



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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, September 26, 2023
WELL WORK PERMIT
Vertical / Re-Work

COLUMBIA GAS TRANSMISSION, LLC
1700 MACCORKLE AVENUE SE

CHARLESTON, WV 25314

Re: Permit approval for 7479
47-075-00039-00-00

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

A blue ink signature of James A. Martin, written in a cursive style, is positioned to the right of his name and title.

Operator's Well Number: 7479
Farm Name: U.S. DEPT OF THE INTERIOR
U.S. WELL NUMBER: 47-075-00039-00-00
Vertical Re-Work
Date Issued: 9/26/2023

Promoting a healthy environment.

09/29/2023

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

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 on this well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

09/29/2023

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	Pocahontas	Greenbank	Sinks of Gandy
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Operator ID County District Quadrangle

2) Operator's Well Number: Glady 7479 3) Elevation: 3728

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: 6242

6) Proposed Total Depth: 6242 Feet Formation at Proposed Total Depth: Oriskany

7) Approximate fresh water strata depths: 90, 350, 740 as reported by driller

8) Approximate salt water depths: none reported by driller

9) Approximate coal seam depths: None reported by driller

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10) Approximate void depths, (coal, Karst, other): None reported by driller

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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)

Perform a fresh water treatment. Following results of FWT, may need to perform coil tubing cleanout and 2000 gallon 15% HCL stimulation.

* casing and equipment listed below are existing

13) **CASING AND TUBING PROGRAM** * existing

TYPE	SPECIFICATIONS			FOOTAGE		INTERVALS	CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)	
Conductor	13-3/8 *	H-40	48	33	33	14 sx	
Fresh Water	9-5/8 *	H-40	32	1401	1401	530 cuft	
Coal							
Intermediate							
Production	7 *	J-55	20	6086	6086	267 cuft	
Tubing							
Liners							

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Packers: Kind: _____

Sizes: _____

Depths Set _____

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WELL JOB PLAN				STS Well Engineering & Technology		PAGE 1	DATE JOB PREPARED: 4/21/2023
Objective: Deliverability Enhancement							
TITLE: FWW. CTCO / acid stimulate if well performance is not restored following FW wash						WORK TYPE: Deliverability	
FIELD: Glady		WELL ID: 7479				LEASE #: 90700	
STATE: WV		SHL (Lat/ Long) 38.708719		-79.746197		API: 47-075-00039-0000	
DIST/TWP: Greenbank		BHL (Lat/Long) 38.708719		-79.746197		CNTY: Pocahontas	
EXISTING TUBULAR CONFIGURATION		OD (inches)	WEIGHT (PPF)	GRADE	THREAD	DEPTH (ft)	
						TOP	BOTTOM
Conductor		13 3/8	48.0	H-40		0	33
Surface		9 5/8	32.0	H-40		0	1401
Intermediate							
Production		7	20 *	J-55		0	6086
* well record shows 23#, however lost RBP in 2012 & calipered 20# when WHX						WELLLINE #: X77W7479	
Perforations		Openhole				FORMATION: refer to MISC INFORMATION section	
Wellhead		API 3K 7" FS x 9-5/8" support, 7" 8rd wellhead connection. 10/4/2012: Retired Cameron 11x7x2x2 (3,000#) Cameron tubing spool, 7x2 tubing head (3,000#). Retained base, slips primary packing for re-use. Tested packing/flange@ 2500# - tested ok. NOTE: DSPA is 11" 3M x 7 1/16" 5M.				ELEVATIONS	
D.H. EQUIPMENT		TYPE				DEPTH (ft)	
PACKER INFO:		Upper					
		Lower					
NIPPLE PROFILE INFO:		Upper					
		Lower					
SSSV INFO:							
CEMENT INFO						Calc TOC (ft)	
13 3/8		cmt'd with 14 sx regular with 3% CaCl2				9	
9 5/8		cmt'd with 430 cu ft lite-poz and 100 cuft neat with 3% CaCl2				0	
7		Cmt'd with 200 cu ft Lite-poz & 500 gal Latex				5470	
MISC INFORMATION							
REFER TO WELL SUMMARY RPT, WELLBORE DIAGRAM, ELOG, ETC. (see spreadsheet tabs below)							
Kill Fluid Calculation * Note that kill fluid calculation tabs are hidden							
Maximum calculated bottom-hole pressure (for reference only):		2717		psig		* input	
* Maximum storage field surface pressure (MAOP):		2350		psig		* input	
Well TD:		6242		ft TVD		* input	
Top of storage zone (Chert formation):		5927		ft TVD		* input	
Calculated maximum BH pressure at top of zone:		2740		psig		* output Kill Fluid (TOZ)	
Kill fluid density at top of zone @: 200 psi OB		9.54		ppg		* output Kill Fluid (TOZ)	
Proposed depth of BP (n/a):		5927		ft TVD		* input	
Calculated maximum BH pressure at depth of BP:		2740		psig		* output Kill Fluid (BP)	
Kill fluid density at depth of BP @: 200 psi OB		9.54		ppg		* output Kill Fluid (BP)	
Required minimum kill fluid density:		9.6		ppg		* greater of the two	
Current AOF:		145,109		MCF/D			
Top historical AOF:		256,683		MCF/D			
Last MVRT:		Baker 4.29.20 HRVRT shows no evidence of any reportable metal loss features; all joints reported class 1 over the surveyed.					
SBT:		Baker 4.29.20 Intex showed good cmt 6040 - 6002, partial quality 6002 - 5470, poor to free pipe above					
PROPOSED YEAR: 2024		ERCB PERMIT REQD: YES ___ NO ___		DT. APPLIED: ISSUED:		(Internal) PDS Required: YES ___ NO ___	
PREPARED BY: Maria Medvedeva		REVIEWED BY: James Amos		APPROVED: <input checked="" type="checkbox"/> Recoverable Signature			
PREP DATE: 4/21/2023		X <i>[Signature]</i>					

