

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2006 MAR 24 AM 9 09

RECEIVED

070 FARMINGTON

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a Type of Work ☒ DRILL ☐ REENTER

1b Type of Well ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2 Name of Operator **Black Hills Gas Resources, Inc.** E-mail: lbenally@bhep.com
Contact: Lynn Benally

3a Address P.O. Box 249 Bloomfield NM 87413
3b Phone No. (include area code) 505-634-1111

4 Location of Well (Report location clearly and in accordance with any State Requirements.)
At surface 1,100' FNL 1,440' FWL NE 1/4 NW 1/4 "Lot 1"
Lat: 36° 48' 59.8" Long: 107° 11' 32.3"
At proposed production zone

14 Distance in miles and direction from nearest town or post office *
Well is located approximately 57 miles east of Bloomfield, New Mexico.

15 Distance from proposed location to nearest property of lease line, ft (Also nearest Drig, unit line, if any) Unit= n/a Lease= 1,100' FNL
16 No. of acres in lease 2,560.0

18 Distance from proposed location to nearest well, drilling, completed or applied for, on this lease, ft ± 900' Jicarilla 459 3
19 Proposed depth 4,000' TVD

21 Elevations (Show whether DF, KDB, RT, GL, etc.) 7,034' GR
22 Approximate date work will start * April 28, 2006
23 Estimated duration 45-60 days drlg + completion

5 Lease Serial No

Contract 459

6 Indian, Allottee or Tribe Name

Jicarilla Apache Nation

7 If Unit or CA Agreement, Name and No

8 Lease Name and Well No

Jicarilla 459-18 112

9 API Well No

30-039-29859

10 Field and Pool, or Exploratory

East Blanco / Pictured Cliffs

11 Sec., T., R., M., or Blk. and Survey or Area

Sec. 18 T 30N R 3W

12 County or parish

Rio Arriba

13 State

New Mexico

17 Spacing Unit dedicated to this well

NE 1/4 160

20 BLM/BIA Bond No. on file

NMB000230

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25 Signature

Kathy L. Schneebeck

Name (Printed/Typed)

Kathy L. Schneebeck, 303.820.4480

Date

March 23, 2006

Title

Permit Agent for Black Hills Gas Resources, Inc.

Approved by (Signature)

[Signature]

Name (Printed/Typed)

Date

7/8/07

Title

Asst. Mgr. Minerals

Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon

Conditions of approval, if any, are attached

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction

HOLD 0104 FOR directional survey

NOTIFY AZTEC OGD 24 HRS.
PRIOR TO CASING & CEMENT

NMOCD

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

RCVD JUL 6 '07
OIL CONS. DIV.
DIST. 3

DISTRICT I
1625 N French Dr., Hobbs, NM 88240

DISTRICT II
1301 W Grand Ave Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 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 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 30-039-29859	² Pool Code 72400	³ Pool Name EAST BLANCO/PICTURED CLIFFS
⁴ Property Code 24099	⁵ Property Name JICARILLA 459-18	⁶ Well Number 112
⁷ GRID No 013925	⁸ Operator Name BLACK HILLS GAS RESOURCES	⁹ Elevation 7034

