

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 039 - 02839 County Kanawha District Elk
Quad Blue Creek of the Elk River Pad Name Coco C Field/Pool Name Coco C
Farm name New Well Well Number 12050
Operator (as registered with the OOG) Columbia Gas Transmission LLC
Address 1700 MacCorkle Ave SE City Charleston State WV Zip 25314

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing _____ Easting _____
Landing Point of Curve Northing Not applicable Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 601 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

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Fresh Water and Brine
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Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water and Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
N/A. SOW rework existing - perf 4-1/2" + 7" csg for cement squeeze, no injection, cut & pull 4-1/2" csg, perf & squeeze 7" to near surface. Run new 4-1/2" csg tying to stub with external patch, cement to surface thru stage tool. Install internal 4-1/2" patch over lower perfs. Perform CTCO and acid stim. 1000 gal 15% HCl.

Date permit issued 08/26/2021 Date drilling commenced N/A Date drilling ceased N/A
Date completion activities began N/A Date completion activities ceased N/A
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 40' and 498' per driller Open mine(s) (Y/N) depths N
Salt water depth(s) ft None reported by driller when drilled Void(s) encountered (Y/N) depths N
Coal depth(s) ft None reported by driller when drilled Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: 
08/11/2023

API 47-039 - 02839 Farm name New Well Well number 12050

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor		existing well					
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor		existing well					
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 5122 Loggers TD (ft) _____
 Deepest formation penetrated Oriskany Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) N/A

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Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING N/A

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS N/A

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS N/A

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

~ not to scale ~

COCO C 12050

Workover

(as of 6/23/2023)

Show FW @ 40'

Sea Level @ 601 ft.

Show FW @ 498'

20" csg @ ~20'.

13-3/8" 48# csg @ ~166'.

- Cemented w/ 165 sx - cement circulated to surface.

Light grey fill indicates cement in place during well construction.

Dark grey fill indicates cement placed during workover.

Maxton Sand 1320 - 1340'

Little Lime 1340 - 1380'

Injun Sand 1660 - 1680'

Weir Sand 1755 - 1780'

Berea Sand 1960 - 1963'

Shot 4' of Upper Perfs (U.P.2) at 6spf 2100' - 2104'.
Squeeze 61bls Class A neat. Confirm cmt to surface
w/CBL 3/30/23

Shot 4' of Lower Perfs (L.P.2) at 6spf 2350' - 2354'.
Would not circulate U.P.1 to L.P.2 or L.P.2 to U.P.2.
Drilling out after squeeze to surface from U.P.2 perf,
drilled hard cmt from 2092 to 2380'.

Shot 4' of Upper Perfs (U.P.1) at 6spf 3276' - 3280'.
Would not circulate L.P.1 to U.P.1

Shot 4' of Mid Perfs (M.P.) at 6spf 3416' - 3420'.
Would not circulate L.P.1. to M.P. While attempting
to circulate M.P. to U.P.1 broke down formation.
Squeeze cement 5 bbl class A. CBL TOC ~3388'.
Drilling out inside, tagged / drilled cmt 3400 - 3480'

Shot 4' of Lower Perfs (L.P.1) at 6spf 3576' - 3580'.
Can't circulate / inject, or circulate L.P.1 to U.P.1

Run new 4-1/2" 11.6# N-80 LTC with external lead
seal patch on bottom of 1st joint and cement
stage tool on top of 1st joint at 3782'. Pressure
test to 2200 psi hydrostatic at seal depth.

Cut and pull 4-1/2" casing from 3824'

Marcellus 4880 - 4904'

Onondaga 4904 - 5016'

Oriskany 5016 - 5073'
(gas storage)

9-5/8" 32# csg @ ~1870'

- Cemented w/ 650 sx - cement returned to surface.

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WV Department of
Environmental Protection

Cement new 4-1/2" casing to surface through the
cement sleeve (3782') with 74.6bbls (355 sx)
class A neat 15.6 ppg.

3/14/2023 Baker 7" RAL shows good cement 3740' - 3640'.
Confirmed overdisplaced shoe.

5/10/21 TOC behind 7" csg estimated @ 3800' based
on volumetrics. Due to migration issues, cement
barrier is likely compromised. Unknown quality.

TOC behind 4-1/2" csg @ 4045' per CBL
Good cement 4050 - 4130'

Poor cement quality 4130 - 4974'

4' stringer of good cement 4974 - 4978'

Cement quality unknown below 4978' (BLI)

7 23# N-80 csg @ ~5016'

- Cemented with 150 sx.

- Calc fill-up TOC @ ~3800'

- Unsuccessful perf and cmt squeeze attempt 4980' - 4985' (4 spf
60 deg) / injection test on 7" with Phase 1 of workover.

- Perforation covered with internal Homco Weatherford casing
patch, 4974' - 4994', during phase 2 of workover.

Storage perfs are approximate
5024 - 5042'.

TD 5122'

Original 2003 4-1/2" 11.6# N-80 casing 3824' - 5117'

- Cemented with 90 sx.

- TOC @ 4045' based on CBL.

08/11/2023

Columbia Gas Transmission, LLC
1700 MacCorkle Ave., SE, Charleston, WV, USA 25314



July 3rd, 2023

WV DEP – Office of Oil & Gas
601 57th Street, SE
Charleston, WV 25304-2345

Enclosed is the post well work permit application for the following Columbia Gas Transmission existing storage well:

Coco C 12050 (API 47-039-02839)

If you have questions, feel free to call.

Regards,

A handwritten signature in black ink, appearing to read "Maria Medvedeva", written over a light blue horizontal line.

Maria Medvedeva
Senior Wells Engineer
Well Engineering & Technology
Columbia Gas Transmission, LLC
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