___ State ___ Fee

THIS IS PART OF THE BLACK HILLS CLEAN-UP PROGRAM

DATA ELEMENT	UPPER ZONE (UNDES)	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Cabresto Canyon Tertiary	Basin Fruitland Coal	East Blanco Pictured Cliffs
Pool Code	97037	71629	72400
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	1547'-3018'	3739'-57'	3776'-3863'
Method of Production (Flowing or Artificial Lift)	Pumping	Pumping	Pumping
Bottomhole Pressure (Note: Pressure 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)	447	1130	1150
Oil Gravity or Gas BTU (Degree API or Gas BTU)	1052	1165	1175
Producing, Shut-In or New Zone	New Zone	New Zone	New Zone
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: 7/5/05 Rates: 8 MCF/D	Date:6/16/05 Rates:102 MCF/D	Date: 6/5&11/05 Rates: 589 MCF/D
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 0% Gas 1%	Oil 0% Gas 15%	Oil 100% Gas 84%

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes X No ___
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes ___ No ___

Are all produced fluids from all commingled zones compatible with each other? Yes X No ___

Will commingling decrease the value of production? Yes ___ No X

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 X No ___

NMOCD 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 July 25, 2006

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

E-MAIL ADDRESS mike@pippinllc.com

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	[2] Pool Code	[3] Pool Name
30-039-29321	97037	Cabresto Canyon Tertiary

[4] Property Code	[5] Property Name	[6] Well Number
22860	**Jicarilla 457-10**	**44**

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	**Black Hills Gas Resources, Inc.**	7313' GL

[10] Surface Location

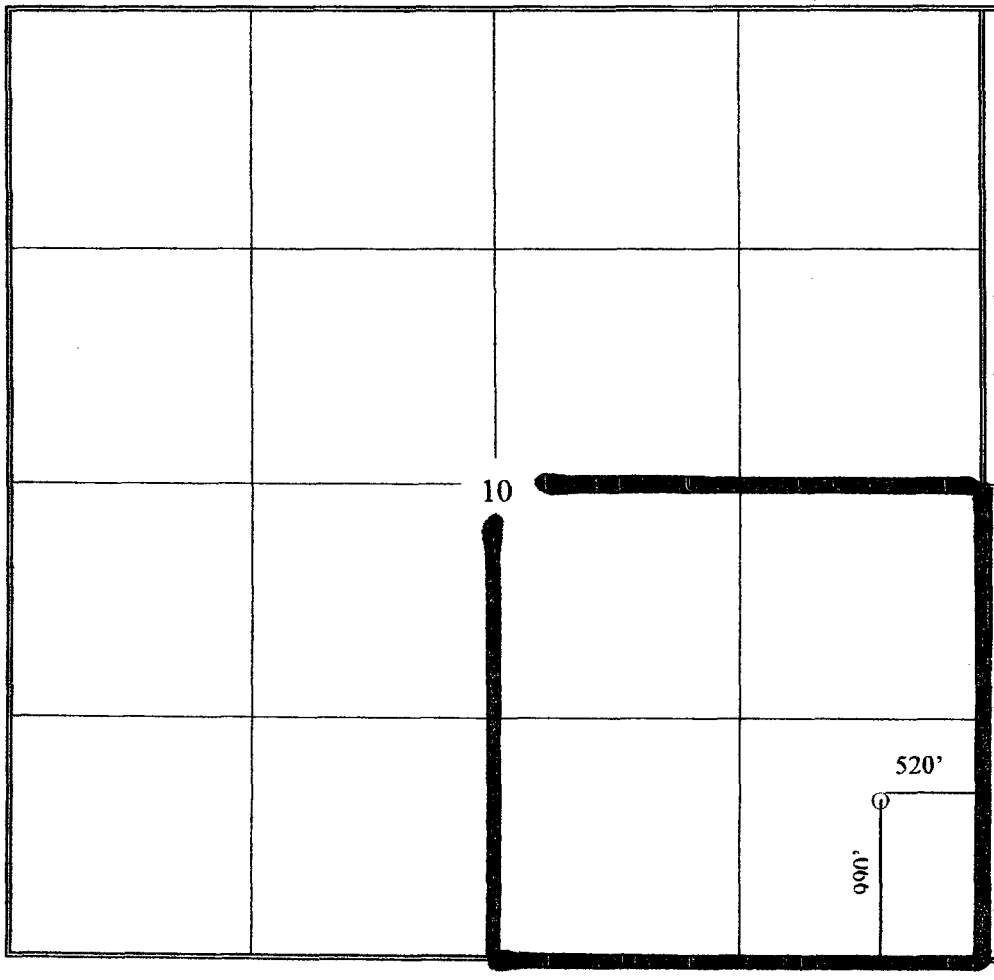
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	10	30-N	3-W		990'	South	520'	East	Rio Arriba

