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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Thursday, August 26, 2021  
WELL WORK PERMIT  
Vertical / Re-Work

COLUMBIA GAS TRANSMISSION, LLC  
STORAGE TECHNICAL SERVICES - 6TH FLOOR  
1700 MACCORKLE AVE. SE.  
CHARLESTON, WV 25314

Re: Permit approval for 12050  
47-039-02839-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless 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: 12050  
Farm Name: KEETEN, JAMES & MANUEL  
U.S. WELL NUMBER: 47-039-02839-00-00  
Vertical Re-Work  
Date Issued: 8/26/2021

## PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

### CONDITIONS

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1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours
7. Well work activities shall not constitute a hazard to the safety of persons.
8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced, drilling ceased, completion of any other permitted well work and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov) within 30 days of commencement of drilling.

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**WELL WORK PERMIT APPLICATION**

1) Well Operator: Columbia Gas Transmission, LLC 307032 Kanawha EIK WV  
Operator ID County District Quadrangle

2) Operator's Well Number: Coco C 12050 3) Elevation: 601.03'

4) Well Type: (a) Oil \_\_\_\_\_ or Gas X  
(b) If Gas: Production \_\_\_\_\_ / Underground Storage X  
Deep X / Shallow \_\_\_\_\_

5) Proposed Target Formation(s): Oriskany Proposed Target Depth: 5100'

6) Proposed Total Depth: 5100' Feet Formation at Proposed Total Depth: Oriskany

7) Approximate fresh water strata depths: 25' - 40' and 498' as reported by the Driller in 1978.

8) Approximate salt water depths: 755' - 1215' as reported by the Driller in 1978.

9) Approximate coal seam depths: None as reported by the Driller in 1978.

10) Approximate void depths, (coal, Karst, other): None as reported by the Driller in 1978.

11) Does land contain coal seams tributary to active mine? No.

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Perforate the 4-1/2" and 7" casings simultaneously and perform an injection test. If successful, squeeze cement. If unsuccessful, wireline freepoint and back-off 4-1/2" casing, run CBL, perforate 7" casing, and perform injection test. If circulation is established, squeeze cement. If unsuccessful, re-perf, repeat until circulation is established, and perform a suicide squeeze. Run new 4-1/2" casing and reconnect using an external patch. Install an internal patch across squeeze perms. Perform CTCO and acidize the well.

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS	FOOTAGE INTERVALS		CEMENT		
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu / Ft.)
Conductor	20"	Unknown	Unknown	0	20	N/A
Fresh Water	13-3/8"	H-40	48	0	166	165 sx.
Coal	9-5/8"	J-55	32	0	1860	650 sx.
Intermediate	7"	N-80	23	0	5026	150 sx.
Production	4-1/2"	N-80	11.6	0	5117	90 sx.
Tubing						
Liners						

*Existing Borehole*  
*14-21*

Packers: Kind: N/A Sizes: \_\_\_\_\_ Depths Set \_\_\_\_\_

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Note that well has history of storage sourced gas in the 7x9 secondary annulus. Based on diagnostics wellhead seals are functional and there is no leak path through casing; leak path appears to be behind pipe migration from Oriskany storage zone. Well was killed with 8.6 ppg fluid and appears static. No pressure on 4x7 annulus. Attempted to kill 7x9 annulus with both 8.6 ppg and 11.3 ppg, but cannot kill. Based on Diff Temp log, it appears that there may be an obstruction/bridge/barrier in annulus at ~2100 (~230' below 9-5/8" csg shoe). 11.3 ppg fluid exerts 1230 psig in hydrostatic pressure at a depth of 2100', which should have been adequate to create over-balance condition at current pressure assuming presence of storage reservoir pressure at 2100'. At MOP, 18.5 ppg annular fluid would be required to exert 100 psig over-balanced condition.

**PHASE 2**

- 1 Obtain EM&CP, pipeline crossing evaluation, call before you dig, etc. Prepare site specific SPCC.
- 2 Notify landowner.
- 3 Obtain General Work Permit and Wellsite Review & Turnover Form from Operations.
- 4 ~~Notify Reservoir Engineering & Geosciences (REG) of intent to take well out of service.~~
- 5 Notify environmental inspector prior to beginning work.
- 6 If required, notify State/Federal regulatory agencies prior to beginning work.
- 7 ~~Disconnect well line.~~
- 8 Prepare access road and well site. Install ECD's per EM&CP.
- 9 Service all wellhead valves.
- 10 Blow down 7x9 annulus and install new 2" XXH fittings and new 5000 psig ball valves. Install two valves each side, for redundancy. Plumb 7x9 annulus into flowback tank with variable choke.
- 11 Document initial 4.5" flowstring, 4x7 annulus, and 7x9 annulus pressures.
- 12 MIRU Baker Atlas Logging. Install composite DBP at 5010' correlated to Radial Cement Bond Log ran 4/22/21. There's a short ID short 4910 - 20' to correlate to. It's extremely important to set plug at correct depth. Perform 2200 psig (surface) pressure test to confirm DBP barrier integrity - chart pressure test - this pressure test will serve as baseline to compare to future pressure tests.
- 13 Perforate 4-1/2" csg 4980 - 85' 4 SPF phased 60 degrees - need charge to penetrate both 4-1/2" and 7" casings.
- 14 Perform injection test. Consult with WET engineer with results.  
If injection established proceed to Step 20. If injection not established proceed to Step 30.
- 20 MIRU service rig.
- 21 NU BOPs on top of master valve. Cameron 7-1/16" 5K blind/shear + Cameron 2-3/8" pipe + annular.
- 22 Perform low (300 psig) and high (2200 psig) pressure test on each BOP component.
- 23 PU composite cement retainer on 2-3/8" work string and TIH. Set retainer at ~4950 ft (~30' above top squeeze perf at 4980').
- 24 Establish injection. Disengage from retainer. Spot XX bbls American Cementing UltraFine cement to bottom of work string. Engage retainer and squeeze cement - maximum injection pressure 2000 psig. Disengage from retainer, reverse circulate to clean tubulars, and TOOH.
- 25 ND BOPs and RDMO service rig. Suspend operations to evaluate success of barrier installation.

