

3-1-1000

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

David Martin  
Cabinet Secretary

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

Jami Bailey, Division Director  
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-4 or 3160-5 form.

Operator Signature Date: 8/15/14

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-039-30316-00-00	JICARILLA 31 03 32	031	BLACK HILLS GAS RESOURCES, INC.	G	A	Rio Arriba	J	L	32	31	N	3	W

Application Type:

- P&A   
  Drilling/Casing Change   
  Location Change  
 Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84)  
 Other:

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

Extend Kirtland plug down to 3480 feet

NMOCD Approved by Signature

08/25/2014  
Date

ROUND AUG 27 14  
 OIL & GAS DIV.  
 DIST. 3  
 FORM APPROVED  
 OMB No. 1004-0137  
 Expires: July 31, 2010

RECEIVED  
 AUG 15 2014

Form 3160-5  
 (August 2007)

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.

**SUBMIT IN TRIPLICATE - Other Instructions on page 2.**

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
**Black Hills Gas Resources, Inc.**

3a. Address **P.O. Box 249 Bloomfield, NM 87413**  
 3b. Phone No. (include area code) **(505) 634-5104**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**1660' FSL & 805' FWL NW/SW Section 32 T31N R3W (UL: L)**

5. Lease Serial No.  
**MDA 701-90-0002**

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

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

8. Well Name and No.  
**Jicarilla 31-03-32 #31**

9. API Well No.  
**30-039-30316**

10. Field and Pool, or Exploratory Area  
**East Blanco Pictured Cliffs**

11. County or Parish, State  
**Rio Arriba County, New Mexico**

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/ Resume)	<input type="checkbox"/> Water Shut-off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug back	<input type="checkbox"/> Water Disposal	

13. 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 the 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 Notice 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.)

Per the Notice of Intent dated July 16, 2014, to plug and abandon Jicarilla 31-03-32 #31, Black Hills Gas Resources is submitting the attached plug and abandon procedure.

BHGR will be using a closed loop system.

SEE ATTACHED FOR  
 CONDITIONS OF APPROVAL

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



H<sub>2</sub>S POTENTIAL EXIST

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

**Daniel Manus** Title **Regulatory Technician II**

Signature *Daniel Manus* Date **August 15, 2014**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by **Troy Salvers** Title **Petroleum Eng.** Date **8/25/2014**

Office **FFO**

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.

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 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 page 2)

NMOCDD

# PLUG AND ABANDONMENT PROCEDURE

August 14, 2014

## Jicarilla 31-03-32 #31

### East Blanco Pictured Cliffs

Surface 1660' FSL, 805' FWL, Section 32, T31N, R3W, Rio Arriba County, NM

API 30-039-30316 / Long: \_\_\_\_\_ / Lat: \_\_\_\_\_

Note: All cement volumes use 100% excess outside pipe and 50' excess inside. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures. All cement will be Class B, mixed at 15.6 ppg with a 1.18 cf/sx yield.

This project will use of an A-Plus steel tank to handle waste fluids circulated from the well and cement wash up.

1. Install and test location rig anchors. Comply with all NMOCD, BLM, and Operator safety regulations. MOL and RU daylight pulling unit. Conduct safety meeting for all personnel on location. Record casing, tubing and bradenhead pressures. NU relief line and blow down well. Kill well with water as necessary and at least pump tubing capacity of water down the tubing. ND wellhead and NU BOP. Function test BOP.
2. Rods: Yes X, No \_\_\_\_\_, Unknown \_\_\_\_\_  
Tubing: Yes X, No \_\_\_\_\_, Unknown \_\_\_\_\_, Size 2-3/8", Length 4070'  
Packer: Yes \_\_\_\_\_, No X, Unknown \_\_\_\_\_, Type \_\_\_\_\_  
If this well has rods or a packer, then modify the work sequence in step #2 as appropriate.
3. **Plug #1 (Pictured Cliffs interval and Fruitland top, 4050' – 3700')**: Round trip 7" casing scraper to 4050' or as deep as possible. RIH and set 7" Hydro-set CIBP at 4050'. Pressure test tubing to 1000#. Pressure test casing to 800#. If casing does not test then spot or tag subsequent plugs as appropriate. Mix 75 sxs Class B cement and spot a balanced plug above CIBP, inside the casing, to isolate the Pictured Cliffs interval and cover the Fruitland top. PUH.  
*See COA*
4. **Plug #2 (Kirtland and Ojo Alamo tops, 3465' – 3163')**: Mix 66 sxs Class B cement and spot a balanced plug inside the casing to cover the Kirtland and Ojo Alamo tops. PUH.  
*See COA*
5. **Plug #3 (Nacimiento top, 2020' – 1920')**: Mix 29 sxs Class B cement and spot a balanced plug inside the casing to cover Nacimiento top. PUH.
6. **Plug #4 (Surface, 317' - Surface)**: Attempt to pressure test the bradenhead annulus to 300 PSI; note the volume to load. If the BH annulus holds pressure, then establish circulation out casing valve with water. Mix approximately 65 sxs cement and spot a balanced plug from 317' to surface, circulate good cement out casing valve. TOH and LD tubing. Shut well in and WOC. If the BH annulus does not test, then perforate at the appropriate depth and attempt to circulate cement to surface filling the casings to surface. Shut in well and WOC.
7. ND BOP and cut off wellhead below surface casing flange. Install P&A marker with cement to comply with regulations. Record GPS coordinate for P&A marker on tower report. Photograph P&A marker in place. Cut off anchors and clean up location. Restore location per BLM stipulations.