¹⁰ Surface Location

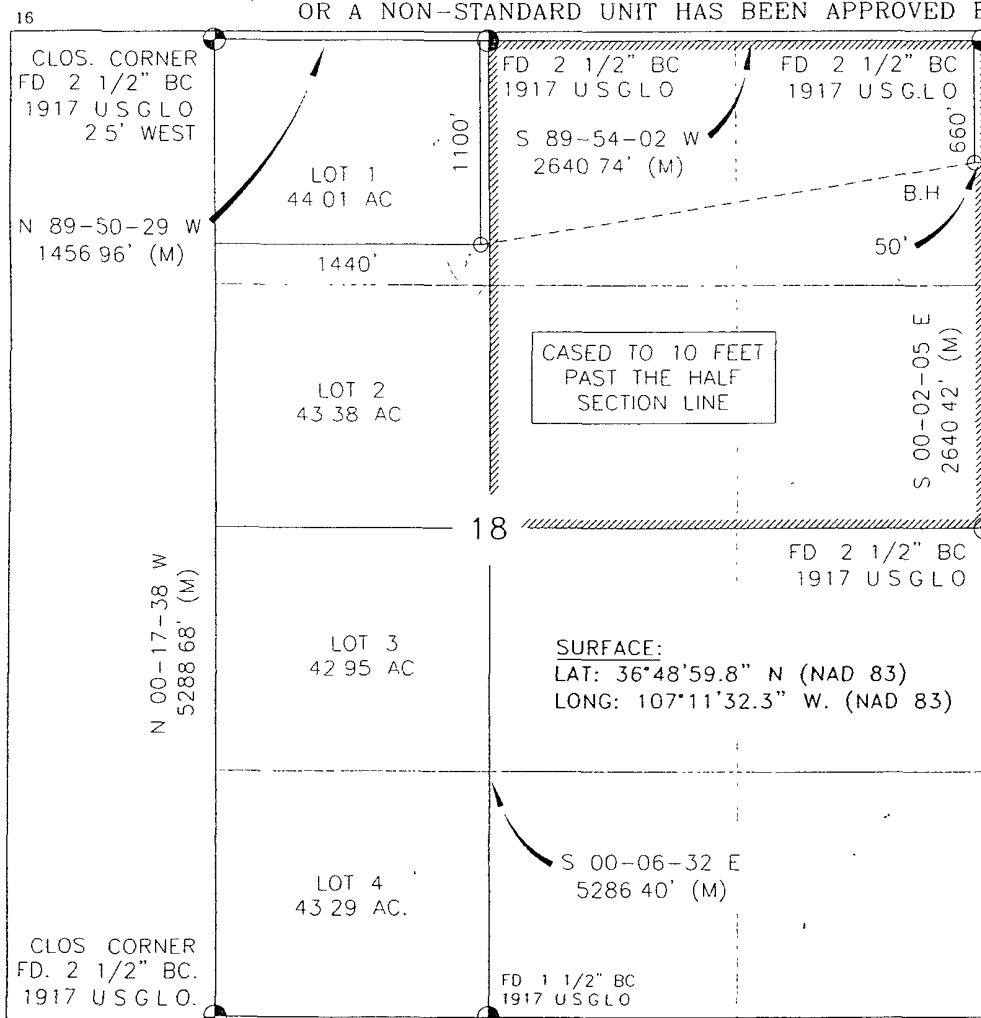
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	18	30-N	3-W	1	1100	NORTH	1440	WEST	RIO ARRIBA

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
A	18	30-N	3-W	--	660	NORTH	50	EAST	RIO ARRIBA

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No P-8774 CASE 9495
--------------------------------------	-------------------------------	----------------------------------	--

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.

[Signature] 8/14/07
Signature Date

Lynn H. Benally
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.

AUGUST 19, 2006
Date of Survey
A. RUSH
Signature and Seal of Professional Surveyor

NEW MEXICO
REGISTERED PROFESSIONAL LAND SURVEYOR
13-07
Certificate Number

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other Instructions on reverse side.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
Black Hills Gas Resources

3a. Address
3200 N 1st Street PO Box 249 Bloomfield, NM 87413

3b. Phone No. (include area code)
505-634-1111 ext 27

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Surface: 1,000' FNL 1,440' FWL NE/NW lot 1 Sec 18 T30N R3W
Bottom Hole: 660' FNL 50' FEL SE/NE Unit A Sec 18 T30N R3W

5. Lease Serial No. **614**
Contract 459

6. If Indian, Allottee, or Tribe Name
Jicarilla Apache

7. If Unit or CA Agreement Name and/or No.

8. Well Name and No.
Jicarilla 459-18 #112

9. API Well No.
30-039-29859

10. Field and Pool, or Exploratory Area
E. Blanco/Pictured Cliffs

11. County or Parish, State
Rio Arriba, New Mexico

CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Convert Vertical</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and abandon	<input type="checkbox"/> Temporarily Abandon	<u>well to horizontal well</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

The initial APD to drill a Pictured Cliff (PC) well was approved on July 5, 2007. The well was given API number 30-039-29859. After evaluation of data from recently drilled wells in the immediate area, it has been determined that the PC formation is best developed in this area, using Horizontal Drilling Technology. Black Hills Gas Resources is submitting an updated drilling plan, a new C-102, and a revised NM State Form C-102, to change the well from a verical well to a horizontal well. Black Hills Gas Resources also request that if tests of the tertiary and PC formations are favorable that we will also complete these formations and submit comingle applications if needed.

