

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: 9/5/14

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-045-10472-00-00	CRANDELL SRC	002	BURLINGTON RESOURCES OIL & GAS COMPANY LP	G	A	San Juan	F	M	19	31	N	10	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 plug #4 up to 920'

NMOCD Approved by Signature

9-9-14  
Date

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SEP 05 2014

FORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

**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 <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		7. If Unit of CA/Agreement, Name and/or No.
2. Name of Operator <b>Burlington Resources Oil &amp; Gas Company LP</b>		8. Well Name and No. <b>Crandell SRC 2</b>
3a. Address <b>PO Box 4289, Farmington, NM 87499</b>	3b. Phone No. (include area code) <b>(505) 326-9700</b>	9. API Well No. <b>30-045-10472</b>
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) <b>Surface UNIT M (SWSW), 990' FSL &amp; 990' FWL, Sec. 19, T31N, R10W</b>		10. Field and Pool or Exploratory Area <b>Blanco Mesaverde</b>
		11. Country or Parish, State <b>San Juan New Mexico</b>

**12. CHECK THE 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 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 must 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 must be filed once Testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

**Burlington Resources** requests permission to plug and abandon the subject well per the attached procedure and current and proposed well schematic. The Pre-Disturbance Site Visit was held on 8/28/14 w/ Bob Switzer, BLM Representative. The Re-Vegetation Plan is attached. A Closed Loop System will be utilized for this project.

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**  
**OIL CONS. DIV DIST. 3**  
**SEP 09 2014**

**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) <b>DENISE JOURNEY</b>		Title <b>STAFF REGULATORY TECHNICIAN</b>
Signature <i>Denise Journey</i>		Date <b>9/5/2014</b>

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

Approved by <b>Troy Salvess</b>	Title <b>Petroleum Eng.</b>	Date <b>9/9/2014</b>
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 <b>FFO</b>

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.

(Instruction on page 2)

**APPROVED  
OPERATOR** *AV*

*PC*

**ConocoPhillips**  
**CRANDELL SRC 2**  
**Expense - P&A**

Lat 36° 52' 44.404" N

Long 107° 55' 44.4" W

**PROCEDURE**

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

1. Hold pre-job safety meeting. Comply with all NMOC, BLM, and COPC safety and environmental regulations. Test rig anchors prior to moving in rig.
2. MIRU workover rig. Check casing, tubing, and bradenhead pressures and record them in Wellview. **If there is pressure on the BH, contact the Wells Engineer.**
3. Remove existing piping on casing valve. RU blow lines from casing valves and begin blowing down casing pressure. Kill well as necessary. Ensure well is dead or on a vacuum.
4. ND wellhead and NU BOPE. Pressure and function test BOP to 250 psi low and 1000 psi over SICP high to a maximum of 2000 psi held and charted for 10 minutes as per COP Well Control Manual. PU and remove tubing hanger.

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

**5. Plug 1 (Mesa Verde Perforations, Mesa Verde and Chacra Formation Tops, 3610-4162', 46 Sacks Class B Cement)**

Mix cement as described above and spot balanced plug to isolate the Mesa Verde Perforations and the Mesa Verde/Chacra Formation tops. Pull out of hole.

**6. Plug 2 (Pictured Cliffs Formation Top, 2540-2640', 37 Sacks Class B Cement)**

Rig up wireline. Perforate squeeze holes at 2640'. Pull out of hole. Establish circulation. If circulation cannot be established, contact Wells Engineer. Pick up 4-1/2" cement retainer and set at 2590'. Mix cement as described above and squeeze 29 sacks under retainer. Sting out and spot 8 sacks on top of retainer. This plug will isolate the Picture Cliffs Formation Top. Pull out of hole.