[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	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160 – SE/4			

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 unleased 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.

Mike Pippin 7-25-06
Signature Date

Mike Pippin
Printed Name

[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	[2] Pool Code	[3] Pool Name
30-039-29321	71629	Basin Fruitland Coal

[4] Property Code	[5] Property Name	[6] Well Number
22860	**Jicarilla 457-10**	**44**

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	**Black Hills Gas Resources, Inc.**	7313' GL

[10] Surface Location

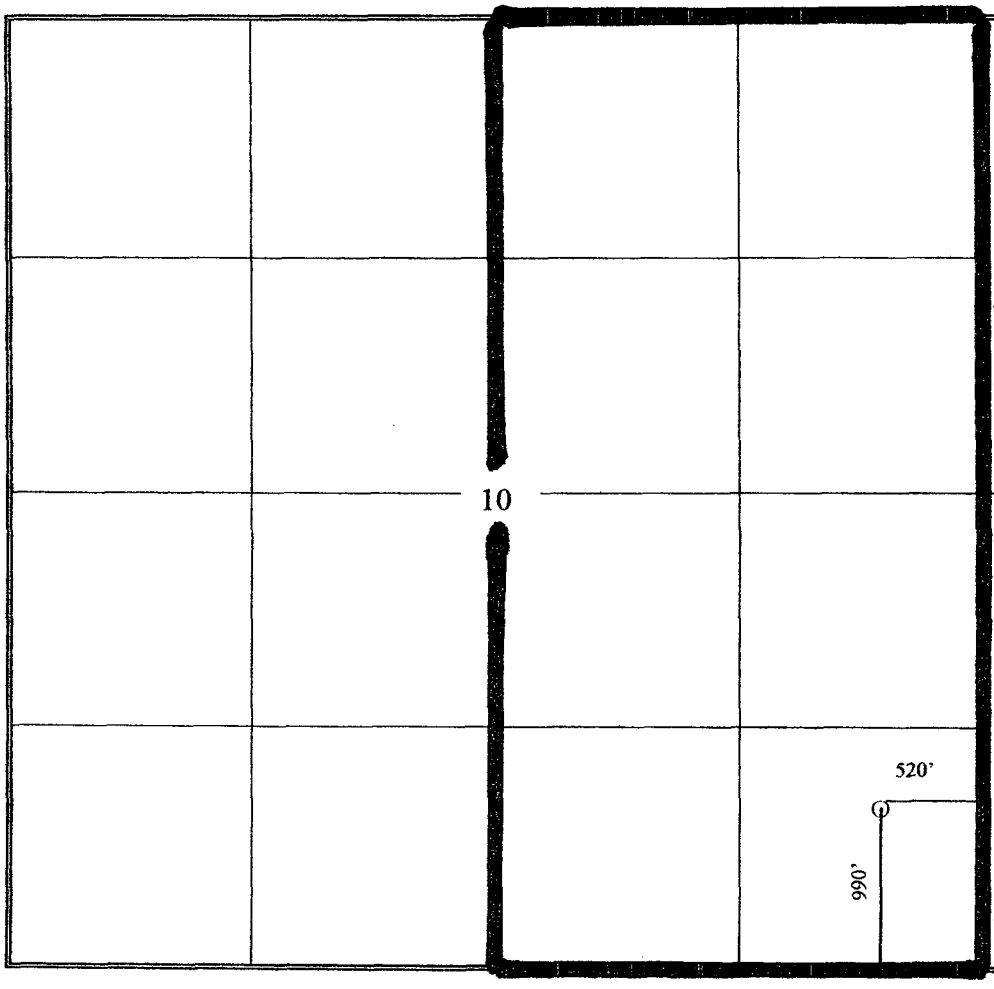
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	10	30-N	3-W		990'	South	520'	East	Rio Arriba

[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	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320 – E/2			

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 unleased 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.

