



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL
Vertical / Plugging - 2

COLUMBIA GAS TRANSMISSION, LLC
P. O. BOX 1273

CHARLESTON, WV 253251273

Re: Permit Modification Approval for 7239
47-107-00305-00-00

PERFORM MARCELLUS SHALE LEAK OFF TEST
PERFORM UPPER DEVONIAN SHALE LEAK OFF TEST

COLUMBIA GAS TRANSMISSION, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.


James A. Martin
Chief

Operator's Well Number: 7239
Farm Name: CABOT CORPORATION
U.S. WELL NUMBER: 47-107-00305-00-00
Vertical / Plugging - 2
Date Issued: 12/02/2016

Promoting a healthy environment.

12/09/2016

**Modified Plugging Procedure – submitted to WV DEP 12/1/16
Rockport well 7239 (47-107-00305)**

1. NU BOPs and pressure test. Will need at minimum one BOP pipe barrier (wellbore fluid at surface serves as second barrier).
2. Clean to 5090 ft.
3. Install bottom cement plug from 4930' – TD.
4. WOC and tag plug. If top of cement plug is deeper than 4950' than will need to spot more cement.
5. Well need two BOP pipe barriers from this point forward (wellbore fluid not considered a barrier during Leak Off Tests).

Perform Marcellus shale Leak Off Test (LOT) – CPG Engineer to Witness

6. Swab well down to 2500' (*obtain density of fluid swabbed and record in morning report*).
7. Set cast iron DBP above cement plug, but below 4920 ft.
8. Perforate 1 ft of Marcellus shale w/ 4 SPF @ 4915-16' (correlate to Radial CBL ran 11/15/16) under lubricator. * Note depth of wellbore fluid while running in hole.
9. RIH with BAL Pressure/Temp tool to 4915' under lubricator.
10. Record pressure as hole is loaded with fluid (looking for maximum recorded pressure while loading hole). * *Obtain density of fluid used to load wellbore.*
11. If hole loads then slowly apply pressure until break occurs and shut down. Release pressure, then attempt to re-apply again for second break (this will be more representative of minimum frac pressure).
12. LOT complete.

Resume Plugging Operations

13. Swab well down to **xxxx** ft (base depth on LOT results).
14. Install cement plugs from DBP to +/- 4000 ft. Add ¼ lb/sk polyflake to cement.
15. WOC and tag.
16. If top of cement is above perms then proceed with procedure. If not, install another cement plug across Marcellus perms.

Perform upper Devonian shale LOT – CPG Engineer to Witness

17. Swab well down to 1000' (*obtain an accurate density of fluid swabbed and record in morning report*).
18. MIRU BAL.

19. Perf 1 ft of upper Devonian shale w/ 4 SPF @ 3180' (correlate to Radial CBL ran 11/15/16) * *Note depth of wellbore fluid while running in hole.*
20. RIH with Pressure/Temp tool to 3180'.
21. Record pressure as hole is loaded with fluid (looking for maximum recorded pressure while loading hole).
* *Obtain accurate density of fluid used to load wellbore.*
22. If hole loads then slowly apply pressure until break observed and shut down. Release pressure, then attempt to re-apply again for second break (this will be more representative of minimum frac pressure).
23. LOT complete.

Resume Plugging Operations

24. Install 100 ft 6% gel plug from top of last cement plug (requested by State inspector), and stack cement plugs to **xxxx** ft (base depth on LOT results).
25. WOC and tag plug.
26. Stack cement plugs to surface.
27. Bust out concrete cellar.
28. Grout any open annuli at surface.
29. Install 7" casing monument.