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Garrett [Signature] 8/17/2023

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WELL JOB PLAN		STS Well Engineering & Technology	PAGE 2	DATE JOB PREPARED: 4/21/2023
Objective: Deliverability Enhancement				
TITLE: FWW. CTCO / acid stimulate if well performance is not restored following FW wash			WORK TYPE: Deliverability	
FIELD: Gladly	WELL: 7479			LAST PROFILE UPDATE:
STAT: WV	SHL (Lat/Long): 38.708719 -79.746197	API: 47-075-00039-0000		
TWP: Greenbank	BHL (Lat/Long): 38.708719 -79.746197	CNTY: Pocahontas		

PROCEDURE

NOTE: RBP, and possibly as much as 25 ft of 9/16" sandline, left in openhole - top of fish is 4 ft below bottom of pay zone at 6204 ft RKB (6188 ft GL). Fishing attempted but aborted. Fishing dimensions of internal mandrel (looking up):
 - top of mandrel (first catch) OD: 2.14" length: 7.53"
 - lower part of mandrel (second catch) OD: 2.562" length: 7.5"
 - body of RBP OD: 5.75 - 6.10" length: approx 38 "
 - overall length ~53 inches


Decision to cease fishing operations and leave RBP in well for the following reasons: RBP is 4 ft below bottom of pay zone, . RBP most likely wedged tight and busted up / parted - once overshot engages fish, and if can't jar free, and threaded mandrel on RBP able to rotate, won't be able to disengage grapple - this could result in leaving more tools in hole.

