

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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 800' FNL 2,100' FEL NW 1/4 NE 1/4
Lat: 36° 47' 18.9" Long: 107° 11' 25.5"

At proposed production zone

14. Distance in miles and direction from nearest town or post office. *

Well is located approximately 52 miles east of Bloomfield, New Mexico.

15. Distance from proposed location to nearest property of lease line, ft. (Also nearest Dng, unit line, if any)
Unit= n/a
Lease= ±800'

16. No. of acres in lease
2,560.0

17. Spacing Unit dedicated to this well
100' / 60' NE 1/4

18. Distance from proposed location to nearest well, drilling, completed or applied for, on this lease, ft. ± 1,400' Jicarilla 464 3

19. Proposed depth
4,000' TVD

20. BLM/BIA Bond No. on file
NMB000230

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
7,224' GR

22. Approximate date work will start *
September 14, 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
Kathy L. Schneebeck

Name (Printed/Typed)
Kathy L. Schneebeck, 303-820-4480

Date
August 15, 2006

Title
Permit Agent for Black Hills Gas Resources, Inc.

Approved by (Signature)
D. Manley
Title
AFM

Name (Printed/Typed)
Office
FFO

Date
6/23/08

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 1701, or fraudulent statements or representations.

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

willfully make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations.

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

JUN 30 2008

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

NMOCD

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

DISTRICT 1
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 30-039-30034	² Pool Code 72400	³ Pool Name E. Blanco Pictured Cliffs
⁴ Property Code 22864	⁵ Property Name JICARILLA 464-30	⁶ Well Number 13
⁷ GRID No. 013925	⁸ Operator Name BLACK HILLS GAS RESOURCES	⁹ Elevation 7224'


¹⁰ Surface Location

UL or lot B	Section 30	Township 30-N	Range 3-W	Lot Idn	Feet from the 800	North/South line NORTH	Feet from the 2100	East/West line EAST	County RIO ARRIBA
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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 acres – NE/4 NW/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

16 QTR. CORNER FD. 2 1/2" B.C. G.L.O. 1917 LOT 1 N 88°12'40" W 2639.08' (M)	SEC. CORNER FD. 2 1/2" B.C. G.L.O. 1917 2100'	17 <h3 style="text-align: center;">OPERATOR CERTIFICATION</h3> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <div style="border-top: 1px solid black; padding-top: 5px;"> <i>Kathy L. Schneebeck</i> Signature </div> <div style="border-top: 1px solid black; padding-top: 5px;"> Kathy L. Schneebeck Printed Name </div> <div style="border-top: 1px solid black; padding-top: 5px;"> Permit Agent for Black Hills Title and Email address kathys@banko1.com </div> <div style="border-top: 1px solid black; padding-top: 5px;"> August 15, 2006 Date </div>
LOT 2	LAT. 36°47'18.9" N (NAD 83) LONG. 107°11'25.5" W (NAD 83)	<div style="border-top: 1px solid black; padding-top: 5px;"> August 15, 2006 Date </div>
LOT 3	LOT 5	18 <h3 style="text-align: center;">SURVEYOR CERTIFICATION</h3> <p>I hereby certify that the well location shown on this plot 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> <div style="border-top: 1px solid black; padding-top: 5px;"> Date of Survey </div> <div style="border-top: 1px solid black; padding-top: 5px;"> Signature and Seal of Professional Surveyor: </div> <div style="text-align: center; margin-top: 20px;">  </div> <div style="border-top: 1px solid black; padding-top: 5px;"> Certificate Number </div>
LOT 4	LOT 5	LOT 6 SEC. CORNER FD. 2 1/2" B.C. G.L.O. 1917

Black Hills Gas Resources, Inc.
Jicarilla 464-30 13
800' FNL 2,100' FEL (NW/4 NE/4)
Sec. 30 T30N R3W
Rio Arriba County, New Mexico
Lease: Contract 464

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 March 29, 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 – 7,224'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	2,019'	Sandstone, shales & siltstones
Ojo Alamo	3,285'	Sandstone, shales & siltstones
Kirkland	3,506'	Sandstone, shales & siltstones
Fruitland Coal	3,747'	Sandstone, shales & siltstones
Pictured Cliffs	3,824'	Sandstone, shales & siltstones
Lewis	3,904'	Sandstone, shales & siltstones

TOTAL DEPTH 4,000'

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

Tertiary

San Jose	surface	Gas
Nacimiento	2,019'	Gas
Ojo Alamo	3,285'	Gas
Fruitland Coal	3,747'	Gas
Pictured Cliffs	3,824'	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 (± 175 sxs Standard Cement containing 2% CaCl ₂ 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: ± 300 sxs Lite Standard Cement. Tail: ± 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 ft³/sx (mixed at 15.6 lb/gal)

Production: Lite Standard Cement yield: = 1.59 ft³/sx (mixed at 13.4 lb/gal)
50:50 POZ yield = 1.27 ft³/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) H₂S: See attached H₂S plan in the event H₂S is encountered.
- D) Estimated bottomhole pressure: 1,240 psi

