

COPY

OIL CONS. DIV.  
DIST. 3

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
2006 AUG 10 11 3 25 BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. MDA 701-98-0013, Tract 1
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name Jicarilla Apache Nation
2. Name of Operator Black Hills Gas Resources, Inc. E-mail: lbenally@bhep.com Contact: Lynn Benally		7. If Unit or CA Agreement, Name and No
3a. Address P.O. Box 249 Bloomfield NM 87413	3b. Phone No. (include area code) 505-634-1111	8. Lease Name and Well No. Jicarilla 30-03-34 22
4. Location of Well (Report location clearly and in accordance with any State Requirements *) At surface 1,800' FNL 1,815' FWL SE 1/4 NW 1/4 Lat: 36° 46' 14.2" Long: 107° 08' 25.2"		9. API Well No. 30-039-30029
11. Sec., T., R., M., or Blk. and Survey or Area F Sec. 34 T 30N R 3W		10. Field and Pool, or Exploratory East Blanco / Pictured Cliffs
14. Distance in miles and direction from nearest town or post office. * Well is located approximately 57 miles east of Bloomfield, New Mexico.		12. County or parish Rio Arriba
15. Distance from proposed location to nearest property of lease line, ft. (Also nearest Drig, unit line, if any) Unit= n/a Lease= ±3,480'		13. State New Mexico
16. No. of acres in lease 9920.00		17. Spacing Unit dedicated to this well 80 160 NW 4
18. Distance from proposed location to nearest well, drilling, completed or applied for, on this lease, ft ± 1,400' Jicarilla 30-03-34 3		20. BLM/BIA Bond No on file NMB000230
21. Elevations (Show whether DF, KDB, RT, GL, etc ) 7,180' GR		22. Approximate date work will start * September 11, 2006
		23. Estimated duration 45-60 days drlg + completion

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 <i>Kathy L. Schneebeck</i>	Name (Printed/Typed) Kathy L. Schneebeck, 303-820-4480	Date August 9, 2006
Title Permit Agent for Black Hills Gas Resources, Inc.		

Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) Office FFO	Date 9/28/08
Title AFM		

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

NOT BY AZTEC OGD 24 HRS.  
PRIOR TO CASING & CEMENT

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

NMOCD B

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

MAY 05 2008 AV

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

<sup>1</sup> API Number <b>30-039-30029</b>	<sup>2</sup> Pool Code <b>72400</b>	<sup>3</sup> Pool Name <b>E. Blanco Pictured Cliffs</b>
<sup>4</sup> Property Code <b>24236</b>	<sup>5</sup> Property Name <b>JICARILLA 30-03-34</b>	<sup>6</sup> Well Number <b>22</b>
<sup>7</sup> OGRID No <b>013925</b>	<sup>8</sup> Operator Name <b>BLACK HILLS GAS RESOURCES</b>	<sup>9</sup> Elevation <b>7180'</b>

<sup>10</sup> Surface Location

UL or lot no. <b>F</b>	Section <b>34</b>	Township <b>30-N</b>	Range <b>3-W</b>	Lot Idn	Feet from the <b>1800</b>	North/South line <b>NORTH</b>	Feet from the <b>1815</b>	East/West line <b>WEST</b>	County <b>RIO ARriba</b>
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<sup>11</sup> 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
<sup>12</sup> Dedicated Acres <b>160</b> <b>80 acres - NW 1/4 S/2 NW 1/4</b>					<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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

<sup>16</sup> FD PIN & CAP N 00-35-09 E 2634.14' (M) 1815'	N 89-41-52 E 5229.19' (M) 1800'	FD SEC CORNER	<sup>17</sup> 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  Permit Agent for Black Hills Title  August 9, 2006 Date
FD MK'D STONE 11	11	34	<sup>18</sup> 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.  AUG 10 2006 Date of Survey JOHN A. VUKONICH Signature and Seal of Professional Surveyor: REGISTERED PROFESSIONAL SURVEYOR 14137 Certificate Number

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1090 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 NMOCD 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@bhgp.com</u>		
Address: <u>P.O. Box 249, Bloomfield, NM 87413</u>		
Facility or well name: <u>Jicarilla 30-03-34 22</u> API #: <u>30039 30029</u> U/L or Qtr/Qtr <u>SE/4 NW/4</u> Sec <u>34</u> T <u>30N</u> R <u>3W</u>		
County: <u>Rio Arriba</u> Latitude <u>36° 46' 14.2"</u> Longitude <u>107° 08' 25.2"</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"/>		
<b>Pit</b> 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>±17,808</u> bbl	<b>Below-grade tank</b> 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)
<b>Ranking Score (Total Points)</b>		<b>0 points</b>

