Form 3160-3 (April 2004)

# **UNITED STATES** 2006 NOUDEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT



DIST. 3 FORM APPROVED OMB No. 1004-0137

RCUD WAY 5 '08 OIL CONS. DIV.

Expires March 31, 2007

	Lease	Senal	No.
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MDA 701-98-0013, Tract 2

RECEIVED  ARPLICATION FOR PERMIT	TO DRILL OR DEEPEN	Jicarilla Apache Nation		
		7. If Unit or CA Agreement, Name and No.		
1a. Type of Work X DRILL REEN	TER			
1b Type of Well Oil Well X Gas Well Other	X Single Zone Multiple Zo	8. Lease Name and Well No.  Dicarilla 29-02-33 41		
2. Name of Operator E-mail:	lbenally@bhep.com	9. API Well No.		
Black Hills Gas Resources, Inc.	Contact: Lynn Benally	30-039-30119		
3a. Address P.O. Box 249	3b. Phone No. (include area of			
Bloomfield NM 87413	505-634-1111	East Blanco / Pictured Cliffs		
4. Location of Well (Report location clearly and in accordance with any State Re	equirements.*)	11. Sec., T., R., M., or Blk. and Survey or Area		
At surface 960' FSL 1,005' FWL	SW /4 SW /4	Sec. 33 T 29N R 2W		
Lat: 36.67768	Long: 107.054	M		
At proposed production zone		NMPM		
14. Distance in miles and direction from nearest town or post office. *		12. County or parish 13. State		
Well is located approximately 61 miles east of Bloomfi	eld, New Mexico.	Rio Arriba New Mexic		
15. Distance from proposed location to nearest Unit= n/a property of lease line, ft. (Also nearest Drig, unit	16. No. of acres in lease	17. Spacing Unit dedicated to this well		
line, if any)  Lease= ±7,625'	10240.00	160 5 14		
18. Distance from proposed location to nearest Jicarilla	19. Proposed depth	20. BLM/BIA Bond No. on file		
well, drilling, completed or applied for, on this ease, ft. 29-02-33	4,000' TVD	NMB000230		
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start *	23. Estimated duration		
7,225 ' GR	December 21, 2006	45–60 days drlg + completion		
	24. Attachments			
The following, completed in accordance with the requirements of Or	nshore Oil and Gas Order No. 1, shall be	attached to this form:		
1. Well plat certified by a registered surveyor.		ne operations unless covered by an existing bond		
2. A Drilling Plan.	on file (see Item			
<ol><li>A Surface Use Plan (if the location is on National Fore System Lands, the SUPO shall be filed with the appro</li></ol>		cation. specific information and/or plans as may be		
Forest Service Office).	· I	authorized officer.		
25. Signature	Name (Printed/Typed)	Date		
W) Asa	David F. Banko, 303-820	0-4480 November 21, 2006		
Title Permit Agent for Black Hills Gas Resource	ces, Inc.			
Approved by (Signature)	Name (Printed/Typed)	Date		
Allantestora		5/1/08		
Title AFM	Office FFG	<u> </u>		
Application approval does not warrant or certify that the applicant holds legal or thereon.	equitable title to those rights in the subject lease	e which would entitle the applicant to conduct operations		
Conditiona 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.