6/26/2014

**Jicarilla 31-03-32 #31**  
**CURRENT Wellbore Diagram**

API # 30-039-30316

NESW Sec 32, T31N, R3W Rio Arriba, NM

Spud 10/2/2007  
Compl 11/27/2007

7096' GL  
7108' KB

12 1/4" hole

**SURFACE CASING**

9 5/8", 36#, J-55 casing @ 267'.  
Cmt w/ 165 sx. Circ 13 bbls cmt to surface.

8 3/4" hole

**Tbg Detail (11/3/08):**

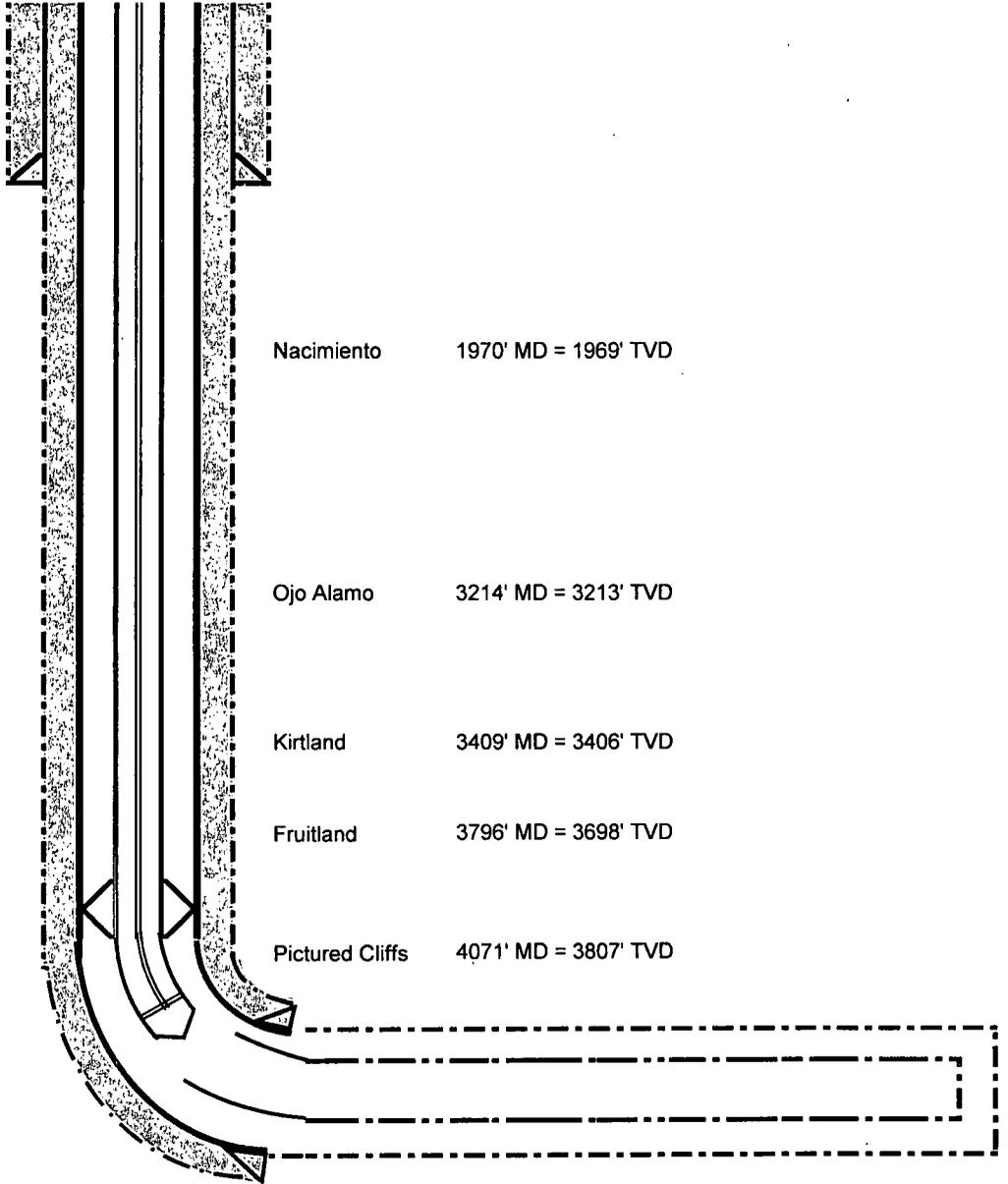
2 7/8" x 8' pup jt  
123 jts 2 7/8" J-55 tbg  
Hydro set tbg anchor 3892'  
4 jts 2 7/8" tbg  
SN 4020'  
2 - 2 7/8" perf subs  
2 7/8" x 3 1/2" XO  
3 1/2" x 8' pup jt  
1 jt 3 1/2" tbg  
3 1/2" bullplug 4070'