**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:

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 NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 08/9/06

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

Signature Kathy L. Schneebeck

Your certification and NMOCD 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:

**Deputy Oil & Gas Inspector,  
District #3**

Signature [Signature]

Date: **MAY 05 2008**

Black Hills Gas Resources, Inc.  
**Jicarilla 30-03-34 22**  
1,800' FNL 1,815' FWL (SE/4 NW/4)  
Sec. 34 T30N R3W  
Rio Arriba County, New Mexico  
Lease: MDA 701-98-0013, Tract 1

## DRILLING PROGRAM

This Application for Permit to Drill (APD) was initiated under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This NOS process included an onsite meeting, which was held on June 21, 2006, as determined by Bureau of Indian Affairs (BIA) and Jicarilla Oil and Gas Administration (JOGA), and at which time the specific concerns of Black Hills Gas Resources, Inc. (Black Hills), BIA and JOGA were discussed.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,180'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,973'	Sandstone, shales & siltstones
Ojo Alamo	3,163'	Sandstone, shales & siltstones
Kirkland	3,383'	Sandstone, shales & siltstones
Fruitland Coal	3,532'	Sandstone, shales & siltstones
Pictured Cliffs	3,650'	Sandstone, shales & siltstones
Lewis	3,730'	Sandstone, shales & siltstones

TOTAL DEPTH 4,000'

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

Tertiary

San Jose	surface	Gas
Nacimiento	1,973'	Gas
Ojo Alamo	3,163'	Gas
Fruitland Coal	3,532'	Gas
Pictured Cliffs	3,650'	Gas

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0' – 250' TVD	12-1/4"	8-5/8"	J-55 24# ST&C New	To surface ( $\pm 175$ sxs Standard Cement containing 2% CaCl <sub>2</sub> and 0.25 lb/sx LCM) **
0' – 4,000' TVD	7-7/8"	5-1/2"	J-55 15.5# LT&C New	TD to surface (Lead: $\pm 300$ sxs Lite Standard Cement. Tail: $\pm 400$ sxs 50:50 POZ containing 0.25 lb/sx LCM)* **

\* Actual cement volume to be determined by caliper log.

\*\* Cement will be circulated to surface.

## Yields:

Surface: Standard Cement yield: = 1.2 ft<sup>3</sup>/sx (mixed at 15.6 lb/gal)

Production: Lite Standard Cement yield: = 1.59 ft<sup>3</sup>/sx (mixed at 13.4 lb/gal)

50:50 POZ yield = 1.27 ft<sup>3</sup>/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 condition. 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 wellsite.

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) H<sub>2</sub>S: See attached H<sub>2</sub>S plan in the event H<sub>2</sub>S is encountered.
- D) Estimated bottomhole pressure: 1,240 psi

ANTICIPATED START DATE

September 11, 2006

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-7/8" PH-6 tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

## 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. H<sub>2</sub>S detection and monitoring equipment:
  - 1. Two portable H<sub>2</sub>S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H<sub>2</sub>S 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 H<sub>2</sub>S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H<sub>2</sub>S scavengers will minimize hazards when penetrating H<sub>2</sub>S 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 H<sub>2</sub>S service.
  - 2. All elastomers used for packing and seals shall be H<sub>2</sub>S 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 H<sub>2</sub>S environment will use the closed chamber method of testing.

