

RECEIVED

Form 3160-5  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT *Farrington Field*

JAN 12 2015

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

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.

5. Lease Serial No. *NMNM-09163*

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.  
*aka North Kirtland Unit #1*  
Humble Oil #1

9. API Well No.  
30-045-09404

10. Field and Pool, or Exploratory Area  
Basin Dakota /Gallup

11. County or Parish, State  
San Juan, NM

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
BHP Billiton San Juan Coal

3a. Address  
PO Box 561, Water Flow, NM 87421

3b. Phone No. (include area code)  
505-598-2000

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1230' FNL and 998' FEL, Sec. 19, T-30-N, R-14-W

12. CHECK APPROPRIATE BOX(ES) 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"/> Alter 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 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.)

BHP Billiton San Juan Coal, as the coal zone mineral lessee, desires to re-enter this well and plug it in accordance with MSHA regulations per the attached procedure.

Also request approval to set an underground plate instead of a 4" above ground marker to prevent stray electrical currents from entering the underground coal mine.

A closed loop system will be utilized for waste fluid.

Notify NMOCD 24 hrs prior to beginning operations

SEE ATTACHED FOR CONDITIONS OF APPROVAL

RECEIVED  
JAN 15 2015  
NMOCD  
DISTRICT III

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

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

Eric Herth

Title Mine Geologist

Signature

Date

01/12/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by *Troy Salvess*

Title PE

Date 1/13/2015

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 FFO

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 page 2)



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

NMOCD AV

**Humble Oil #1**  
**As Plugged 7/1/1958**  
**Basin Dakota / Wildcat Gallup**

1230' FNL, 998' FEL, Section 19, T-30-N, R-14-W, San Juan County, NM

Lat: \_\_\_\_\_ / Long: \_\_\_\_\_ API #30-045-09404

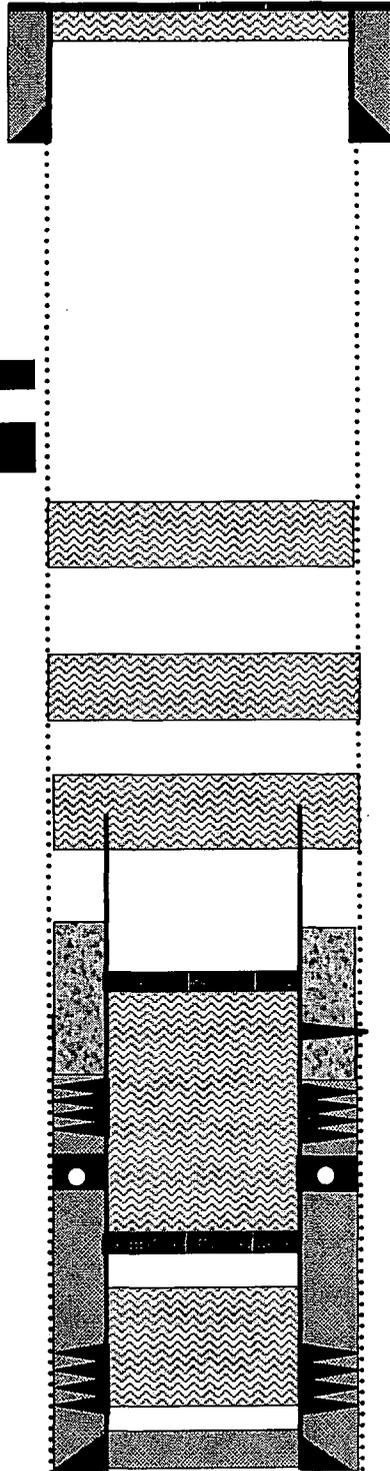
Today's Date: 12/30/14

Spud: 4/26/58

Completed / Plugged: 7/01/58

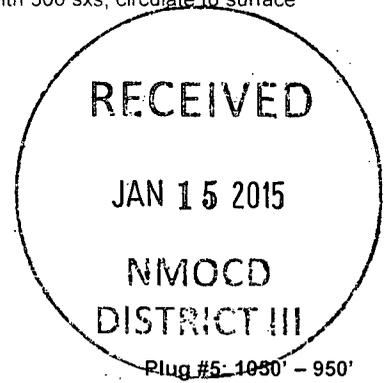
Elevation: 5486' GL

12.25" hole



Plug #6: 25' at surface

8.625", 24#, set @ 308'  
 Cement with 300 sxs, circulate to surface



Fruitland @ 790'

Fruitland Coal Seam #9: 854' - 859'

Fruitland Coal Seam #8: 973' - 986'

Pictured Cliffs @ 1010'

Plug #5: 1050' - 950'  
 35 sxs in 1958, PC top

Plug #4: 2100' - 1900'  
 75 sxs in 1958, MV top

Mesaverde @ 2522'

Cut Casing @ 2578'

Plug #3: 2628' - 2528'  
 35 sxs in 1958, on casing stub

Mancos @ 3740'

Annulus Sqz TOC @ 4550' (1958)

Set CR @ 4970' to p&a Gallup perms (1958)

Perforate at 5050'; annulus sqz with 110 sxs (1958)