**Rod & Pump Detail:**

3 - 7/8" pony rods  
58 - 7/8" rods  
55 - 3/4" rods  
6 - 1.5" Kbars  
39 - 3/4" guided rods, 5per  
3 - 3/4" pony rods w/guides  
2' rod sub  
2 x 1 1/4 x 20' RHAC

**PROD CASING**

7", 23#, J-55 casing @ 4131' MD.  
Cmt w/ 850 sx. Circ 25 bbls cmt to surface.



6 1/8" lateral hole from 4131' to 7145' MD  
inclination at 4131' = 70 degrees

**Liner Detail:**

4 1/2", 11.6#, J-55 liner (uncemented)  
Top of liner (H Latch tool) at 4080'  
Bottom of liner at 7145'  
7 pre-perfed jts with tops at 4293', 4752', 5204', 5690', 6188', 6651', 7103'. Each jt has 38 - 0.75" holes.

8/14/2014

Jicarilla 31-03-32 #31

PROPOSED P&A

API # 30-039-30316

NESW Sec 32, T31N, R3W Rio Arriba, NM

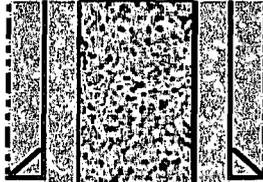
Spud 10/2/2007  
Compl 11/27/2007

7096' GL  
7108' KB

12 1/4" hole

**SURFACE CASING**

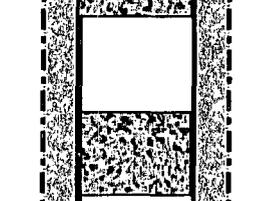
9 5/8", 36#, J-55 casing @ 267'. Cmt w/ 165 sx. Circ 13 bbls cmt to surface.



Plug #4: 317' - 0'  
Class B cement, 65 sxs

8 3/4" hole

Nacimiento 1970' MD = 1969' TVD

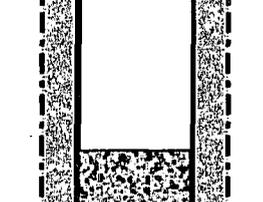


See COA

Plug #3: 2020' - 1920'  
Class B cement, 29 sxs

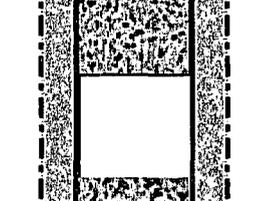
Ojo Alamo 3214' MD = 3213' TVD

Kirtland 3409' MD = 3406' TVD



Plug #2: 3465' - 3163'  
Class B cement, 66 sxs

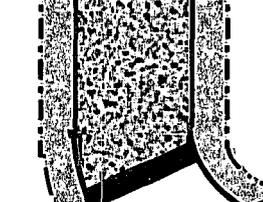
Fruitland 3796' MD = 3698' TVD



See COA

Plug #1: 4050' - 3700'  
Class B cement, 75 sxs

Pictured Cliffs 4071' MD = 3807' TVD



Set Hydro-set CIBP at 4050'

**PROD CASING**

7", 23#, J-55 casing @ 4131' MD. Cmt w/ 850 sx. Circ 25 bbls cmt to surface.

6 1/8" lateral hole from 4131' to 7145' MD  
inclination at 4131' = 70 degrees

**Liner Detail:**

4 1/2", 11.6#, J-55 liner (uncemented)  
Top of liner (H Latch tool) at 4080'  
Bottom of liner at 7145'  
7 pre-perfed jts with tops at 4293', 4752', 5204', 5690', 6188', 6651', 7103'. Each jt has 38 - 0.75" holes.

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
FARMINGTON DISTRICT OFFICE  
6251 COLLEGE BLVD.  
FARMINGTON, NEW MEXICO 87402

Attachment to notice of  
Intention to Abandon:

Re: Permanent Abandonment  
Well: Jicarilla 31-03-32 #31

CONDITIONS OF APPROVAL

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Leases."
2. Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 564-7750.
3. The following modifications to your plugging program are to be made:
  - a) Bring the top of plug #1 to 3650 ft. to cover the Pictured Cliffs and Fruitland tops. Adjust cement volume accordingly.
  - b) Set plug #3 (2050-1950) ft. to cover the Nacimiento top.

Note: H<sub>2</sub>S has not been reported in this section; however, high to very high concentrations of H<sub>2</sub>S (400-1085) ppm GSV have been reported in wells within a 1 mile radius of this location. It is imperative that H<sub>2</sub>S monitoring and safety equipment be on location during the P&A operations at this wellsite.

You are also required to place cement excesses per 4.2 and 4.4 of the attached General Requirements.

Office Hours: 7:45 a.m. to 4:30 p.m.