- 1 Obtain State Permit, 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. If required, notify State/Federal regulatory agencies prior to beginning work.
- 6 Prepare access road and well site. Install ECD's per EM&CP.
- 7 Service all wellhead valves.
- 8 Document initial flowstring and 4-1/2' x 7" annular pressures.
- 9 If work occurs between May 01 and September 01, injection season, pump 40 bbls TFW down casing and place well back in service. If work occurs between September 01 and April 31, withdrawl season, pump 40 bbls TFW down casing, allow to soak 2 days and then place well back in service.
- 10 Perform a 45-min flowback test. Pending flowback results, may have to perform a CTCO and acid stimulation (Step 20+)
- 11 Notify WET Project Support that well is back in-service.
- 12 Reclaim R&L.
- 13 Commission well by completing, processing, and retain for records the Wellsite Review and Turnover Form.
- 14 Notify REG / WE&T that well is ready for storage service.

If flowback test results dictacte, complete a CTCO and acid stimulation as per below.

- 20 MIRU 1.75" CTU and H2S monitoring service.
- 21 Flow well. If well won't flow unload with nitrogen.
- 22 Perform CTCO and 2000 gallons of 15% HCL treatment. **NOTE: fish left in hole as per remarks above.**
- 23 RDMO CTU.
- 24 Flow well to recover treatment fluids.
- 25 Perform final 45-min flowback test thru 3/4" choke.
- 26 Notify WET Project Support that well is back in-service.
- 27 Reclaim R&L.
- 28 Reconnect well line.
- 29 Paint wellhead and well line.
- 30 Commission well by completing, processing, and retain for records the Wellsite Review and Turnover Form.
- 31 Notify REG that well is ready for storage service.

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PREPARED BY: Maria Medvedeva	REVIEWED BY: James Amas	APPROVED: Brent Criser
PREP DATE: 4/21/2023		

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Glady 7479 (API 47-075-00039) - CTCO and Acid Treatment

API 3K wellhead, 7" FS x 9-5/8" support

7" 20# J-55 csg set at 6086

Burst: 3740 psig new (2992 psig assuming 80% safety factor)

Capacity: [6086 ft x 1.6535 gal/ft] = 10,062.93 gals; x 0.0394 bbl/ft = 239.59 bbls

Openhole

Capacity 8-1/2" hole: 156 ft x 0.07019 bbl/ft = 10.95 bbls

Total Capacity: 251 bbls

Chert: 5927 – 6015 KB

Oriskany: 6076 – **6204 KB – top of fish**

Perforations: Openhole

TD: 6242 KB (depths are KB depths, 16' above GL)

Fluids Needed

2000 gals 15% HCl acid** treated with corrosion inhibitor, iron control/sequestering agent, H2S scavenger, and surfactant. Biocide, clay stabilizer, and surfactant to treat +/- 500 bbls fresh water. Liquid caustic on location in case need to neutralize flowback fluids.

** Prior to acid treatment verify that the 7" x 9-5/8" annulus is full, top off with fresh water treated with biocide, corrosion inhibitor, and clay stabilizer as needed.*

CTCO Procedure

1. MIRU 1.75" CTU and H2S monitoring service.
2. Load CT with treated fresh water (TFW) and pressure test CT and BOPs to 2500 psig.
** maximum pressure on wellhead components 2500 psig*
3. Open well and RIH under static conditions.
4. At 5800 begin jetting with foamed TFW. Jet to TD and cycle up and down across interval 6070' – 6203. DO NOT GO DEEPER due to lost downhole tools.
5. Begin 15% HCl acid foamed to 50Q and cycle up and down across interval 6070' – TD until 1000 gals acid gone.
6. Chase acid with 40 bbls TFW foamed to 50Q to neutralize wellbore / flowback fluids.
7. Flow well while POOH to 5800'. Flow until returns are relatively dry.
8. CTU on stand-by until after acid treatment to unload wellbore if needed.