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT

**NMOCD** 

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

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

Form C-102 Revised October 12, 2005

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

DISTRICT III

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

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

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

<sup>1</sup> API Number

2006 NOV 24 AM 11 42 AMENDED REPORT

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

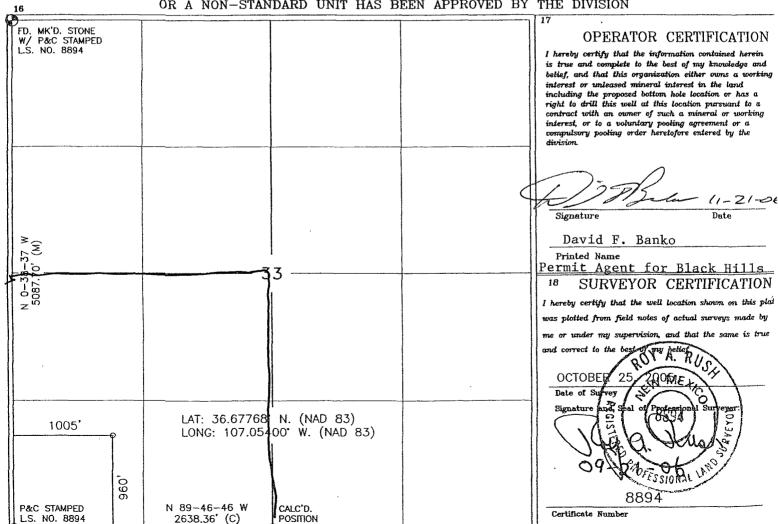
# WELL LOCATION AND ACREAGE DEDICATERON PLAT 070 FAR PODICITION NM Pool Code

20-039-30/19	12400 L. Blanco Pictured Cliff	s
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well Number
24250	JICARILLA 29-02-33	41
OGRID No.	<sup>8</sup> Operator Name	<sup>9</sup> Elevation
013925	BLACK HILLS GAS RESOURCES	7225
•	10	

Surface Location Lot Idn Feet from the North/South line Feet from the

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
М	33	29-N	2-W		960	SOUTH	1005	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
12 Dedicated Acres		18 Joint or	lnfill	<sup>14</sup> Consolidation C	ode	<sup>15</sup> Order No.			
160 acres - SW/4									

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



Submit 3 Copies To Appropriate District Office	State of New Me			Form C-103
District I	Energy, Minerals and Natur	ral Resources	WELL API NO.	May 27, 2004
1625 N. French Dr., Hobbs, NM 88240 District II			36.039	P1105.
1301 W. Grand Ave., Artesia, NM 88210	OIL CONSERVATION		5. Indicate Type of Lo	ease
<u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Fran		STATE	FEE
District IV 1220 S. St. Francis Dr., Santa Fe, NM	Santa Fe, NM 87	303	6. State Oil & Gas Le	ase No.
87505				
SUNDRY NOTICE (DO NOT USE THIS FORM FOR PROPOSAL	S AND REPORTS ON WELLS		7. Lease Name or Un	it Agreement Name
DIFFERENT RESERVOIR. USE "APPLICAT			Jicarilla	29-02-33
PROPOSALS.)  1. Type of Well: Oil Well O	as Well 🛛 Other:		8. Well Number	
	ias weit \( \sum \) Other.		4	1
2. Name of Operator Black Hills Gas Resources, Inc.	~		9. OGRID Number 013	025
3. Address of Operator			10. Pool name or Wil	
P.O. Box 249 Bloomfield, NM 87413			Picture	
4. Well Location .				· · · · · · · · · · · · · · · · · · ·
Unit Letter: M : 96	<u>0</u> feet from the <u>South</u> line	andfeet	from the <u>West</u> line	,
Section: 33 Towns		W NM I		lio Arriba
1	1. Elevation (Show whether DR,		:.)	
Pit or Below-grade Tank Application ⊠ or C	7,225'	GR		
Pit type: Drilling Pit Depth to Groundwa		n water well >1000	Distance from nearest surface	water > 200
		Construction Mater		
12. Check App	propriate Box to Indicate N	ature of Notice	, Report or Other Dai	:a
NOTICE OF INTE	ENTION TO:	SUI	<b>BSEQUENT REPO</b>	RT OF:
, <del>==</del>	LUG AND ABANDON	REMEDIAL WO		TERING CASING 🔲
TEMPORARILY ABANDON CHANGE PLANS COMMENCE DRILLING OPNS. P AND A			ND A	
PULL OR ALTER CASING   N	MULTIPLE COMPL	CASING/CEMEI	NT JOB L	
OTHER: Pit Registration		OTHER:		
13. Describe proposed or complete				
of starting any proposed work) or recompletion.	. SEE RULE 1103. For Multipl	le Completions: A	attach wellbore diagram o	f proposed completion
or recompletion.				
	Drilling Pit Re	gistration		
	2			
	•			
	1 1 1		11 1 0	
I hereby certify that the information about grade tank has been/will be constructed or close				
(1)2-46				1
SIGNATURE Office	FITLE: Permit Agent for Black	Hills Gas Resour	ces, Inc. DATE Nover	nber 21, 2006
Type or print name: David F. Banko	E-mail address: david@bank	ol com Telepl	none No. 303-820-4480	
Type of print name. David F. Banko	L-man address. Gavid@Dank	or.com relepi	ione ind. <i>Juj=020=440</i> V	
For State Use Only	W.	Januty Oil &	Gas Inspector,	
ADDROVED BY	7	Deputy On &		ATEMAY 0 5 2008
APPROVED BY:  Conditions of Approval (if any):	TITLE_	<b>D</b> .01	DA	TIENT O COUR
contraction of reproved (if unj).				