**Sea CoA**

**7. Plug 3 (Fruitland Formation Top, 1940-2040', 37 Sacks Class B Cement)**

Perforate squeeze holes at 2040'. Pull out of hole. Establish circulation. If circulation cannot be established, contact Wells Engineer. Pick up 4-1/2" cement retainer and set at 1990'. Mix cement as described above and squeeze 29 sacks under retainer. Sting out and spot 8 sacks on top of retainer. This plug will isolate the Fruitland Formation Top. Pull out of hole.

**8. Plug 4 (Kirtland and Ojo Alamo Formation Tops, 1145-1285', 51 Sacks Class B Cement)**

Perforate squeeze holes at 1285'. Pull out of hole. Establish circulation. If circulation cannot be established, contact Wells Engineer. Pick up 4-1/2" cement retainer and set at 1235'. Mix cement as described above and squeeze 40 sacks under retainer. Sting out and spot 11 sacks on top of retainer. This plug will isolate the Kirtland and Ojo Alamo Formation Tops. Pull out of hole.

**9. Plug 5 (Surface Plug 7X 10-3/4" Annulus, 0-265', 84 Sacks Class B Cement)**

Perforate squeeze holes at 265'. Pull out of hole. Establish circulation. If circulation cannot be established, contact Wells Engineer. Pick up 4-1/2" cement retainer and set at 215'. Mix cement as described above and squeeze cement under retainer. Pump until good returns are seen. Sting out and pull out of hole.

**10. Plug 6 (Surface Plug 4-1/2 X 7" Annulus and Inside 4-1/2, 0-195', 43 Sacks Class B Cement)**

Perforate squeeze holes at 195'. Pull out of hole and rig down wireline. Attempt to establish circulation on 4-1/2" X 7" annulus and fill the casing and annulus with cement to surface. If circulation cannot be established, trip in open ended and spot balanced plug on top of retainer to surface.

11. Nipple down BOP and cut off casing below the casing flange. Install P&A marker with cement to comply with regulations. Rig down, move off location, cut off anchors, and restore location.

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: Crandell SRC #2

CONDITIONS OF APPROVAL

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."
2. Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 564-7750.
3. Set plug #3 to (2240-2140) ft. inside/outside to cover the Fruitland top.

Note: Low concentrations of H<sub>2</sub>S (5-21 ppm GSV and 3-11 ppm STV) have been reported in wells within a 1 mile radius of this location.

Operator must run a CBL to verify cement top. Outside plugs may be adjusted accordingly, per TOC. Submit electronic copy of the CBL for verification to the following addresses: [tsalyers@blm.gov](mailto:tsalyers@blm.gov)  
[Brandon.Powell@state.nm.us](mailto:Brandon.Powell@state.nm.us)

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.

**GENERAL REQUIREMENTS FOR  
PERMANENT ABANDONMENT OF WELLS ON FEDERAL AND INDIAN LEASES  
FARMINGTON FIELD OFFICE**

1.0 The approved plugging plans may contain variances from the following minimum general requirements.

1.1 Modification of the approved plugging procedure is allowed only with the prior approval of the Authorized Officer, Farmington Field Office.

1.2 Requirements may be added to address specific well conditions.

2.0 Materials used must be accurately measured. (densimeter/scales)

3.0 A tank or lined pit must be used for containment of any fluids from the wellbore during plugging operations and all pits are to be fenced with woven wire. These pits will be fenced on three sides and once the rig leaves location, the fourth side will be fenced.

3.1 Pits are not to be used for disposal of any hydrocarbons. If hydrocarbons are present in the pit, the fluids must be removed prior to filling in.

4.0 All cement plugs are to be placed through a work string. Cement may be bull-headed down the casing with prior approval. Cement caps on top of bridge plugs or cement retainers may be placed by dump bailer.

4.1 The cement shall be as specified in the approved plugging plan.

4.2 All cement plugs placed inside casing shall have sufficient volume to fill a minimum of 100' of the casing, or annular void(s) between casings, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.3 Surface plugs may be no less than 50' in length.

