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Bureau of Land Management
Farmington Field Office

Form 3160-3
(August 2007)

FORM APPROVED
OMB NO. 1004-0137
Expires: July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
MDA 701-98-0013, Tract 4

6. If Indian, Allottee or Tribe Name
Jicarilla Apache

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

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

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

8. Lease Name and Well No.
Jicarilla 29-02-23 #44

2. Name of Operator
Black Hills Gas Resources

9. API Well No.
30039308 64

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

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

10. Field and Pool, or Exploratory
La Jara Canyon Tertiary

4. Location of well *(Report location clearly and In accordance with any State requirements.*)*
At surface **765' FSL 1,260' FEL SE/SE Unit P**
At proposed prod. zone **765' FSL 1,260' FEL SE/SE Unit P**

11. Sec., T., R., M., or Blk. And Survey or Area
Sec. 23 T29N R02W

14. Distance in miles and direction from the nearest town or post office*
25 Miles southwest from Dulce, New Mexico

12. County or Parish
Rio Arriba

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
Approx. 1,260'	**Approx. 9,600 acres**	**160 ACRES**

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/ BIA Bond No. on file
Approx. ±6,000'	+/- 1600' TVD ~~±2,000 TVD~~	**BIA - MMSP0267675**

21. Elevations (Show whether DF. RT, GR, etc.)	22. Aproximate date work will start*	23. Estimated duration
7,296' GR	**Nov-09**	**45-60 Days drill + completion**

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

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1 shall be attached to this form:

RCVD DEC 15 '09

H_2S POTENTIAL EXIST

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 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 a authorized officer.

OIL CONS. DIV.

DIST. 3

25. Signature	Name *(Printed/ Typed)*	Date
Daniel Manus	**Daniel Manus**	11/20/09

Title
Regulatory Technician

Approved By *(Signature)*	Name *(Printed/ Typed)*	Date
/s/ Stephen Mason		12/15/09

Title
AFM

Office
FFO

NOTIFY AZTEC OCD 24 HRS PRIOR TO CASING & CEMENT

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 cc 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 Unite States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

* *(Instructions on page 2)*

DEC 23 2009

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.

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

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

RECEIVED
NOV 20 2009
Bureau of Land Management
Farmington Field Office

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
30-039-30864	97036	LA JARA CANYON TERTIARY

[4] Property Code	[5] Property Name	[6] Well Number
37697	JICARILLA 29-02-23	44

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	BLACK HILLS GAS RESOURCES	7296

[10] Surface Location

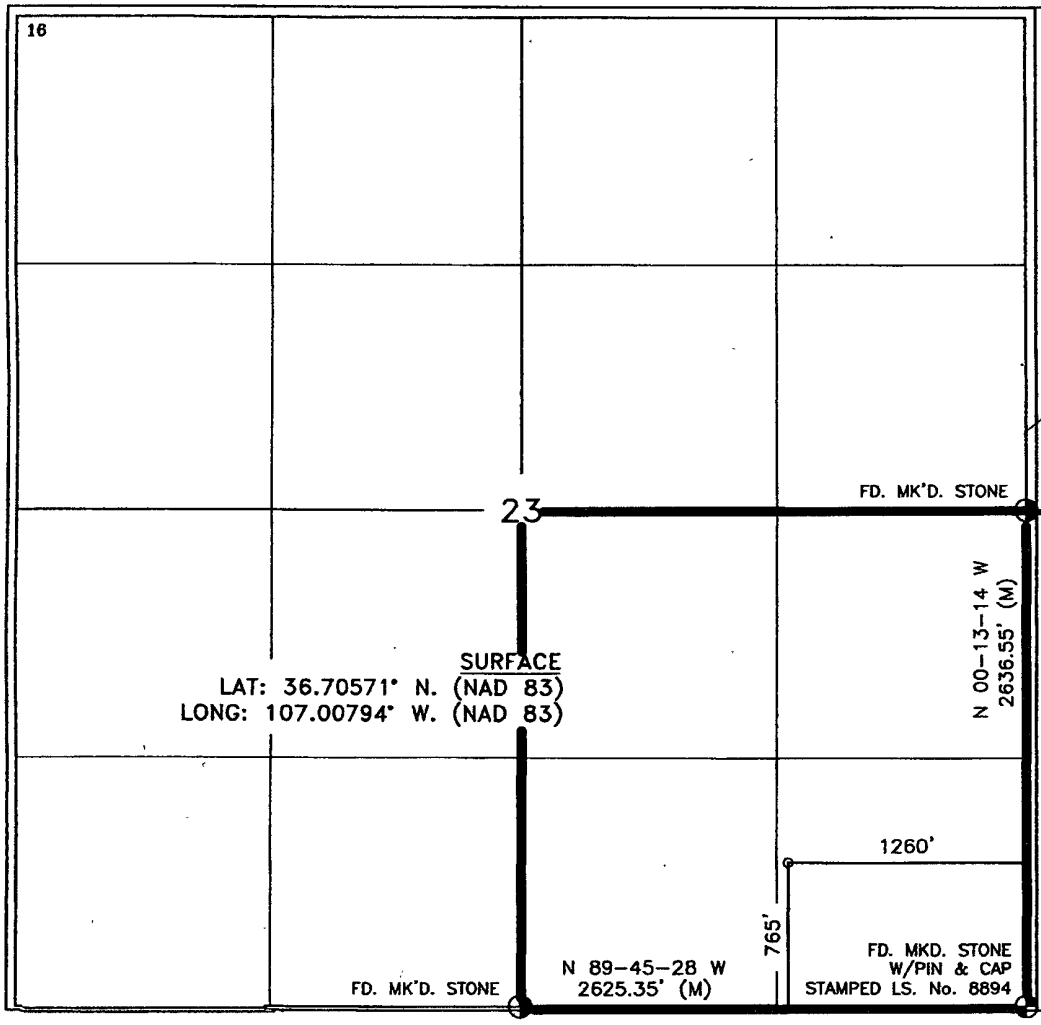
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	23	29-N	2-W		765	SOUTH	1260	EAST	RIO ARRIBA