# Black Hills Gas Resources, Inc. **Jicarilla 29-02-33 41** 960' FSL 1,005' FWL (SW/4 SW/4) Sec. 33 T29N R2W

Rio Arriba County, New Mexico Lease: MDA 701-98-0013, Tract 2

## DRILLING PROGRAM

This Application for Permit to Drill (APD) was initiated 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 onsite meeting, which was held on October 31, 2006, as determined by Bureau of Indian Affairs (BIA) and Jicarilla Oil and Gas Administration (JOGA), and at which time the specific concerns of Black Hills Gas Resources, Inc. (Black Hills), BIA and JOGA were discussed.

# SURFACE FORMATION - San Jose

# **GROUND ELEVATION** - 7,225'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	2,145'	Sandstone, shales & siltstones
Ojo Alamo	3,174'	Sandstone, shales & siltstones
Kirkland	3,439'	Sandstone, shales & siltstones
Fruitland Coal	3,519'	Sandstone, shales & siltstones
Pictured Cliffs	3,575'	Sandstone, shales & siltstones
Lewis	3,673'	Sandstone, shales & siltstones
TOTAL DEPTH	4,000'	

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

# Tertiary

San Jose	surface	Gas
Nacimiento	2,145'	Gas
Ojo Alamo	3,174'	Gas
Fruitland Coal	3,519'	Gas
Pictured Cliffs	3,575'	Gas

#### 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)* **

<sup>\*</sup> Actual cement volume to be determined by caliper log.

#### Yields:

Surface: Standard Cement yield: =  $1.2 \text{ ft}^3/\text{sx}$  (mixed at 15.6 lb/gal)

Production: Lite Standard Cement yield: = 1.59 ft<sup>3</sup>/sx (mixed at 13.4 lb/gal)

 $50:50 \text{ POZ yield} = 1.27 \text{ ft}^3/\text{sx} \text{ (mixed at } 14.15 \text{ lb/gal)}$ 

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.

<sup>\*\*</sup> Cement will be circulated to surface.

# **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: Non

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 attached H<sub>2</sub>S plan in the event H<sub>2</sub>S is encountered.

D) Estimated bottomhole pressure: 1,240 psi

# ANTICIPATED START DATE

December 21, 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.

# 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<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.
- 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, 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<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  $H_2S$  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:

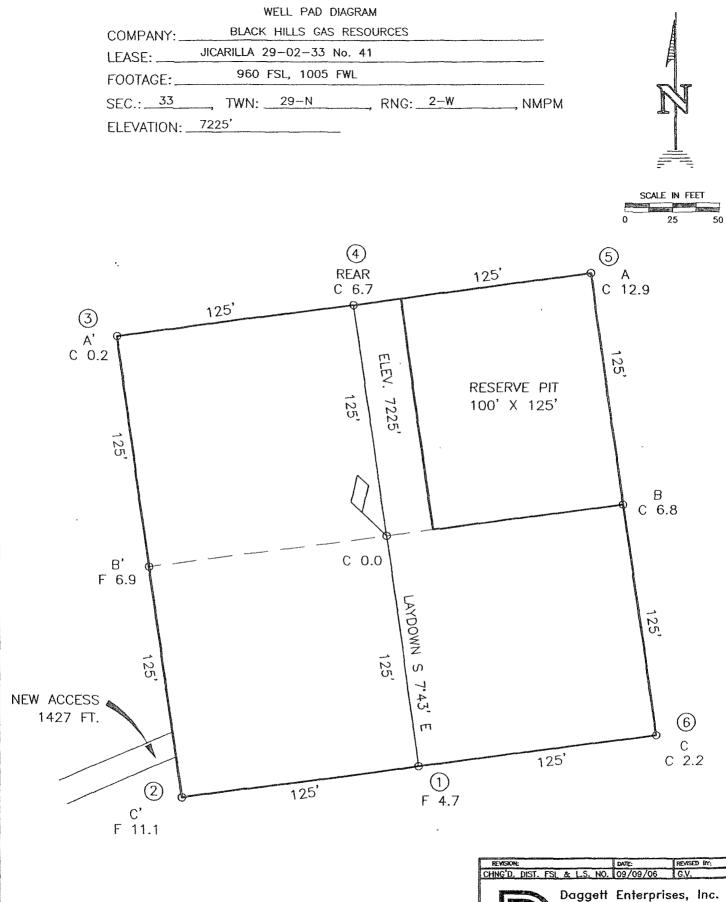
- 1. All drill strings, casings, tubing, wellhead, blowout preventors, drilling spools, kill lines, choke manifold and lines, and valves shall be suitable for  $H_2S$  service.
- 2. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

# 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.



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.



Daggerr Enterprises, Inc.

Surveying and Oil Field Services

P. O. Box 15068 · Farmington, № 87401

Phone (505) 326-1772 · Fax (505) 326-6019

NEW MEXICO L.S. 8894
ANN BY: B.L. CADRILE: MN481\_PLB

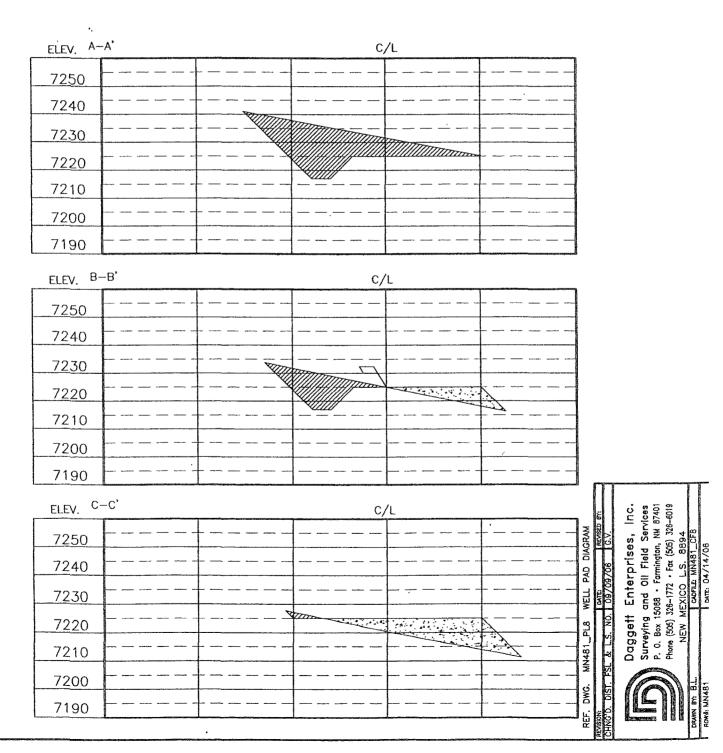
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# WELL PAD CROSS-SECTIONAL DIAGRAM

COMPANY:	BLACK HILLS GAS	RESOURCES	
LEASE:	JICARILLA 29-02-	-33 No. 41	
FOOTAGE:	960 FSL, 10	05 FWL	
SEC.: 33	, TWN:29-N	, RNG: <u>2-W</u>	, NMPM
FI EVATION:	7225'	•	

#### NOTE:

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# 2-M SYSTEM Black Hills Gas Resources, Inc.

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

