

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: Evins, Bret Tel: (970) 420-6699
 COGCC contact: Email: bret.evins@state.co.us

API Number 05-123-26702-00 Well Name: WELLS RANCH Well Number: 23-36
 Location: QtrQtr: NESW Section: 36 Township: 6N Range: 63W 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: 40.441310 Longitude: -104.387940
 GPS Data: Date of Measurement: 07/29/2008 PDOP Reading: 2.5 GPS Instrument Operator's Name: HOLLY TRACY
 Reason for Abandonment: Dry Production Sub-economic Mechanical Problems
 Other _____
 Casing to be pulled: Yes No Estimated Depth: _____
 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	6715	6723			
NIOBRARA	6544	6558			
Total: 2 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	566	400	566	0	VISU
1ST	7+7/8	4+1/2	10.5	6,885	195	6,885	6,610	CBL
S.C. 1.1				6,590	185	6,590	5,900	CBL
			Stage Tool	5,188	560	5,200	318	CBL

Plugging Procedure for Intent and Subsequent Report

CIBP #1: Depth 6396 with 2 sacks cmt on top. CIBP #2: Depth _____ with _____ sacks cmt on top.
 CIBP #3: Depth _____ with _____ sacks cmt on top. CIBP #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	<u>20</u>	sks cmt from	<u>6025</u>	ft. to	<u>5775</u>	ft.	Plug Type: <u>CASING</u>	Plug Tagged: <input type="checkbox"/>
Set	<u>40</u>	sks cmt from	<u>5438</u>	ft. to	<u>4938</u>	ft.	Plug Type: <u>CASING</u>	Plug Tagged: <input type="checkbox"/>
Set	<u>40</u>	sks cmt from	<u>1900</u>	ft. to	<u>1400</u>	ft.	Plug Type: <u>CASING</u>	Plug Tagged: <input type="checkbox"/>
Set	<u>60</u>	sks cmt from	<u>766</u>	ft. to	<u>0</u>	ft.	Plug Type: <u>CASING</u>	Plug Tagged: <input type="checkbox"/>
Set	_____	sks cmt from	_____	ft. to	_____	ft.	Plug Type: _____	Plug Tagged: <input type="checkbox"/>

Perforate and squeeze at 300 ft. with 70 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:

Wells Ranch 23-36 (05-123-26702)/Plugging Procedure (Intent)
 Producing Formation: Codell: 6715'-6723' Niobrara: 6544'-6558'
 Upper Pierre Aquifer: 570'-1670'
 TD: 7360' PBTD: 6858.3'
 Surface Casing: 8 5/8" 24# @566' w/ 400 sxs
 Production Casing: 4 1/2" 10.5# @ 6885.6' w/ 195 sxs cmt (TOC @ 6610' - CBL).
 Cement squeeze @ 6590' w/ 185 sxs cmt (6610'- 5900' - CBL).
 2nd stage cement @ 5200' w/ 560 sxs cmt (TOC @ 318' - CBL) with DV Tool at 5188'.

Tubing: 2 3/8" tubing set @ 6703.3' (10/2/2008).
 Proposed Procedure:
 1. MIRU pulling unit. Pull 2 3/8" tubing.
 2. RU wireline company.
 3. TIH with CIBP. Set BP at 6494'. Top with 2 sxs 15.8#/gal CI G cement.
 4. TIH with tubing to 6025'. RU cementing company. Mix and pump 20 sxs 15.8#/gal CI G cement down tubing. (Upper squeeze hole perf coverage from 6025'-5775').
 5. Pick up tubing to 5438'. Mix and pump 40 sxs 15.8#/gal CI G cement down tubing. (DV Tool coverage from 5438'-4938').
 6. Pick up tubing to 1900'. Mix and pump 40 sxs 15.8#/gal CI G cement down tubing. (Pierre coverage from 1900'-1400').
 7. TIH with perforation gun. Shoot 2 holes for annular squeeze at 300' @ 1 SPF or preferred.
 8. TIH with tubing to 766'. RU cementing company. Mix and pump 60 sxs 15.8#/gal CI G cement down tubing. Cement should circulate to surface. TOOH with tubing.
 9. Close off casing returns. Hook up cement line to cement flange and pump 70 sxs 15.8#/gal CI G cement downhole and squeeze through perforations at 300' into annular space. Cement should circulate to surface.
 10. 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: 12/4/2018 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: Wolfe, Stephen Date: 2/7/2019

