## UNITED STATES OF FEB **DEPARTMENT OF THE INTERIOR**

FORM APPROVED OMB No. 1004-0135

Expires: March 31, 2007

MDA 701-98-0013, Tract 4

5. LEASE SERIAL NO.

# **BUREAU OF LAND MANAGEMENT**

## SUNDRY NOTICES AND REPORTS ON WELLS

| SUNDRY NOTICES AND REPORTS  | ON WELLS  | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME  |
|---|---|---|
| Do not use this form for proposals to drill, or to  | re-enter an   | Jicarilla Apache Nation   |
| abandoned well. Use Form 3160-3 (APD) for suc   | 7. IF UNIT OR CA, AGREEMENT DESIGNATION 19 19 CULT          |   |
| SUBMIT IN TRIPLICATE  |   |   |
| 1 TYPE OF WELL  |   | 8. WELL NAME AND NO.  |
| Oil Well Gas Well X Other:  |   | Jicarilla 29-02-04 21 RECE  |
| 2. NAME OF OPERATOR   |   | 9. API WELL NO.   |
| Black Hills Gas Resources, Inc.   |   | 30-039-27674 E DIST   |
| 3. ADDRESS AND TELEPHONE NO. CONTACT:   | Lynn Benally  | 10. FIELD AND POOL, OR EXPLORATORY AREA?  |
|   | 505.634.1111  | 1   |
| Bloomfield NM 87413 Fax:  | 505.634.1116  | East Blanco / Pictured Cliffs   |
| 4. LOCATION OF WELL (Footage, T, R, M, or Survey Description) 1,105' FNL 1,085' FWL Sec. 4  | Lot 4<br>T 29N R 2W   | 11. COUNTY OR PARISH, STATE Rio Arriba, New Mexico  |
| 12. CHECK APPROPRIATE BOX(s) TO INDICATE NAT  | URE OF NOTICE, REF  | PORT, OR OTHER DATA   |
| TYPE OF SUBMISSION  | <u></u>   | PE OF ACTION  |
| Notice of Intent Acidize  | X Deepen  | Production (start/resume) Water Shut-Off  |
| After the Fact Alter Casing   | Reclamation   | Reclamation Well Integrity  |
| Subsequent Report Casing Repair   | New Construction  | X Recomplete Other  |
| Change Plans  | Plug and Abandon  | Temorarily Abandon  |
| Final Abandonment Notice Convert to Injection   | Plug Back   | Water Disposal  |
| Required subsequent reports shall be filed within 30 days followin completion or recompletion in a new interval, a form 3160-4 shall only after all requirements, including reclamation, have been completed.  See violation letter day                   | be filed once testing has been pleted, and the operator has | en completed. Final Abandonment Notices shall be filed determined that the site is ready for final inspection.) |
| THE VIOLATION FETTO GOV   | ted 11/10/05  | •   |
| The APD for this well was submitted to Bureau of I<br>Oil Conservation Division (NMOCD) on May 13, 20<br>and given API#: 30-039-27674. Black Hills Gas Re<br>Pictured Cliffs formation with the horizontal bore e   | 003. The well was app<br>esources, Inc. plans to            | proved by the BLM on March 24, 2004,<br>o re-enter and directionally drill to the                               |
| Bond #: NMB000230   |   |   |
| 14. I hereby certify that the foregoing is true and correct  Name (Printed/Typed)  Kathy L. Schneebeck, 303.820.4480  | Title: Permit   | Agent for Black Hills Gas Resources, Inc.   |
| Signature Xarly & Schnecbeck  | Date: Februa  |   |
|   | FEDERAL OR STATE  |   |
| Approved by   | Title   | ACCEPTED FOR RECORD   |
| Conditions of approval, if any, are attached. Approval of this notice 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. | Office  | MAR 2 0 2006  |

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to parameter will be represented in the states any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

Nive two Survey Attached NINOCD

DISTRICT I P.O. Box 1980, Hobbs, N.M. 88241-1980

#### State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102 Revised June 10, 2003

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

OIL CONSERVATION DIVISION 1220 South St. Francis Dr.

