

FORM  
6Rev  
11/20

# State of Colorado Oil and Gas Conservation Commission

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DE ET OE ES

Document Number:

402580144

Date Received:

01/21/2021

## 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: Santistevan, Brittani

Tel: (720) 471-1110

COGCC contact:

Email: brittani.santistevan@state.co.us

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

API Number 05-123-11531-00

Well Name: LEONARD &amp; SON

Well Number: 1

Location: QtrQtr: SWNW Section: 16 Township: 5N Range: 67W Meridian: 6

County: WELD Federal, Indian or State Lease Number: 65481

Field Name: WATTENBERG Field Number: 90750

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

Latitude: 40.401440 Longitude: -104.904780

GPS Data: GPS Quality Value: 2.4 Type of GPS Quality Value: Date of Measurement: 05/27/2007

Reason for Abandonment: ☐ Dry ☒ Production Sub-economic ☐ Mechanical Problems☐ OtherCasing to be pulled: ☒ Yes ☐ No Estimated Depth: 2500Fish 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
NIOBRARA-CODELL	6960	7262			

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	J-55	24	0	502	400	502	0	VISU
1ST	7+7/8	4+1/2	J-55	11.6	0	7310	250	7310	5310	CBL

## Plugging Procedure for Intent and Subsequent Report

CIBP #1: Depth 6910 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 100 sks cmt from 2500 ft. to 2300 ft. Plug Type: STUB PLUG Plug Tagged: ☐  
 Set 100 sks cmt from 1520 ft. to 1320 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 204 sacks half in. half out surface casing from 602 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 Number of Days from Setting Surface Plug to Capping or Sealing the Well: \_\_\_\_\_  
 Surface Plug Setting Date: \_\_\_\_\_ Cut and Cap Date: \_\_\_\_\_

\*Wireline Contractor: \_\_\_\_\_ \*Cementing Contractor: \_\_\_\_\_

Type of Cement and Additives Used: \_\_\_\_\_

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

Technical Detail/Comments:

Leonard & Son 1 (05-123-11531)/Plugging Procedure (Intent)  
 Producing Formation: Niobrara/Codell: 6960'-7262'

Upper Pierre Aquifer: 440'-1420'

TD: 7317' PBTD: 7284' (11/2/2009)

Surface Casing: 8 5/8" 24# @ 502' w/ 400 sxs cmt

Production Casing: 4 1/2" 11.6# @ 7310' w/ 250 sxs cmt (TOC @ 5310' - CBL)

Tubing: 2 3/8" tubing set @ 7216' (11/2/2009)

Proposed Procedure:

1. MIRU. Pull 2 3/8" tubing.
2. RU wireline.
3. TIH with CIBP. Set BP at 6910'. Top with 2 sx 15.8#/gal CI G cement. (Top of Niobrara perms @ 6960')
4. TIH with casing cutter. Cut 4 1/2" casing @ 2500'. Pull cut casing.
5. TIH with tubing to 2500'. RU cementing company. Mix and pump 100 sx 15.8#/gal CI G cement down tubing. (Stub plug from 2500'-2300')
6. Pick up tubing to 1520'. Mix and pump 100 sx 15.8#/gal CI G cement down tubing. (Pierre coverage from 1520'-1320')
7. Pick up tubing to 602'. Mix and pump 204 sx 15.8#/gal CI G cement down tubing. Cement should circulate to surface.
8. 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

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: McFarland, Nick

Date: 1/28/2021

**CONDITIONS OF APPROVAL, IF ANY:**

Expiration Date: 7/27/2021

**COA Type**

**Description**

	<p>1) Provide 2 business day notice of plugging MIRU via electronic Form 42.</p> <p>2) After placing the plug at 2500', operator must wait a sufficient time to confirm static conditions. If at any time after placing this plug there is evidence of pressure or of fluid migration, contact COGCC engineering before continuing operations.</p> <p>3) Prior to placing the 1520' plug: verify that all fluid migration (liquid and gas) has been eliminated. If evidence of fluid migration or pressure remains, contact COGCC Engineer for an update to plugging orders.</p> <p>4) After isolation has been verified, pump plug at 602' and displace. If cement is not circulated to surface, shut-in, WOC 4 hours then tag plug – must be at 452' or shallower and provide 10 sx plug at the surface.</p> <p>5) Leave at least 100' of cement in the wellbore for each plug.</p> <p>6) 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>7) With the Form 6 SRA operator must provide written documentation which positively affirms each COA has been addressed.</p>
	<p>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 1/28/2022. This NTO does not alter the deadlines for submission of, or compliance with any other Commission rule or Form.</p>
	<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> <p>If there is a need for sampling, contact COGCC engineering for verification of plugging procedure.</p>
	<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>

**Attachment List**

<b><u>Att Doc Num</u></b>	<b><u>Name</u></b>
402580144	FORM 6 INTENT SUBMITTED
402580160	WELLBORE DIAGRAM
402580162	WELLBORE DIAGRAM
402580163	GYRO SURVEY

Total Attach: 4 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	Most recent BH test 3/22/20 - 0 psi. Producing as of November 2020.  SB5 Base of Fox Hills Aquifer: N/A  Deepest water well within 1 mile: 25' # of wells: 7  Deepest water well within 2 miles: 1170' # of wells: 47  Base of Upper Pierre: 1250' - Induction log.  Production within one mile: JSND, CODL, NBRR	01/28/2021
Permit	Verified as-drilled GPS. Verified perf zones. Verified production reporting. Permitting review complete.	01/26/2021

Total: 2 comment(s)