DV Tool TOC @ 5140'

Gallup Perforations: 5030' - 5120'  
 Plug #2: 5400' - 4970'  
 75 sxs into Gallup perms

DV Tool @ 5195'  
 Cement with 210 sxs

Set CIBP at 5400' after sqz g Dk perms (1958)

Gallup @ 4765'

Plug #1: 5678' - 5398'  
 Dakota Perforations: 5658' to 5689'  
 35 sxs into Dakota perms  
 Tested and abandoned (1958)

Dakota @ 5600'

5.5", 24# casing @ 5870'  
 Cement with 190 sxs

7.875" Hole

TD 5873'

# A-PLUS WELL SERVICE, INC.

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## PLUG AND ABANDONMENT PROCEDURE

December 30, 2014

### Humble Oil #1

Basin Dakota / Wildcat Gallup  
1230' FNL and 998' FEL, Section 19, T30N, R14W  
San Juan County, New Mexico / API 30-045-09404

Lat: \_\_\_\_\_ / Long: \_\_\_\_\_

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- Note: All cement volumes use 100% excess outside pipe and 50' excess inside.
  - The stabilizing wellbore fluid will be water or drilling mud with sufficient weight to balance all exposed formation pressures.
  - Cement is Class B mixed at 15.6 ppg with 1.18 cf/sxs yield;
  - or Class B with 18% salt by weight of water (for expansion, MSHA requirement through the Fruitland Coal zone).

### RE-ENTRY & PLUGGING PROCEDURE:

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1. This project will use an A-Plus steel tank to handle waste fluids circulated from the well and cement wash up.
2. Complete a hot work permit. Test the inside of the p&a marker for methane by hot tapping the 4.5" pipe approximately 12" above ground level. Then dig out and remove the p&a marker with a backhoe to uncover the 8.625" surface casing stub.

Note: No existing cement plugs are covering the Fruitland coal zones; gas may be present!

Weld an extension onto the 8.625" surface casing stub to bring it to above ground level. Install a drilling spool or swedge (tubing head) with 2 outlets.

3. Comply with all applicable MSHA, NMOCD, BLM and San Juan Coal Mine safety regulations. Conduct safety meeting for all personnel on location. MOL and RU daylight pulling unit. Lay relief line to the waste pit; kill the well with water as necessary. NU a 9" or 11" 3M BOP on the drilling spool or tubing head. Function test the BOP operation.
4. Rig up a drilling system with a mud pit, mud pump and power swivel. Pick up a 7.875" mill tooth bit and a 3-1/2" drill collar with the power swivel. Drill out cement inside the 8.625" casing from surface to approximately 25' with water; use total of 4 drill collars and 2.375" tubing work string. TIH with this BHA and drill out the Pictured Cliffs plug reported to be from 950' to 1050' (set in 1958). Use EZ mud sweeps or a low solids bentonite mud to keep hole clean while drilling cement. After drilling through the cement at approximately 1050', then TIH with tubing and tag cement plug at approximately 1900'. Do not circulate the well; leave existing fluid in place. TOH with the BHA and LD the bit.

## PLUG AND ABANDONMENT PROCEDURE

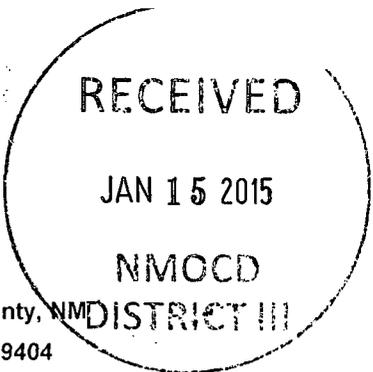
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Humble Oil #1

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### Procedure Continued:

5. Rig up Jet West wireline and run a Gamma - Neutron log and a directional survey log through the coal interval. Adjust the cement plug(s) depth as appropriate from these logs. All reported depths should be from ground level.
6. **Plug #1 (Pictured Cliffs interval, 1186' to 990')**:
  - Pick up a 5.5" open hole packer (inflates to 13") and TIH with tubing to 1190';
  - Set the inflatable packer at 1186'. Release from packer and TOH with workstring;
  - TIH with open ended tubing and tag the inflated packer, pull up 1 foot. Pump 10 bbls water ahead;
  - Mix and spot 60 sxs Class B cement with 18% salt (by weight of water) from 1186' to 990';
  - TOH and WOC overnight; TIH and tag cement.
7. **Plug #2 (Fruitland Coal interval, 990' to 750')**: TIH with workstring to approximately 990' and circulate the mud from the well. Then pump an additional 10 bbls fresh water spacer ahead of the cement. Mix 70 sxs cement with 18% salt (by weight of water) and spot a balanced plug to cover the coal zones. Displace cement with water. TOH with workstring and WOC overnight. Then TIH with tubing and tag cement.
8. **Plug #3 (750' to 400')**: TIH with workstring to approximately 750'. Pump 10 bbls fresh water spacer ahead of the cement. Mix 100 sxs cement and spot a balanced plug to fill the open-hole interval. PUH with workstring and WOC. Then TIH with tubing and tag cement.
9. **Plug #4 (8.625" Surface casing shoe, 400' to Surface)**: Mix approximately 120 sxs cement and spot a balanced plug inside the well from 400' (or TOC) to surface to cover the 8.625" surface casing shoe. TOH and LD the tubing. Shut in well and WOC.
10. ND BOP and cut off wellhead below surface. Install an **underground P&A marker** with cement to comply with regulations. RD and MOL. Cut off anchors and clean up location.