Submit to Appropriate District Office State Lease - 4 Copies

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

na 11 02 Santa Fe, NM 87505

Fee Lease - 3 Copies

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

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

| <sup>4</sup> API Number<br>30-039-27674 | <sup>4</sup> Pool Code<br>72400 | E. Blanco PC            | *Pool Name San Jaco Terriary |                      |
|---|---------------------------------|-------------------------|------------------------------|----------------------|
| <sup>4</sup> Property Code              | <sup>8</sup> Pro                | perty Name<br>LA 29-2-4 |                              | *Well Number<br>21   |
| *OGRED No.<br>013925                    | •                               | GAS RESOURCES           |                              | * Elevation<br>7712' |

<sup>16</sup> Surface Location

| UL or lot no. | Section<br>4 | Township<br>29-N | Range<br>2-W | Lot idn | Feet from the 1105' | North/South line NORTH | Feet from the 1085' | Bast/West line<br>WEST | County<br>RIO ARRIBA |  |
|---------------|--------------|------------------|--------------|---------|---------------------|------------------------|---------------------|------------------------|----------------------|--|
|               |              |                  | 11 Rott      | om Hole | Location I          | f Different Fr         | om Surface          |                        |                      |  |

| UL or lot no.  | Section<br>4 | Township<br>29-N | Range<br>2-W | Lot Idn | Feet from the<br>1675' | North/South line NORTH | Feet from the<br>1894   | EAST | County<br>RIO ARRIBA |
|----------------|--------------|------------------|--------------|---------|------------------------|------------------------|-------------------------|------|----------------------|
| Dedicated Acre | ~0 IV        | 7                | 15 Joint or  | infill  | 4 Consolidation C      | ode                    | <sup>25</sup> 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

| MARKED STONE  LOT 4 00  LOT 3 LOT 2  LOT 1  LOT 3 LOT 2  LOT 1  LOT 3 LOT 2  LOT 1  LOT 4 00  LOT 3 LOT 2  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 3 LOT 3  LOT 2  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 3 LOT 2  LOT 1  LOT 3 LOT 2  LOT 1  LOT 1  LOT 3 LOT 3  LOT 2  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 1  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 1  LOT 3 LOT 2  LOT 1  LOT 3 LOT 3  LOT 2  LOT 1  LOT 3 LOT 3  LOT 2  LOT 3 LOT 3  LOT 4 LOT 3  LOT 3 LOT 3  LOT 4 LOT 3  LOT 4 LOT 3  LOT 3 LOT 3  LOT 4 LOT 3  LOT 4 LOT 3  LOT 5 LOT 3  LOT 5 LOT 5  LOT 1  L |             | OR A NON-STAIN                           | DAKD ONLL HAS B | BEN AFFROVED DI | THE DIVISION  |
|--|-------------|--|-----------------|-----------------|---|
| LAT. 36'45.5' N (NAD 83) BHL  Signature Kathy L. Schneebeck Printed Name Permit Agent for Black Hi Title February 2, 2006 Bata  18 SURVEYOR CERTIFICATIO I harving certify that the well tocation about an title was plotted from field notes of actual surveyor made or under my supervision, and that the same is true or cerved to the best of my belief.  Signature and Says right-beliefest Surveyor.  Signature and Says right-beliefest Surveyor.   | MARKED      | EAST                                     | 5280' (R)       |                 | 17 OPERATOR CERTIFICATION  I hereby cartify that the information contained herein is true and complete to the best of my knowledge and belief   |
| Permit Agent for Black Hi Title February 2, 2006  Date  18 SURVEYOR CERTIFICATIO  1 hereby certify that the well location shown on this was platted from field noise of actual surveys made or under my supervision, and that the same is true correct to the best of my belled.  100  Date of Survey  Signature and Sept phyriddshiped Surveyor:  | =           | LOT 3                                    | LOT 2           | LOT 1           |   |
| 16 SURVEYOR CERTIFICATIO  I hereby certify that the well location shown on this was platted from field notes of actual surveys made or under my supervision, and that the same is true correct to the best of my build.  Date of Survey  Signature and Sept supervision Surveyor:  | 6311.0' (M) | LAT. 36'45.5' N (NA<br>LONG. 107'03.2' W | D 83)           |                 | Kathy L. Schneebeck  Printed Name Permit Agent for Black Hill  Title February 2, 2006   |
| Date of Survey and Sept page Marie Surveyor:   |             |  |                 |                 | 18 SURVEYOR CERTIFICATION  I hereby certify that the well location shown on this plat was platted from field notes of actual surveys made by m or under my supervision, and that the same is true and |
| CALC'D VERSIONAL V   | <i>ω</i> .  | •  |                 |                 | Signature and Seed of Britishing Surveyor:  |

## Black Hills Gas Resources, Inc.

## Jicarilla 29-02-04 21

API#: 30-039-27674

**Surface:** 1,105' FNL 1,085' FWL (NW/4 NW/4) – Lot 4 **End of Horizontal Bore:** 1,675' FNL 1,894' FEL (SW/4 NE/4)

Sec. 4 T29N R2W

Rio Arriba County, New Mexico Lease: MDA 701-98-0013. Tract 4

#### DRILLING PROGRAM

This Sundry Notice is submitted per CFR 3162.3-2. The existing well pad and reserve pit will be utilized "as is."