**Monitor 7x9 annulus. Attempt to blow down. Results will dictate next plan of action.**

**PHASE 2**

**IN ORDER TO PERFORM THE NEXT SCOPE OF WORK, TO MAINTAIN WELL CONTROL, WELL WORK NEEDS TO BE PERFORMED WHEN ROCK PRESSURES ARE LESS THAN 1200 PSIG.**

- 30 MIRU service rig.
- 31 Document initial 4.5" flowstring, 4x7 annulus, and 7x9 annulus pressures.
- 32 Plumb 7x9 annulus to flowback with variable choke. Pressure test choke line to 2000 psig.
- 33 Remove wellhead down to casing spool.
- 34 Weld pulling nipple on top of 4-1/2" casing and pull slips/mandrel.
- 35 Install 7-1/16" gate valve + Cameron 7-1/16" 5K blind/shear + Cameron 4-1/2" pipe + annular.
- 36 Perform low (300 psig) and high (2200 psig) pressure test on each BOP component.
- 37 RIH with work string to ~4500' and circulated XX ppg fluid - density to be determined by WET engineer. Fluid density to exert minimum of 150 psig over-balanced condition at a depth of 2100' assuming BH storage formation gas pressure is present behind 7" csg at 2100'.
- 38 Wireline free-point 4-1/2" casing - TOC is at 4045'. Consult with WET engineer on results.
- 39 Mechanically cut 4-1/2" casing and pull.
- 40 Obtain CBL inside of 7" casing. Estimated TOC ~3800'. Pull log to surface. Consult with WET engineer prior to performing next steps.

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- 41 Install 7" RBP ~30' above 4-1/2" csg stub and spot 20' of sand on top of RBP.
- 42 Under full lubricator with wireline BOPs, perforate 2 feet of 7" csg w/ 4 SPF phased 60 degrees at XXXX' - depth to be determined by WET engineer. Note that it's likely that high pressure gas exists behind the 7" csg - be prepared to handle kick if necessary after perforating.
- 43 Perform injection/circulation test down 7" csg. If circulation to surface establish proceed to Step 50. If circulation to surface not established then proceed to Step 60.

If circulation to surface established

- 50 Circulate KW fluid to surface - there may be some gas or gas-cut fluid circulated to surface - choke if necessary. Continue circulation until good KW density reaches surface, and then circulate until clean. SD pump and perform flow check on 7" csg and 7x9 annulus - monitor for 1 hour to verify wellbore is dead and static.
- 51 Consult with WET engineer to develop squeeze cementing procedure.
- 52 Perform squeeze cement. WOC minimum of XX hours (TBD by WET engineer).
- 53 Obtain CBL from PBTD to surface. Consult with WET engineer. Proceed to Step 70.

If circulation to surface NOT established

- 60 Under full lubricator with wireline BOPs, perforate 2 feet of 7" csg w/ 4 SPF phased 60 degrees at XXXX' - depth to be determined by WET engineer. Note that it's likely that high pressure gas exists behind the 7" csg - be prepared to handle kick if necessary after perforating. Monitor 7" csg and 7x9" annulus for 1 hour to assess status of wellbore.
- 61 RIH w/ packer on work string, set above bottom perms, and perform perms-to-perms circulation test - there may be some gas or gas-cut fluid circulated to surface - choke if necessary. Continue circulation until good KW density reaches surface, and then circulate until clean. SD pump and perform flow check on 7" csg and 7x9 annulus - monitor for 1 hour to verify wellbore is dead and static.
- 62 Re-perf and repeat, per WET engineer direction, until perf-to-perms circulation established.
- 63 Consult with WET engineer to develop suicide squeeze cementing procedure.
- 64 Perform suicide squeeze. WOC minimum of XX hours (TBD by WET engineer).
- 65 Clean 7" csg to bottom squeeze perms. Obtain CBL from PBTD to surface. Consult with WET engineer. Proceed to Step 70.

- 70 Clean to RBP and retrieve.
- 71 TIH, dress top of 4-1/2" csg with mill, and TOOH.
- 72 Run new 4-1/2" 11.60# N-80 API 8rd LTC, circulate packer fluid behind 4-1/2", and reconnect with lead-seal external patch. Installation to be supervised by manufacturer representative.
- 73 Perform 2200 psig (surface) pressure test to confirm integrity of lead-seal patch - compare to earlier baseline tests. If test passes proceed.
- 74 ND BOPs. Cut/dress 4-1/2" csg, install primary seals, DSPA w/ secondary seals, and 4-1/16" master valve. Pressure test WH seals.
- 75 Install 2-3/8" pipe rams, NU BOPS, and pressure test low/high.
- 76 TIH and drill composite cement retainer and clean to composite DBP - DO NOT DRILL DBP. TOOH.
- 77 Install Saltel internal patch/cladding across bottom squeeze perms.
- 78 Perform 2200 psig (surface) pressure test to confirm integrity of patch - compare to earlier baseline tests. If test passes proceed.
- 79 RDMO service rig.
- 80 MIRU 1.75" CTU. Drill composite DBP and clean to TD.  
Optional (WET engineer to decide): Re-perforate across storage interval.  
Hydro-blast perf interval with foamed 15% HCl acid.  
Optional (WET engineer to decide): Perform low pressure acid soak. Flow well. If well won't flow unload with nitrogen. RDMO CTU.
- 81 Flow well to recover treatment fluids.
- 82 Perform final 45-min flowback test thru 3/4" choke.
- 83 Notify WET Project Support that well is back in-service.
- 84 Reclaim R&L.
- 85 Reconnect well line.
- 86 Paint wellhead and well line.
- 87 Commission well by completing, processing, and retain for records the Wellsite Review and Turnover Form.
- 88 Notify REG that well is ready for storage service.

