

Document Number:  
401801211

Date Received:  
10/18/2018

**WELL ABANDONMENT REPORT**

This form is to be submitted as an Intent to Abandon whenever an abandonment is planned on a borehole. After the abandonment is complete, this form shall again be submitted as a Subsequent Report of the actual work completed. The approved intent shall be valid for six months after the approval date, after that period, a new intent will be required. Attachments required with the Intent to Abandon are wellbore diagrams of the current configuration and the proposed configuration with plugs set.  
A Subsequent Report of Abandonment shall indicate the actual work completed. Attachments required with a Subsequent Report are a wellbore diagram showing plugs that were set and casing remaining in the hole, the job summaries from all plugging contractors used, including wireline and cementing (third party verification) and any logs that may have been run during abandonment.

OGCC Operator Number: 69175 Contact Name: Jenifer Hakkarinen  
 Name of Operator: PDC ENERGY INC Phone: (303) 8605800  
 Address: 1775 SHERMAN STREET - STE 3000 Fax: \_\_\_\_\_  
 City: DENVER State: CO Zip: 80203 Email: Jenifer.Hakkarinen@pdce.com

**For "Intent" 24 hour notice required,** Name: Montoya, John Tel: (970) 397-4124  
 COGCC contact: Email: john.montoya@state.co.us

API Number 05-123-23063-00 Well Number: 42-9  
 Well Name: HOWARD LAKE  
 Location: QtrQtr: SENE Section: 9 Township: 6N Range: 64W Meridian: 6  
 County: WELD Federal, Indian or State Lease Number: \_\_\_\_\_  
 Field Name: WATTENBERG Field Number: 90750

Notice of Intent to Abandon       Subsequent Report of Abandonment

*Only Complete the Following Background Information for Intent to Abandon*

Latitude: 40.502170 Longitude: -104.547470  
 GPS Data:  
 Date of Measurement: 06/27/2010 PDOP Reading: 2.2 GPS Instrument Operator's Name: Holly L. Tracy  
 Reason for Abandonment:  Dry  Production Sub-economic  Mechanical Problems  
 Other \_\_\_\_\_  
 Casing to be pulled:  Yes  No Estimated Depth: 1800  
 Fish in Hole:  Yes  No If yes, explain details below  
 Wellbore has Uncemented Casing leaks:  Yes  No If yes, explain details below  
 Details: \_\_\_\_\_

**Current and Previously Abandoned Zones**

Formation	Perf. Top	Perf. Btm	Abandoned Date	Method of Isolation	Plug Depth
CODELL	7058	7066			

Total: 1 zone(s)

**Casing History**

Casing Type	Size of Hole	Size of Casing	Weight Per Foot	Setting Depth	Sacks Cement	Cement Bot	Cement Top	Status
SURF	12+1/4	8+5/8	24	532	295	532	0	VISU
1ST	7+7/8	4+1/2	10.5	7,217	170	7,217	6,518	CBL
S.C. 1.1				6,518	290	6,518	2,576	CBL

## Plugging Procedure for Intent and Subsequent Report

CIBP #1: Depth 7008 with 2 sacks cmt on top. CIPB #2: Depth 6745 with 2 sacks cmt on top.  
 CIBP #3: Depth \_\_\_\_\_ with \_\_\_\_\_ sacks cmt on top. CIPB #4: Depth \_\_\_\_\_ with \_\_\_\_\_ sacks cmt on top.  
 CIBP #5: Depth \_\_\_\_\_ with \_\_\_\_\_ sacks cmt on top.

NOTE: Two(2) sacks cement required on all CIBPs.

Set 255 sks cmt from 1915 ft. to 1500 ft. Plug Type: STUB PLUG Plug Tagged:   
 Set 400 sks cmt from 732 ft. to 0 ft. Plug Type: OPEN HOLE Plug Tagged:   
 Set \_\_\_\_\_ sks cmt from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Type: \_\_\_\_\_ Plug Tagged:   
 Set \_\_\_\_\_ sks cmt from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Type: \_\_\_\_\_ Plug Tagged:   
 Set \_\_\_\_\_ sks cmt from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Type: \_\_\_\_\_ Plug Tagged:   
 Perforate and squeeze at \_\_\_\_\_ ft. with \_\_\_\_\_ sacks. Leave at least 100 ft. in casing \_\_\_\_\_ CICR Depth  
 Perforate and squeeze at \_\_\_\_\_ ft. with \_\_\_\_\_ sacks. Leave at least 100 ft. in casing \_\_\_\_\_ CICR Depth  
 Perforate and squeeze at \_\_\_\_\_ ft. with \_\_\_\_\_ sacks. Leave at least 100 ft. in casing \_\_\_\_\_ CICR Depth  
(Cast Iron Cement Retainer Depth)  
 Set \_\_\_\_\_ sacks half in. half out surface casing from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Plug Tagged:   
 Set \_\_\_\_\_ sacks at surface  
 Cut four feet below ground level, weld on plate Above Ground Dry-Hole Marker:  Yes  No  
 Set \_\_\_\_\_ sacks in rat hole Set \_\_\_\_\_ sacks in mouse hole