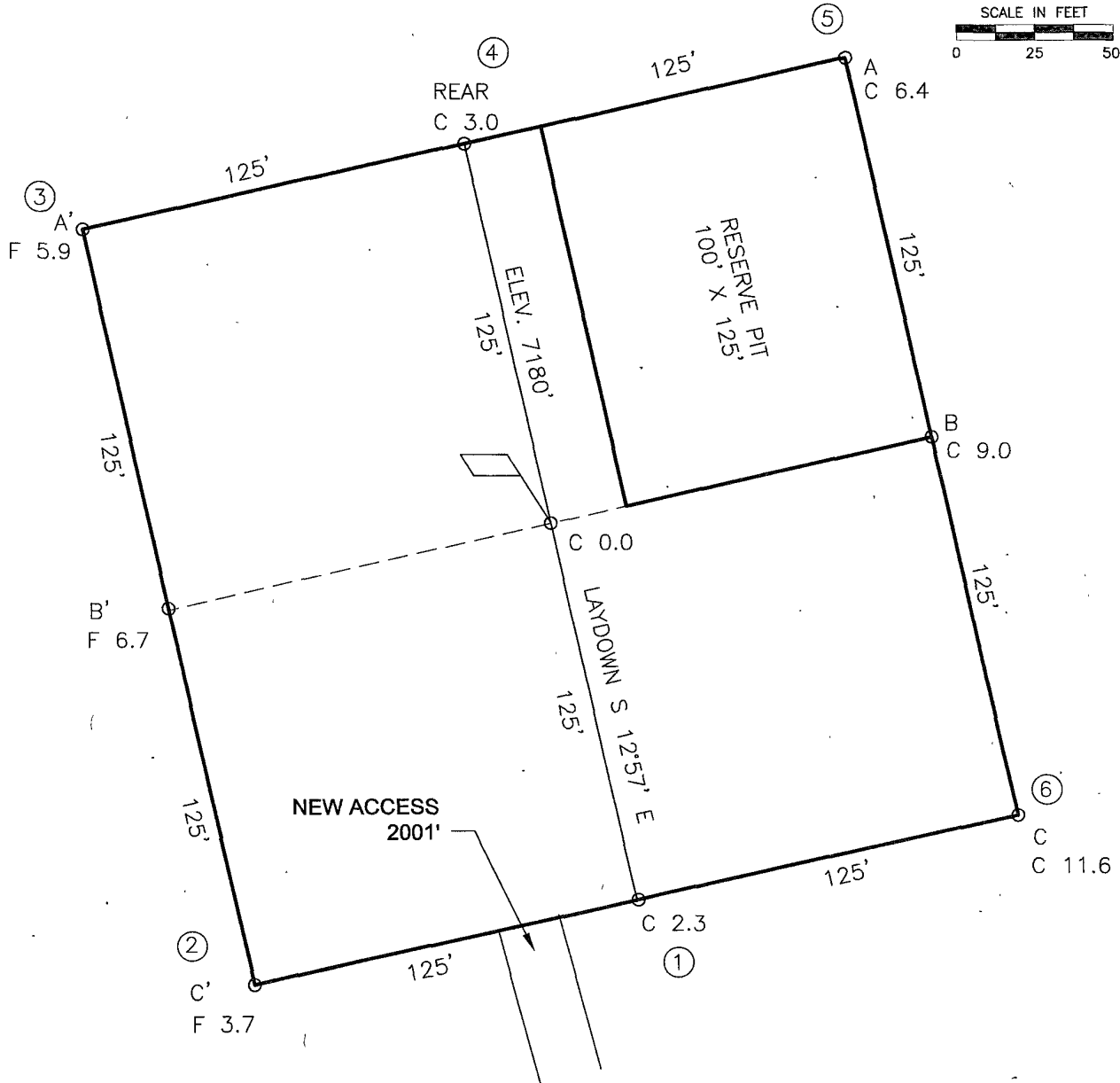


# WELL PAD DIAGRAM

COMPANY: BLACK HILLS GAS RESOURCES  
 LEASE: JICARILLA 30-03-34 NO. 22  
 FOOTAGE: 1800 FNL, 1815 FWL  
 SEC.: 34, TWN: 30-N, RNG: 3-W, NMPM  
 ELEVATION: 7180'




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:
EDIT LENGTH ROAD	08/08/06	B. LEIDY
 <b>Daggett Enterprises, Inc.</b> 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: MN467_PLB	
ROW#: MN467	DATE: 11/11/05	

