Form 3160-5
(September 2001)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires: January 31, 2004

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.

2007 MAR 26 PM 1:42

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No.
MDA 701-98-0013, Tract 1

6. If Indian, Allottee or Tribe Name
Jicarilla Apache Tribe

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

1. Type of Well
☐ Oil Well ☑ Gas Well ☐ Other

8. Well Name and No.
Jicarilla 29-03-13 #31

2. Name of Operator
Black Hills Gas Resources, Inc. Contact: Lynn H. Benally/Daniel Manus

9. API Well No.
30-039-29497

3a. Address
3200 N 1st Street/PO Box 249 Bloomfield, NM 87413

3b. Phone No. *(include area code)*
505-634-1111 ext 27, ext 28

10. Field and Pool, or Exploratory Area

4. Location of Well *(Footage, Sec., T, R., M., or Survey Description)*
Surface: 1,855' FSL 645' FWL NW/SW Sec 13 T29N R3W Unit L

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

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 recomplete 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 recompletion 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.)

The initial APD to drill a Picture Cliffs (PC) well was approved on February 10, 2006. The well was given API number 30-039-29497. After evaluation of drilling data in the imediate area, BHGR has determined that this well is best drilled to the San Jose formation. BHGR is submitting an updated drilling plan, and a revised C-102, to change the well from a PC to a San Jose.

Surface disturbance will not change from the initial APD, therefore the Surface Use Plan will not be updated or modified.

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OIL CONS. DIV. DIST. 3

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

Title Regulatory Specialist

Signature

Date 3/26/2007

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by *(Signature)* Original Signed: Stephen Mason

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
MAR 28 2007

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.

(Continued on next page)

NMOCD

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

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BLM

Form C-102
Revised June 10, 2003
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
30-039-29497	97036	LA JARA CANYON, TERTIARY

[4] Property Code	[5] Property Name	[6] Well Number
27960	JICARILLA 29-03-13	31

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	BLACK HILLS GAS RESOURCES	7065'

[10] Surface Location

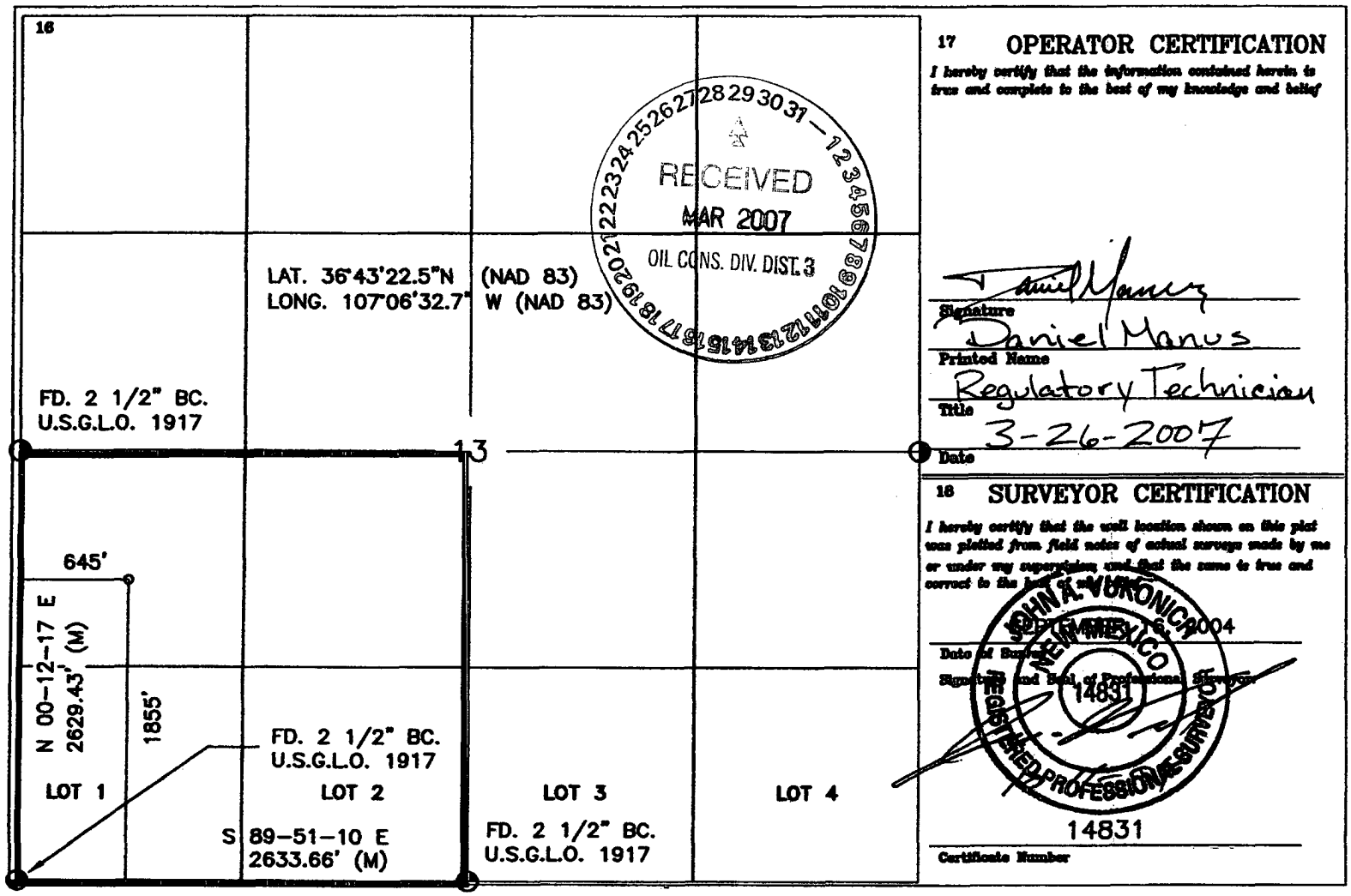
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	13	29-N	3-W		1855	SOUTH	645	WEST	RIO ARRIBA

