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.

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2007 JAN 22 AM 10 58
RECEIVED
070 FARMINGTON NM

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. Lease Serial No.: NMNM18323 BHL

6. If Indian, Allottee or Tribe Name: ---

RCVD MAY 5 '09
OIL CONS. DIV.
DIST. 3

1a. Type of Work: [X] DRILL [ ] REENTER

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

1b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone

8. Lease Name and Well No.: Many Canyons 29-04-24 14H

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

9. API Well No.: 30-039-30166

3a. Address: P.O. Box 249, Bloomfield, NM 87413

3b. Phone No. *(include area code)*: 505-634-1111

10. Field and Pool, or Exploratory: ~~East Blanco~~ Chacra / Pictured Cliffs

4. Location of Well *(Report location clearly and in accordance with any State Requirements.*)*

At surface: 675' FNL 1,120' FEL NE /4 NE /4
Lat: 36° 42' 56.9" Long: 107° 12' 03.3"

At proposed production zone: ±675' FNL ±679' FWL (NW/4 NW/4)

11. Sec., T., R., M., or Blk. and Survey or Area: A Sec. 24 T 29N 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

13. State: 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= ±675'

16. No. of acres in lease: 640.00

17. Spacing Unit dedicated to this well: 320 N2

18. Distance from proposed location to nearest well, drilling, completed or applied for, on this lease, ft.: ± 4,288 ' Conoco 29 04 004

19. Proposed depth: 4,000' TVD

20. BLM/BIA Bond No. on file: NMB000230

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 6,896 ' GR

22. Approximate date work will start *: February 22, 2007

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: January 19, 2007

Title: Permit Agent for Black Hills Gas Resources, Inc.

Approved by *(Signature)*: /s/ Mankiewicz
Name *(Printed/Typed)*:
Date: 5/5/09

Title: AFM
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. Section1212, 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

MAY 21 2009

Hold C104 for Directional Survey and "As Drilled" plat

NMOCD

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

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

Held R/Plat

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
Fee Lease – 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30166	74960	CHOZA MESA/PICTURED CLIFFS

[4] Property Code	[5] Property Name	[6] Well Number
~~036399~~ 37688	MANY CANYONS 29-04-24	14H

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	BLACK HILLS GAS RESOURCES	6896'

[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
A	24	29-N	4-W		675	NORTH	1120	EAST	RIO ARRIBA

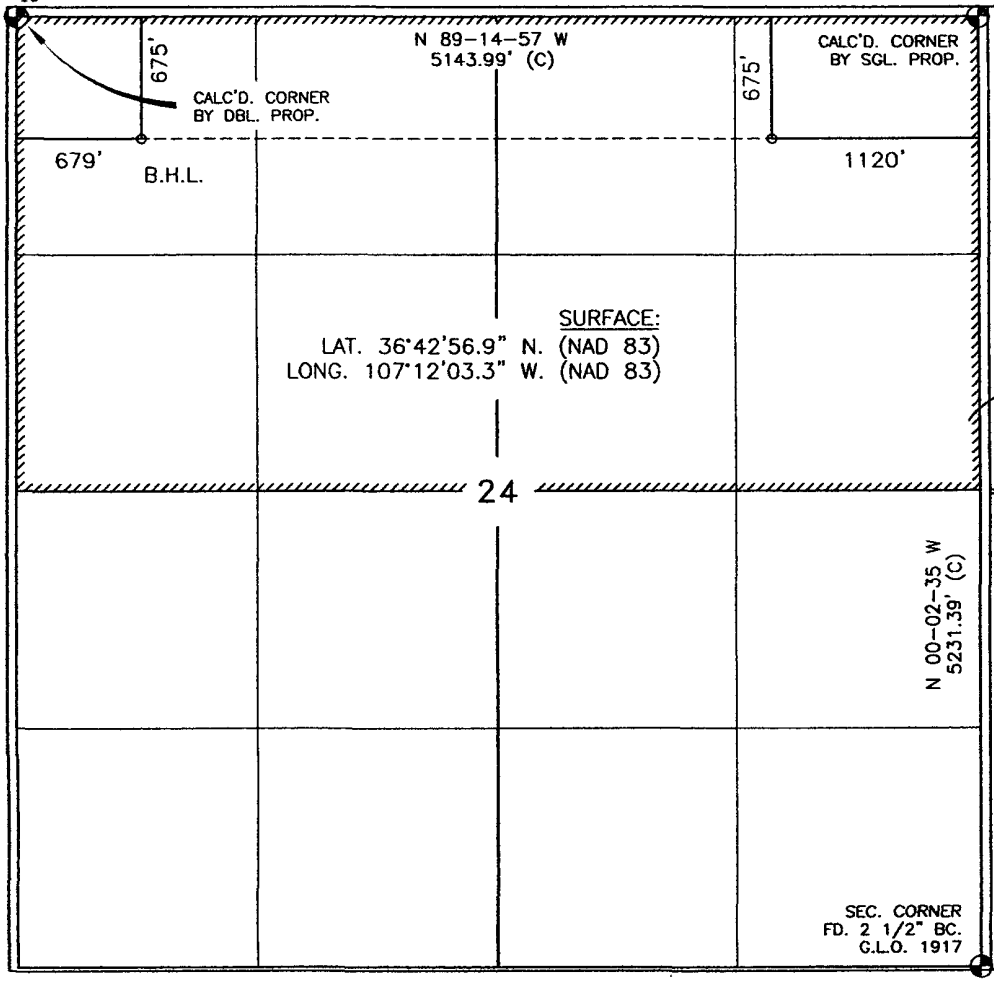
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	24	29-N	4-W		675	NORTH	679	WEST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320 acres - N/2			

