

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAR -2 AM 10:42

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

210 FAIRINGTON NM

| | | |
|---|--|--|
| 1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER | | 5. Lease Serial No. NMNM10431 BHL |
| 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 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 | | 8. Lease Name and Well No. Many Canyons 29-04-12 12H |
| 3b. Phone No. (include area code) 505-634-1111 | | 9. API Well No. 30-039-30215 |
| 4. Location of Well (Report location clearly and in accordance with any State Requirements.) At surface 550' FNL 1,350' FWL NE /4 NW /4 H.E.S. 281 Lat: 36° 44' 42.2" Long: 107° 12' 36.4" At proposed production zone ±660' FNL ±660' FEL (NE/4 NE/4) Lot 1 | | 10. Field and Pool, or Exploratory Chromite Fractured Cliffs |
| 11. Sec., T., R., M., or Blk. and Survey or Area C Sec. 12 T 29N R 4W NM PM | | 12. County or parish Rio Arriba |
| 13. State New Mexico | | 14. Distance in miles and direction from nearest town or post office. Well is 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= ±660' | | 16. No. of acres in lease 883.50 |
| 17. Spacing Unit dedicated to this well 320 320 N/2 | | 18. Distance from proposed location to nearest well, drilling, completed or applied for, on this lease, ft. ± 2,500 Many Canyons 29 04-01 41H |
| 19. Proposed depth 4,000' TVD | | 20. BLM/BIA Bond No. on file NMB000230 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,967' GR | | 22. Approximate date work will start March 30, 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 February 28, 2007 |
| Title Permit Agent for Black Hills Gas Resources, Inc. | | |
| Approved by (Signature) [Signature] | Name (Printed/Typed) [Signature] | Date 4/20/07 |
| Title AFM 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 as to any matter within its jurisdiction.

NOTIFY AZT 24 HRS.
PRIOR TO Casing & CEMENT
(continued on page 2)

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

NMOCD

HOLD G104 FOR

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.8
and appeal pursuant to 43 CFR 3165.4

8 4/30/07

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

DISTRICT II
1301 W. Grand Ave., Artesia, N.M. 88210

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 South St. Francis Dr., Santa Fe, NM 87505

DIST. 3 Form C-102
Revised June 10, 2003

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

2007 MAR -2 AM 10:42

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | | |
|--|--|--|---|
| ¹ API Number 30-039-30215 | | ² Pool Code 74960 | ³ Well Name Choza Mesa Pictured Cliffs |
| ⁴ Property Code 36444 | ⁵ Property Name MANY CANYONS 29-04-12 | | ⁶ Well Number 12H |
| ⁷ OGRID No. 013925 | ⁸ Operator Name BLACK HILLS GAS RESOURCES | | ⁹ Elevation 6967' |

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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| C | 12 | 29-N | 4-W | (1) | 550 | NORTH | 1350 | WEST | 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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| A | 12 | 29-N | 4-W | | 660 | NORTH | 660 | EAST | RIO ARRIBA |

| | | | |
|---|-------------------------------|----------------------------------|-------------------------|
| ¹² Dedicated Acres 320 acres - N/2 | 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

| | | | |
|--|--|---------------------------------------|---|
| <p>16 CALC'D CORNER DBL. PROP.</p> <p>1350' LOT 2</p> <p>(36.06) (10.34)</p> <p>5246.50' (C)</p> <p>N 00-04-14 W</p> <p>CALC'D CORNER DBL. PROP.</p> | <p>N 89-09-22 W</p> <p>5172.79' (C)</p> <p>H.E.S. 281</p> <p>LOT 1 (33.60)</p> <p>LAT. 36°44'42.2" N (NAD 83)</p> <p>LONG. 107°12'36.4" W (NAD 83)</p> | <p>FD. MARKED STONE</p> <p>B.H.L.</p> | <p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Kathy L. Schneebeck</i> Signature</p> <p>Kathy L. Schneebeck Printed Name</p> <p>Permit Agent for Black Hills Title</p> <p>February 28, 2007 Date</p> |
| | <p>12</p> | | <p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date: 2005</p> <p>Signature: <i>JOHN A. VUKONICH</i></p> <p>JOHN A. VUKONICH REGISTERED PROFESSIONAL SURVEYOR NEW MEXICO 14831</p> <p>Certificate Number</p> |

