

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2006 MAY 2 AM 6

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

APPLICATION FOR PERMIT TO DRILL OR REENTER RECEIVED

OTO EARTHINGTON

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. Jicarilla Contract 464
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name Jicarilla Apache Nation
2. Name of Operator Black Hills Gas Resources		7. If Unit or CA Agreement, Name and No.
3a. Address PO Box 249/3200 N 1st Street Bloomfield, NM	3b. Phone No. (include area code) 505-634-1111 ext 27	8. Lease Name and Well No. Jicarilla 464-2D
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface ⁹⁷⁵ 1000 FNL ⁸⁰⁵ 800 FWL NW/NW At proposed prod. zone 1035' FNL 805' FWL NW/NW		9. API Well No. 30-039-29887
14. Distance in miles and direction from nearest town or post office* 20 miles Southwest of Dulce, NM		10. Field and Pool, or Exploratory Dakota
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) Approx 4816 feet		11. Sec., T., R., M., or Blk. and Survey or Area D Sec. 32 T30N R3W NW/NW
16. No. of Acres in lease 2376 Acres		12. County or Parish Rio Arriba
17. Spacing Unit dedicated to this well 320 160 Acres N/A		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50 feet (Twin Loc)		20. BLM/BIA Bond No. on file NMB000230
19. Proposed Depth 8488 feet bgs		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7130GR
22. Approximate date work will start* 8/1/2006		23. Estimated duration 45-60 days Drig & Compl

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Lynn H. Benally</i>	Name (Printed/Typed) Lynn H. Benally	Date 4/26/06
Regulatory Specialist/Black Hills Gas Resources		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 8/16/06
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. 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.

*(Instructions on reverse)



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 30 039 29887	² Pool Code 71599	³ Pool Name BASIN DAKOTA
⁴ Property Code 20469	⁵ Property Name JICARILLA 464	⁶ Well Number 2D
⁷ GRID No. 013925	⁸ Operator Name BLACK HILLS GAS RESOURCES	⁹ Elevation 7130'

¹⁰ Surface Location

UL or lot no. D	Section 32	Township 30-N	Range 3-W	Lot Idn	Feet from the 975	North/South line NORTH	Feet from the 795	East/West line WEST	County RIO ARriba
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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 1.20 NL 320		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

16

SEC. CORNER FND MRK STONE W/ P & C	N 89-32-33 E 2652.03' (M)	CALC'D. CORNER
795'	LAT. 36.77297' N (NAD 83) LONG. 107.17943' W (NAD 83)	
S 00-57-51 E 2627.40' (M)		
CALC'D. CORNER	32	

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.

Daniel Manus 7/10/06
Signature Date
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.

JUNE 8, 2006
Date of Survey
Signature and Seal of Professional Surveyor

JOHN A. YUKONICK
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
14831
120
Certificate Number

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: <u>Black Hills Gas Resources</u> Telephone: <u>(505) 634-1111 ext 27</u> e-mail address: <u>lbenally@bhep.com</u>		
Address: <u>3200 N 1st Street PO Box 249 Bloomfield, NM 87413</u> <u>30-039-29887</u>		
Facility or well name: <u>Jicarilla 464 #2D</u> API #: <u>NA</u> U/L or Qtr/Qtr <u>NW/NW</u> Sec <u>32</u> T <u>30N</u> R <u>3W</u>		
County: <u>Rio Arriba</u> Latitude _____ Longitude _____		NAD: 1927 <input type="checkbox"/> 1983 <input checked="" type="checkbox"/>
Surface Owner: Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Indian <input checked="" type="checkbox"/>		
Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>15</u> mil Clay <input type="checkbox"/> Pit Volume <u>5,000</u> bbl	Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not. _____	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet	(20 points)
	50 feet or more, but less than 100 feet	(10 points)
	100 feet or more	(0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)
	No	(0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)
	200 feet or more, but less than 1000 feet	(10 points)
	1000 feet or more	(0 points)
Ranking Score (Total Points)		0 points

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☐ offsite ☐ If offsite, name of facility _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described 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 ☐.

