

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0135  
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 reverse side.**

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMSF078463
2. Name of Operator NOBLE ENERGY INC		6. If Indian, Allottee or Tribe Name
3a. Address 5802 US HWY 64 FARMINGTON, NM 87401		7. If Unit or C/A Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 303-228-4437 Fx: 303-228-4288		8. Well Name and No. LANGENDORF 1
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 34 T31N R13W SENE 1750FNL 0990FEL 36.858414 N Lat, 108.185893 W Lon		9. API Well No. 30-045-13143-00-S1
		10. Field and Pool, or Exploratory BASIN DAKOTA
		11. County or Parish, and State SAN JUAN COUNTY, NM

**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"/> Subsequent Report	<input type="checkbox"/> Deepen
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Fracture Treat
	<input type="checkbox"/> Alter Casing
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Recombine
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Change Plans
	<input checked="" type="checkbox"/> Plug and Abandon
	<input type="checkbox"/> Well Integrity
	<input type="checkbox"/> Convert to Injection
	<input type="checkbox"/> Plug Back
	<input type="checkbox"/> Other
	<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 recompletes 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.)

Noble Energy Inc respectfully submits a notice of intent to plug and abandon the Langendorf #1.  
The PA procedure and a wellbore diagram are attached.



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

*NMOCD requires CBL*

*prior to spotting cement on Plug #1*

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

BY SEP 05 2012  
JAN

14. I hereby certify that the foregoing is true and correct. Electronic Submission #148251 verified by the BLM Well Information System For NOBLE ENERGY INC, sent to the Farmington Committed to AFMSS for processing by STEVE MASON on 08/04/2012 (129XM03105E)	
Name (Printed/Typed) CHERYL Y JOHNSON	Title REGULATORY ANALYST III
Signature (Electronic Submission)	Date 08/30/2012

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

Approved By STEPHEN MASON	Title PETROLEUM ENGINEER	Date 08/04/2012
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 Farmington		

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.

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

*NMOCD*  
*A*

## PLUG AND ABANDONMENT PROCEDURE

August 24, 2012

### Langendorf #1

Basin Dakota

1750' FNL and 990' FEL, Section 34, T31N, R13W  
San Juan County, New Mexico / API 30-045-13143

Lat: N \_\_\_\_\_ / Lat: W \_\_\_\_\_

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.

1. This project requires a NMOCD C-144 CLEZ Closed-Loop System Permit for the use of an A-Plus steel tank to handle waste fluids circulated from the well and cement wash up.
2. 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.
3. Rods: Yes \_\_\_\_\_, No X, Unknown \_\_\_\_\_.  
Tubing: Yes X, No \_\_\_\_\_, Unknown \_\_\_\_\_, Size 1-1/2", Length 6327'.  
Packer: Yes \_\_\_\_\_, No X, Unknown \_\_\_\_\_, Type \_\_\_\_\_.  
If this well has rods or a packer, then modify the work sequence in step #2 as appropriate.  
Round trip 5.5" gauge ring or casing scraper to 6319'.  
CBL will be required on this well.
4. **Plug #1 (Dakota perforations and top, 6319' – 6219')**: RIH and set 5.5" cement retainer at 6319'. Pressure test tubing to 1000 PSI. Circulate well clean. Attempt to pressure test casing to 800 PSI. If casing does not test then spot or tag subsequent plugs as appropriate. Mix 17sxs Class B cement inside casing to cover the Dakota perforations and top. TOH.
5. **Plug #2 (Gallup top, <sup>6550</sup>5620' – <sup>6450</sup>5420')**: Perforate 3 squeeze holes at <sup>6550</sup>5620'. Establish rate into squeeze holes. Set 5.5" cement retainer at <sup>6450</sup>5470'. Mix 60 sxs Class B cement squeeze 43 sxs outside casing and leave 17 xs inside casing to cover the Gallup top. PUH.
6. **Plug #3 (Mancos top, 4585' – 4485')**: Spot 17 sxs Class B and spot a balanced plug inside casing to cover the Mancos top. TOH.
7. **Plug #4 (Mesaverde top, <sup>3459</sup>3403' – <sup>3359</sup>3303')**: Perforate 3 squeeze holes at <sup>3459</sup>3403'. Establish rate into squeeze holes. Set 5.5" cement retainer at <sup>3359</sup>3353'. Mix 60 sxs Class B cement squeeze 43 sxs outside casing and leave 17 sxs inside casing to cover the Mesaverde top. TOH.
8. **Plug #5 (Pictured Cliffs top, 1866' - 1766')**: Perforate 3 squeeze holes at 1866'. Establish rate into squeeze holes. Set 5.5" cement retainer at 1816'. Mix 60 sxs Class B cement squeeze 43 sxs outside casing and leave 17 sxs inside casing to cover the Pictured Cliffs top. TOH.