Mike Pippin 7-25-06
Signature Date

Mike Pippin
Printed Name

[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, N.M. 88240

DISTRICT II
1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 South 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 June 10, 2003
Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
	72400	East Blanco; Pictured Cliffs

[4] Property Code	[5] Property Name	[6] Well Number
~~24245~~ 22860	JICARILLA 457-10	44

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	MALLON OIL COMPANY	7313

[10] Surface Location

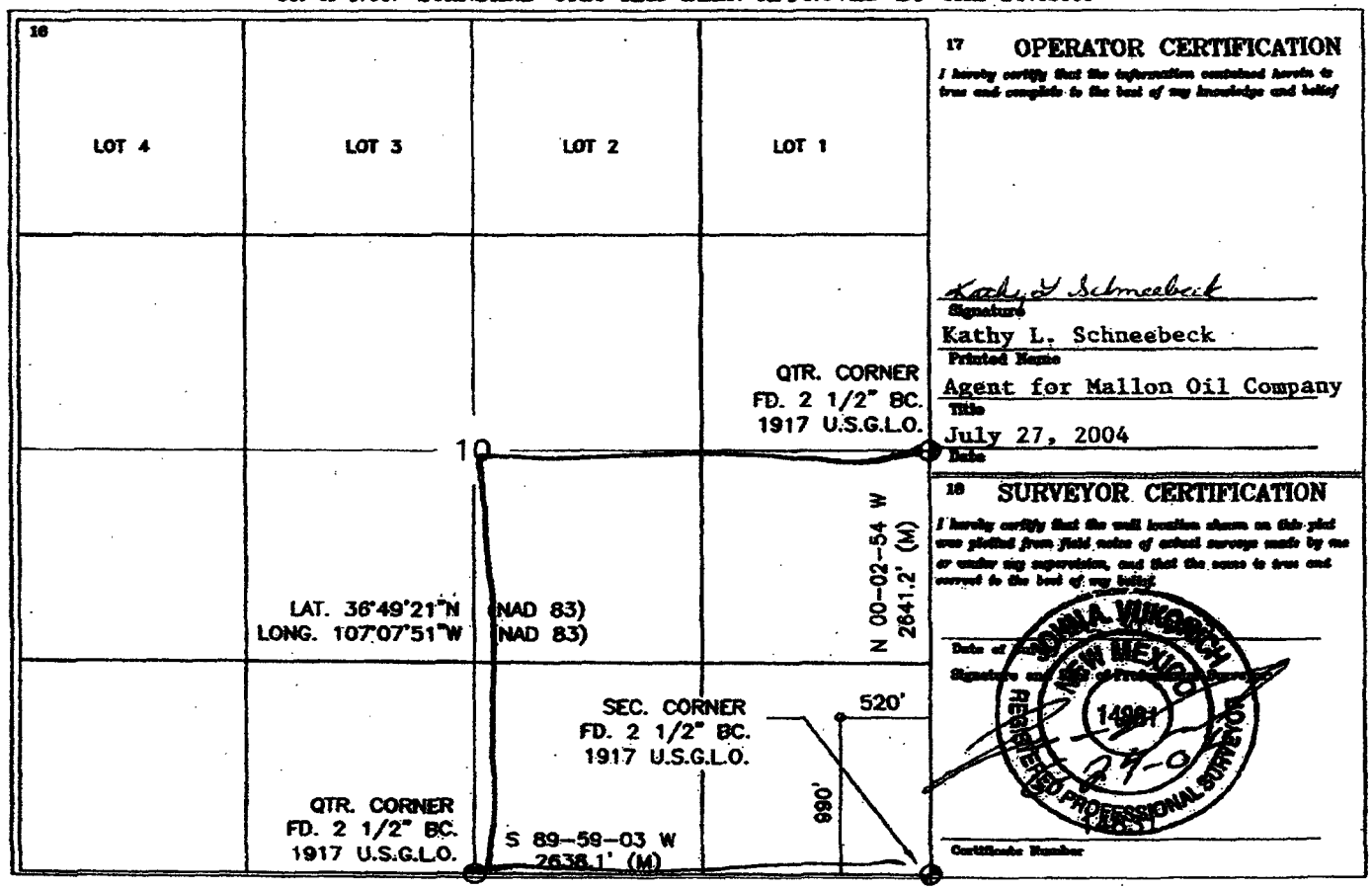
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	10	30-N	3-W		990	SOUTH	520	EAST	RIO ARRIBA