The surface location of the well remains the same but the new bottom hole will be 660' FNL 50' FEL / Unit A

Surface disturbance will not change from the initial APD, therefore the Surface Use Plan will not be updated or modified.

14. I hereby certify that the foregoing is true and correct.
Name (Printed/ Typed)

Lynn H. Benally

Title

Regulatory Specialist

Signature

Date

8/14/2007

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitiousor fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

NMOCD

**RCVD AUG 15 '07
OIL CONS. DIV.
DIST. 3**

District I
1625 N. French Dr., 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

Form C-144
June 30, 2005

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

For drilling and production facilities, submit to appropriate NMOC District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: <u>Black Hills Gas Resources, Inc.</u> Telephone: <u>505-634-1111</u> e-mail address: <u>lbenally@bhep.com</u>		
Address: <u>P.O. Box 249, Bloomfield, NM 87413</u>		
Facility or well name: <u>Jicarilla 459-18 12</u> API #: _____ U/L or Qtr/Qtr <u>NE NW</u> Sec <u>18</u> T <u>30N</u> R <u>3W</u>		
County: <u>Rio Arriba</u> Latitude <u>36° 48' 59.8"</u> Longitude <u>107° 11' 32.3"</u> NAD: 1927 <input type="checkbox"/> 1983 <input checked="" type="checkbox"/> Surface Owner Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Indian <input checked="" type="checkbox"/>		
Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>15</u> mil Clay <input checked="" type="checkbox"/> Pit Volume <u>±17,811</u> bbl	Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not _____	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet	(20 points)
	50 feet or more, but less than 100 feet	(10 points)
	100 feet or more	(0 points)
Wellhead protection area. (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)
	No	(0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)
	200 feet or more, but less than 1000 feet	(10 points)
	1000 feet or more	(0 points)
Ranking Score (Total Points)		30 points

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks (2) Indicate disposal location. (check the onsite box if you are burying in place) onsite ☐ offsite ☐ If offsite, name of facility _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:
<u>OCD - Vulnerable area - pits shall be closed in accordance with</u>
<u>NM OCD Rule 50.F.1. contents of liner to be removed</u>

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOC District Office ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 03/23/06

Printed Name/Title Kathy L. Schneebeck - Permit Agent for Black Hills Gas Resources, Inc.

Signature Kathy L. Schneebeck

Your certification and NMOC District Office approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title _____