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WR-35  
Rev (5-01)

DATE: 3/10/04  
API #: 47-039-02839

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: James & Manuel Keeten

Operator Well No.: Coco C #12050

LOCATION: Elevation: 601.04'

Quadrangle: Blue Creek, WV

District: Elk County: Kanawha  
Latitude: \_\_\_\_\_ Feet South of 38 Deg. 26 Min. 51 Sec.  
Longitude: \_\_\_\_\_ Feet West of 81 Deg. 27 Min. 12 Sec.

Company: Columbia Gas Transmission

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: RR 2 Box 138				
Sandyville, WV 25275				
Agent: Paul Amick				
Inspector: Carlos Hively				
Date Permit Issued: 7/11/03	4-1/2"	5127'	5127'	90 sx
Date Well Work Commenced: 7/23/03				
Date Well Work Completed: 9/20/03				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Depth (feet): 5122				
Fresh Water Depth (ft.):				
Salt Water Depth (ft.):				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.):				

OPEN FLOW DATA

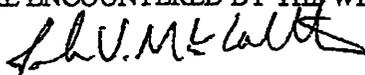
Producing formation Oriskany Sandstone Pay zone depth (ft) 5030' to 5048'  
 Gas: Initial open flow N/A Gas Storage MCF/d Oil: Initial open flow N/A Gas Storage Bbl/d  
 Final open flow N/A Gas Storage MCF/d Final open flow N/A Gas Storage Bbl/d  
 Time of open flow between initial and final tests N/A Gas Storage Hours  
 Static rock Pressure N/A Gas Storage psig (surface pressure) after N/A Gas Storage Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
 Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
 Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
 Time of open flow between initial and final tests \_\_\_\_\_ Hours  
 Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

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NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

WV Department of Environmental Protection

Signed:   
 By: John V. McCallister  
 Date: 3/10/04

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- 8/7/03 - Drilled 6" hole from 5100' to 5122'
- 8/12/03 - Set 4-1/2" 11.6 ppf N-80 casing at 5127' KB  
Cemented 4-1/2" with 90 sx Class A cement
- 8/15/03 - Installed new API 5M wellhead
- 9/18/03 - Perforated Oriskany Sandstone from 5030' to 5048' with 108 shots.
- 10/3/03 - Hydrofractured Oriskany Sandstone using;  
500 gal 28% Hcl  
472 bbls H2O  
27,700# 20/40 sand  
143,000 scf N2  
ATP 2360 psig  
ATR 17 bpm

No earthen pit constructed.  
All fluids hauled to L.A.D. in Wheeling, WV

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12050

Form OG-10



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION

Rotary   
Spudder   
Cable Tools   
Storage

Quadrangle Blue Creek  
Permit No. Kan. 2839

WELL RECORD

Oil or Gas Well Gas-Storage  
(KIND)

Company <u>Columbia Gas Trans. Corp.</u>	Casing and Tubing	Used in Drilling	Left in Well	Packers
Address <u>P.O. Box 610 Clendenin, W. Va.</u>	Size			Kind of Packer
Farm <u>J. H. Copenhaver</u> Acres <u>202</u>	16			
Location (waters) <u>Blue Creek</u>	13 <u>3/8"</u>	<u>166</u>	<u>166</u>	Size of
Well No. <u>12050</u> Elev. <u>601</u>	<u>HK 9-5/3"</u>	<u>1860</u>	<u>1860</u>	Depth set
District <u>Elk</u> County <u>Kanawha</u>	<u>8 1/4"</u>			
The surface of tract is owned in fee by <u>Russell Keeton</u>	<u>5 3/16"</u>	<u>5026</u>	<u>5026</u>	Perf. top
Address <u>Blue Creek, W. Va.</u>	<u>4 1/2"</u>			Perf. bottom
Mineral rights are owned by <u>Hayward Copenhaver</u>	<u>3"</u>			Perf. top
Address <u>Columbus, Ohio</u>	<u>2 3/8"</u>	<u>5015</u>	<u>5015</u>	Perf. bottom
Drilling commenced <u>5-13-78</u>	Liners Used			
Drilling completed <u>5-27-78</u>				
Date Shot From To				
With				
Open Flow <u>/10ths Water in</u> Inch	Attach copy of cementing record.			
<u>/10ths Merc. in</u> Inch	CASING CEMENTED <u>13-3/8" SIZE</u> No. Fl. <u>5-16-78</u>			
Volume <u>12 million</u> Cu. Ft.	Amount of cement used (bags) <u>165 sacks</u>			
Rock Pressure <u>1210</u> lbs. max.	Name of Service Co. <u>Halliburton</u>			
Oil <u>bbbls.</u> 1st 24 hrs.	COAL WAS ENCOUNTERED AT <u>FEET</u> <u>INCH</u>			
WELL ACIDIZED (DETAILS)	<u>FEET</u> <u>INCHES</u> <u>FEET</u> <u>INCH</u>			
	<u>FEET</u> <u>INCHES</u> <u>FEET</u> <u>INCH</u>			
WELL FRACTURED (DETAILS) <u>883 BBLs with 43,000 lbs. of 20-40 mesh sand</u>	treating at <u>2700#</u> pressure			
RESULT AFTER TREATMENT (Initial open Flow or bbls.)				
ROCK PRESSURE AFTER TREATMENT <u>1210</u> HOURS <u>maximum</u>				
Fresh Water <u>River Gravel</u> Feet <u>25-40</u> Salt Water <u>salt sand</u> Feet <u>755-1215</u>				
Producing Sand <u>Oriskany</u> Depth <u>5023-5076</u>				