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. 30-039-30215 |
| 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 Many Canyons 29-04-12 |
| 8. Well Number 12H |
| 9. OGRID Number 013925 |
| 10. Pool name or Wildcat Pictured Cliffs |

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: C : 550 feet from the North line and 1,350 feet from the West line

Section: 12 Township 29N Range 4W NMPM County: Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,967' 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 _____

12. 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 NMOCD 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: February 28, 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

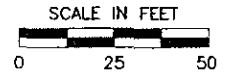
DEPUTY OIL & GAS INSPECTOR, DIST. #1

DATE **APR 30 2007**

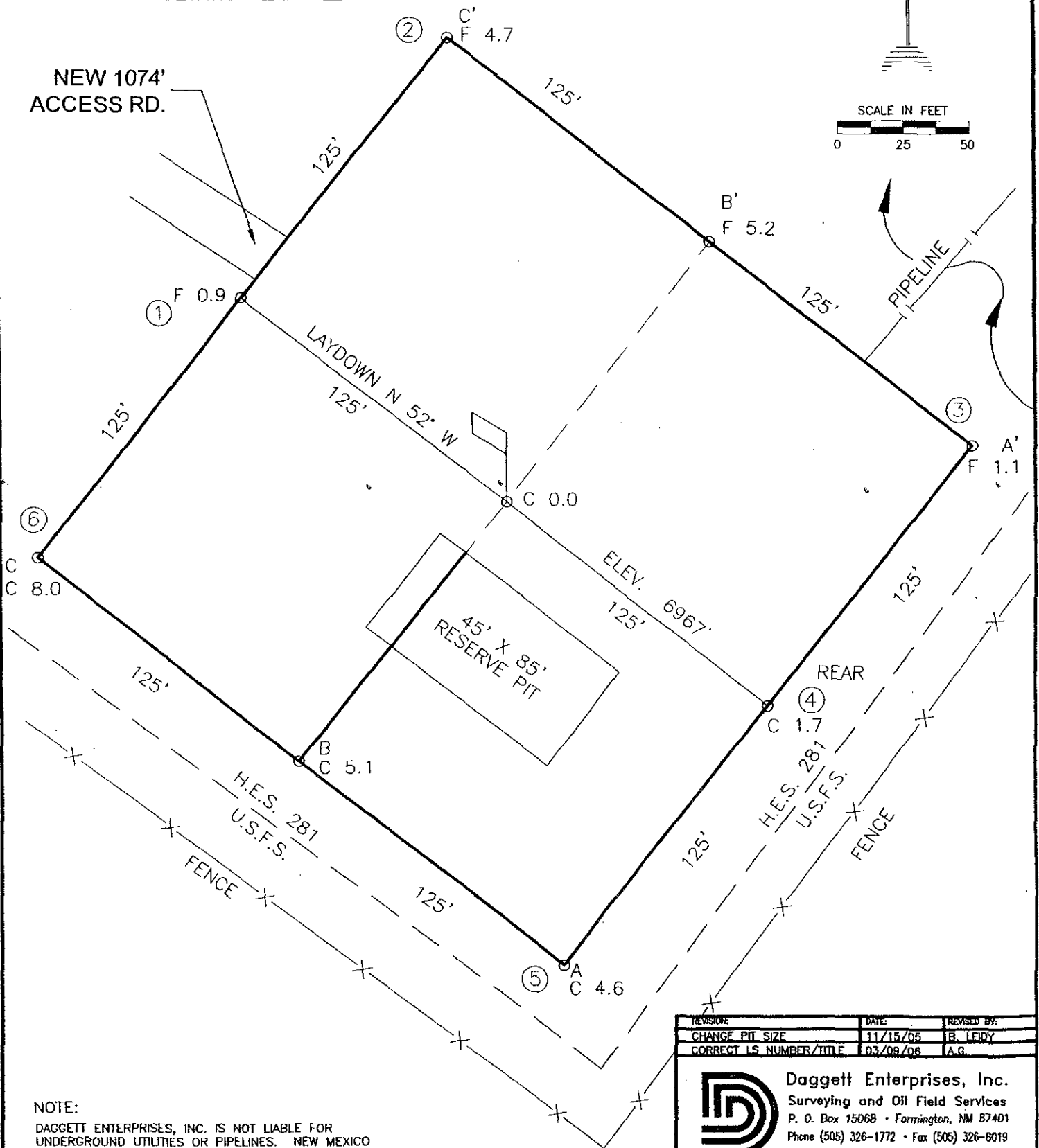
Conditions of Approval (if any):