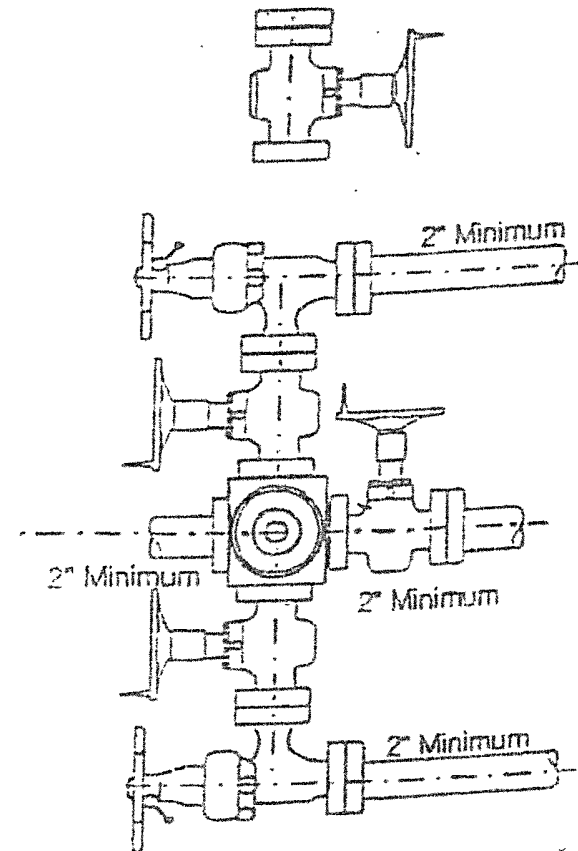
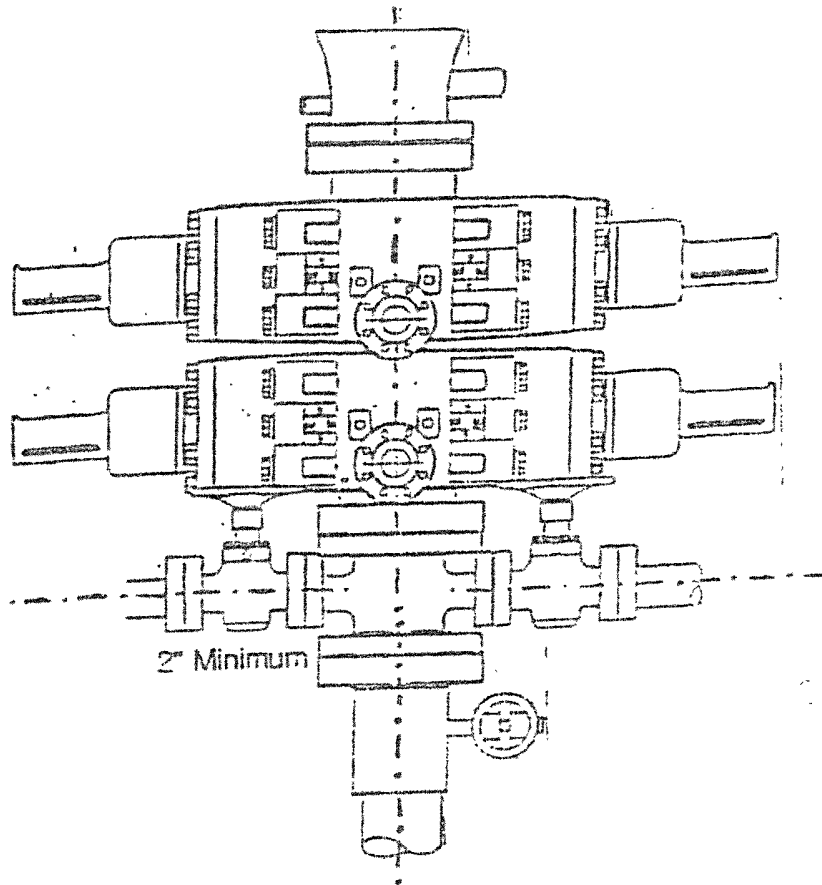
Signature [Signature]

Date: _____

2-M SYSTEM

Black Hills Gas Resources, Inc.

ANNULAR PREVENTOR MAY BE SUBSTITUTED FOR DOUBLE GATE PREVENTORS
BOP PRESSURE TEST TO 1,000 PSI



Hydrogen Sulfide Drilling Operations Plan

I. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H_2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H_2S Safety Equipment and Systems

Note: All H_2S safety equipment and systems, if necessary, will be installed, tested, and operational when drilling reaches a depth of 500 feet above or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S .

A. Well control equipment:

1. Choke manifold with a minimum of one remote choke.
2. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

Black Hills Gas Resources, Inc.