ANTICIPATED START DATE

September 14, 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. 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:

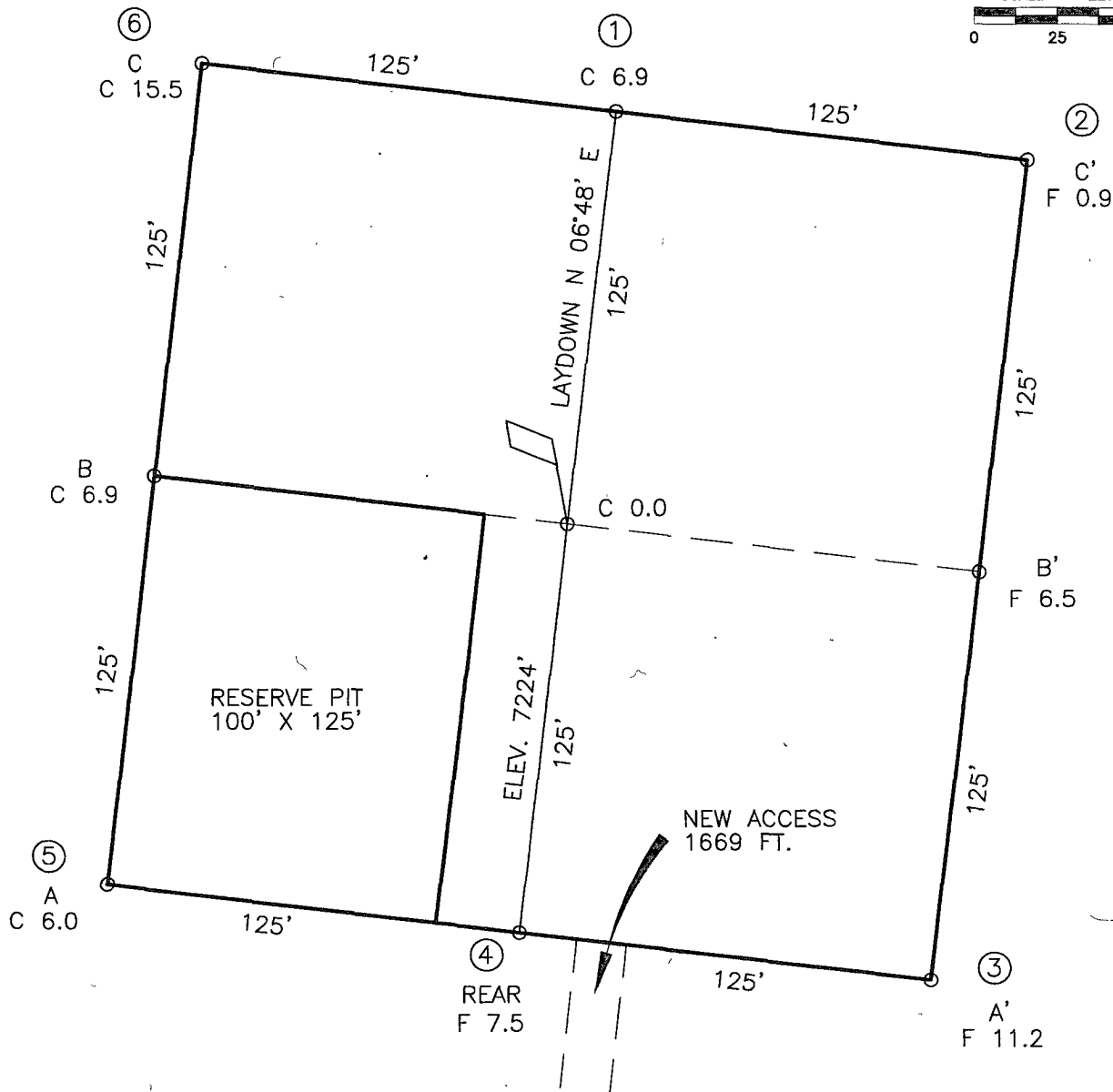
1. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill stem testing operations conducted in an H₂S environment will use the closed chamber method of testing.