WELL PAD DIAGRAM

COMPANY: BLACK HILLS GAS RESOURCES
 LEASE: MANY CANYONS 29-04-12 No. 12H
 FOOTAGE: 550 FNL 1350 FWL
 SEC.: 12, TWN: 29-N, RNG: 4-W, NMPM
 ELEVATION: 6967'




NEW 1074'
ACCESS RD.



NOTE:

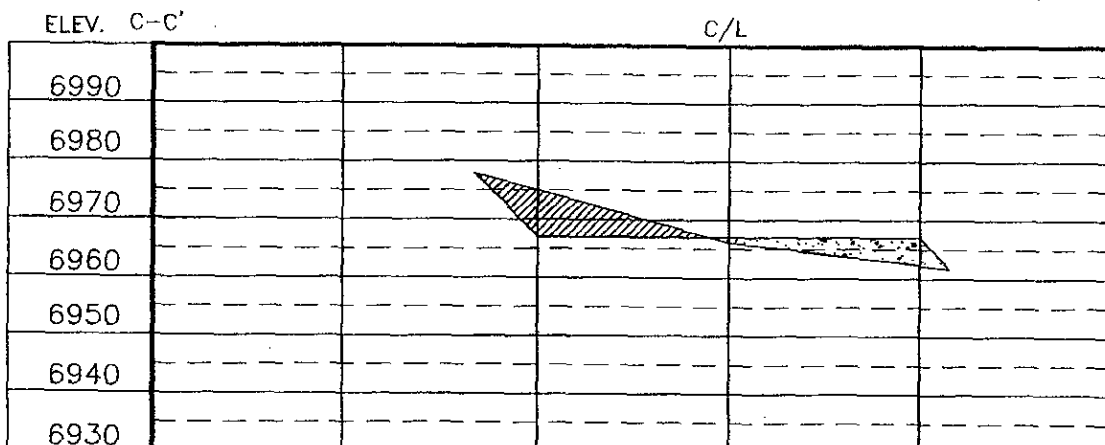
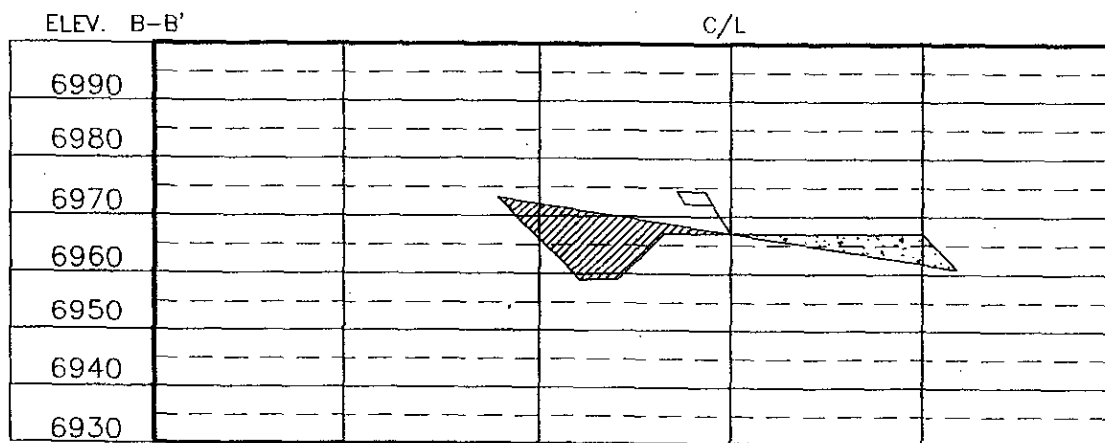
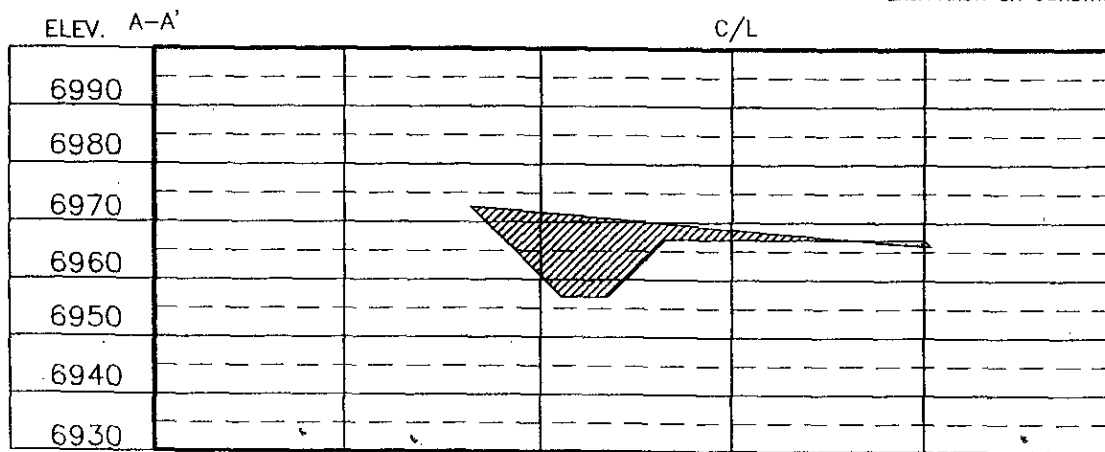
DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR
 UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO
 ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO
 EXCAVATION OR CONSTRUCTION.