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



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 — Date: 5/11/09

Daniel Manus
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.

JULY 19, 2005
Date of Survey

Signature and Seal of Professional Surveyor:

ROY A. RUSH — NEW MEXICO — 8894 — REGISTERED PROFESSIONAL LAND SURVEYOR

05.07.09

14831
Certificate Number

Black Hills Gas Resources, Inc.
Many Canyons 29-04-24 14H
Surface: 675' FNL 1,120' FEL (NE/4 NE/4)
BHL: ±675' FNL ±679' FWL (NW/4 NW/4)
Sec. 24 T29N R4W
Rio Arriba County, New Mexico
Federal Lease: NMNM18323

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 October 18, 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 and horizontal well to be drilled into the Pictured Cliffs formation. See also the attached Horizontal Drilling Program.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 6,896'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,800'	Sandstone, shales & siltstones
Ojo Alamo	3,110'	Sandstone, shales & siltstones
Kirkland	3,255'	Sandstone, shales & siltstones
Fruitland Coal	3,435'	Sandstone, shales & siltstones
Pictured Cliffs	3,563'	Sandstone, shales & siltstones
TOTAL DEPTH	4,000'	TVD
	6,739.45	MD (end of horizontal bore)

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

Tertiary		
San Jose	surface	Gas
Nacimiento	1,800'	Gas
Ojo Alamo	3,110'	Gas
Fruitland Coal	3,435'	Gas
Pictured Cliffs	3,563'	Gas

HORIZONTAL DRILLING PROGRAM

A) Kick-Off-Point is estimated to be at ±3,109' 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 (±175 sxs Standard Cement containing 2% CaCl2 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)* **
3,109' 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^3/sx (mixed at 15.6 lb/gal)

Production: Lite Standard Cement yield: = 1.59 ft^3/sx (mixed at 13.4 lb/gal)
50:50 POZ yield = 1.27 ft^3/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_2S:	See H_2S Plan in the event H_2S is encountered.
D)	Estimated bottomhole pressure:	1,240 psi

ANTICIPATED START DATE
February 22, 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.

Many Canyons 29-04-24 14H

Surface: 675' FNL 1,120' FEL (NE /4 NE /4)

Sec. 24 T 29N R 4W

BHL: ±675' FNL ±679' FWL (NW/4 NW/4)

Rio Arriba County, New Mexico

NMNM18323

SURFACE CASING AND CENTRALIZER DESIGN

Proposed Total Depth:			4,000 '
Proposed Depth of Surface Casing:			250 '
Estimated Pressure Gradient:			0.31 psi/ft
Bottom Hole Pressure at			4,000 '
0.31 psi/ft	x 4,000 '	=	1,240 psi
Hydrostatic Head of gas/oil mud:			0.22 psi/ft
0.22 psi/ft	x 4,000 '	=	880 psi