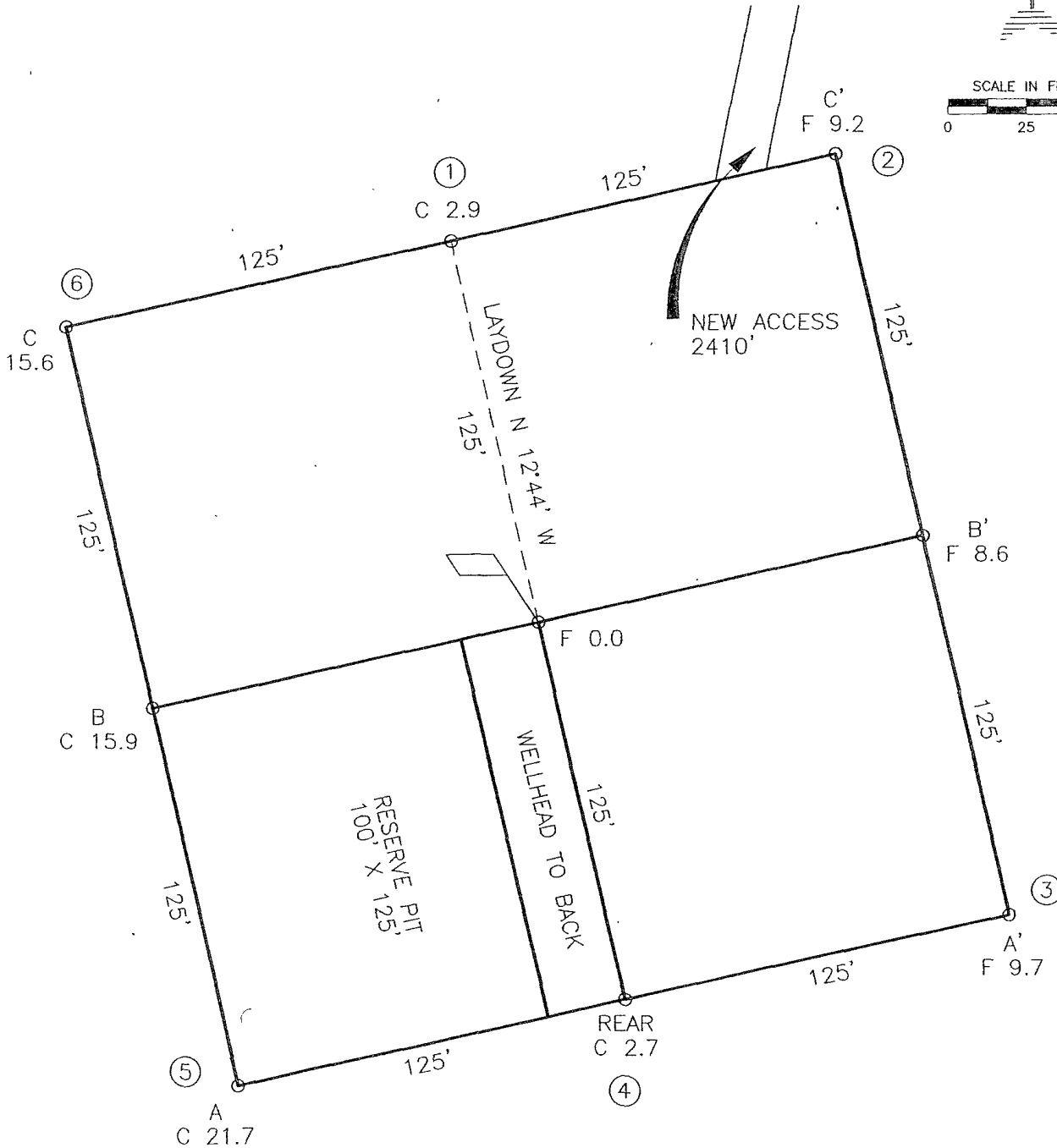
- B. Protective equipment for essential personnel:
 - 1. Mark II Surviveair 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.
- C. H₂S detection and monitoring equipment:
 - 1. Two portable H₂S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 10 ppm are reached.
- D. Visual warning systems:
 - 1. Wind direction indicators as shown on well site diagram.
 - 2. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate. See example attached.
- E. Mud program:
 - 1. The mud program has been designed to minimize the volume of H₂S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.
- F. Metallurgy:
 - 1. All drill strings, casings, tubing, wellhead, blowout preventors, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
 - 2. All elastomers used for packing and seals shall be H₂S trim.
- G. Communication:
 - 1. Cellular telephone communications in company vehicles.
- H. Well testing:
 - 1. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill stem testing operations conducted in an H₂S environment will use the closed chamber method of testing.