CONDITIONS OF APPROVAL, IF ANY: _____ Expiration Date: 8/6/2019

COA Type	Description
	<p>Venting Operator shall implement measures to control unnecessary and excessive venting, to protect the health and safety of the public, and to ensure that vapors and odors from well plugging operations do not constitute a nuisance or hazard to public welfare.</p>
	<p>Bradenhead Testing</p> <ul style="list-style-type: none"> • Prior to the start of plugging operations, a bradenhead test shall be performed and reported if there has not been a reported bradenhead test within the 60 days immediately preceding the start of plugging operations. • If any of the following conditions exist then sampling of all fluids is required and sampling methods shall comply with Operator Guidance – Bradenhead Testing and Reporting Instructions, Appendix A: Liquid and Gas Sampling as found on the COGCC website, cogcc.state.co.us. <ol style="list-style-type: none"> 1) The initial pressure measurement on the bradenhead is greater than 25 psi, prior to blowing down any liquid or gas from the bradenhead valve, or 2) Pressure remains at the conclusion of the test, or 3) Any liquids are present anytime during the test. If so, then stop the test as soon as liquids are present and sample before resuming the test. • Form 17 Bradenhead Test Report shall be submitted within 10 days of the test. • If samples are collected, copies of all final laboratory analytical results shall be provided to the COGCC within three (3) months of collecting the samples. Submit via a Form 43 to upload the laboratory results to the COGCC Environmental Database. Form 43 instructions are on COGCC's website under Regulation => Forms => Form 43 COGCC Environmental Database.
	<p>Plugging</p> <ul style="list-style-type: none"> • Provide 48 hour notice of plugging MIRU via electronic Form 42. • Plugs and squeezes will be placed as stated in the plugging procedure of the approved NOI unless revised by COA or prior approval from COGCC is obtained. • COGCC Change: Move CIBP with 2 sx of cement from 6494' to 6396, 50' above top of Niobrara. • Check for fluid migration or shut-in pressure on the well prior to pumping any plug (open hole, annular or casing) that isolates deepest aquifer or the surface casing shoe (whichever is deeper). Contact COGCC Area Engineer for revised plugging orders if well is not static at this time prior to continuing with plugging operations. Document well conditions in operations summary attached to the Form 6 SRA. • Place a 50' plug (minimum) at the surface, both inside the inner most casing and in all annular spaces. All other cement plugs, without mechanical isolation, shall have at least 100' of cement left in the casing. Confirm cement to surface in all strings during cut and cap and document in operations summary attached to the Form 6 SRA. • Properly abandon flowlines as per Rule 1105. File electronic Form 42 once abandonment 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.

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401843323	FORM 6 INTENT SUBMITTED
401843333	WELLBORE DIAGRAM
401843334	WELLBORE DIAGRAM
401843337	GYRO SURVEY
401861011	OPERATIONS SUMMARY

Total Attach: 5 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	Base L-FH + 50' = 4770 - 4430 + 50 = 390' WW + Elev diff + 50' = 500 + 4770 - 4820 + 50 = 500' Logs 6/21/08 Base UPA 1670'	02/07/2019
Permit	Pass	12/05/2018
Permit	Returned to draft for: - wellbore diagram contains extra perfs	11/21/2018
Well File Verification	Pass	11/20/2018

Total: 4 comment(s)