[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	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160			

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

Kathy L Schneebeck
Signature

Kathy L. Schneebeck
Printed Name

Agent for Mallon Oil Company
Title

July 27, 2004
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.

Date of Survey

Signature and Seal of Professional Surveyor

JOHN A. WILLIAMS
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

BLACK HILLS GAS RESOURCES, INC.
JICARILLA 457-10 #44 PC / FRTC / TERTIARY
P Section 10 T30N R03W
7/25/2006
API#: 30-039-29321

Commingle Allocation Calculations

OIL

The Cabresto Canyon Tertiary and the Basin Fruitland Coal gas pools do 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 completion operations in June and July 2005, stabilized and segregated gas choke tests were taken on the PC, the FRTC, and the Tertiary.

The **Lower Pictured Cliffs** choke test stabilized at 120 psi on a 1/4" choke for a 5 hour period on 6/5/05.
Q = .0555*C*P C= coefficient for 1/4" choke = 26.51
P = gauge pressure + 15 psi = 135 psi.
Q = .0555*26.51*135 = 199 MCF/D.

The **Upper Pictured Cliffs** choke test stabilized at 250 psi on a 1/4" choke for a 4 hour period on 6/11/05.
Q = .0555*C*P C= coefficient for 1/4" choke = 26.51
P = gauge pressure + 15 psi = 265 psi.
Q = .0555*26.51*265 = 390 MCF/D.
Total Pictured Cliffs = 199 + 390 = 589 MCF/D

The **Fruitland Coal** choke test stabilized at 15 psi on a 3/8" choke on 6/16/05.
Q = .0555*C*P C= coefficient for 3/8" choke = 61.21
P = gauge pressure + 15 psi = 30 psi.
Total Fruitland Coal = Q = .0555*61.21*30 = 102 MCF/D.

The **Tertiary** choke test stabilized at 10 psi on a 1/8" choke on 7/5/05.
Q = .0555*C*P C= coefficient for 1/4" choke = 6.25
P = gauge pressure + 15 psi = 25 psi.
Total Tertiary = Q = .0555*6.25*25 = 8 MCF/D.

Total gas = 589 + 102 + 8 = 699 MCF/D.

% Pictured Cliffs=589/699=84% **%FRTC=102/699=15%** **% Tertiary=8/699=1%**

Jones, William V., EMNRD

From: Mike Pippin [mike@pippinllc.com]
Sent: Wednesday, August 02, 2006 8:53 AM
To: Jones, William V., EMNRD
Cc: Russ Peterson; Gary Stripling; Loren Diede; Leslie Lamb
Subject: RE: DHC Application: Black Hills Gas Resources, Inc. Jicarilla 457-10 Well No. 44 API No. 30-039-29321
Attachments: LETTER answer to questions 8 2 06 457-10 #44.doc

I have attached the answers to your questions. Black Hills plans to P&A this well. If you have any additional questions or concerns, please contact me.

-----Original Message-----
From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Friday, July 28, 2006 1:09 PM
To: mike@pippinllc.com
Cc: Hayden, Steven, EMNRD; Ezeanyim, Richard, EMNRD; Fesmire, Mark, EMNRD
Subject: DHC Application: Black Hills Gas Resources, Inc. Jicarilla 457-10 Well No. 44 API No. 30-039-29321

Hello Mike:
After reviewing your submitted application, I have the following request and a set of questions:

Request:
The 150% depth rule seems to apply here - see form C-107A. Please estimate the static BHP of each of these three intervals and send the info here by fax or email and I will add the data to this application.

