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401993549

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04/02/2019

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: Peterson, Tom Tel: (970) 370-1281

COGCC contact: Email: tom.peterson@state.co.us

API Number 05-123-31911-00

Well Name: Ryland Well Number: 20CD

Location: QtrQtr: NWNW Section: 21 Township: 4N 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: 40.302860 Longitude: -104.904720

GPS Data:
Date of Measurement: 11/13/2010 PDOP Reading: 1.7 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
NIOBRARA-CODELL	7206	7540			

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	665	470	665	0	VISU
1ST	7+7/8	4+1/2	11.6	7,633	975	7,633	510	CBL

Plugging Procedure for Intent and Subsequent Report

CIBP #1: Depth 7156 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 40 sks cmt from 1600 ft. to 1100 ft. Plug Type: CASING Plug Tagged:
 Set 70 sks cmt from 865 ft. to 0 ft. Plug Type: CASING Plug Tagged:
 Set 10 sks cmt from 4000 ft. to 3900 ft. Plug Type: CASING 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 495 ft. with 130 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:

Ryland 20CD (05-123-31911)/Plugging Procedure (Intent)
 Producing Formation: Niobrara/Codell: 7206'-7540'
 Upper Pierre Aquifer: 282'-1310'
 TD: 7638' PBTD: 7598'
 Surface Casing: 8 5/8" 24# @ 665' w/ 470 sxs
 Production Casing: 4 1/2" 11.6# @ 7633' w/ 975 sxs cmt (TOC @ 510' - CBL).
 Tubing: 2 3/8" tubing set @ 7517.8' (2/17/2011).
 Proposed Procedure:
 1. MIRU pulling unit. Pull 2 3/8" tubing.
 2. RU wireline company.
 3. TIH with CIBP. Set BP at 7156'. Top with 2 sxs 15.8#/gal CI G cement.
 4. TIH with tubing to 1600'. RU cementing company. Mix and pump 40 sxs 15.8#/gal CI G cement down tubing (Pierre coverage from 1600'-1100'). TOOH with tubing.
 5. TIH with perforation gun. Shoot 2 holes for annular squeeze at 495' @ 1 SPF or preferred.
 6. TIH with tubing to 865'. RU cementing company. Mix and pump 70 sxs 15.8#/gal CI G cement down tubing. Cement should circulate to surface. TOOH with tubing.
 7. Close off casing returns. Hook up cement line to cement flange and pump 130 sxs 15.8#/gal CI G cement downhole and squeeze through perforations at 495' into annular space. 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: Valerie Danson
 Title: Reg Tech Date: 4/2/2019 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: Wolfe, Stephen

Date: 4/30/2019

CONDITIONS OF APPROVAL, IF ANY:

Expiration Date: 10/29/2019

COA Type	Description
	<p>Venting</p> <p>Operator will 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. Include details on Form 6 SRA.</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, or2) Pressure remains at the conclusion of the test, or3) 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: Add intermediate isolation at 4000', 10 sx casing plug or CIBP with 2 sx of cement.• If there is Bradenhead pressure reported on the pre-plugging Form 17 operator will contact COGCC Area Engineer for revised plugging orders prior to proceeding with plugging operations.• 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 Engineer for revised plugging orders if well is not static at this time, prior to continuing with plugging operations.• 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.• Properly abandon on-location 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.• Document all COAs have been satisfied on Form 6 SRA.

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401993549	FORM 6 INTENT SUBMITTED
401993619	WELLBORE DIAGRAM
401993621	WELLBORE DIAGRAM

Total Attach: 3 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	SB 5 NA Base L-FH + 50' = Outcrop WW + Elev diff + 50 = 18(1mi) 590(2mi) + 4922 - 4970 + 50 = 592' Logs 9/15/10 Base UPA 1305'	04/30/2019
Permit	Ready to pass form. Confirmed as drilled lat/long is accurate. Final Form 5/Drilling Completion Report on file as doc# 2592503. Niobrara-Codell formation completion confirmed via Form 5A/Completed Interval Report(s): doc# 2592500. Confirmed Form 7 production reporting is accurate.	04/11/2019
Well File Verification	Pass	04/03/2019

Total: 3 comment(s)