

FORM

6

Rev
11/20

State of Colorado

Oil and Gas Conservation Commission

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



DE ET OE ES

Document Number:

402534222

Date Received:

11/17/2020

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: Valerie Danson

Name of Operator: PDC ENERGY INC

Phone: (970) 506-9272

Address: 1775 SHERMAN STREET - STE 3000

Fax:

City: DENVER State: CO Zip: 80203

Email: valerie.danson@pdce.com

For "Intent" 24 hour notice required,

Name: Evins, Bret

Tel: (970) 420-6699

COGCC contact:

Email: bret.evins@state.co.us

Type of Well Abandonment Report: ☒ Notice of Intent to Abandon ☐ Subsequent Report of Abandonment

API Number 05-123-23073-00

Well Name: HOWARD LAKE

Well Number: 21-9

Location: QtrQtr: NENW Section: 9 Township: 6N Range: 64W Meridian: 6

County: WELD

Federal, Indian or State Lease Number:

Field Name: WATTENBERG

Field Number: 90750

Only Complete the Following Background Information for Intent to Abandon

Latitude: 40.505750

Longitude: -104.557780

GPS Data: GPS Quality Value: 1.6 Type of GPS Quality Value: Date of Measurement: 06/27/2010

Reason for Abandonment: ☐ Dry ☒ Production Sub-economic ☐ Mechanical Problems☐ OtherCasing to be pulled: ☒ Yes ☐ No Estimated Depth: 1800Fish in Hole: ☐ Yes ☒ No If yes, explain details belowWellbore 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	7113	7121			

Total: 1 zone(s)

Casing History

Casing Type	Size of Hole	Size of Casing	Grade	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top	Status
SURF	12+1/4	8+5/8	J55	24	0	540	300	540	0	VISU
1ST	7+7/8	4+1/2	J55	10.5	0	7264	155	7264	6294	CBL
S.C. 1.1							331	6294	2230	CBL

Subsurface hazards include, but are not limited to, the following: overpressured zones, underpressured zones, major geologic faults, salt sections, H2S at concentrations greater than or equal to 100 ppm.

Plugging Procedure for Intent and Subsequent Report

CIBP #1: Depth 7063 with 2 sacks cmt on top. CIPB #2: Depth 6700 with 2 sacks cmt on top.
CIBP #3: Depth 2500 with 2 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 100 sks cmt from 1850 ft. to 1600 ft. Plug Type: STUB PLUG 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: ☐
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 266 sacks half in. half out surface casing from 750 ft. to 0 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

Surface Plug Setting Date: _____ Cut and Cap Date: _____ Number of Days from Setting Surface Plug to Capping or Sealing the Well: _____

*Wireline Contractor: _____ *Cementing Contractor: _____

Type of Cement and Additives Used: _____

Flowline/Pipeline has been abandoned per Rule 1105 ☐ Yes ☐ No

Technical Detail/Comments:

Howard Lake 21-9 (05-123-23073) Plugging Procedure (Intent)
Producing Formation: Codell: 7113'-7121'

Upper Pierre Aquifer: 650'-1700'
TD: 7290' PBTD: 7200' (4/18/2014)
Surface Casing: 8 5/8" 24# @ 540' w/ 300 sxs
Production Casing: 4 1/2" 10.5# @ 7264' w/ 486 sxs cmt (TOC @ 2230' – CBL)

Tubing: 2 3/8" tubing set @ 7098' (8/7/2005)

Proposed Procedure:

1. MIRU pulling unit. Pull 2 3/8" tubing.
2. RU wireline company.
3. TIH with CIBP. Set BP at 7063'. Top with 2 sxs 15.8#/gal CI G cement. (Top of Codell perms @ 7113').
4. TIH with CIBP. Set BP at 6700'. Top with 2 sxs 15.8#/gal CI G cement. (Top of Nio @ 6750')
5. TIH with CIBP. Set BP at 2500'. 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 1850'. RU cementing company. Mix and pump 100 sxs 15.8#/gal CI G cement down tubing. (Stub plug and Pierre coverage from 1850'-1600').
8. Pick up tubing to 750'. Mix and pump 266 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: Valerie Danson
Title: Reg Tech Date: 11/17/2020 Email: valerie.danson@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: 11/20/2020

CONDITIONS OF APPROVAL, IF ANY: _____

Expiration Date: 5/19/2021

COA Type	Description
	<p>1) Provide 48 hour notice of plugging MIRU via electronic Form 42.</p> <p>2) Prior to placing the 750' 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.</p> <p>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 490' or shallower and provide 10 sx plug at the surface.</p> <p>4) Leave at least 100' of cement in the wellbore for each plug.</p> <p>5) Properly abandon flowlines per Rule 1105. File electronic Form 42 once abandonment of on-location flowlines is complete. Within 90 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.</p> <p>6) With the Form 6 SRA operator must provide written documentation which positively affirms each COA has been addressed.</p> <p>7) After placing the shallowest hydrocarbon isolating plug (1850'), operator must wait a sufficient time to confirm static conditions. If at any time after placing this plug there is evidence of pressure or fluid migration, contact COGCC engineering before continuing operations.</p>
	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.
	<p>Prior to starting plugging operations a Bradenhead test shall be performed if there has not been a reported Bradenhead test within the 60 days immediately preceding the start of plugging operations.</p> <p>1) If, before opening the Bradenhead valve, the beginning pressure is greater than 25 psi, sampling is required.</p> <p>2) If pressure remains at the conclusion of the test, or if any liquids were present during the test, sampling is required.</p> <p>The Form 17 shall be submitted within 10 days of the test. Sampling shall comply with Operator Guidance - Bradenhead Testing and Reporting Instructions. 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.</p>

Attachment List

Att Doc Num	Name
402534222	FORM 6 INTENT SUBMITTED
402534254	WELLBORE DIAGRAM
402534255	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.	11/20/2020
Engineer	In accordance with the Notice to Operators (NTO): Timing for COGCC Forms adopted on 05/01/2020, this Form 6 Notice of Intent to Abandon is valid for 12 months from the date of approval expiring on 11/20/2021. This NTO does not alter the deadlines for submission of, or compliance with any other Commission rule or Form.	11/20/2020
Permit	-Confirmed as-drilled well location. -No other forms in process. -Production reporting up-to-date. -Confirmed productive interval docnum: 1418973. -Reviewed WBDs. -Pass.	11/19/2020

Total: 3 comment(s)