Questions for you as an engineer:
With only 1% of the production coming from the Tertiary intervals, does the water production from the Tertiary present a danger to the life of the Fruitland and PC reserves? Does the H2S from the Tertiary and corrosion from the Ojo Alamo endanger the life of this well? What is the estimated life of each of these intervals if produced separately?

Why did Black Hills choose to not isolate the Tertiary in the annulus and produce the relatively dry Fruitland and PC up the tubing?
What is the feasibility and estimated cost of squeezing off the Tertiary intervals?

Has Black Hills done any wireline production profile investigations in this area after Mallon initiated all this commingling to see if harmful crossflowing is happening or to verify allocation percentages and aid in future development planning?

Thank You,

William V. Jones Engineering Bureau Oil Conservation Division Santa Fe

BLACK HILLS GAS RESOURCES
c/o Mike Pippin
3104 N. Sullivan Avenue
Farmington, NM 87401
505-327-4573 (phone) **505-564-8656 (fax)
Email: mike@pippinllc.com

August 2, 2006

Mr. William Jones
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87504

RE: Answer to Your Questions
Application for Downhole Commingling C-107A for Black Hill's Jicarilla 457-10 #44
990' FSL and 520' FEL Unit P, Section 10, T30N, R03W
Rio Arriba County, New Mexico
East Blanco Pictured Cliffs, Basin Fruitland Coal, Cabresto Canyon Tertiary

Dear Mr. Jones,

Thank you for your e-mail dated 7/28/06 requesting additional information on Black Hill's C-107A commingle application. on the referenced well. I hope the following will help clarify Black Hill's thoughts in the past along with their plans for the future of this well.

The application to commingle the referenced three intervals is part of the Black Hills permit Clean-up program, which is their effort to bring all Black Hills wells into total compliance with both the BLM and the NMOCD. Black Hills is working closely with Jim Lavato with the BLM and Charlie Perrin with the NMOCD in Aztec on this clean-up program. Before, Black Hills can move forward with future plans for this well, they must first bring the well into total compliance. Since the well did produce some gas as a triple commingle, the C-107A is necessary along with several other BLM and NMOCD forms. When the well is brought into compliance, Black Hills plans to submit an application to P&A the well.

Q: With only 1% of the production coming from the Tertiary intervals, does the water production from the Tertiary present a danger to the life of the FRTC and PC reserves?
A: At the time of the testing (June & July 2005) none of the three intervals were believed to be economical. The Engineering staff at the time believed that a triple commingle and pumping would give the well the best chance to be economical. No damage would be done since no significant water would be injected into the lower (higher pressured) intervals due to pumping.

Q: Does H2S from the Tertiary and corrosion from the Ojo Alamo endanger the life of this well?
A: The Tertiary does not make H2S and the Ojo Alamo was not opened in this well.

Q: What is the life of each of these intervals if produced separately?
A: They were at their economic limit then and now and even together.

Q: Why did Black Hills choose to not isolate the Tertiary in the annulus and produce the relatively dry FRTC & PC up the tubing?
A: The FRTC & PC were not very dry. The Engineering staff at the time thought pumping all three gave the well its best chance.

Q: What is the feasibility and cost of squeezing off the Tertiary intervals?
A: This $40,000 to $60,000 alternative was considered, but rejected by the Engineering staff at the time.

Q: Has Black Hills done any wireline production profile investigations in this area after Mallon initiated all this commingling to see if harmful cross-flowing is happening or to verify allocation percentages and aid in future development planning?
A: No, not yet. But it is being considered.

Black Hills would like to request your approval of the C-107A for this well to bring it into full compliance, so they can initiate plugging procedures. Should you need anything further, please feel free to contact me at (505) 327-4573.