## This is a horizontal entry into of the existing Jicarilla 29-02-04 21 well to the San Jose Tertiary Formation. See also the attached Horizontal Re-completion Plan.

<u>SURFACE FORMATION</u> – San Jose. Surface water protection plan: Surface casing will be cemented to surface.

**GROUND ELEVATION - 7,712' GL** 

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

## All Depths are True Vertical Depth (TVD)

| Surface | Sandstone, shales and siltstones     |
|---------|--------------------------------------|
| 2,466'  | Sandstone, shales and siltstones     |
| 3,634'  | Sandstone, shales and siltstones     |
| 3,812'  | Sandstone, shales and siltstones     |
| 4,054'  | Sandstone, shales and siltstones     |
| 4,280'  | Sandstone, shales and siltstones     |
|         | 2,466'<br>3,634'<br>3,812'<br>4,054' |

TOTAL DEPTH 3,991.50' TVD (projected end of horizontal hole)

6,208.00' MD (projected end of horizontal hole)

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

## **Tertiary**

| San Jose        | 1,333' | Gas |
|-----------------|--------|-----|
| Nacimiento      | 2,466' | Gas |
| Ojo Alamo       | 3,634' | Gas |
| Fruitland       | 4,054' | Gas |
| Pictured Cliffs | 4,280' | Gas |

## RE-ENTRY – HORIZONTAL DRILLING PROGRAM

- A) A 2,000-psi WP double-gated BOP will be installed on the tubing head with blind rams on bottom and pipe rams on top controlled by an accumulator placed within easy access to drill and other crew members.
- B) No annular preventor will be placed above BOP stack.
- C) There is currently no whipstock set in the hole.
- D) A bridge plug was placed at 1,700' in the San Jose.
- E) The current well spud on May 4, 2004.

- F) A DV Tool was initially set at 3,533' and drilled out at completion of the current well.
- G) Window to be milled out of 5-1/2" csg at  $\pm 3,570$ '.
- H) Kick-off Point is estimated to be at  $\pm 3,570$ °.

**CASING & TUBING PROGRAM** 

| True Vertical<br>Depth  | Hole<br>Diameter | Casing<br>Diameter | Casing Weight and<br>Grade | Cement                      |
|-------------------------|------------------|--------------------|----------------------------|-----------------------------|
| 0' - 235'               | 12-1/4"          | 8-5/8"             | K-55 24# ST&C              | To surface (previously set) |
| 0'-4,494'               | 7-7/8"           | 5-1/2"             | J-55 17# LT&C              | To surface (previously set) |
| 0' - 5,318' (MD)        | 4-3/4"           | 2-3/8"             | Tubing                     | None                        |
| 5,318' - 6,208'<br>(MD) | 4-3/4"           | Open hole          | None                       | None                        |

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

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**

3,570' - 6,208' MD

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

Inside BOP or stab-in valve (available on rig floor) B)

C) Mud monitoring will be visually observed

None anticipated. D) Testing:

## LOGGING, CORING, TESTING PROGRAM

A) Logging: None

B) Coring: None

C) Testing: A flow test will be run after completions but no other testing is anticipated.

## **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)

See H<sub>2</sub>S Plan if H<sub>2</sub>S is encountered.

Estimated bottomhole pressure: 1,240 psi D)

## **ANTICIPATED START DATE**

May 4, 2005

## **COMPLETION**

The location pad is of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8" J-55 4.7#/ft 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**

## 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:

- The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S).
- 2. The proper use and maintenance of personal protective equipment and life support systems.
- 3. The proper use of H<sub>2</sub>S 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<sub>2</sub>S 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<sub>2</sub>S 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<sub>2</sub>S Safety Equipment and Systems

Note: All H<sub>2</sub>S safety equipment and systems 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<sub>2</sub>S.

#### 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<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.
- 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  $H_2S$  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:

 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.