WELL PAD DIAGRAM

COMPANY: BLACK HILLS GAS RESOURCES
 LEASE: JICARILLA 459-18 NO. 12 (AKA) JICARILLA 430-03-18 NO. 12
 FOOTAGE: 1100 FNL 1440 FWL
 SEC.: 18, TWN: 30-N, RNG: 3-W, NMPM
 ELEVATION: 7034'




SCALE IN FEET
 0 25 50



NOTE:

DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

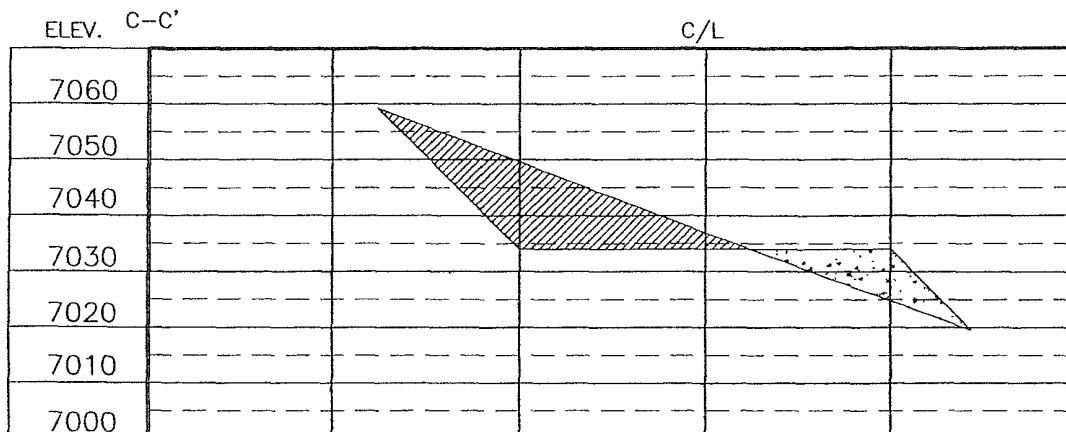
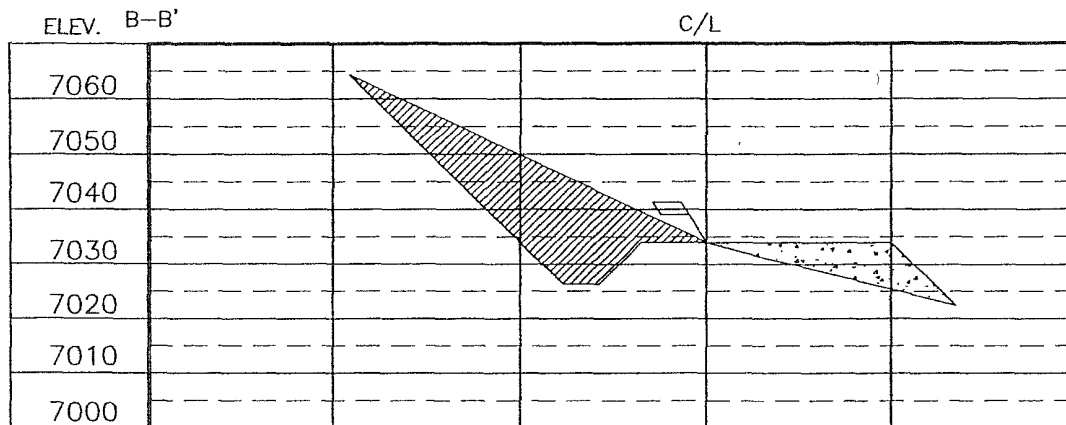
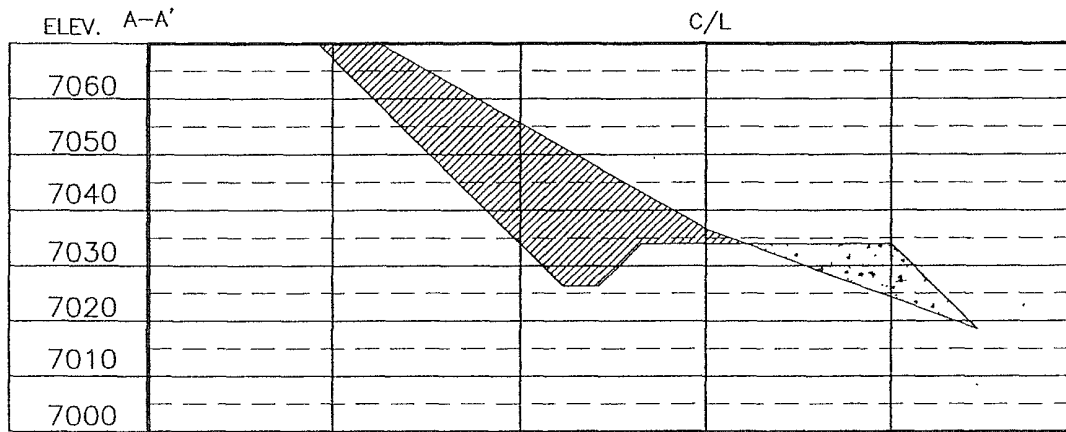
REVISION:	DATE:	REVISED BY:
NAME CHANGE	09/12/05	G.V.
 Daggett Enterprises, Inc. Surveying and Oil Field Services P. O. Box 15068 • Farmington, NM 87401 Phone (505) 326-1772 • Fax (505) 326-6019 NEW MEXICO L.S. 14831		
DRAWN BY: G.V.	CADFILE: MN442_PL8	
ROW#: MN442	DATE: 08/22/05	