Date: 42606

Printed Name/Title Lyn H. Benally / Regulatory Specialist Signature for Lyn H Benally

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval: DEPUTY OIL & GAS INSPECTOR, DIST. 1

Printed Name/Title _____

Signature [Signature]

Date AUG 21 2006

DISTRICT I
1625 N. Fren

DISTRICT
130

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Black Hills Gas Resources

Jicarilla 464 #2D
1035' FNL 805' FWL (NW/NW)
Sec.32 T30N R3W
Rio Arriba County, New Mexico
Lease: Contract 464

CONFIDENTIAL

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 July 21, 1987 as determined by Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA) and Jicarilla Oil & Gas Administration (JOGA), and at which time the specific concerns of Robert L. Bayless Oil Company (Bayless) the predecessor of BHGR, included in the meeting were BLM, BIA and JOGA.

BHGR RESPECTFULLY REQUESTS THAT ALL INFORMATION REGARDING THIS WELL BE KEPT CONFIDENTIAL.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,126'

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

San Jose	Surface	Sandstone, shales & siltstones
Ojo Alamo	3,216'	Sandstone, shales & siltstones
Pictured Cliffs	3,734'	Sandstone, shales & siltstones
Lewis	3,832'	Sandstone, shales & siltstones
Cliffhouse	5,703'	Sandstone, shales & siltstones
Point Lookout	6,090'	Sandstone, shales & siltstones
Mancos	6,565'	Sandstone, shales & siltstones
Gallup	7,370'	Sandstone, shales & siltstones
Dakota	8,263'	Sandstone
Morrison	8,488'	Sandstone

TOTAL DEPTH 8,688'

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

Ojo Alamo	3,281'	Gas, water, sand
Pictured Cliffs	3,826'	Gas, water, sand
Lewis	3,911'	Gas, water, sand, shale
Cliffhouse	5,797'	Gas, water, sand, shale
Point Lookout	6,184'	Gas, water, sand, shale
Mancos	6,658'	Gas, water, sand, shale
Gallup	7,463'	Gas, oil, water, sand, shale
Dakota	8,357'	Gas, water, sand, shale
Morrison	8,582'	

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0-300'	12-1/4"	9 5/8"	J-55 36# ST&C	+/- 305 sxs Class B
0-3908	8-3/4"	7"	N_80 23# LT&C	+/- 792 sxs lite or 65:35 poz and +/- 166 sxs 50:50 poz
3908-TD	6-1/8"	4-1/2"	L-80 11.6# LT&C	+/- 656 sxs lite or 65:35 poz and +/- 206 sxs 50:50 poz

* Actual cement volume to be determined by caliper log.

Yields: Class B yield = 1.18 ft³/sx
 65:35 Poz yield = 1.62 ft³/sx
 50:50 Poz yield = 1.26 ft³/sx

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' - 3908'	Fresh water - Low solids non-dispersed M.W. 8.5 - 9.2 ppg Vis - 28 - 50 sec W.L. 15cc or less
3908' - 8,688'	Air - Deliver ± 2400 SCFM (Air) @ 1700 psi & 35 gpm fluid.

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 attached H₂S plan in event H₂S is encountered.
- D) Estimated bottomhole pressure: 2720 psi