4.4 All cement plugs placed to fill annular void(s) between casing and the formation shall be of sufficient volume to fill a minimum of 100' of the annular space plus 100% excess, calculated using the bit size, or 100' of annular capacity, determined from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.5 All cement plugs placed to fill an open hole shall be of sufficient volume to fill a minimum of 100' of hole, as calculated from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug. In the absence of a caliper log, an excess of 100% shall be required.

4.6 A cement bond log or other accepted cement evaluation tool is required to be run if one had not been previously ran or cement did not circulate to surface during the original casing cementing job or subsequent cementing jobs.

5.0 All cement plugs spotted across, or above, any exposed zone(s), when; the wellbore is not full of fluid or the fluid level will not remain static, and in the case of lost circulation or partial returns during cement placement, shall be tested by tagging with the work string.

- 5.1 The top of any cement plug verified by tagging must be at or above the depth specified in the approved plan, without regard to any excess.
- 5.2 Testing will not be required for any cement plug that is mechanically contained by use of a bridge plug and/or cement retainer, if casing integrity has been established.
- 5.3 Any cement plug which is the only isolating medium, for a fresh water interval or a zone containing a prospectively valuable deposit of minerals, shall be tested by tagging.
- 5.4 If perforations are required below the surface casing shoe, a 30 minute minimum wait time will be required to determine if gas and/or water flows are present. If flow is present, the well will be shut-in for a minimum of one hour and the pressure recorded. Short or long term venting may be necessary to evacuate trapped gas. If only a water flow occurs with no associated gas, shut well in and record the pressures. Contact the Engineer as it may be necessary to change the cement weight and additives.

6.0 Before setting any cement plugs the hole needs to be rolled. All wells are to be controlled by means of a fluid that is to be of a weight and consistency necessary to stabilize the wellbore. This fluid shall be left in place as filler between all plugs.

- 6.1 Drilling mud may be used as the wellbore fluid in open hole plugging operations.
- 6.2 The wellbore fluid used in cased holes shall be of sufficient weight to balance known pore pressures in all exposed formations.