WELL PAD DIAGRAM

COMPANY: BLACK HILLS GAS RESOURCES
 LEASE: JICARILLA 464-30 No. 13 (AKA JICARILLA 30-03-30 No. 13)
 FOOTAGE: 800 FNL, 2100 FEL
 SEC.: 30, TWN: 30-N, RNG: 3-W, NMPM
 ELEVATION: 7224'




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:
CORRECTED ACCESS FOOTAGE	04/28/06	G.V.
ADD ACCESS	03/31/06	B.L.
 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: B.L.	CADFILE: MN453_PL8	
ROW#: MN453	DATE: 09/27/05	

WELL-PAD CROSS-SECTIONAL DIAGRAM

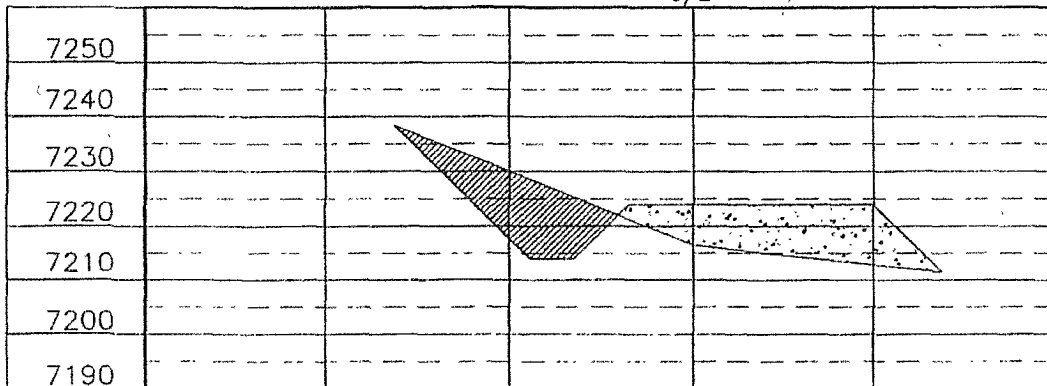
COMPANY: BLACK HILLS GAS RESOURCES
 LEASE: JICARILLA 464-30 No. 13 (AKA) JICARILLA 30-03-30 No. 13
 FOOTAGE: 800' FNL, 2100' FEL
 SEC.: 30, TWN: 30-N, RNG: 3-W, NMPM
 ELEVATION: 7224'

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.

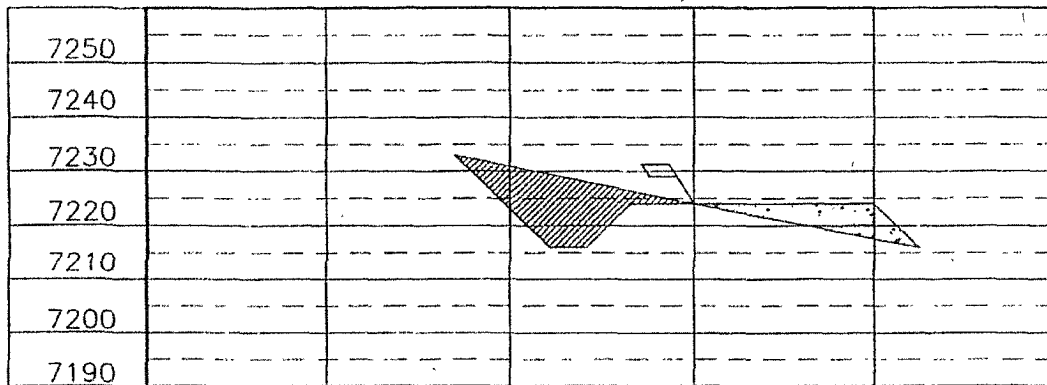
ELEV. A-A'

C/L



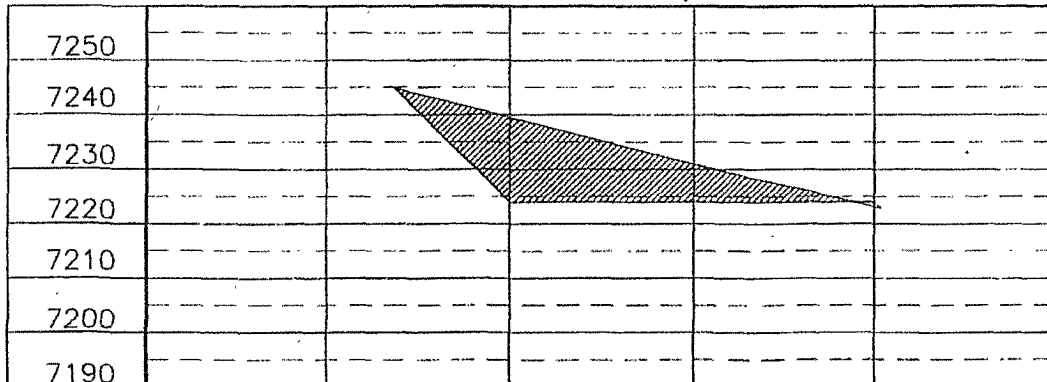
ELEV. B-B'

C/L



ELEV. C-C'

C/L



REVISION:	DATE:	DRAWN BY:	DATE:
Daggett Enterprises, Inc. Surveying and Oil Field Services P. O. Box 15068 • Farmington, NM 87401 Phone (505) 328-1772 • Fax (505) 328-6019 NEW MEXICO L.S. 14831 DATE: 08/27/05			
DRAWN BY: B.L. ROW: MN453			



2-M SYSTEM

Black Hills Gas Resources, Inc.

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

