OCD-ARTESIA

RM

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OM B 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.***

***SUBMIT IN TRIPLICATE- Other instructions on reverse side.***

5. Lease Serial No.
**NMNM 110829**

6. If Indian, Allottee or Tribe Name

RECEIVED
MAR 16 2010
NMOCD ARTESIA

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

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

8. Well Name and No.
**Jitterbug Federal #2**

2. Name of Operator **BC Operating, Inc. OGRID 160825**

9. API Well No.
**30-015-37491**

3a. Address
**P.O. Box 50820, Midland, TX 79710**

3b. Phone No. *(include area code)*
**432-684-9696**

10. Field and Pool, or Exploratory Area
**Malaga; Delaware 42940**

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
**2280' FNL & 1290' FEL, Unit H**
**Sec 24, T24S, R28E**

11. County or Parish, State
**Eddy County, 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 **Alter TD** |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| | ☐ Convert to Injection | ☐ Plug Back | ☐ 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.)

**BC Operating, Inc., respectfully requests to make changes to the Drilling Program for the Jitterbug Federal #2 to change the TD to 3000' and alter casing from three to two strings.**

**Please see attached Revised Drilling Program and Wellbore Diagram for additional details.**

**Due to rig schedules, BC Operating, Inc., respectfully requests expedited processing of this Sundry Notice if possible.**

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Title **Gray Surface Specialties - Agent for BC Operating, Inc.**

Signature Vicki Johnston

Date 3/3/10

APPROVED
MAR 12 2010
/s/ Chris Walls
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Title

Date

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

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.

3-18-10

*(Instructions on page 2)*

# REVISED DRILLING PROGRAM

BC Operating, Inc.
Jitterbug Federal #2
Surface Location: 2280' FNL & 1290' FEL, Unit H, Sec. 24, T24S, R28E, Eddy, NM

**Lease Serial # NM-110829**

1. **Geologic Name of Surface Formation**
   Quaternary Alluvium

2. **Estimated Tops of Geological Markers and Depths of Anticipated Fresh Water, Oil or Gas:**

| FORMATION | DEPTH | WATER/OIL/GAS |
|---|---|---|
| Rustler | 1200' | Water |
| Delaware | 2700' | Oil/Gas/Water |
| TD | 3000' | Oil/Gas |

No other formations are expected to yield oil, gas or fresh water in measurable volumes. Any surface fresh water sands will be protected by setting 13-3/8" casing at 450' and circulating cement back to surface. All producing zones will be isolated with 5-1/2" casing to total depth (3000' ±) and cemented with cement back to surface.

3. **Casing Program**
   **All casing is new** and API approved. The surface and production strings will be tested to 1000 psi. ← See COA

| HOLE SIZE | INTERVAL | OD CSG | WT | COLLAR | GRD | COLLAPSE DESIGN FACTOR | BURST DESIGN FACTOR | TENSION DESIGN FACTOR |
|---|---|---|---|---|---|---|---|---|
| See COA 12-1/4" | 0-~~445'~~ 420 | 8-5/8" | 24 | LTC | J-55 | 12.1 | 18.8 | 29.2 |
| 7-7/8" | 0-3000' | 5-1/2" | 15.5 | LTC | J-55 | 2.6 | 3.1 | 4.5 |

4. **Cement Program**
   a. **8-5/8" Surface**
      Cement to surface with 485SX Class C
      Weight: 14.8 ppg; Yield: 1.32; TOC: Surface
   b. **7-7/8" Production**
      Cement to surface with 865SX 50/50/poz
      Weight: 14.2 ppg; Yield: 2.04; TOC: Surface

   The above cement volumes could be revised pending the caliper measurement from the open hole logs.

5. **Pressure Control Equipment**
   Pressure control equipment will include a 3000 psi or larger WP blowout preventer stack, with Series 900 blind and pipe rams. The BOP stack will include a 3" kill line and choke manifold tested to minimum 3000 psi. BOP hydraulic controls will be operated at least daily. A BOP schematic is attached (Exhibit F) showing the assembly for a 3000 psi BOP that will be used during drilling. All

BOP's and associated equipment will be tested before drilling out the 8-5/8" casing shoe. The BOP's and Hydril will be tested per BLM Drilling Operations Order #2.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These function tests will be documented on the daily driller's log. Other accessory BOP equipment will include a Kelly cock valve, floor safety valve, choke lines and choke manifold having a 3000# WP rating. (Exhibit G)

**6. Proposed Mud Circulation System**

| DEPTH | WEIGHT (ppg) | VISCOSITY | FLUID LOSS (cc/30min) | TYPE SYSTEM |
|---|---|---|---|---|
| 0--445' | 9.0 | 28 – 36 | ≥10 cc | **Fresh Water with gel spud** |
| 445'--TD | 10.0 | 28 – 36 | ≥10 cc | **Cut Brine with gel** |

**7. Auxiliary Well Control and Monitoring Equipment**

- **a.** A Kelly cock will be in the drill string at all times.
- **b.** A full-opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times.
- **c.** Hydrogen Sulfide detection equipment will be in operation after drilling out the 8-5/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 8-5/8" shoe until total depth is reached.