| | | |
|--|-------------------|-------------|
| REVISION: | DATE: | REVISED BY: |
| CHANGE PIT SIZE | 11/15/05 | B. LEIDY |
| CORRECT LS NUMBER/TITLE | 03/09/06 | A.G. |
|  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: MN422PLB | |
| ROW#: MN422 | DATE: 08/10/05 | |

WELL PAD CROSS-SECTIONAL DIAGRAM

COMPANY: BLACK HILLS GAS RESOURCES
 LEASE: MANY CANYONS 29-04-12 No. 12H
 FOOTAGE: 550 FNL, 1350 FWL
 SEC.: 12, TWN: 29-N, RNG: 4-W, NMPM
 ELEVATION: 6967'

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 | DATE | REVISION BY |
|----------|----------|-------------|------|-------------|
| 01 | 08/08/05 | A.G. | | |

CORRECT LS NUMBER/TITLE

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 MN422OFB
 DATE 08/10/05

DRAWN BY: B.L.
 ROWF: MN422

Black Hills Gas Resources, Inc.
Many Canyons 29-04-12 12H
 Surface: 550' FNL 1,350' FWL (NE/4 NW/4) – H.E.S. 281
 BHL: ±660' FNL ±660' FEL (NE/4 NE/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 July 12, 2006, 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. 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 – 6,967'

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

| | | |
|-----------------|---------|--------------------------------|
| San Jose | Surface | Sandstone, shales & siltstones |
| Nacimiento | 2,020' | Sandstone, shales & siltstones |
| Ojo Alamo | 3,110' | Sandstone, shales & siltstones |
| Kirkland | 3,325' | Sandstone, shales & siltstones |
| Fruitland Coal | 3,515' | Sandstone, shales & siltstones |
| Pictured Cliffs | 3,610' | Sandstone, shales & siltstones |

| | | |
|-------------|-----------|-----------------------------|
| TOTAL DEPTH | 4,000' | TVD |
| | 6,832.58' | MD (end of horizontal bore) |

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

Tertiary

| | | |
|-----------------|---------|-----|
| San Jose | surface | Gas |
| Nacimiento | 2,020' | Gas |
| Ojo Alamo | 3,110' | Gas |
| Fruitland Coal | 3,515' | Gas |
| Pictured Cliffs | 3,610' | Gas |

