

RCUD MAY18'07

OIL CONS. DIV.

DIST. 3

FORM APPROVED

OMB No. 1004-0137

Expires March 31, 2007

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

2007 JAN 12 AM 9:37

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

RECEIVED  
BLM  
210 FARMINGTON NM

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM13376	
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 ---	
2. Name of Operator <b>Black Hills Gas Resources, Inc.</b>		7. Unit or CA Agreement, Name and No. ---	
E-mail: lbenally@bhep.com Contact: Lynn Benally		8. Lease Name and Well No. Many Canyons 30-04-24 13H	
3a. Address P.O. Box 249 Bloomfield NM 87413		9. API Well No. 30-039-30157	
3b. Phone No. (Include area code) 505-634-1111		10. Field and Pool, or Exploratory East Blanco / Pictured Cliffs	
4. Location of Well (Report location clearly and in accordance with any State Requirements.) At surface 905' FNL 1,495' FEL NW /4 NE /4 Lat: 36.80192° Long: 107.20225° At proposed production zone ±663' FNL ±688' FWL (NW/4 NW/4)		11. Sec., T., R., M., or Blk. and Survey or Area β Sec. 24 T 30N R 4W	
14. Distance in miles and direction from nearest town or post office. Well is located approximately 52 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= ±663' BHL		13. State New Mexico	
16. No. of acres in lease 2,042.68		17. Spacing Unit dedicated to this well 320 N/2	
18. Distance from proposed location to nearest well, drilling, completed or applied for, on this lease, ft. ± 25' Many Canyons 30-04-24 13H (FC)		20. BLM/BIA Bond No. on file NMB000230	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7,072' GR		22. Approximate date work will start February 19, 2007	
		23. Estimated duration 45-60 days drig + 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.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification.   |
| 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). | 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 January 11, 2007
Title Permit Agent for Black Hills Gas Resources, Inc.		

Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) AFM	Date 5/15/07
Title Office FFO		

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 or to any matter within its jurisdiction.

NOTIFY AZTEC OGD 24 HRS  
PRIOR TO CASING & CEMENT

(continued on page 2)

HOLD G104 FOR directional survey

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

NMOCD

8 5/18/07

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

**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 October 12, 2005

**Submit to Appropriate District Office**

**State Lease - 4 Copies**

Free Lease - 3 Copies

2007 JAN 12 AM 9:37

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-30157		*Pool Code 72400	210 FARMINGTON NM *Pool Name E. Blanco Pictured Cliffs	
*Property Code 35884	*Property Name MANY CANYONS 30-04-24			*Well Number 13H
*OGRID No. 013925	*Operator Name BLACK HILLS GAS RESOURCES			*Elevation 7072

## <sup>10</sup> Surface Location

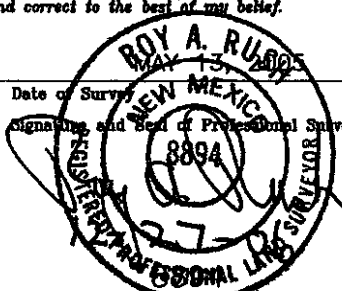
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	24	30-N	4-W		905	NORTH	1495	EAST	RIO ARRIBA

## 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
D	24	30-N	4-W		663	NORTH	688	WEST	RIO ARRIBA

<sup>23</sup> Dedicated Acres 320 acres - N/2	<sup>22</sup> Joint or Infill	<sup>24</sup> Consolidation Code	<sup>25</sup> Order No. RCVD MAY18'07 OIL CONS. DIV. DIST. 3
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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

18	663' 688' B.H.L. LOT 3 37.72 LOT 4 28.78 LOT 8 24.15 3520' LOT 2 3.01 FD. 3 1/4" B.L.M. 1953 B.C.	N 89-58-29 W 2633.40' (M) 905' LOT 1 34.81 1495' LOT 5 24.30 N 00-04-40 W 5291.13' (C) H.E.S. 286 24 LOT 7 10.65 LOT 6 25.69 LOT 9 39.81 FD. 3 1/4" B.L.M. 1953 B.C.	17 <b>OPERATOR CERTIFICATION</b> 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 Date  _____ Printed Name Permit Agent for Black Hills 18 <b>SURVEYOR CERTIFICATION</b> 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.  <div style="text-align: center;">  </div> _____ Date of Survey _____ Signature and Seal of Professional Surveyor:  _____ Certificate Number
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Submit 3 Copies To Appropriate District Office  
**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 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. <b>30-039-30157</b>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name <b>Many Canyons 30-04-24</b>
8. Well Number <b>13H</b>
9. OGRID Number <b>013925</b>
10. Pool name or Wildcat <b>Pictured Cliffs</b>