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Clay			0	15			
Mud			15	25			
Gravel			25	40	Water	40	
Sand			40	498	Water	498	
Shale			498	515			
Sand/Shale			515	755			
Salt/Sand			755	1215			
Red Rock			1215	1320			
Maxon Sand			1320	1340			
Little Lime			1340	1380			
Shale			1380	1400			
Big Lime			1400	1530			
Sand			1530	1570			
Shale			1570	1660			
Injun Sand			1660	1680			
Shale			1680	1755			
Weir Sand			1755	1780			
Lime			1780	4905			
Oriskany			4905	5023			
Lime			5023	5076			
			5076	5100			

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**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6, Section 8(d)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Chloe J. Copenhaver et. al.	United Fuel Gas Company	Storage Lease 1007424-000	127/115, 139/240, 141/319, 154/617

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator:  
By: Its:

Columbia Gas Transmission, LLC  
Brad Nelson  
Storage Engineer

08/27/2021



4703902839W



1700 MacCorkle Ave. SE  
P.O. Box 1273  
Charleston, WV 25325

May 25, 2021

David and Linda Holbert  
2350 Coopers Creek Road  
Charleston, WV 25312

Columbia Gas Transmission, LLC is applying for a permit to the WV Department of Environmental Protection – Office of Oil and Gas, to repair and clean out an existing underground natural gas storage well located on property owned by you. As reference, the field and well ID is Coco C 12050 (API # 47-039-02839-00-00).

As part of the well permitting process, Columbia, the well operator, is required to provide a copy of all applicable permit application forms for your review and record retention.

If you have questions, feel free to call.

Regards,

A handwritten signature in cursive script that reads "Brad Nelson".

Brad Nelson  
Storage Engineer  
TC Energy (Columbia Gas Transmission, LLC)  
brad\_nelson@tcenergy.com  
off: 724-223-2753  
cell: 724-250-0610

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7020 0640 0001 2343 5630

# U.S. Postal Service™

## CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

Charleston WV 25312

**OFFICIAL USE**

Certified Mail Fee	\$3.60
Extra Services & Fees (check box, add fee as appropriate)	\$2.85
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$1.80
<b>Total Postage and Fees</b>	<b>\$8.25</b>

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PITTSBURGH

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Sent To David and Linda Holbert

Street and Apt. No., or PO Box No. 2350 Coopers Creek Road

City, State, ZIP+4® Charleston, WV 25312

4703902039W

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

David and Linda Holbert  
 2350 Coopers Creek Road  
 Charleston, WV 25312



9590 9402 2622 6336 9329 38

2 Article Number (Transfer from service label)

7020 0640 0001 2343 5630

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 X *CANDID 19 2025*  Agent  Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

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 Office of Oil and Gas  
 JUN 23 2021  
 WV Department of  
 Environmental Protection

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
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<input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)	

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4703902839W

For delivery information, visit our website at [www.usps.com](http://www.usps.com)

Charleston, WV 25312

7020 0640 0001 2343 5630

Certified Mail Fee	\$3.60
Postage	\$1.80
<b>Total Postage and Fees</b>	<b>\$8.25</b>

0024  
 05/26/2021  
 Postmark Here  
 USPS

Sent To David and Linda Helbert  
 Street and Apt. No., or PO Box No. 2350 Coopers Creek Road  
 City, State, ZIP+4® Charleston, WV 25312

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY																
<ul style="list-style-type: none"> <li>Complete items 1, 2, and 3.</li> <li>Print your name and address on the reverse so that we can return the card to you.</li> <li>Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature <u>CHARL...</u>  <input checked="" type="checkbox"/> Agent  <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery _____</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes                  If YES, enter delivery address below: <input type="checkbox"/> No</p>																
<p>1. Article Addressed to:</p> <p><u>David and Linda Helbert</u>  <u>2350 Coopers Creek Road</u>  <u>Charleston, WV 25312</u></p>	<p>3. Service Type</p> <table border="0"> <tr> <td><input type="checkbox"/> Adult Signature</td> <td><input type="checkbox"/> Priority Mail Express®</td> </tr> <tr> <td><input type="checkbox"/> Adult Signature Restricted Delivery</td> <td><input type="checkbox"/> Registered Mail™</td> </tr> <tr> <td><input type="checkbox"/> Certified Mail®</td> <td><input type="checkbox"/> Registered Mail Restricted Delivery</td> </tr> <tr> <td><input type="checkbox"/> Certified Mail Restricted Delivery</td> <td><input type="checkbox"/> Return Receipt for Merchandise</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery</td> <td><input type="checkbox"/> Signature Confirmation™</td> </tr> <tr> <td><input type="checkbox"/> Collect on Delivery Restricted Delivery</td> <td><input type="checkbox"/> Signature Confirmation Restricted Delivery</td> </tr> <tr> <td><input type="checkbox"/> Insured Mail</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</td> <td></td> </tr> </table>	<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®	<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™	<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery	<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise	<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™	<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery	<input type="checkbox"/> Insured Mail		<input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)	
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<p>2. Article Number (Transfer from service label)</p> <p>7020 0640 0001 2343 5630</p>																	

