

RCVD APR 6 '07

OIL CONS. DIV.

Form 3160-3
(April 2004)

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

FORM 3160-3
OMB No. 1004-0137
Expires March 31, 2007

5. Lease Serial No.

NMNM10431

6. If Indian, Allottee or Tribe Name

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

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

8. Lease Name and Well No.

Many Canyons; 29-04-12 33

9. API Well No.

30-039-30017

10. Field and Pool, or Exploratory

(East 1/4)

Chozon Mesa
PC

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

Sec. 12 T 29N R 4W

NM PM

12. County or parish

Rio Arriba

13. State

New Mexico

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

2,380' FSL

1,790' FEL

NW 1/4

SE 1/4

Lat: 36° 44' 19.0"

Long: 107° 12' 11.4"

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 Drig, unit line, if any)

Unit= n/a
Lease= ±260'

16. No. of acres in lease

883.50

17. Spacing Unit dedicated to this well

160

SE 1/4

18. Distance from proposed location to nearest well, drilling, completed or applied for, on this lease, ft.

± 1,402' 29-4 Carson 12 #001

19. Proposed depth

4,000' TVD

20. BLM/BIA Bond No. on file

NMB000230

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

7,075' GR

22. Approximate date work will start *

September 1, 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 3, 2006

Title

Permit Agent for Black Hills Gas Resources, Inc.

Approved by (Signature)

[Signature]

Name (Printed/Typed)

Office FFO

Date

4/3/07

Title

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.

(continued on page 2)

**NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT**

HOLD C104 FOR NSI

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

NMOC

4/10/07

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

9

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 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@bhep.com</u>		
Address: <u>P.O. Box 249, Bloomfield, NM 87413</u>		
Facility or well name: <u>Many Canyons 29-04-12 33</u> API #: <u>30-039-30017</u> U/L or Qtr/Qtr <u>NW/4 SE/4</u> Sec <u>12</u> T <u>29N</u> R <u>4W</u>		
County: <u>Rio Arriba</u> Latitude <u>36° 44' 19.0"</u> Longitude <u>107° 12' 11.4"</u> NAD: 1927 <input type="checkbox"/> 1983 <input checked="" type="checkbox"/> Surface Owner Federal <input checked="" type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Indian <input 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>±6,411</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)		0 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:

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: 08/03/06

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:

Printed Name/Title DEPUTY OIL & GAS INSPECTOR, DIST. #1

Signature [Signature]