WELL PAD CROSS-SECTIONAL DIAGRAM

COMPANY: BLACK HILLS GAS RESOURCES
 LEASE: JICARILLA 459-18 NO. 12 (AKA) JICARILLA 30-03-18 NO. 12
 FOOTAGE: 1100 FNL 1440 FWL
 SEC.: 18, TWN: 30-N, RNG: 3-W, NMPM
 ELEVATION: 7034'

NOTE:

DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.



REF. DWG. MN442_PL8 WELL PAD DIAGRAM

REVISION: NAME CHANGE DATE: 09/12/05 REVISED BY: G.V.

Daggett Enterprises, Inc.
 Surveying and Oil Field Services
 P. O. Box 15068 • Farmington, NM 87401
 Phone (505) 326-1772 • Fax (505) 326-6019
 NEW MEXICO L.S. 14831



DRAWN BY: G.V. COPIES: MN442_CFB DATE: 06/22/05 ROW#: MN442



Black Hills Gas Resources

Black Hills Gas Resources (BHGR)

Jicarilla 459-18 #112

Surface Location: NE/NW 1,100' FNL 1,440' FWL Unit Lot 1

Bottom Hole Location: 660' FNL 50' FEL NE/NE Unit A

Sec. 18 T30N R3W

Rio Arriba County, New Mexico

Jicarilla Contract 459

DRILLING PROGRAM

(Per Rule 320)

The Application for Permit to Drill (APD) was initiated under the NOS process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This APD process includes an onsite meeting as determined by Bureau of Land Management (BLM) and the Jicarilla Nation.

The APD for this well was permitted and approved on July 7, 2007. This new drilling plan addresses the horizontal re-entry into the existing Jicarilla 459-18 #12 well.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,034'

ESTIMATED FORMATION TOPS - (Water, oil, gas and/or other mineral-bearing formations)

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,910'	Sandstone, shales & siltstones
Ojo Alamo	3,157'	Sandstone, shales & siltstones
Kirtland	3,427'	Sandstone, shales & siltstones
Fruitland	3,721'	Sandstone, shales & siltstones
Pictured Cliffs	4,246'	Sandstone, shales & siltstones

TOTAL DEPTH 3,689' TVD

Estimated depths of anticipated fresh water, oil, or gas:

Tertiary

San Jose	surface	Gas, water and oil
Nacimiento	1,910'	Gas, water and oil
Ojo Alamo	3,157'	Gas, water and oil
Fruitland	3,721'	Gas, water and oil
Pictured Cliffs	4,246'	Gas, water and oil

HORIZONTAL DRILLING PROGRAM

Kick Off Point (KOP) is estimated to be $\pm 2528'$ TVD

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0'–250'	12-1/4"	9-5/8"	36# J-55	To surface (± 175 sxs Standard cement containing 2% CaCl_2 and 0.25lb/sx LCM)
250'–3662'	8-3/4"	7"	23# J-55 LT&C	TD to surface (Lead: ± 300 sxs lite standard cement. Tail: 400 sxs 50:50 poz containing 0.25 lb/sx LCM)
3662'–6004'	6-1/8"	Open hole**	Open hole	

* Actual cement volume to be determined by caliper log.