Maximum Design Surface Pressure

Bottom Hole Pressure	–	Hydrostatic Head	=
(0.31 psi/ft x 4,000 ')	–	(0.22 psi/ft x 4,000 ')	=
1,240 psi	–	880 psi	= 360 psi

Casing Strengths 8-5/8" J-55 24# ST&C New

Wt.	Tension (lbs)	Burst (psi)	Collapse (psi)
24 #	244,000	2,950	1,370
32 #	372,000	3,930	2,530

Safety Factors

Tension (Dry): 1.8 Burst: 1.0 Collapse: 1.125

Tension (Dry): 24 # / ft x 250 ' = 6,000 #

Safety Factor = 244,000 / 6,000 = 40.67 ok

Burst: Safety Factor = 2,950 psi / 360 psi = 8.19 ok

Collapse: Hydrostatic = 0.052 x 9.0 ppg x 250 ' = 117 psi

Safety Factor = 1,370 psi / 117 psi = 11.71 ok

Use 250 ' 8-5/8" J-55 24# ST&C New

Use 2,000 psi minimum casinghead and BOP's

Centralizers

5 Total

1 near surface at 40'

2 -1 each at middle of bottom joint, second joint

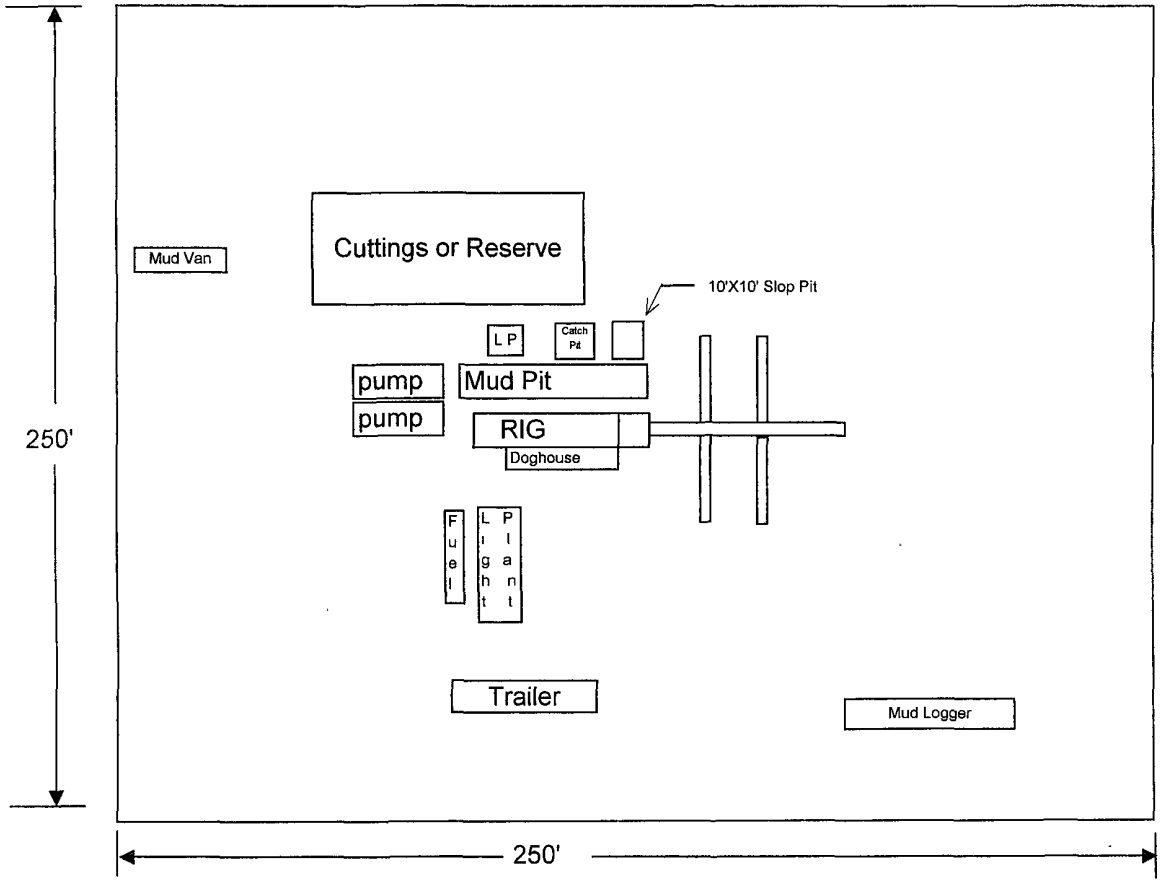
2 -1 each at every other joint ±40 ' spacing

Total centralized ± 200 ' (50 ' – 250 ')

Note that field experience indicates that additional centralizers greatly increase the chance of "sticking" the surface casing prior to reaching surface casing total depth.