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

08/27/2021

**SURFACE OWNER WAIVER**

County 039

Operator  
Operator well number

Columbia Gas Transmission, L  
Coco C 12050

**INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A**

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:**

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

**Time Limits and methods for filing comments.** The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

**Comments must be in writing.** Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation..."

**If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.**

**List of Water Testing Laboratories.** The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through \_\_\_ including a work order on Form WW2-B, a survey plat, WW-9, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

\_\_\_\_\_  
Signature

Date \_\_\_\_\_

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
By  
Its \_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name

JUN 23 2021

WV Department of  
Environmental Protection

\_\_\_\_\_  
Signature \_\_\_\_\_  
Date

08/27/2021

4703902039W

WW-9  
(5/16)

API Number 47 - 039 - 028390000  
Operator's Well No. Coco C 12050

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Columbia Gas Transmission, LLC OP Code 307032

Watershed (HUC 10) Blue Creek of the Elk River Quadrangle Blue Creek, WV

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No  ANY WELL EFFLUENT WILL BE CONTAINED IN TANKS BEFORE DISPOSING OFF SITE. gww

If so, please describe anticipated pit waste: \_\_\_\_\_

Will a synthetic liner be used in the pit? Yes  No  If so, what ml? \_\_\_\_\_

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number 34-009-23821, 34-009-23823, 34-009-23824, 34-105-23619 )
- Reuse (at API Number \_\_\_\_\_)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Appalachian Water Services, Station W1 Ronco WTP, Masontown, PA - Permit 2608201)

Will closed loop system be used? If so, describe: Yes - steel piping connecting wellhead and tank(s).

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Fresh water

-If oil based, what type? Synthetic, petroleum, etc.

Additives to be used in drilling medium? NaCl, biocide, polymer, starch, calcium carbonate, surfactant (CTCO), HCl acid (stimulation)

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. N/A

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) \_\_\_\_\_

-Landfill or offsite name/permit number? If needed: Rumpke Beech Hollow Landfill - Wellston, OH

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature Brad Nelson

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Office of Oil and Gas

Company Official (Typed Name) Brad Nelson

JUN 23 2021

Commonwealth of Pennsylvania

Company Official Title Storage Engineer

County of Allegheny

WV Department of Environmental Protection

Subscribed and sworn before me this 25 day of May, 2021

Elaine Rybski Elaine Rybski Notary Public

My commission expires 5/11/2022

Commonwealth of Pennsylvania - Notary Seal  
Elaine Rybski, Notary Public  
Allegheny County  
My commission expires May 11, 2022  
Commission number 1332803  
Member, Pennsylvania Association of Notaries

Proposed Revegetation Treatment: Acres Disturbed <1.0 Prevegetation pH 6.5

Lime 2 Tons/acre or to correct to pH 7

Fertilizer type 10-10-10

Fertilizer amount 600 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Rye	40	Orchard Grass and/or Tall Fescue	29
		Birdsfoot trefoil (empire)	9
		Annual Rye	12

For wetland areas: Annual Rye (40 lbs/acre) until indigenous plants re-establish cover.

Attach:  
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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JUN 23 2021

Title: Inspector Oil & Gas

Date: 6-14-21

WV Department of Environmental Protection

Field Reviewed?  Yes  No

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
GROUNDWATER PROTECTION PLAN

Operator Name: Columbia Gas Transmission, LLC

Watershed (HUC 10): Blue Creek of the Elk River

Quad: Blue Creek, WV

Farm Name: J.H. Copenhaver

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

No fluids planned to be discharged.  
No fertilizer will be stored on site. Small quantities of fuel, oil, and lubrications will be stored on site, but located within secondary containment.  
Accidental release from well fluids and spills from construction equipment are the only sources of contaminate to groundwater.  
All accumulated fluids to be hauled off site to UIC disposal facility.

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

All construction and well servicing equipment will be monitored and inspected daily for leaks. Fluid pumping well service equipment will have secondary containment under all leak paths. Spill kits will be on site.

3. List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

Blue Creek is approximately 123 ft. to the S.  
The closest Well Head Protection Area is 11.8 mi. (WV9918017 - Rippling Waters Campground). It is within ZPC (PWSID WV3302016 - WVAWC - Kanawha Valley Dist.).

4. Summarize all activities at your facility that are already regulated for groundwater protection.

N/A

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Environmental Protection

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

08/27/2021

N/A

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

No waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

During routine tailgate meetings groundwater protection will be a topic of discussion.

8. Provide provisions and frequency for inspections of all GPP elements and equipment.

No fertilizer will be stored on site. Small quantities of fuel, oil, and lubrications will be stored on site, but located within secondary containment. Construction and well servicing equipment will be monitored and inspected daily for leaks or spills.