[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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
E 160 - S/W/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



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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.

Daniel Manus 11/20/09
Signature Date

Daniel Manus
Printed Name

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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 knowledge and belief.

MAY 2[illegible]2008
Date of Survey

Signature and Seal of Professional Surveyor:

ROY A. RUSH
NEW MEXICO
8894
PROFESSIONAL LAND SURVEYOR
02-08

Certificate Number

Black Hills Gas Resources

Jicarilla 29-02-23 #44

S Surface Location: 765' FSL 1,260' FEL (SE/SE) Unit P

Sec.23 T29N R2W

Rio Arriba County, New Mexico

Lease: Contract MDA 701-98-0013, Tract 4

DRILLING PROGRAM

(Per Rule 320)

This Application for Permit to Drill (APD) was initiated under the NOS process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This NOS process includes an onsite meeting which was held on December 4, 2008 as determined by Bureau of Indian Affairs (BIA) and Jicarilla Oil & Gas Administration (JOGA) and at which time the specific concerns of Black Hills Gas Resources (BHGR), BIA, and JOGA were discussed.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,296'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,520'	Sandstone, shales & siltstones
TOTAL DEPTH	**1,600'**	**TVD**

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

San Jose	Surface	Gas, water, sand
Nacimiento	1,520'	Gas, water, sand

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0-250' TVD	11"	7"	J-55 20# ST&C New	To surface (± 175 sxs ClassG) **
0' - TD	6-1/4"	4-1/2"	J-55 10.5# LT&C New	TD to surface (± 630 sxs lite or 65:35 poz and ± 270 sxs 50:50 poz) *

* Actual cement volume to be determined by caliper log.

** Cement will be circulated to surface

Yields:

Surface: Standard cement yield: = 1.18 ft^3/sx (mixed at 15.60 lb/gal)

Production: Lite Standard Cement yield: 1.87 ft^3/sx (mixed at 12.4 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 1,500 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'	Fresh water- 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:	GR/SP/CAL – Resistivity/Conductivity – Neutron/Density – Bulk Density/RWA From TD to SC
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 attached H_2S plan in event H_2S is encountered.
D)	Estimated bottomhole pressure:	496 psi

ANTICIPATED START DATE
December 14, 2009

COMPLETION
The location pad will be of sufficient size to accommodate all completion activities and equipment. The well will be perforated based on log results. The well may be acid stimulated or frac stimulated if needed. 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.

Black Hills Gas Resources

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 tubular 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 will 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 will control drills for all personnel in each crew. The initial training sessions shell 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 required to carry documentation that they have received the proper training.

II. H2S safety equipment and Systems

Note: All H_2S safety equipment and systems (if necessary) will be in stalled, tested, and operational when drilling reaches a depth of 500 feet above the three days prior to penetrating the first zone containing or reason ably 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 Surniveair 30-minute units located in the doghouse and at briefing areas, as indicated on will 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 aqudilbesirens when H_2S levels of 10ppm.

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 programs 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 preventers, drilling spool, 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 lesting 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