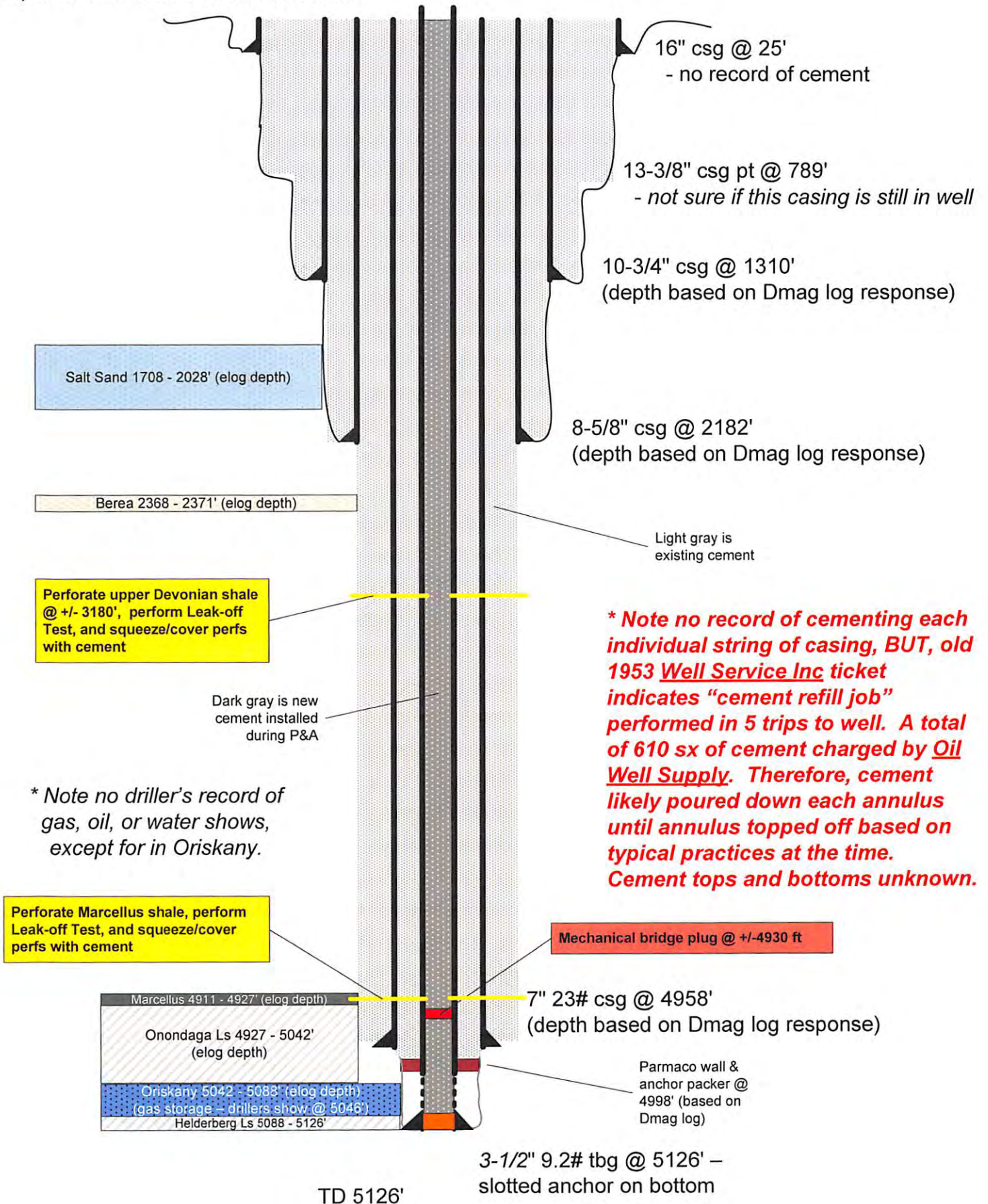
ROCKPORT 7239

(12/1/2016)

Proposed P&A after CBL ran/evaluation

10700305 P MOD

** not to scale **



12/09/2016

McLaughlin, Jeffrey W

From: James Amos <james_amos@transcanada.com>
Sent: Thursday, December 01, 2016 10:12 AM
To: McLaughlin, Jeffrey W
Cc: Steven Simmons; Taylor, Joseph D; Goff, Michael D
Subject: API 107-00305: Modification to Plugging Procedure
Attachments: WV DEP Plugging Permit (8.3.16) - Rockport 7239 (107-00305).pdf; Plugging Modification (12.1.16) - Rockport 7239 (107-00305).pdf; Visio-Wellbore Schematic 12.1.16 (REV proposed P&A) - Rockport 7239.pdf

Jeff, per your instructions, attached is a revised procedure and wellbore schematic reflecting proposed modifications to the plugging procedure for Columbia's Rockport well 7239 (107-00305). Also attached is a copy of the original permit.

Give me a ring if you have questions.

Jim Amos
Senior Storage Engineer - Well Engineering and Technology
Storage Technical Services | TransCanada

48 Columbia Gas Rd
Sandyville, WV 25275
Off: 304-373-2412 Mob: 304-483-0073
james_amos@transcanada.com

Please note: TransCanada recently purchased Columbia Pipeline Group. As a result, all CPG employees will be receiving a new email address. Please update your contacts with my new email address, james_amos@transcanada.com, to ensure I receive all emails going forward.

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