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

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

2. Name of Operator  
**Black Hills Gas Resources, Inc.**

3. Address of Operator  
**P.O. Box 249 Bloomfield, NM 87413**

4. Well Location

Unit Letter: **B** : **905** feet from the **North** line and **1,495** feet from the **East** line  
Section: **24** Township **30N** Range **4W** NMPM County: **Rio Arriba**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
**7,072' GR**

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: **Drilling Pit** Depth to Groundwater **<100** Distance from nearest fresh water well **>1000** Distance from nearest surface water **<200**

Pit Liner Thickness: **15** mil Below-Grade Tank: Volume \_\_\_\_\_ bbls; Construction Material \_\_\_\_\_

13. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

**NOTICE OF INTENTION TO:**

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: **Pit Registration** ☒

**SUBSEQUENT REPORT OF:**

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

**Drilling Pit Registration**

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

SIGNATURE Kathy L. Schneebeck TITLE: Permit Agent for Black Hills Gas Resources, Inc. DATE January 11, 2007

Type or print name: **Kathy L. Schneebeck** E-mail address: **kathys@banko1.com** Telephone No. **303-820-4480**

**For State Use Only**

APPROVED BY: [Signature] TITLE: **DEPUTY OIL & GAS INSPECTOR, DIST. #7** DATE **MAY 18 2007**

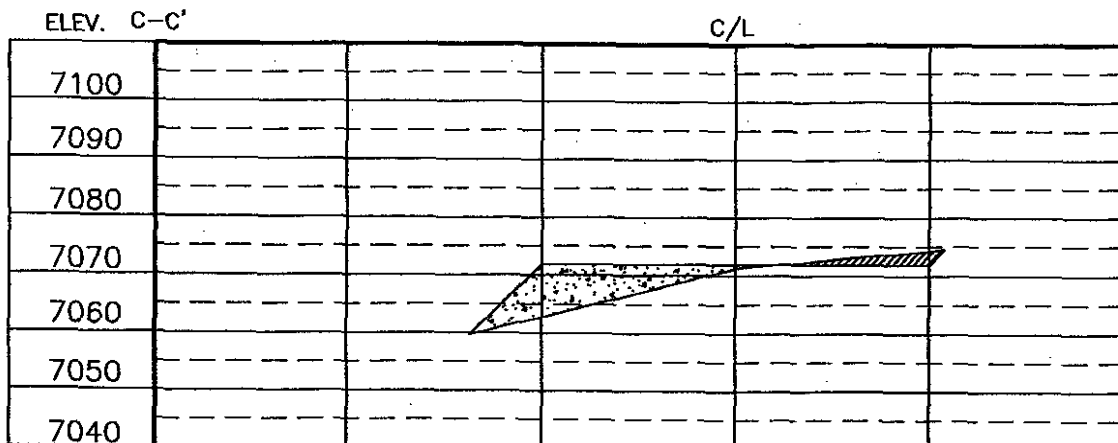
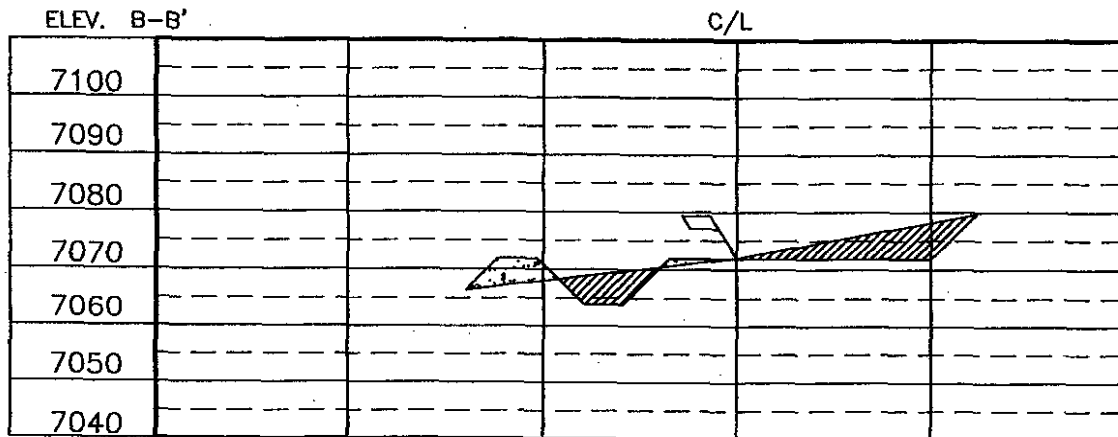
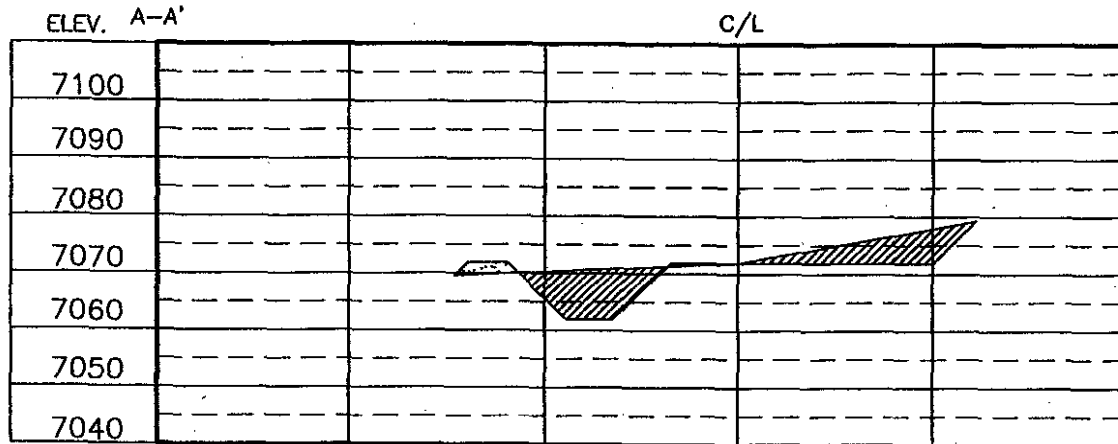
Conditions of Approval (if any): Vulnerable area pits to be closed according to NMOCDD Rule 50. F. 1