[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	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
159.27 - 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



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OIL CONS. DIV. DIST. 3

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Signature

Daniel Manus
Printed Name

Regulatory Technician
Title

3-26-2007
Date

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.

DECEMBER 16, 2004
Date of Survey

Signature and Seal of Professional Surveyor

JOHN A. VUKONICH
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR

14831
Certificate Number

Black Hills Gas Resources

Jicarilla 29-03-13 #31
Surface: 1,855' FSL 645' FWL NW/SW
Sec 13 T29N R3W Unit L
Rio Arriba County, New Mexico
Lease: MDA 701-98-0013, Tract 1

DRILLING PROGRAM
(Per Rule 320)

The 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 APD process includes an onsite meeting which was held on August 26, 2004 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 Black Hills Gas Resources (BHGR) were discussed.

This well was originally permitted and approved as a vertical Dakota well on February 10, 2006. This new drilling plan addresses changing the un-drilled Pictured Cliffs well to a San Jose well.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,065'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,890'	Sandstone, shales & siltstones
TOTAL DEPTH	**3,200'**	**TD**

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

Nacimiento	1,890'	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 ClassB) **
0' - TD	7-7/8"	5-1/2"	J-55 15.5# 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.

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'	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 well site.

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)	H_2S:	See attached H_2S plan in event H_2S is encountered.
D)	Estimated bottomhole pressure:	992 psi

ANTICIPATED START DATE

May 28, 2007

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# tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Jicarilla 29-03-13 #31
Surface: ,855' FSL 645' FWL NW/SW
Sec 13 T29N R3W Unit L
Rio Arriba County, New Mexico
Lease: MDA 701-98-0013, Tract 1

SURFACE CASING AND CENTRALIZER DESIGN

Proposed Total Depth: 3,200 '
Proposed Depth of Surface Casing: 250 '
Estimated Pressure Gradient: 0.31 psi/ft
Bottom Hole Pressure at '
0.31 psi/ft x 3,200 ' = 992 psi
Hydrostatic Head of gas/oil mud: 0.22 psi/ft
0.22 psi/ft x 3,200 ' = 704 psi

Maximum Design Surface Pressure

Bottom Hole Pressure	–	Hydrostatic Head	=
(0.31 psi/ft x 3,200 ')	–	(0.22 psi/ft x 3,200 ')	=
992 psi	–	704 psi	= 288 psi

Casing Strengths 9 5/8 J-55 24# ST&C

Wt.	Tension (lbs)	Burst (psi)	Collapse (psi)
36 #	394,000	3,520	2,020
40 #	452,000	2,950	2,570

Safety Factors

Tension (Dry): 1.8 Burst: 1.0 Collapse: 1.125

Tension (Dry): 36 # / ft x 250 ' = 9,000 #
Safety Factor = 394,000 / 9,000 = 43.78 ok

Burst: Safety Factor = 3,520 psi / 288 psi = 12.22 ok

Collapse: Hydrostatic = 0.052 x 9.0 ppg x 250 ' = 117 psi
Safety Factor = 2,020 psi / 117 psi = 17.26 ok

Use 250 ' 9.625 J-55 24# ST&C

Use 2,000 psi minimum casinghead and BOP's but will test to 1,000 psi

Centralizers
5 Total
1 near surface at 40'
2 -1 each at middle of bottom joint, second joint
2 -1 each at every other joint 40' spacing
Total centralized ± 200 ' (50 ' – 250 ')

Note that field experience indicates that additional centralizers greatly increase the chance of "sticking" the surface casing prior to reaching surface casing total depth.