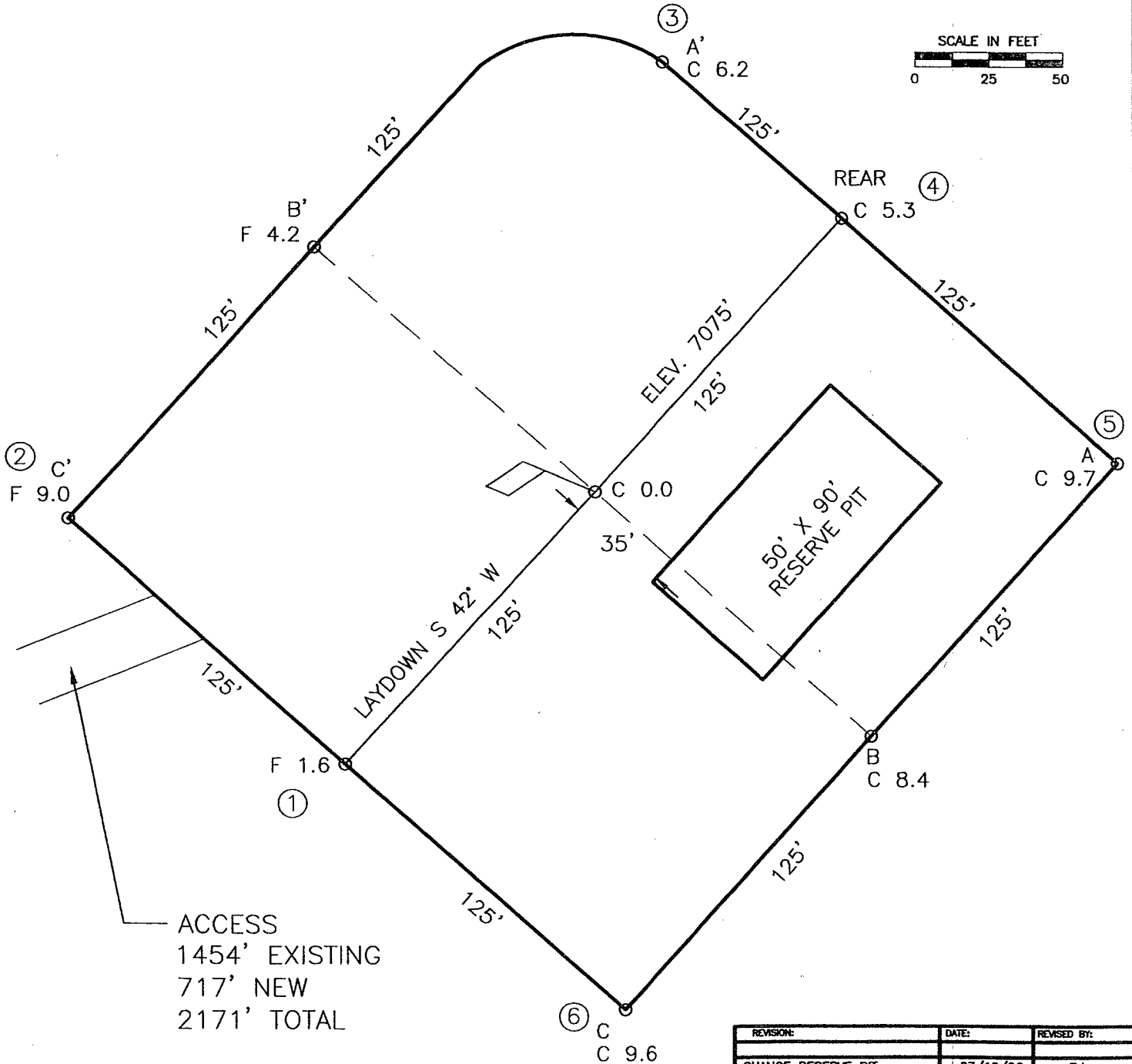
Date: APR 10 2007

WELL PAD DIAGRAM

COMPANY: BLACK HILLS RESOURCES
 LEASE: MANY CANYONS 29-04-12 No. 33
 FOOTAGE: 2380 FSL, 1790 FEL
 SEC.: 12, TWN: 29-N, RNG: 4-W, NMPM
 ELEVATION: 7075'




SCALE IN FEET
 0 25 50



ACCESS
 1454' EXISTING
 717' NEW
 2171' TOTAL

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:
CHANGE RESERVE PIT	07/10/06	B.L.
CHANGE PAD & PIT SIZE	10/20/05	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: MN399PL8	
ROW#: MN399	DATE: 06/22/05	

WELL-PAD CROSS-SECTIONAL DIAGRAM

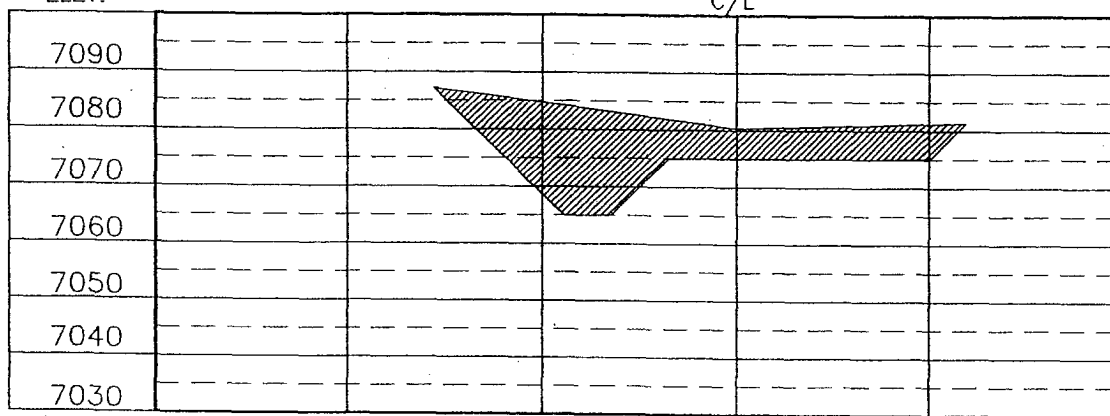
COMPANY: BLACK HILLS GAS RESOURCES
 LEASE: MANY CANYONS 29-04-12 No. 33
 FOOTAGE: 2380 FSL 1790 FEL
 SEC.: 12, TWN: 29-N, RNG: 4-W, NMPM
 ELEVATION: 7075'

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.