Drilling Site Layout

Many Canyons 29-04-24 14H



Not to scale

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
3879.00	88.23	270.00	3608.77	484.60	.00	-484.60	484.60	270.00	11.46
3889.00	89.38	270.00	3608.98	494.60	.00	-494.60	494.60	270.00	11.46
Target Line / Begin Hold @ 90.33°, 270.00° Azm									
3897.31	90.33	270.00	3609.00	502.91	.00	-502.91	502.91	270.00	11.46
3997.31	90.33	270.00	3608.42	602.91	.00	-602.91	602.91	270.00	.00
4097.31	90.33	270.00	3607.84	702.91	.00	-702.91	702.91	270.00	.00
4197.31	90.33	270.00	3607.26	802.91	.00	-802.91	802.91	270.00	.00
4297.31	90.33	270.00	3606.68	902.90	.00	-902.90	902.90	270.00	.00
4397.31	90.33	270.00	3606.10	1002.90	.00	-1002.90	1002.90	270.00	.00
4497.31	90.33	270.00	3605.52	1102.90	.00	-1102.90	1102.90	270.00	.00
4597.31	90.33	270.00	3604.94	1202.90	.00	-1202.90	1202.90	270.00	.00
4697.31	90.33	270.00	3604.36	1302.90	.00	-1302.90	1302.90	270.00	.00
4797.31	90.33	270.00	3603.78	1402.90	.00	-1402.90	1402.90	270.00	.00
4897.31	90.33	270.00	3603.20	1502.89	.00	-1502.89	1502.89	270.00	.00
4997.31	90.33	270.00	3602.61	1602.89	.00	-1602.89	1602.89	270.00	.00
5097.31	90.33	270.00	3602.03	1702.89	.00	-1702.89	1702.89	270.00	.00
5197.31	90.33	270.00	3601.45	1802.89	.00	-1802.89	1802.89	270.00	.00
5297.31	90.33	270.00	3600.87	1902.89	.00	-1902.89	1902.89	270.00	.00
5397.31	90.33	270.00	3600.29	2002.89	.00	-2002.89	2002.89	270.00	.00
5497.31	90.33	270.00	3599.71	2102.88	.00	-2102.88	2102.88	270.00	.00
5597.31	90.33	270.00	3599.13	2202.88	.00	-2202.88	2202.88	270.00	.00
5697.31	90.33	270.00	3598.55	2302.88	.00	-2302.88	2302.88	270.00	.00
5797.31	90.33	270.00	3597.97	2402.88	.00	-2402.88	2402.88	270.00	.00
5897.31	90.33	270.00	3597.39	2502.88	.00	-2502.88	2502.88	270.00	.00
5997.31	90.33	270.00	3596.81	2602.88	.00	-2602.88	2602.88	270.00	.00
6097.31	90.33	270.00	3596.23	2702.87	.00	-2702.87	2702.87	270.00	.00
6197.31	90.33	270.00	3595.65	2802.87	.00	-2802.87	2802.87	270.00	.00
6297.31	90.33	270.00	3595.07	2902.87	.00	-2902.87	2902.87	270.00	.00
6397.31	90.33	270.00	3594.49	3002.87	.00	-3002.87	3002.87	270.00	.00
6497.31	90.33	270.00	3593.91	3102.87	.00	-3102.87	3102.87	270.00	.00
6597.31	90.33	270.00	3593.33	3202.87	.00	-3202.87	3202.87	270.00	.00
6697.31	90.33	270.00	3592.75	3302.86	.00	-3302.86	3302.86	270.00	.00
End of Lateral w/ 3345' Displacement									
6739.45	90.33	270.00	3592.50	3345.00	.00	-3345.00	3345.00	270.00	.00

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.