### Additional Plugging Information for Subsequent Report Only

Casing Recovered: \_\_\_\_\_ ft. \_\_\_\_\_ inch casing Plugging Date: \_\_\_\_\_  
 of \_\_\_\_\_  
 \*Wireline Contractor: \_\_\_\_\_ \*Cementing Contractor: \_\_\_\_\_  
 Type of Cement and Additives Used: \_\_\_\_\_  
 Flowline/Pipeline has been abandoned per Rule 1105  Yes  No \*ATTACH JOB SUMMARY

Technical Detail/Comments:

Howard Lake 42-9 (05-123-23063)/Plugging Procedure (Intent)  
 Producing Formation: Codell: 7058'-7066'  
 Upper Pierre Aquifer: 610'-1670'  
 TD: 7260' PBTD: 7203'  
 Surface Casing: 8 5/8" 24# @ 532' w/ 295 sxs cmt  
 Production Casing: 4 1/2" 10.5# @ 7218' w/ 460 sxs cmt (TOC @ 2578' - CBL).  
 Tubing: 2 3/8" tubing set @ 7043.2' (2/13/2018).  
 Proposed Procedure:  
 1. Run gyro survey.  
 2. MIRU pulling unit. Pull 2 3/8" tubing.  
 3. RU wireline company.  
 4. TIH with CIBP. Set BP at 7008'. Top with 2 sxs 15.8#/gal CI G cement.  
 5. TIH with CIBP. Set BP at 6745'. Top with 2 sxs 15.8#/gal CI G cement.  
 6. TIH with casing cutter. Cut 4 1/2" casing at 1800'. Pull cut casing.  
 7. TIH with tubing to 1915'. RU cementing company. Mix and pump 255 sxs 15.8#/gal CI G cement w/ 2% CaCl down tubing (Pierre coverage from 1915'-1500').  
 8. Pickup tubing to 732'. Mix and pump 400 sxs 15.8#/gal CI G cement down tubing. Cement should circulate to surface.  
 9. Cut surface casing 6' below ground level and weld on cap.

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_ Print Name: Jenifer Hakkarinen  
 Title: Reg TEch Date: 10/18/2018 Email: jenifer.Hakkarinen@pdce.com

Based on the information provided herein, this Well Abandonment Report (Form 6) complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: JENKINS, STEVE

Date: 1/4/2019

**CONDITIONS OF APPROVAL, IF ANY:** \_\_\_\_\_

Expiration Date: 7/3/2019

<b>COA Type</b>	<b>Description</b>
	1) Provide 48 hour notice of plugging MIRU via electronic Form 42. 2) Prior to placing the 732' plug: verify that all fluid migration (liquid or gas) has been eliminated. If evidence of fluid migration or pressure remains, contact COGCC Engineer for an update to plugging orders. 3) After isolation has been verified, pump plug and displace. If cement is not circulated to surface, shut-in, WOC 4 hours then tag plug – must be at 482' or shallower and provide 10 sx plug at the surface. 4) Leave at least 100' of cement in the wellbore for each plug. 5) Properly abandon on-location flowlines as per Rule 1105. File electronic Form 42 once abandonment is complete. Within 30 days of an operator completing abandonment requirements for an off-location flowline or crude oil transfer line, the operator must submit a Flowline Report, Form 44.
	Operator shall implement measures to control venting, to protect health and safety, and to ensure that vapors and odors from well plugging operations do not constitute a nuisance or hazard to public welfare.
	If there has not been a reported Bradenhead test within 60 days of plugging this well, prior to starting plugging operations, a Bradenhead test shall be performed. 1) If, before opening the Bradenhead valve, the beginning pressure is greater than 25 psi, sampling is required. 2) If pressure remains at the conclusion of the test, or if any liquids were present during the test, sampling is required. 3) If sampling is required contact COGCC engineering for an confirmation of plugging requirements prior to placing any plugs. Sampling shall comply with Operator Guidance - Bradenhead Testing and Reporting Instructions. The Form 17 shall be submitted within 10 days of the test.

### **Attachment Check List**

<b>Att Doc Num</b>	<b>Name</b>
401801211	FORM 6 INTENT SUBMITTED
401801217	WELLBORE DIAGRAM
401801218	WELLBORE DIAGRAM

Total Attach: 3 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	1) Deepest Water Well within 1 mile = 460'. 2) Fox Hills Bottom- N/A, per SB5.	01/04/2019
Permit	Operator confirms plug was drilled out. Ready to pass form. Confirmed Form 7 production reporting is accurate.	11/08/2018
Permit	Waiting on Operator response for: - missing form 5A to report plug drilled out or not  Confirmed as drilled lat/long is accurate. Final Form 5/Drilling Completion Report on file as doc# 1221349. Codell formation completion confirmed via Form 5A/Completed Interval Report(s): doc# 1221348.	10/25/2018
Well File Verification	Pass	10/19/2018

Total: 4 comment(s)