FORM 6 Rev 12/05

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303) 894-2100 Fax: (303) 894-2109

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Date Received: 01/30/2018

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, COGCC contact: Name: O'Donnell, Shaun Tel: (720) 305-8280 Email: shaun.odonnell@state.co.us

API Number 05-123-20346-00

Well Name: HAHN Well Number: 23-27

Location: QtrQtr: NESW Section: 27 Township: 5N Range: 67W 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: 40.368280 Longitude: -104.881170

GPS Data:

Date of Measurement: 03/15/2007 PDOP Reading: 2.1 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: 3000

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	7078	7088			

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	380	275	380	0	VISU
1ST	7+7/8	4+1/2	10.5	7,281	240	7,281	5,770	CBL

Plugging Procedure for Intent and Subsequent Report

CIBP #1: Depth 7028 with 2 sacks cmt on top. CIPB #2: Depth 6664 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 60 sks cmt from 3125 ft. to 2900 ft. Plug Type: STUB PLUG Plug Tagged: ☒

Set 150 sks cmt from 2605 ft. to 2340 ft. Plug Type: OPEN HOLE Plug Tagged: ☐

Set 450 sks cmt from 580 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: ☐

Perforate and squeeze at 5150 ft. with 205 sacks. Leave at least 100 ft. in casing 4780 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. of _____ inch casing Plugging Date: _____

*Wireline Contractor: _____ *Cementing Contractor: _____

Type of Cement and Additives Used: _____

Flowline/Pipeline has been abandoned per Rule 1103 ☐ Yes ☐ No *ATTACH JOB SUMMARY

Technical Detail/Comments:

Hahn 23-27 (05-123-20346)/Plugging Procedure (Intent)
Producing Formation: Codell: 7078'-7088'
Upper Pierre Aquifer: 2448'-2505'
TD: 7288' PBTD: 7191'
Surface Casing: 8 5/8" 24# @ 380' w/ 275 sxs
Production Casing: 4 1/2" 10.5# @ 7281' w/ 240 sxs cmt (TOC @ 5770' - CBL).

Tubing: 2 3/8" tubing set @ 7089' (2/13/2002).
Proposed Procedure:
1. MIRU pulling unit. Pull 2 3/8" tubing.
2. RU wireline company.
3. TIH with CIBP. Set BP at 7028'. Top with 2 sxs 15.8#/gal Cl G cement.
4. TIH with CIBP. Set BP at 6664'. Top with 2 sxs 15.8#/gal Cl G cement.
5. Shoot lower squeeze holes at 5150'. Shoot upper squeeze holes at 4765'.
6. Set CICR at 4780'. Sting in and pump 205 sxs 15.8#/gal Cl G cement. Sting out and pump 10 sxs on top of CICR.
7. TIH with casing cutter. Cut 4 ½" casing at 3000'. Pull cut casing.
8. TIH with tubing to 3125'. RU cementing company. Mix and pump 60 sxs 15.8#/gal Cl G cement with 2% CaCl down tubing.
9. Pick up tubing to 2605'. Mix and pump 150 sxs 15.8#/gal Cl G cement down tubing.
10. Pick up tubing to 580'. Mix and pump 450 sxs 15.8#/gal Cl G cement down tubing. Cement should circulate to surface.
11. 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: 1/30/2018 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: 3/1/2018

CONDITIONS OF APPROVAL, IF ANY: Expiration Date: 8/31/2018

COA Type	Description
	1) Provide 48 hour notice of plugging MIRU via electronic Form 42. 2) Prior to placing the 580' 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 330' or shallower and provide 10 sx plug at the surface. Leave at least 100' of cement in the casing for each plug. 4) Properly abandon flowlines as per Rule 1103. File electronic Form 42 once abandonment is complete.
	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.
	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

Att Doc Num	Name
401529777	FORM 6 INTENT SUBMITTED
401529807	WELLBORE DIAGRAM
401529809	WELLBORE DIAGRAM
401529811	GYRO SURVEY

Total Attach: 4 Files

General Comments

User Group	Comment	Comment Date
Engineer	1) Deepest Water Well within 1 mile = 56'. 2) Fox Hills Bottom- N/A, per SB5.	03/01/2018
Public Room	Pass	02/15/2018
Permit	Pass	02/14/2018

Total: 3 comment(s)