# WELL PAD CROSS-SECTIONAL DIAGRAM

COMPANY: BLACK HILLS GAS RESOURCES  
 LEASE: MANY CANYONS 30-04-24 No. 13H  
 FOOTAGE: 905 FNL, 1495 FEL  
 SEC.: 24, TWN: 30-N, RNG: 4-W, NMPM  
 ELEVATION: 7072'

## 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. MN422PLB WELL PAD DIAGRAM

REVISION	DATE	REVISION BY
CORRECT LS NUMBER	12/15/06	A.G.

**Daggett Enterprises, Inc.**  
 Surveying and Oil Field Services  
 P. O. Box 15088 • Farmington, NM 87401  
 Phone (505) 326-1772 • Fax (505) 326-6019  
 NEW MEXICO L.S. 8894  
 CAPSULE MN416C/FB  
 DATE 06/20/05

DAWG. BY: G.V.  
 ROW# MN416

Black Hills Gas Resources, Inc.  
**Many Canyons 30-04-24 13H**  
 Surface: 905' FNL 1,495' FEL (NW/4 NE/4) – H.E.S. 286  
 BHL: ±663' FNL ±688' FWL (NW/4 NW/4)  
 Sec. 24 T30N R4W  
 Rio Arriba County, New Mexico  
 Surface Lease: Fee  
 Mineral Lease: NMNM13376

### DRILLING PROGRAM

This Application for Permit to Drill (APD) is filed under the APD process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This APD process included an on-site meeting held on July 12, 2006, as determined by BLM, at which time the specific concerns of Black Hills Gas Resources, Inc. (Black Hills) and BLM were discussed. Best efforts will be made to address specific concerns of the BLM representatives.

**This is a new vertical and horizontal well to be drilled into the Pictured Cliffs formation. See also the attached Horizontal Drilling Program.**

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,072'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,941'	Sandstone, shales & siltstones
Ojo Alamo	3,184'	Sandstone, shales & siltstones
Kirkland	3,415'	Sandstone, shales & siltstones
Fruitland Coal	3,585'	Sandstone, shales & siltstones
Pictured Cliffs	3,751'	Sandstone, shales & siltstones

TOTAL DEPTH	4,000'	TVD
	6,907.15'	MD (length of horizontal section)

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

Tertiary

San Jose	surface	Gas
Nacimiento	1,941'	Gas
Ojo Alamo	3,184'	Gas
Fruitland Coal	3,585'	Gas
Pictured Cliffs	3,751'	Gas

**HORIZONTAL DRILLING PROGRAM**

- A) Kick Off Point is estimated to be at  $\pm 3,756'$  TVD
- B) 5-1/2" casing will be set to 4,000' in the vertical portion of the well. After the casing is set vertically, a window will be milled out at the Kick Off Point, the horizontal portion of the well will be drilled and a liner will run the distance of the horizontal hole.