** If hole instability is encountered, a 4 1/2", 10.5#, J-55 uncemented liner may be run in the 6 1/8" open hole section

Yields:

Surface: Standard cement yield = $1.2 \text{ ft}^3/\text{sx}$ (mixed at 15.6 lb/gal)

Production: Lite Standard Cement yield: = $1.59 \text{ ft}^3/\text{sx}$ (mixed at 13.4 lb/gal)
 50:50 poz yield = $1.27 \text{ ft}^3/\text{sx}$ (mixed at 14.15 lb/gal)

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and protected.

PRESSURE CONTROL

BOPs and choke manifold will be installed and pressure tested before drilling out under surface casing (subsequent pressure test will be performed whenever pressure seals are broken), and then will be checked daily as to mechanical operating conditions. BOP's will be pressure tested at least once every 30 days. Ram type preventors and related pressure control equipment will be pressure tested to 1,000 psi. Annular type preventor will be pressure tested to 50% of the rated working pressure, not to exceed 1,000 psi. All casing strings will be pressure tested to 0.22 psi/ft. or 1,000 psi, whichever is greater, not to exceed 70% of internal yield.

BOP to be either double gate rams or an annular preventor as per Onshore Order No. 2.

Statement on Accumulator System and Location of Hydraulic Controls

The drilling rig has not yet been selected for this well. Selection will take place after approval of this application. Manual and/or hydraulic controls will be in compliance with Onshore Order No. 2 for 2M systems.

A remote accumulator will be used. Pressures, capacities, location of remote hydraulic and manual controls will be identified at the time of the BLM supervised BOP test.

MUD PROGRAM

0'	-	250'	Fresh water – M.W. 8.5 ppg, Vis 30-33
250'	-	TD'	Clean Faze - Low solids non-dispersed
			M.W. 8.5 – 9.2 ppg
			Vis – 28 – 50 sec
			W.L. 15cc or less

Sufficient mud materials to maintain mud properties, control lost circulation and to contain “kick” will be available at well site.

AUXILIARY EQUIPMENT

- A) A Kelly cock will be kept in the drill string at all times
- B) Inside BOP or stab-in valve (available on rig floor)
- C) Mud monitoring will be visually observed

LOGGING, CORING, TESTING PROGRAM

- A) Logging: DIL- CNL-FDC-GR - TD - BSC (GR to surface)
Sonic (BSC to TD)
- B) Coring: None
- C) Testing: Possible DST – None anticipated. Drill stem tests may be run on shows of interest

ABNORMAL CONDITIONS

- A) Pressures: No abnormal conditions are anticipated
Bottom hole pressure gradient – 0.31 psi/ft
- B) Temperatures: No abnormal conditions are anticipated
- C) H₂S: See attached H₂S plan in event H₂S is encountered.
- D) Estimated bottomhole pressure: 1,178 psi

ANTICIPATED START DATE

September 3, 2007

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8” J-55 4.7#/ft tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Job Number: 71xxx
 Company: Black Hills Gas Resources
 Lease/Well: Jicarilla 459-18 #12

1724-B Toward Dr, Houston, TX 77043
 (713) 827-8302
 www.acvenergy.com

TRUE VERTICAL DEPTH (Ft)

2000
2200
2400
2600
2800
3000
3200
3400
3600
3800
4000

NORTH-SOUTH (Ft)

1200
1000
800
600
400
200
0
-200
-400

WEST-EAST (Ft)

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600

KOP: 2528 TVD Begin Build @ 7.00% 100' 0° Az

Begin Build and turn @ 7.00% 100'

Hold @ 85.00° for 150'

5' Into PC/Casing Point

Begin Build @ 4.92% 100'

Target / Hold @ 91.15°; 90.28° Azm

Proposed End of Lateral

PC

Lewis

VERTICAL SECTION (Ft) @ 80.42°