HORIZONTAL DRILLING PROGRAM

- A) Kick-Off-Point is estimated to be at $\pm 3,606'$ 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% 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)* ** |
| 3,606' 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 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 in the event H₂S is encountered.
- D) Estimated bottomhole pressure: 1,240 psi

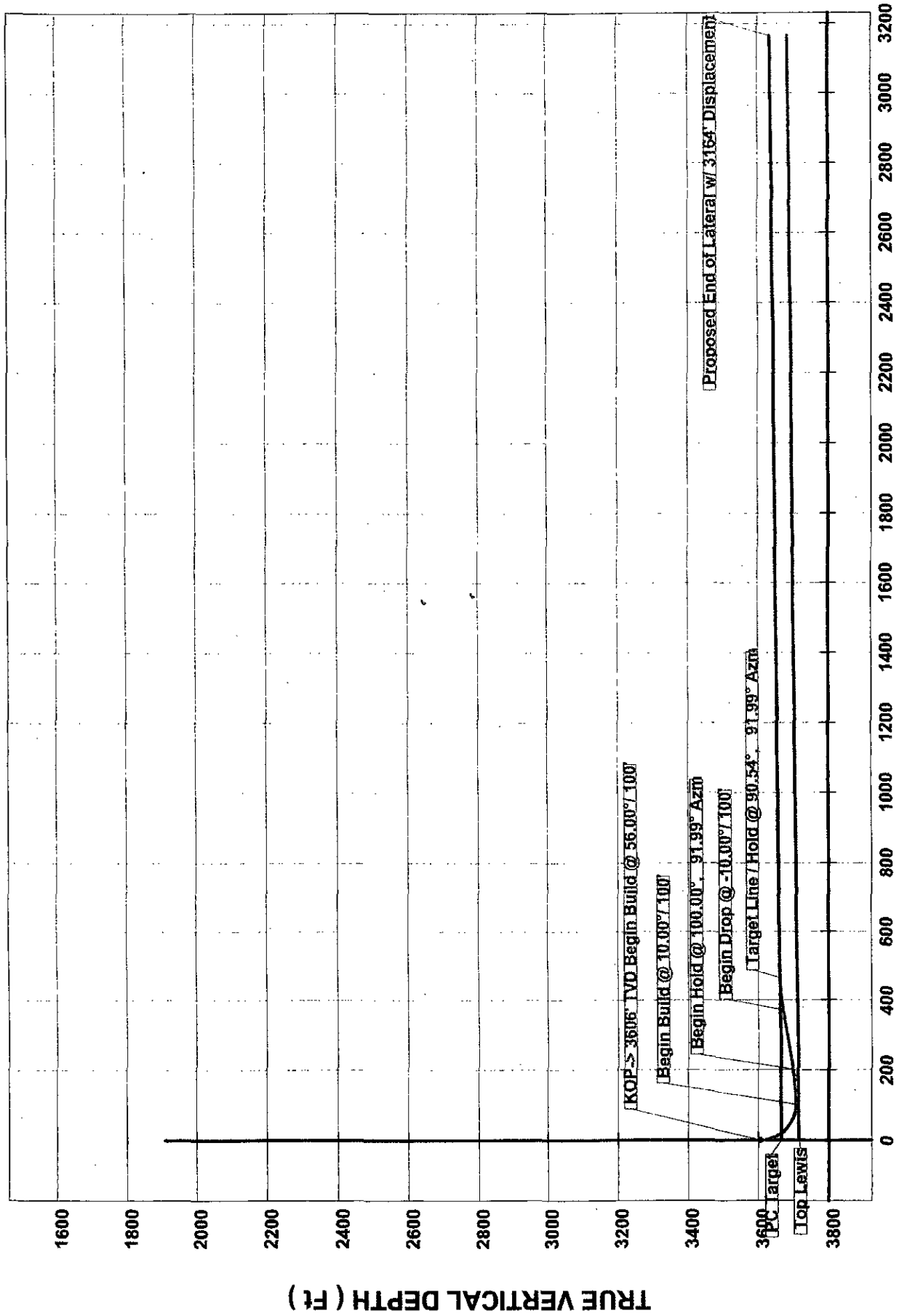
ANTICIPATED START DATE

March 30, 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 E&P
 Lease/Well: Many Canyons 29-04-12 #12H
 Location: Rio Arriba Co., NM