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Office of Oil and Gas

JUN 23 2021

Signature: Brad Nelson

Date: 6/7/21

WV Department of  
Environmental Protection

08/27/2021

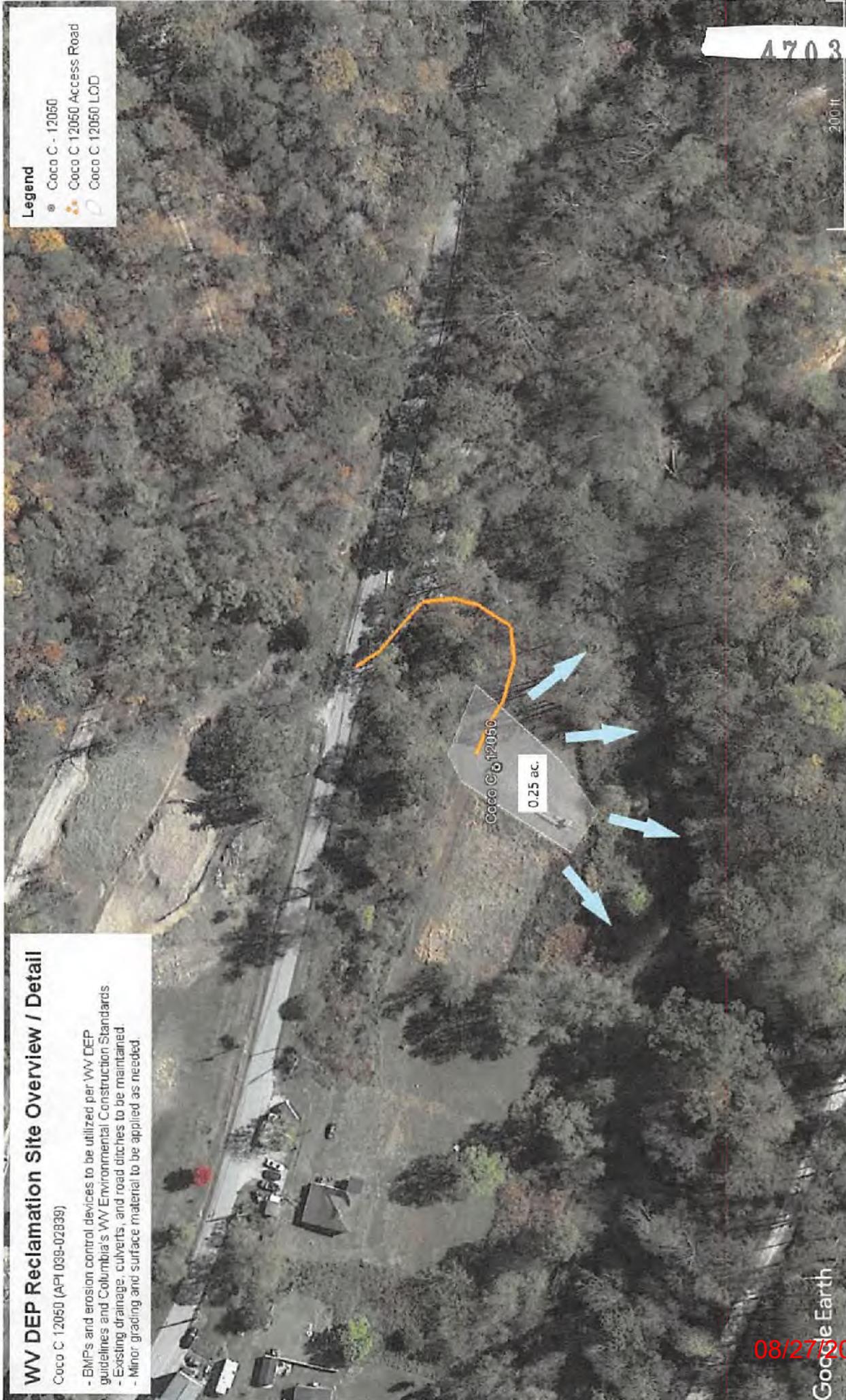
### WV DEP Reclamation Site Overview / Detail

Coco C 12050 (API 099-02899)

- BMPs and erosion control devices to be utilized per WV DEP guidelines and Columbia's WV Environmental Construction Standards
- Existing drainage, culverts, and road ditches to be maintained
- Minor grading and surface material to be applied as needed.