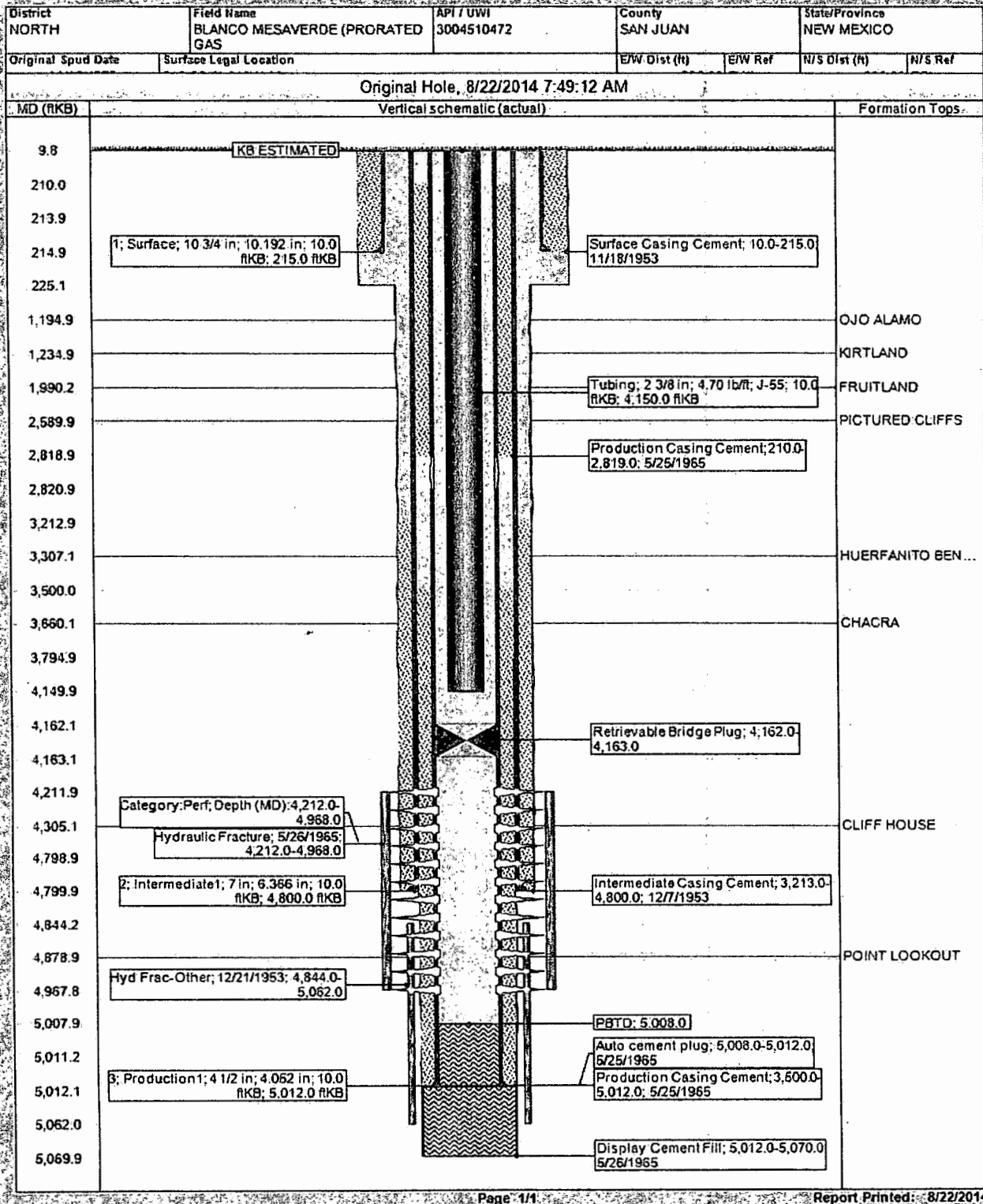
7.0 A blowout preventer and related equipment (BOPE) shall be installed and tested prior to working in a wellbore with any exposed zone(s); (1) that are over pressured, (2) where the pressures are unknown, or (3) known to contain H<sub>2</sub>S.

8.0 Within 30 days after plugging work is completed, file a Sundry Notice, Subsequent Report of Abandonment (Form 3160-5), five copies, with the Field Manager, Bureau of Land Management, 6251 College Blvd., Suite A, Farmington, NM 87402. The report should show the manner in which the plugging work was carried out, the extent, by depth(s), of cement plugs placed, and the size and location, by depth(s), of casing left in the well. Show date well was plugged.

9.0 All permanently abandoned wells are to be marked with a permanent monument as specified in 43 CFR 3162.6(d). Unless otherwise approved.

10.0 If this well is located in a Specially Designated Area (SDA), compliance with the appropriate seasonal closure requirements will be necessary.

All of the above are minimum requirements. Failure to comply with the above conditions of approval may result in an assessment for noncompliance and/or a Shut-in Order being issued pursuant to 43 CFR 3163.1. You are further advised that any instructions, orders or decisions issued by the Bureau of Land Management are subject to administrative review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

**ConocoPhillips****CURRENT SCHEMATIC****CRANDELL SRC #2**

# ConocoPhillips

## Schematic - Proposed GRANDELL SRC #2

District NORTH	Field Name BLANCO MESAVERDE (PRORATED GAS)	API/UWI 3004510472	County SAN JUAN	State/Province NEW MEXICO
Original Spud Date 11/18/1953	Surf Loc 019-031N-010W-M	East/West Distance (ft) 990.00	East/West Reference FWL	N/S Dist (ft) 990.00
North/South Reference FSL				
Original Hole, 1/1/2020 5:00:00 AM				