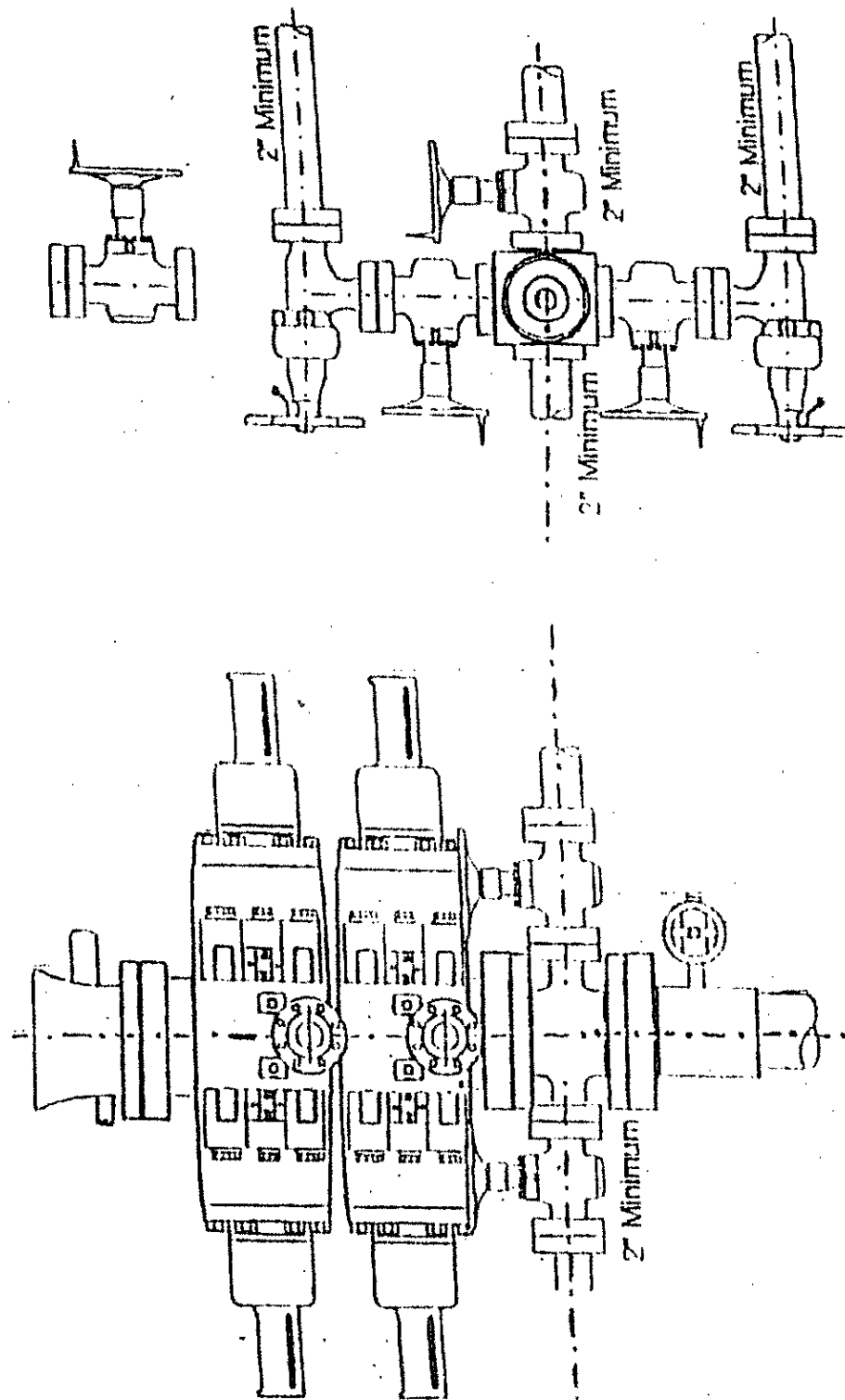


VERTICAL SECTION (Ft) @ 91.99°

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. 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.