**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)* **
3,756' TVD (KOP) – End of Lateral Bore	4-3/4"	2-7/8"	PH-6 (Liner)	None

\* 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 H<sub>2</sub>S Plan if H<sub>2</sub>S is encountered.
- D) Estimated bottomhole pressure: 1,240 psi

ANTICIPATED START DATE

February 8, 2007

COMPLETION

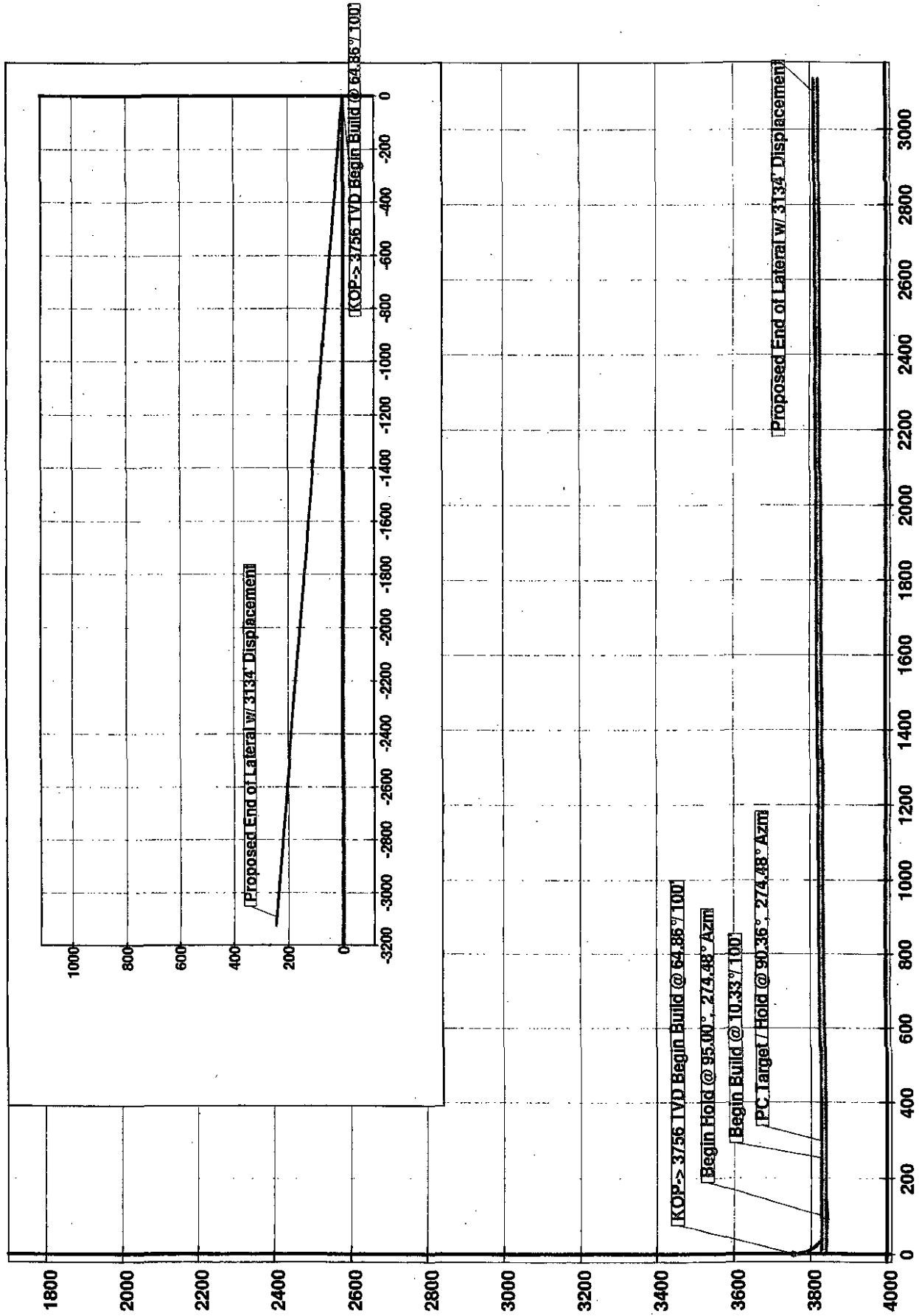
The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-7/8” PH-6 tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Job Number: 61xxx