See COA

**8. Logging, Coring and Testing Program**

- **a.** Samples will be caught at 10' intervals from 1500' to TD.
- **b.** The open hole electrical logging program will be:
  - **i.** 445' to TD: Neutron – Density
  - **ii.** Additional testing will be initiated subsequent to setting the 5-1/2" production casing if geologic personnel deem this important. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

**9. Potential Hazards**

No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered, the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

Estimated BHP: 1300 psi; Estimated BHT: 100°

**10. Anticipated Starting Date and Duration of Operations**

Drilling will commence upon approval. Drilling and completion operations will last approximately 14 days. If production casing is run, it will take another 30 days to complete well and lay flow line in order to place well on production.

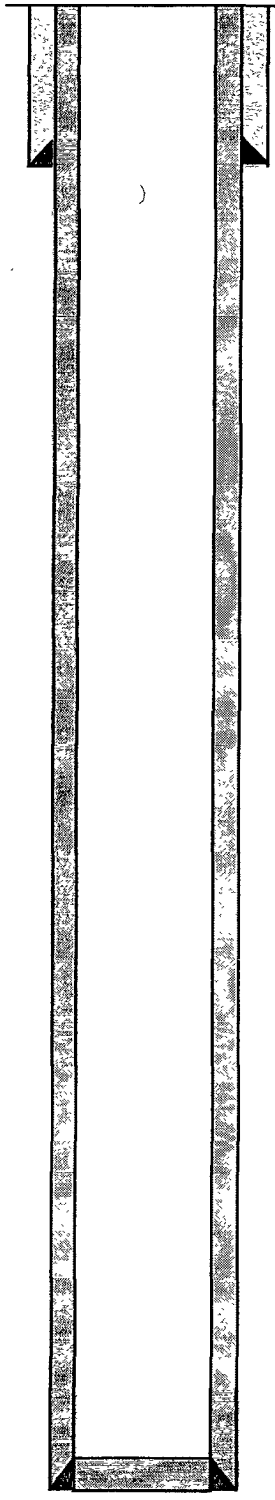
# Wellbore Diagram for Sundry Notice - Jitterbug Fed #2

| | | | |
|---|---|---|---|
| **LEASE & WELL NO.** | **Jitterbug Fed #2** | FORMER NAME | |
| **FIELD NAME** | | COUNTY & STATE | Eddy, New Mexico |
| **LOCATION** | Sec 24, T24S, R28E | API NO. | |

K.B. ELEV. _____
D.F. ELEV. _____
GROUND LEVEL _____

**CURRENT COMPLETION**

**Formation Tops MD**



SURFACE CASING

| | | | | | |
|---|---|---|---|---|---|
| SIZE | 8 5/8" | WEIGHT | 24.0# | DEPTH | 445' |
| GRADE | J-55 | SX. CMT. | 485 sx | TOC @ | Surface |

**WELL HISTORY**

Surface hole will be 12 1/4"
Surface cement will be Class C 14.8 ppg
Surface hole drilled with fresh water mud 9 ppg

Production Hole will be 7 7/8"
Production Cement 50/50/poz 14.2 ppg
Production hole with be drilled with Brine 10ppg

Casing Design Factors

| Joint | | Collapse | Burst |
|---|---|---|---|
| 8 5/8" | 29.2 | 12.1 | 18.8 |
| 5 1/2" | 4.5 | 2.6 | 3.1 |

PRODUCTION CASING

| | | | | | |
|---|---|---|---|---|---|
| SIZE | 5 1/2" | WEIGHT | 15.5# | DEPTH | 3000' |
| GRADE | J-55 | SX. CMT. | 865 sx | TOC @ | Surface |

PBTD@ _____
TD@ 3000'

# CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | **BC Operating** |
| **LEASE NO.:** | **NMNM-110829** |
| **WELL NAME & NO.:** | **Jitterbug Federal 2** |
| **SURFACE HOLE FOOTAGE:** | **2280' FNL & 1290' FEL** |
| **LOCATION:** | **Section 24, T. 24 S., R 28 E., NMPM** |
| **COUNTY:** | **Eddy County, New Mexico** |

## I. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Hydrogen Sulfide has been reported as a hazard, but no measurements have been recorded. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

## B. CASING

**Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.**

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

**Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.**

**No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.**

**HIGH CAVE/KARST – CONTINGENCY CASING WILL BE REQUIRED IF LOST CIRCULATION OCCURS WHILE DRILLING THE SURFACE HOLE. THE SURFACE HOLE WILL HAVE TO BE REAMED AND A LARGER CASING INSTALLED.**

**Possible lost circulation in the redbeds and the Castile Group,**

1. The **8-5/8** inch surface casing shall be set at **approximately 420 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    **b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

**IF LOST CIRCULATION OCCURS WHILE DRILLING THE 7-7/8" HOLE, THE CEMENT PROGRAM FOR THE 5-1/2" CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH THEREFORE, ONE INCH OPERATIONS WILL NOT BE PERMITTED. A DV TOOL WILL BE REQUIRED.**

2. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

## C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

   a. Casing cut-off and BOP installation will not be initiated until the cement has had a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.

   b. The tests shall be done by an independent service company utilizing a test plug.

   c. The results of the test shall be reported to the appropriate BLM office.

d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

## D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

**CRW 031010**