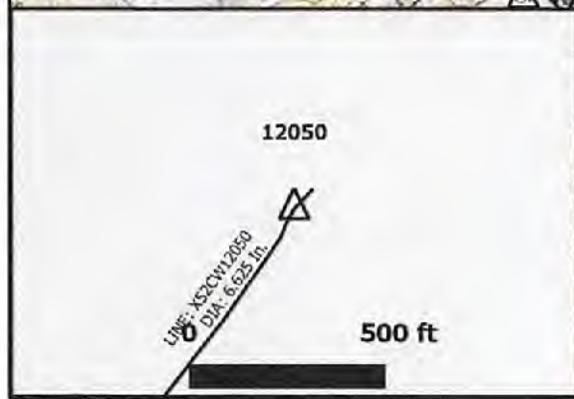
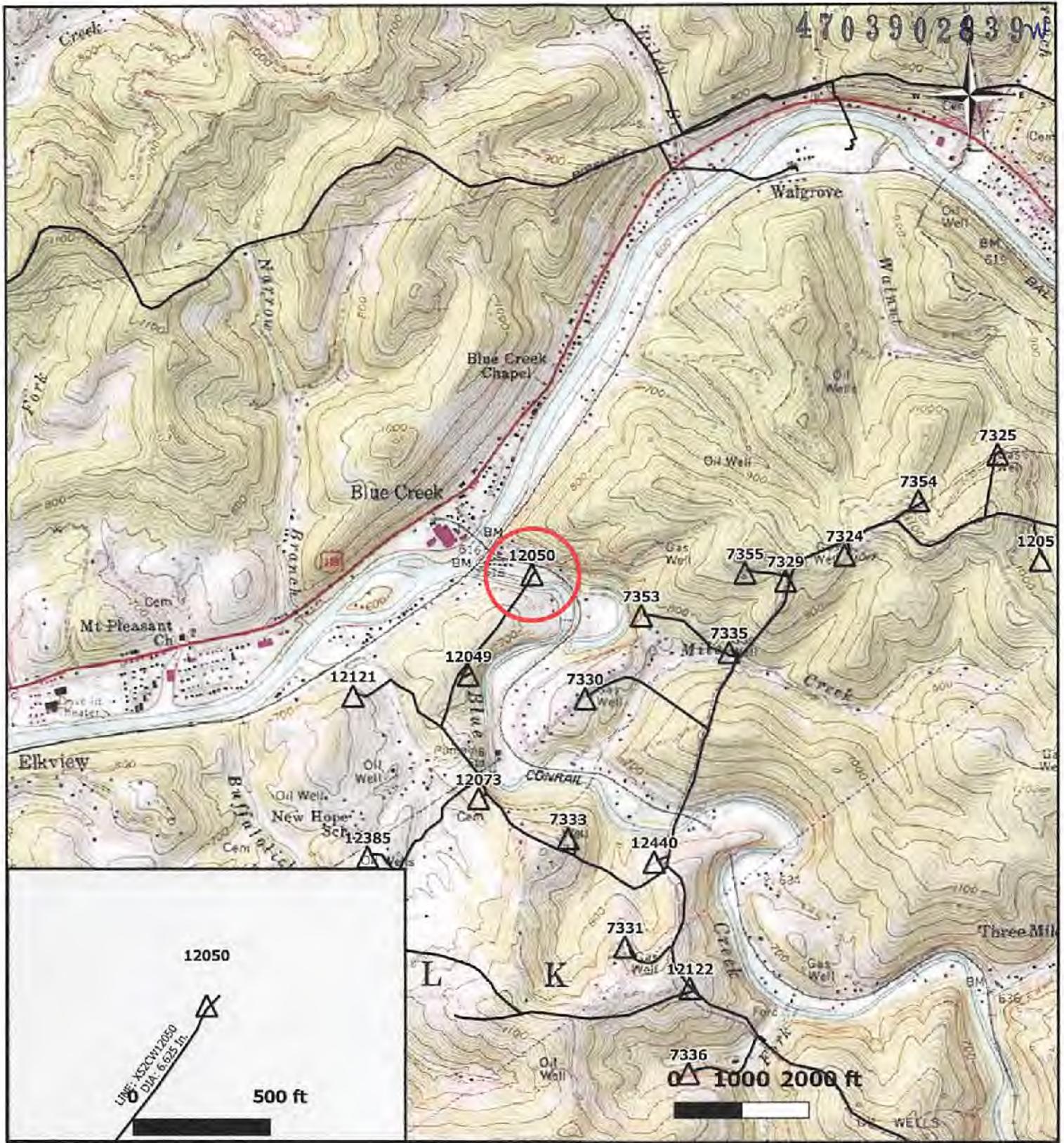
### Legend

- Coco C - 12050
- Coco C 12050 Access Road
- Coco C 12050 LOD



200 ft

4703902839



**Legend**

**Storage Well Classification**

- △ Active
- ◻ Observation
- ◊ Special
- CPG Pipelines
- Well of Interest

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**CocoC Storage Field  
Storage Well 12050  
Kanawha County, West Virginia**

USGS Topographic Map (Scaled 2000 Ft/ In) to be included with  
PROJECT ENVIRONMENTAL INFORMATION FORM (PEIF)

08/27/2021

4703902939W

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



June 14, 2021

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

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

Coco C 12050 (API 039-02839)

Please return permit to:

Columbia Gas Transmission  
48 Columbia Gas Rd  
Sandyville, WV 25275  
Attn: Jim Amos

Check # 052312  
6/14/2021  
\$ 900.00

If you have questions, feel free to call.

Regards,

A handwritten signature in black ink that reads "Jim Amos".

Jim Amos  
Team Leader  
Well Engineering & Technology  
Columbia Gas Transmission, LLC  
Off: 304-373-2412  
Mob: 304-483-0073  
james\_amos@tcenergy.com

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JUN 23 2021

WV Department of  
Environmental Protection

4703902839W

WW-2B1  
(5-12)

Well No. Coco C 12050

West Virginia Department of Environmental Protection  
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