Company: Black Hills Gas Resources  
Lease/Well: Many Canyons 30-04-24 #13H  
Location: Rio Arriba Co., NM



1724-B Thompson Dr., Suite 100, Bldg. 2, 77040  
(713) 22-4893  
www.nevisenergy.com

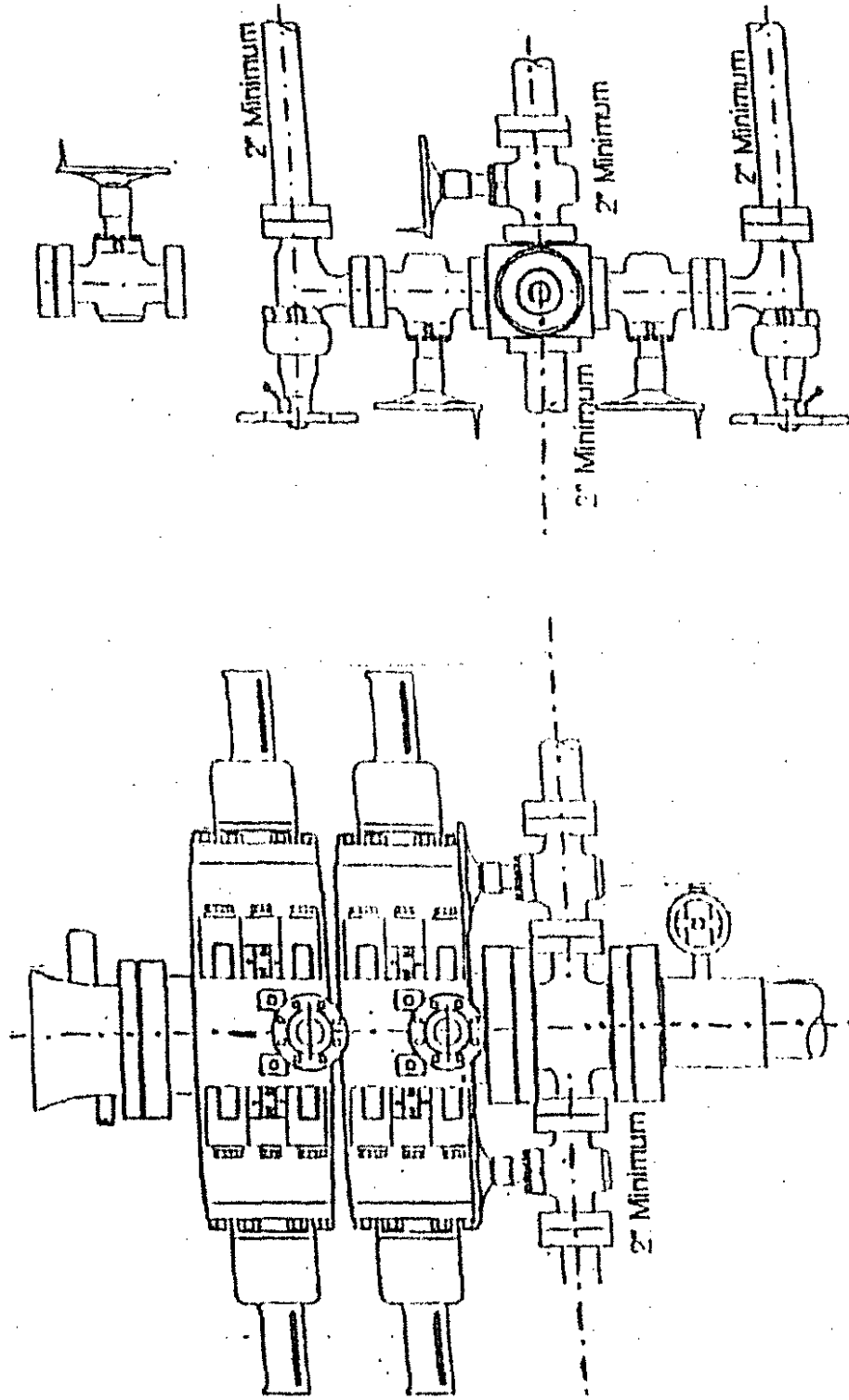




# 2-M SYSTEM

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. 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.