**Humble Oil #1**  
**Proposed Drilled Out & Re-plugged**  
 Basin Dakota / Wildcat Gallup

1230' FNL, 998' FEL, Section 19, T-30-N, R-14-W, San Juan County, NM

Lat: \_\_\_\_\_ / Long: \_\_\_\_\_ API #30-045-09404

Today's Date: 12/30/14

Spud: 4/26/58  
 Completed / Plugged: 7/01/58  
 Elevation: 5486' GL

Fruitland @ 790'

Fruitland Coal Seam #9: 854' - 859'

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Pictured Cliffs @ 1010'

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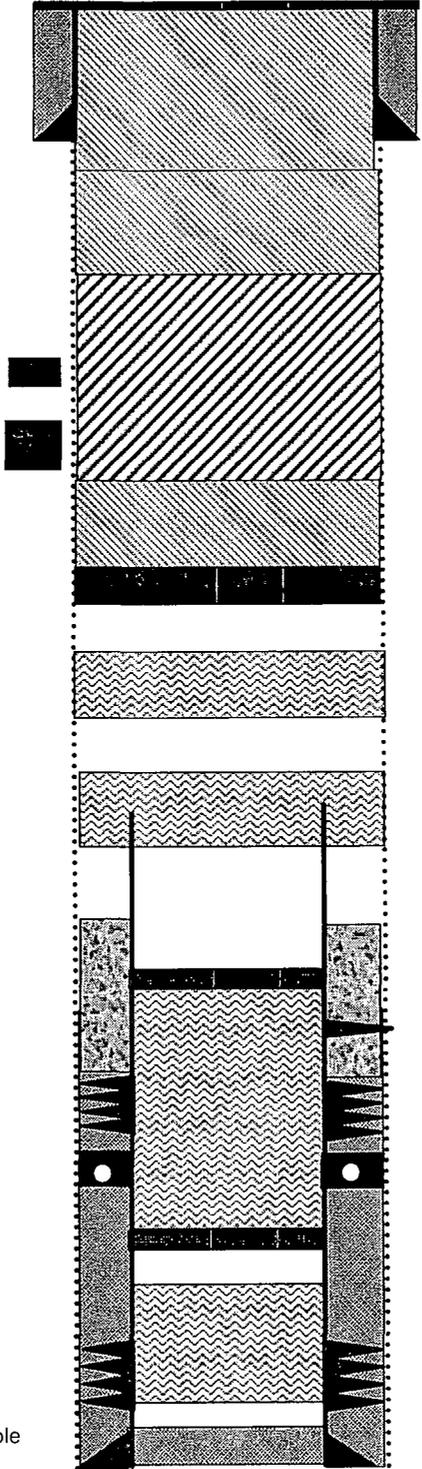
Mancos @ 3740'

Gallup @ 4765'

Dakota @ 5600'

12.25" hole

7.875" Hole



**Plug #4: 400' to Surface**  
 Class B no salt, 120 sxs

8.625", 24#, set @ 308'  
 Cement with 300 sxs, circulate to surface

**Plug #3: 750' - 400'**  
 Class B no salt, 100 sxs

**Plug #2: 990' - 750'**  
 Class B with salt, 70 sxs

**Plug #1: 1186' - 990'**  
 Class B with salt, 60 sxs

Open Hole Packer  
 At 1186'

Plug #4: 2100' - 1900'  
 75 sxs in 1958, MV top

Cut Casing @ 2578'  
 Plug #3: 2628' - 2528'  
 35 sxs in 1958, on casing stub

Annulus Sqz TOC @ 4550' (1958)  
 Set CR @ 4970' to p&a Gallup perms (1958)  
 Perforate at 5050'; annulus sqz with 110 sxs (1958)  
 DV Tool TOC @ 5140'

Gallup Perforations: 5030' - 5120'  
**Plug #2: 5400' - 4970'**  
 75 sxs into Gallup perms

DV Tool @ 5195'  
 Cement with 210 sxs

Set CIBP at 5400' after sqzg Dk perms (1958)

**Plug #1: 5678' - 5398'**  
 Dakota Perforations: 5658' to 5689'  
 Tested and abandoned (1958)

5.5", 24# casing @ 5870'  
 Cement with 190 sxs

TD 5873'

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: Humble Oil #1 (aka North Kirtland Unit #1)

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.

BLM picks the top of the Fruitland Coal at 560 ft. Plug #3 from (750-400) ft. will ensure that the Fruitland top is properly isolated.

Note: H<sub>2</sub>S have been reported in this location; however, high to very high concentrations of H<sub>2</sub>S (100ppm-47,600ppm GSV) have been reported in several 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 plugging 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.