9. **Plug #6 (Fruitland top, 1482' – 1382'):** Perforate 3 squeeze holes at 1482'. Establish rate into squeeze holes. Set 5.5" cement retainer at 1432'. Mix 60 sxs Class B cement squeeze 43 sxs outside casing and leave 17 sxs inside casing to cover the Fruitland top. TOH.
10. **Plug #7 (9-5/8" casing shoe, 245' - 0'):** Perforate 3 squeeze holes at 245'. Establish circulation out bradenhead with water and circulate the BH annulus clean. Mix approximately 100 sxs Class B cement and pump down 5.5" casing to circulate good cement out bradenhead. Shut in well and WOC.
11. ND BOP and cut off wellhead below surface casing flange. Install P&A marker with cement to comply with regulations. RD, MOL and cut off anchors. Restore location per BLM stipulations.

# Langendorf #1

## Proposed P&A

Basin Dakota

1750' FNL, 990' FEL, Section 34, T-31-N, R-13-W  
San Juan County, NM, API #30-045-13143

Today's Date: 8/24/12

Spud: 10/18/60

Completed: 11/17/60

Elevation: 5718' GI  
5730' KB

Kirtland @ surface

12.25" hole

Fruitland @ 1432' \*est  
0

Pictured Cliffs @ 1816'  
2

Mesaverde @ 3353'  
3409

Mancos @ 4535'

Gallup @ 5470' \*est  
5500

Dakota @ 6359'

8.75" hole

9-5/8" 32# H-40 Casing set @ 195'  
Cement with 130 sxs, circulated

Perforate @ 245'

Plug #7: 245' - 0'

Class B cement, 100 sxs

$$\begin{aligned} 245 / 7.279(11\%) &= 28.3 \text{ sxs} \\ 50 / 3.7539(11\%) &= 11 \text{ sxs} \\ 195 / 3.611(11\%) &= 46 \text{ sxs} \\ &= 85 \text{ sxs} \end{aligned}$$

Set CR @ 1432'

Plug #6: 1482' - 1382'

Class B cement, 60 sxs:  
17 inside and 43 outside

Perforate @ 1482'

Set CR @ 1816'

Perforate @ 1866'

Plug #5: 1866' - 1766'

Class B cement, 60 sxs:  
17 inside and 43 outside

Set CR @ 3353'

Plug #4: 3403' - 3303'

Class B cement, 60 sxs:  
17 inside and 43 outside

Perforate @ 3403'

Plug #3: 4585' - 4485'

Perforate @ 4585', squeeze Class B cement, 17 sxs  
with 350 sxs cement. Drill  
out. P/T casing to 1000#.  
Estimate TOC @ 4480'

$$200 / 3.9889(11\%) = 43 \text{ sxs}$$

Set CR @ 5470'

Perforate @ 5520'

TOC @ 5590' (calc, 75%)

Plug #2: 5520' - 5420'

Class B cement, 60 sxs:  
17 inside and 43 outside

Plug #1: 6319' - 6219'

Class B cement, 17 sxs

Set CR @ 6319'

Dakota Perforations:  
6369' - 6467'

$$17(7.279)(11\%) = 146 \text{ sxs}$$

5.5", 14#/15.5#, K-55 Casing set @ 6554'  
Cement with 275 sxs

TD 6557'  
PBD 6502'

## BLM CONDITIONS OF APPROVAL

The following surface rehabilitation Conditions of Approval must be complied with as applicable, before this well can be approved for final abandonment (see 43 CFR 3162.3-4). **Surface rehabilitation work shall be completed within one year of the actual plugging date. Notification for completion of this work can be submitted with a Sundry Notice.**

1. All fences, production equipment, purchaser's equipment, concrete slabs, deadman (anchors), flowlines, risers, debris and trash must be removed from the location.
2. Production pits will be closed according to the Unlined Surface Impoundment Closure Guidelines, as approved in the Environmental Assessment of December 1993. Any oil stained soils may be remediated on-site according to these guidelines or disposed of in an approved disposal facility.
3. The well pad will be shaped to the natural terrain and left as rough as possible. All compacted areas and areas devoid of vegetation shall be ripped to a minimum of 12" before seeding.
4. Access roads will be shaped to conform to the natural terrain and left as rough as possible to detour vehicular travel. Access will be ripped to a minimum of 12" in depth and waterbarred prior to seeding. All erosion problems created by the development must be corrected prior to acceptance of release. Waterbars should be spaced as shown below:

% Slopes	Spacing Interval
Less than 20%	200'
2 to 5%	150'
6 to 9%	100'
10 to 15%	50'
Greater than 15%	30'

All water bars should divert to the downhill side of the road.

5. All disturbed areas will be seeded with the prescribed certified seed mix (reseeding may be required).
6. Notify Surfacing Managing Agency seven (7) days prior to seeding so that they may be present for that option.
7. The period of liability under the bond of record will not be terminated until the lease is inspected and the surface rehabilitation approved.

Other SMA's may vary slightly in their restoration requirements. It is your responsibility, as the operator, to obtain surface restoration requirements from other SMA's. We need to be provided with a copy of these requirements. Any problems concerning stipulations received from other SMA's should be brought to us.

On private land, we should be provided with a letter from the fee owner stating that the surface restoration is satisfactory.

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: 1 Langendorf

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. The following modifications to your plugging program are to be made:
  - a) Place the Gallup plug from 5550' – 5450' inside and outside the 5 ½" casing.
  - b) Place the Mesaverde plug from 3459' – 3359' inside and outside the 5 ½" casing.

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 run or cement circulated 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.

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.