# WELL PAD CROSS-SECTIONAL DIAGRAM

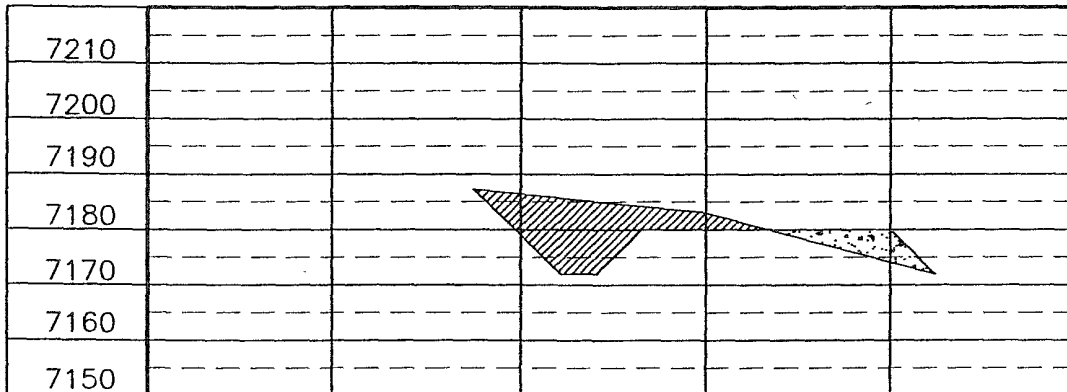
COMPANY: BLACK HILLS GAS RESOURCES  
 LEASE: JICARILLA 30-03-34 NO. 22  
 FOOTAGE: 1800 FNL, 1815 FWL  
 SEC.: 34, TWN: 30-N, RNG: 3-W, NMPM  
 ELEVATION: 7180'

## 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.

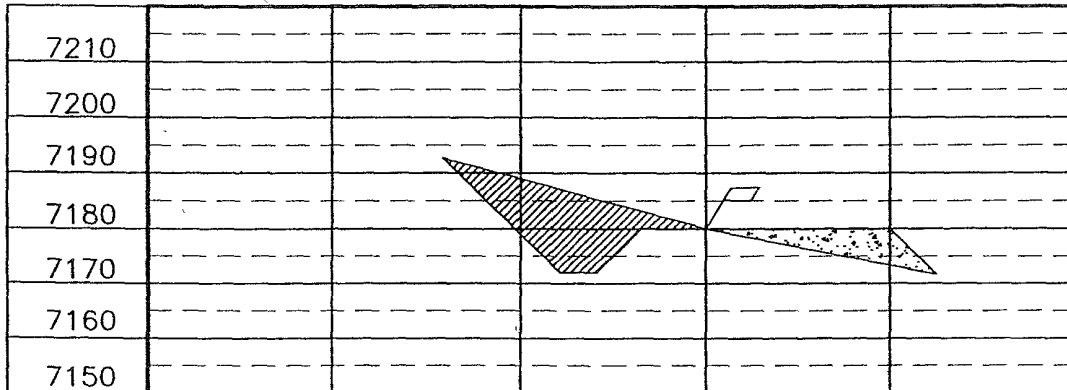
ELEV. A-A'

C/L



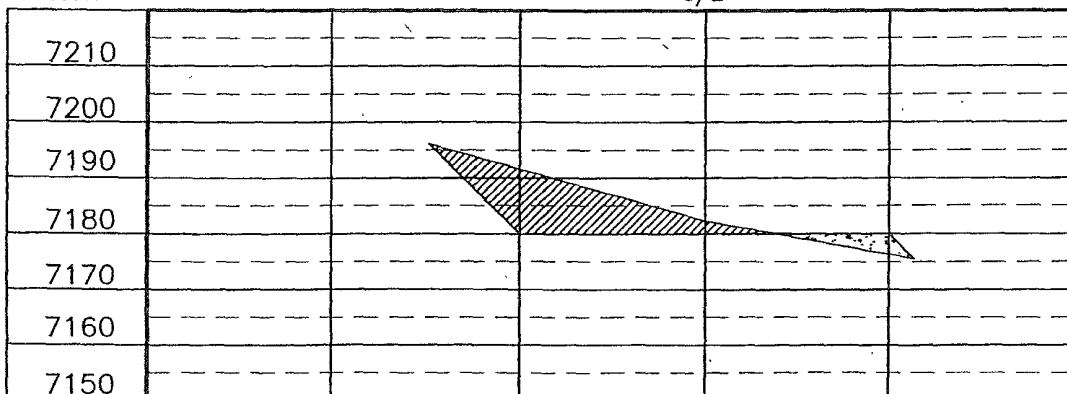
ELEV. B-B'

C/L



ELEV. C-C'

C/L



REF. DWG. MN467\_PLB WELL PAD DIAGRAM

REVISION: DATE: REVISED BY:

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

CADFILE: MN467\_CFB

DATE: 11/11/05

DRAWN BY: G.V.

ROW: MN467

## 2-M SYSTEM

Black Hills Gas Resources, Inc.

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