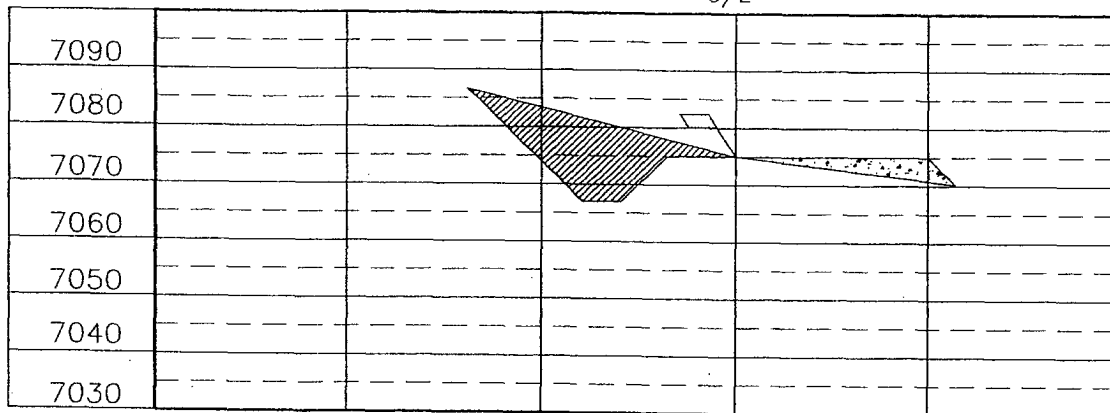
ELEV. A-A'

C/L



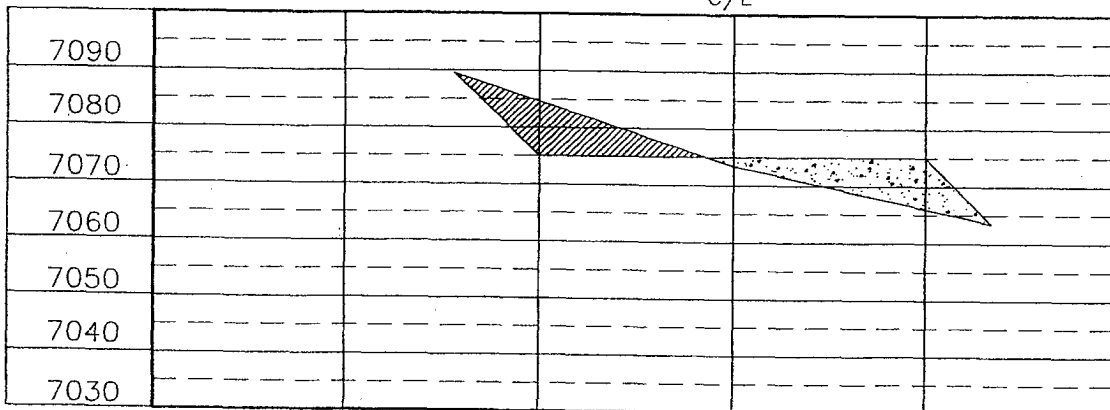
ELEV. B-B'

C/L



ELEV. C-C'

C/L



REVISION:	DATE:	REVISED BY:	B.L.
CHANGE PAD SIZE/CUT-FILL	10/20/05		
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 CAPFILE: MN39SCF8 DATE: 06/21/05			
DRAWN BY: B.L.		ROW# MN399	

Black Hills Gas Resources, Inc.
Many Canyons 29-04-12 33
2,380' FSL 1,790' FEL (NW/4 SE/4)
Sec. 12 T29N R4W
Rio Arriba County, New Mexico
Federal Lease: NMNM10431

DRILLING PROGRAM

This Application for Permit to Drill (APD) is filed 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 on-site meeting on September 22, 2005, prior to the submittal of the application, at which time the specific concerns of Black Hills Gas Resources, Inc. (Black Hills) and the United States Forest Service – Jicarilla Ranger District (USFS) were discussed. USFS is the Surface Management Agency (SMA) for this wellpad and access road. All specific concerns of the USFS representatives are addressed herein, as are specific stipulations from the BLM.