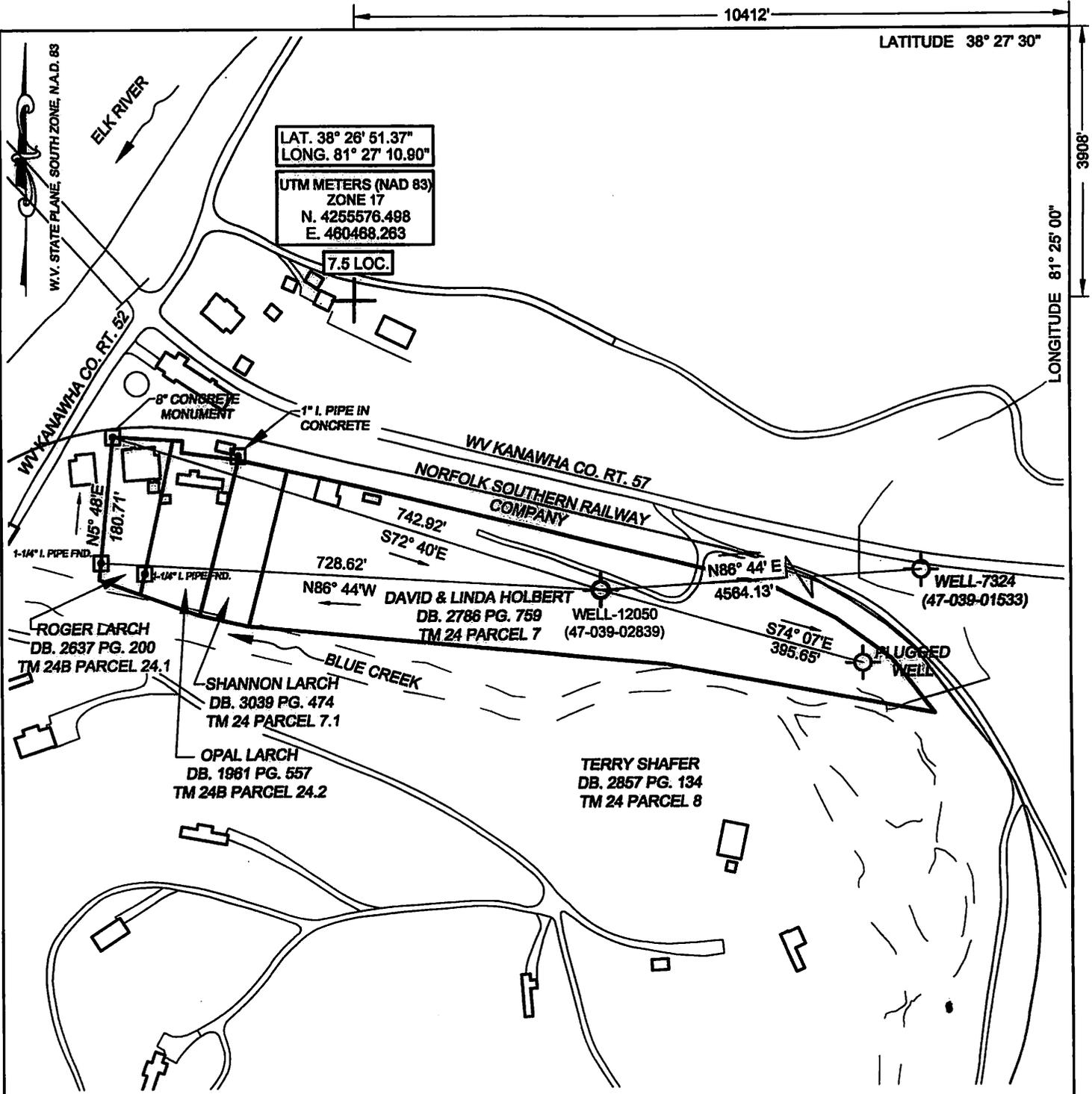
Certified Laboratory Name \_\_\_\_\_  
Sampling Contractor \_\_\_\_\_

Well Operator Not applicable - existing underground natural gas storage well.  
Address \_\_\_\_\_  
Telephone \_\_\_\_\_

**FOR OPERATOR'S USE ONLY:** Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

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Environmental Protection

08/27/2021



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE No 2001-3079-001-004  
 DRAWING No. 2001-3079-001-004  
 SCALE 1"=200'  
 MINIMUM DEGREE OF ACCURACY 1:200  
 PROVEN SOURCE OF ELEVATION TRIMBLE R10  
 GPS UNIT

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

(SIGNED) Robert F. Thaw  
 ROBERT F. THAW PS #965



STATE OF WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 NITRO, WV



DATE APRIL 27 2021  
 OPERATOR'S WELL No. 12050  
 API WELL No. 47 039 - 02839W

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  STATE 47 COUNTY 039 PERMIT 02839W  
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 601.0' WATER SHED BLUE CREEK OF THE ELK RIVER  
 DISTRICT ELK COUNTY KANAWHA  
 QUADRANGLE BLUE CREEK, WV

SURFACE OWNER DAVID AND LINDA HOLBERT ACREAGE 4.1  
 OIL & GAS ROYALTY OWNER CHOLE COPENHAVER, WIDOW, ET AL LEASE ACREAGE 198.5  
 LEASE No. 1007424

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE   
 STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) REWORK 08/27/2021

PLUG AND ABANDON  CLEAN OUT AND REPLUG   
 TARGET FORMATION ORISKANY ESTIMATED DEPTH 5122  
 WELL OPERATOR COLUMBIA GAS TRANSMISSION, LLC DESIGNATED AGENT JIM AMOS  
 ADDRESS PO BOX 1273, CHARLESTON, WV ADDRESS 48 COLUMBIA GAS ROAD  
25325-1273 SANDYVILLE, WV 25275

FORM IV-6 (8-78)



Stansberry, Wade A <wade.a.stansberry@wv.gov>

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## Plugging Vertical Well Work Permit (API: 47-039-02839)

1 message

---

**Stansberry, Wade A** <wade.a.stansberry@wv.gov>

Thu, Aug 26, 2021 at 2:13 PM

To: James Amos <james\_amos@transcanada.com>, Brad\_Nelson@tcenergy.com, "Urban, Terry W" <terry.w.urban@wv.gov>, Sallie Robinson <sallierobinson@kanawha.us>

I have attached a copy of the newly issued well [permit](#) number, "12050", API: (47-039-02839). This will serve as your copy.

If you have any questions, then [please](#) contact us here at the Office of Oil and Gas.

Thank you,

**Wade A. Stansberry**

**Environmental Resource Specialist 3**

**West Virginia Department of Environmental Protection**

**Office of Oil & Gas**

**601 57th St. SE**

**Charleston, WV 25304**

**(304) 926-0499 ext. 41115**

**(304) 926-0452 fax**

**[Wade.A.Stansberry@wv.gov](mailto:Wade.A.Stansberry@wv.gov)**

---

### 2 attachments

 **IR-8 Blank.pdf**  
157K

 **47-039-02839 - Copy.pdf**  
1874K

08/27/2021