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Acid Treatment

1. RU to perform acid treatment down casing as follows:

▪ 1000 gals 15% HCl acid	4-6 BPM	Max Treating Press = 2500 psig
▪ 60 bbls bbls TFW	4-6 BPM	Max Treating Press = 2000 psig
▪ 60 bbls bbls TFW	4-6 BPM	Max Treating Press = 1500 psig
▪ 60 bbls bbls TFW	4-6 BPM	Max Treating Press = 1000 psig
▪ 35 bbls TFW	2-4 BPM	Max Treating Press = 1000 psig
		▪ SHUT DOWN FOR 30 minutes TO ALLOW ACID TO SOAK
▪ 15 bbls TFW	2-3 BPM	Max Treating Press = 1000 psig
		▪ SHUT DOWN FOR 30 minutes TO ALLOW ACID TO SOAK

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▪ 25 bbls TFW

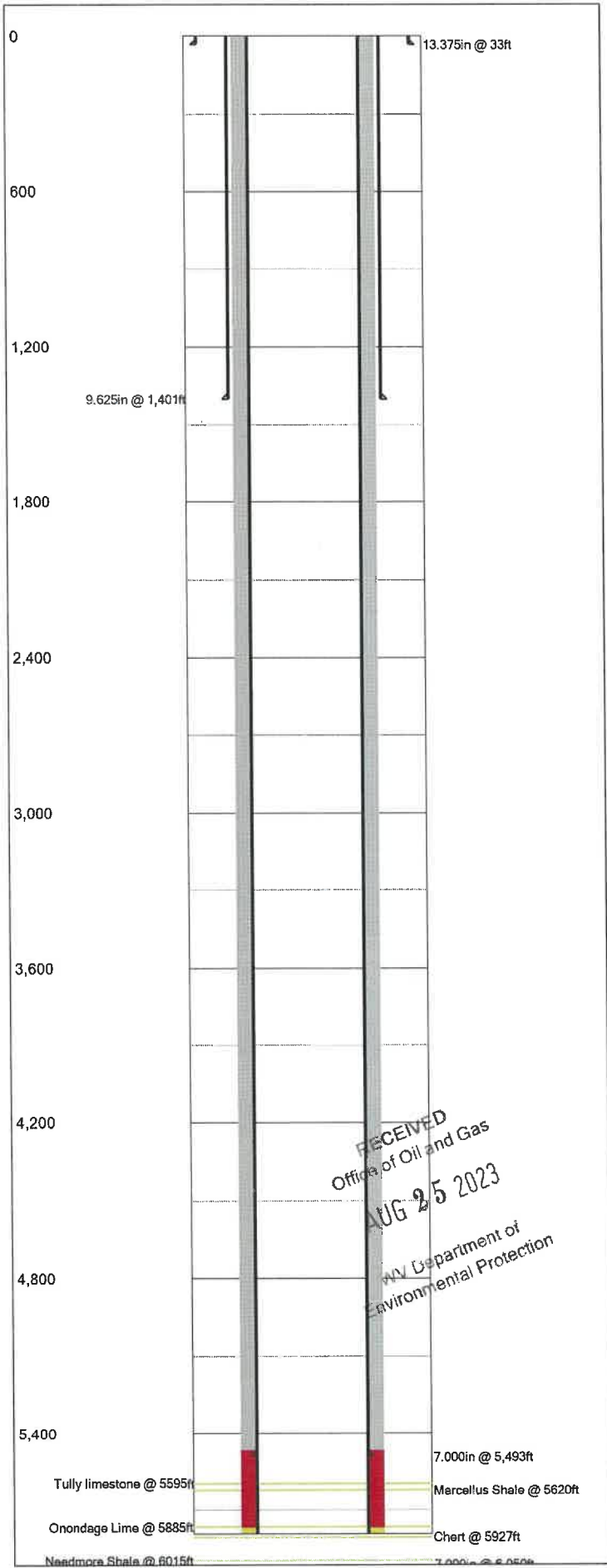
2-3 BPM

Max Treating Press = 1000 psig

2. Flow well. If well quits flowing, RBIH with CT unloading fluid with N2.
3. RDMO and release CTU / acid equipment.

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Field Name		Lease Name		Well No.	
Glady		Glady - 07479		07479	
County		State		API No.	
POCAHONTAS		WV		47075000390000	
Version		Version Tag			
		0 Current Completion			
G.L. (ft)	K.B. (ft)	Sec.	Township/Block	Range/Survey	
5,693.0	6,242.0	164-83	GREENBANK	100207479	
Operator		Well Status		Latitude	
TransCanada		ACTIVE		38.7087	
Longitude					
		-79.7462			
Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From	
PropNum		Spud Date		Comp. Date	
MINERALS MANAG LN		6/19/1966			
Additional Information					
7479- Glady Compressor Station travel South on CR 22 for 0.5 miles, cross bridge and continue on FSR 422 another 2.5 miles to top of the hill. Turn right at the stop sign and follow the ridge road (Middle Mt. Road) @ 5.0 miles. Turn right on unnumbered lease road to well @ ¼ mile off Middle Mt Rd.					
Other1		Other2		Other3	
Glady		1002		100207479	
Other4					
Prepared By		Updated By		Last Updated	
				3/8/2023 12:06 PM	

Tubular Summary						
Date	Description	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
6/19/1966	Drive Pipe	13.375	48.00	H-40	0	33
6/23/1966	Surface Pipe	9.625	32.00	H-40	0	1,401
6/28/1966	Casing	7.000	20.00	J-55	0	5,493