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

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,075'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	2,335'	Sandstone, shales & siltstones
Ojo Alamo	3,410'	Sandstone, shales & siltstones
Kirkland	3,425'	Sandstone, shales & siltstones
Fruitland Coal	3,615'	Sandstone, shales & siltstones
Pictured Cliffs	3,705'	Sandstone, shales & siltstones
Lewis	3,810'	Sandstone, shales & siltstones

TOTAL DEPTH	4,000'	TVD
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Estimated depths of anticipated fresh water, oil, or gas:

Tertiary

San Jose	surface	Gas
Nacimiento	2,335'	Gas
Ojo Alamo	3,410'	Gas
Fruitland Coal	3,615'	Gas
Pictured Cliffs	3,705'	Gas
Lewis	3,810'	Gas

~~HORIZONTAL DRILLING PROGRAM~~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 H₂S Plan if H₂S is encountered.
- D) Estimated bottomhole pressure: 1,221 psi

ANTICIPATED START DATE

September 1, 2006

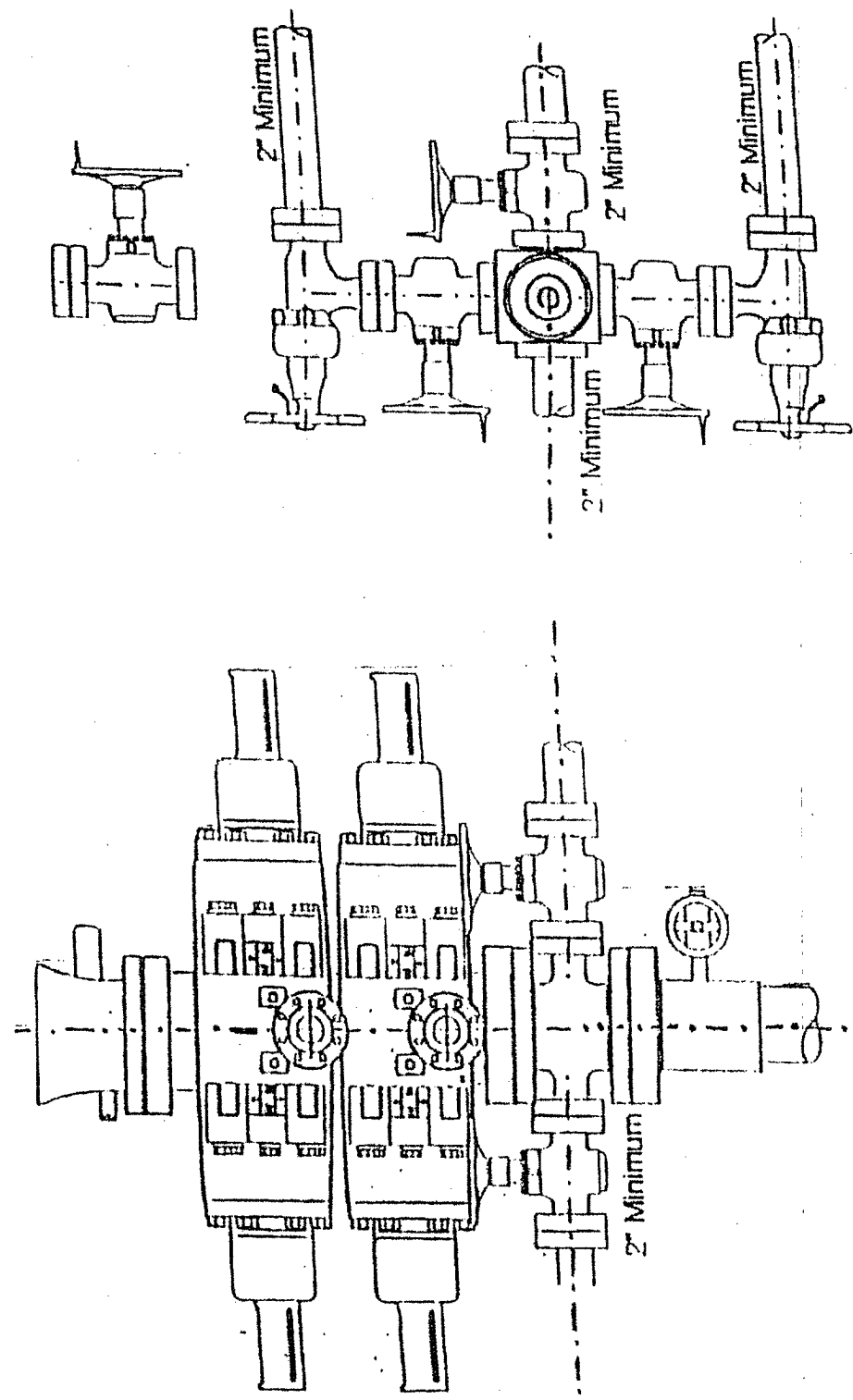
COMPLETION

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.

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 (H₂S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S 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 H₂S 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 H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S 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. H₂S Safety Equipment and Systems

Note: All H₂S 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 H₂S.

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.