ANTICIPATED START DATE

June 1, 2006

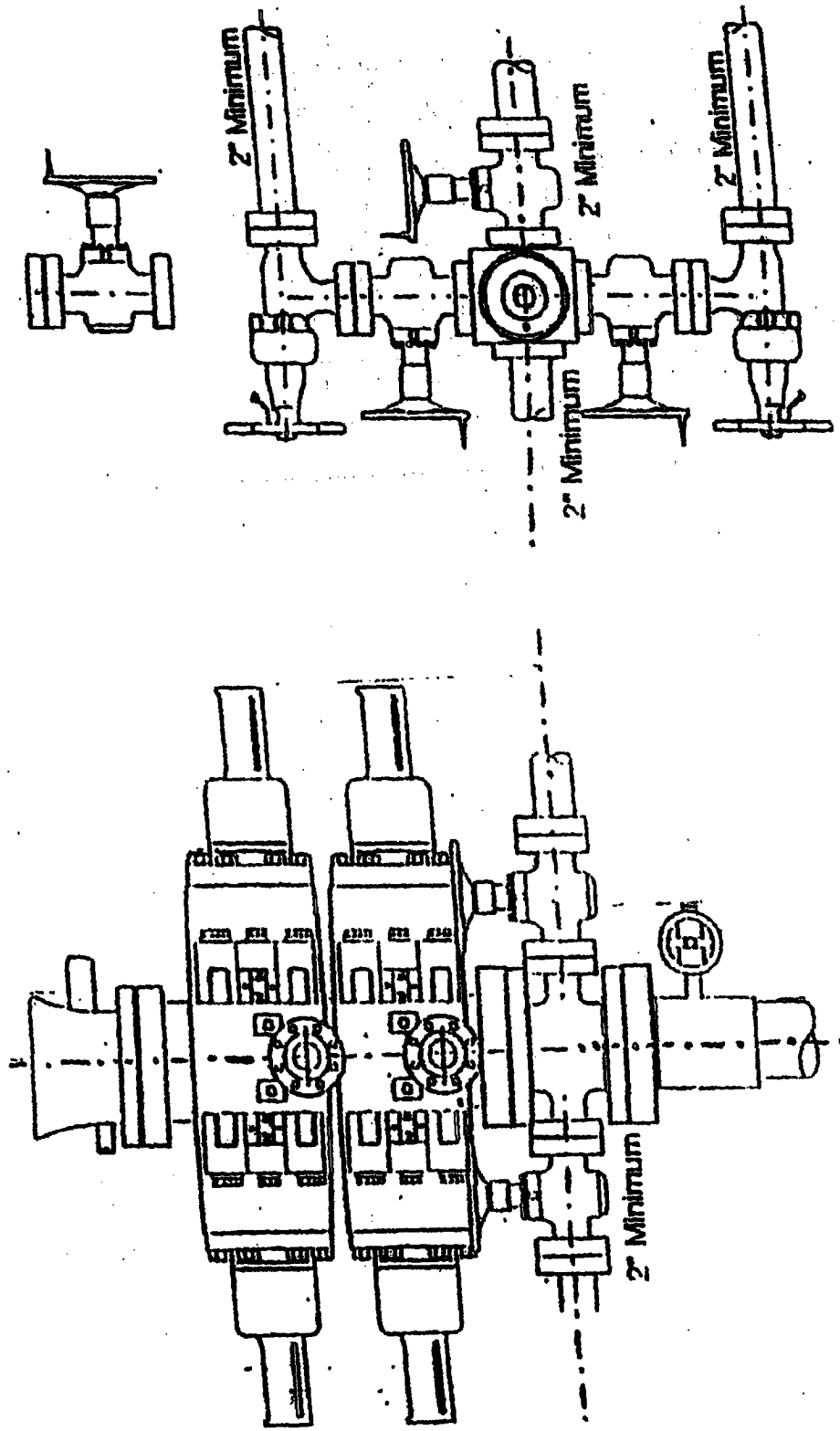
COMPLETION

The location pad will be 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.

2-M SYSTEM

Black Hills Gas Resources, Inc.

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





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 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 sessions 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 the 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 Surniveair 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 aquilbesirens when H₂S 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 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 preventers, drilling spool, 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.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.FORM APPROVED
OMB No. 1004-0135
Expires: January 31, 2004**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Black Hills Gas Resources, Inc.

3a. Address

3200 N 1st Street PO Box 249 Bloomfield, NM 87413

3b. Phone No. (include area code)

505-634-1111

4. Location of Well (Footage, Sec., T, R., M., or Survey Description)

At surface 975' FNL 795' FWL NW/NW Unit D

At propose bottom hole 975' FNL 795' FWL NW/NW Unit D

5. Lease Serial No.

Jicarilla 464

6. If Indian, Allottee or Tribe Name

Jicarilla Apache Tribe

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

1 19

8. Well Name and No.

Jicarilla 464 #2D

9. API Well No.

30039 29887

10. Field and Pool, or Exploratory Area

Basin Dakota

11. County or Parish, State

Rio Arriba, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Fracture Treat☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other Change footage

3. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

On June 7, 2006 the Jicarilla 464 #2D was on-sited with Jicarilla Oil and Gas, BIA, and Black Hills Gas Resource. Based on the on-site, the intial footage of 1,035' FNL and 805' FWL was change to 975' FNL and 795' FWL

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Daniel R. Manus

Title Regulatory Technician

Signature

Date July 10, 2006

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by (Signature)

Name
(Printed/Typed)

Title

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

Date

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.

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