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_2S detection and monitoring equipment:

1. Two portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S 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_2S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H_2S scavengers will minimize hazards when penetrating H_2S 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_2S service.

2. All elastomers used for packing and seals shall be H_2S trim.

G. Communication:

1. Cellular telephone communications in company vehicles.

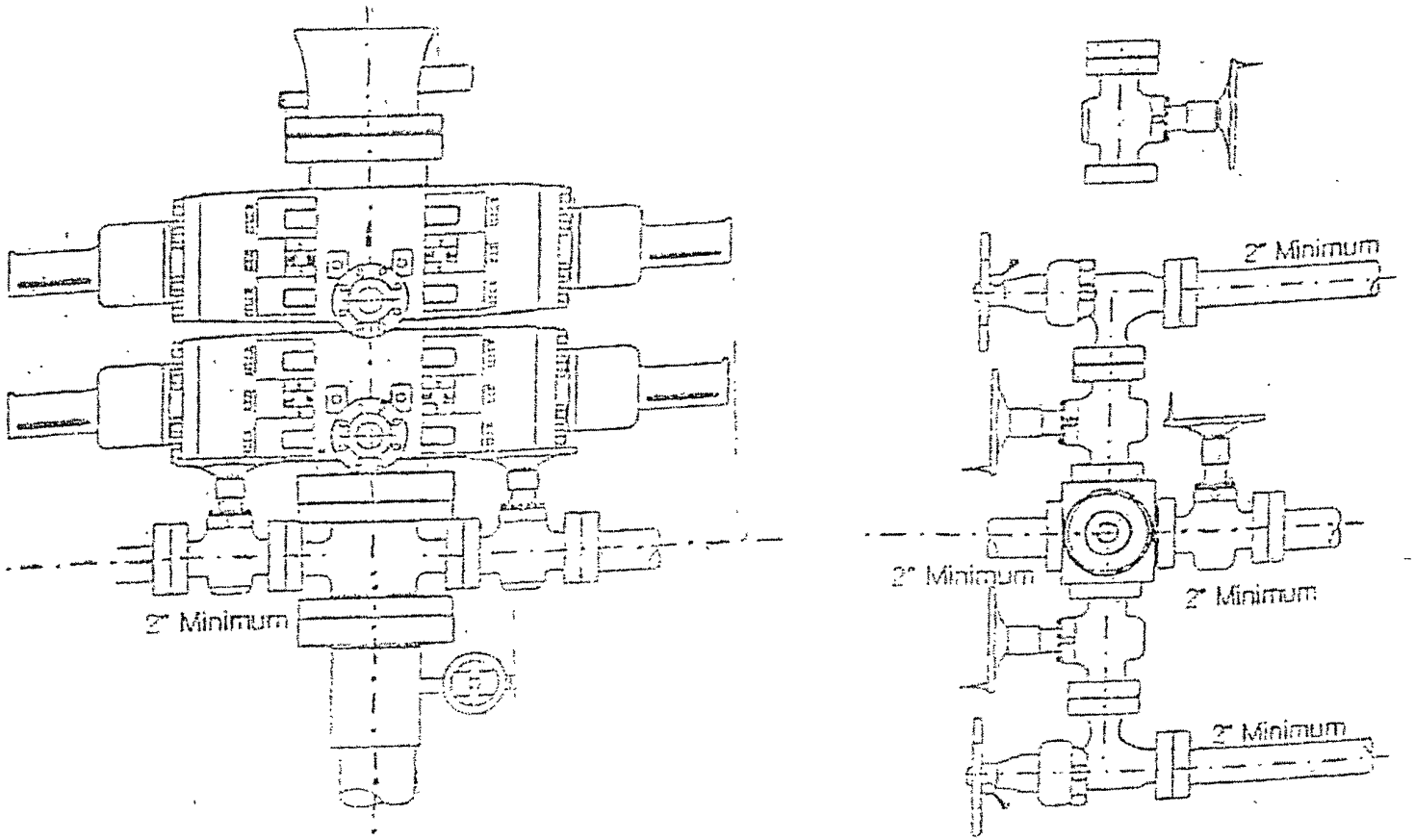
H. Well testing:

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_2S environment will use the closed chamber method of testing.

2–M SYSTEM

Black Hills Gas Resources, Inc.

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



BOP PLAT