Best Regards,

Mike Pippin
Petroleum Engineer
Agent – Black Hills Gas Resources

cc: Steve Hayden

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Friday, July 28, 2006 1:09 PM
To: 'mike@pippinllc.com'
Cc: Hayden, Steven, EMNRD; Ezeanyim, Richard, EMNRD; Fesmire, Mark, EMNRD
Subject: DHC Application: Black Hills Gas Resources, Inc. Jicarilla 457-10 Well No. 44 API No. 30-039-29321

Hello Mike:
After reviewing your submitted application, I have the following request and a set of questions:

Request:
The 150% depth rule seems to apply here - see form C-107A. Please estimate the static BHP of each of these three intervals and send the info here by fax or email and I will add the data to this application.

Questions for you as an engineer:
With only 1% of the production coming from the Tertiary intervals, does the water production from the Tertiary present a danger to the life of the Fruitland and PC reserves? Does the H2S from the Tertiary and corrosion from the Ojo Alamo endanger the life of this well? What is the estimated life of each of these intervals if produced separately?

Why did Black Hills choose to not isolate the Tertiary in the annulus and produce the relatively dry Fruitland and PC up the tubing?
What is the feasibility and estimated cost of squeezing off the Tertiary intervals?

Has Black Hills done any wireline production profile investigations in this area after Mallon initiated all this commingling to see if harmful crossflowing is happening or to verify allocation percentages and aid in future development planning?

Thank You,

William V. Jones Engineering Bureau Oil Conservation Division Santa Fe

Jones, William V., EMNRD

From: Mike Pippin [mike@pippinllc.com]
Sent: Wednesday, August 02, 2006 9:47 AM
To: Jones, William V., EMNRD
Subject: FW: DHC Application: Black Hills Gas Resources, Inc. Jicarilla 457-10 Well No. 44 API No. 30-039-29321

I sent this to you on Monday 7/31/06. Sorry you did not get it.
-----Original Message-----
From: Mike Pippin [mailto:mike@pippinllc.com]
Sent: Monday, July 31, 2006 8:03 AM
To: Jones, William V., EMNRD
Cc: Russ Peterson; Gary Stripling; Loren Diede; Leslie Lamb
Subject: RE: DHC Application: Black Hills Gas Resources, Inc. Jicarilla 457-10 Well No. 44 API No. 30-039-29321

Here ae the pressures you asked for:
These numbers come from our Application for increase density case #12892
San Jose: 258 psi
Nacimiento: 636 psi
Ojo Alamo 1090 psi
FRTC: 1130 psi
PC: 1150 psi
The San Jose and Nacimiento are the Tertiary members open in this well.
Therefore, for the Tertiary I would use the average of San Jose & Nacimiento: (258+636)/2 = 447 psi

For the Engineering questions, I want to get with the Production and Reservoir Engineers instead of using just my opinions. I will get back to you on each of your questions.

> -----Original Message-----
> **From:** Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
> **Sent:** Friday, July 28, 2006 1:09 PM
> **To:** mike@pippinllc.com
> **Cc:** Hayden, Steven, EMNRD; Ezeanyim, Richard, EMNRD; Fesmire, Mark, EMNRD
> **Subject:** DHC Application: Black Hills Gas Resources, Inc. Jicarilla 457-10 Well No. 44 API No. 30-039-29321
>
> Hello Mike:
> After reviewing your submitted application, I have the following request and a set of questions:
>
> Request:
> The 150% depth rule seems to apply here - see form C-107A. Please estimate the static BHP of each of these three intervals and send the info here by fax or email and I will add the data to this application.
>
> Questions for you as an engineer:
> With only 1% of the production coming from the Tertiary intervals, does the water production from the Tertiary present a danger to the life of the Fruitland and PC reserves? Does the H2S from the Tertiary and corrosion from the Ojo Alamo endanger the life of this well? What is the estimated life of each of these intervals if produced separately?
>
> Why did Black Hills choose to not isolate the Tertiary in the annulus and produce the relatively dry Fruitland and PC up the tubing?
> What is the feasibility and estimated cost of squeezing off the Tertiary intervals?
>
> Has Black Hills done any wireline production profile investigations in this area after Mallon initiated all this commingling to see if harmful crossflowing is happening or to verify allocation percentages and aid in future development planning?
>
> Thank You,