6/28/1966	Casing	7.000		N-80	5,493	6,050
6/28/1966	Casing	7.000		N-80	6,052	6,086

Casing Cement Summary						
C	Date	No. Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	4/29/2020	0	7.000	0	5,470	Free Pipe
	4/29/2020	0	7.000	5,470	5,768	Poor Quality
	4/29/2020	0	7.000	5,768	6,002	Partial Quality
	4/29/2020	0	7.000	6,002	6,040	Good Quality

Tools/Problems Summary					
Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)
10/29/2012	Fish	6.400	5.400	6,204	6,208

Formation Tops Summary		
Formation	Top (TVD ft)	Comments
sand & shale	0	KB depths (16' above GL) - water @ 90, 350, and 740 ft
Tully limestone	5,595	KB depths (16' above GL)
Marcellus Shale	5,620	KB depths (16' above GL)
Onondage Lime	5,885	KB depths (16' above GL)
Chert	5,927	KB depths (16' above GL)
Needmore Shale	6,015	KB depths (16' above GL)
Oriskany	6,076	KB depths (16' above GL) - gas @ 6185 - 90 ft and 6195 - 6200 ft
Retrievable Bridge Plug	6,204	KB depths (16' above GL) - Retrievable bridge plug and possibly as much as +/- 25 ft of 9/16" sandline left in openhole below pay zone
TD	6,242	KB depths (16' above GL)

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X77-7479

U. S. A. Dept. of Interior Tr. #52
 Atlantic Seaboard Corporation
 Green Bank District, Pocahontas County, W. Va.
 Map Square - 164-83
 Commenced - 6-19-66
 Completed - 6-30-66
 Elevation - 3731.36'Gr.
 3747.36'RKB

Size	CASING:		Point
	Weight		
13 3/8"			33' Cemented with 14 sacks regular with 3% CaCl ₂
9 5/8"			140' Cemented with 430 cu.ft. "Lite-poz" and 100 cu. ft. neat with 3% CaCl ₂
7"	23#		6084' Cemented with 200 cu.ft. "Lite-poz" & 500 gals. Latex
2 3/8"			6236'

CONTRACTOR: Ray Brothers Drilling Company

Surface	0	33	Water 90'
Sand & Shale	33	705	
Sand	705	850	Water 350'
Shale	850	1250	
Sand	1250	1835	Water 740'
Sand & Shale	1835	2728	
Shale	2728	3250	Gas 6185-6190' and 6195-6200' all gas test
Sand	3250	3560	62# spring gauge thru 4" 27,015 M when
Shale	3560	4545	drilling completed.
Sand & Shale	4545	5164	
Shale	5164	5595	Well killed with 1,000 gallons Dowell D.W.4
Tully Lime	5595	5620	July 2, 1966.
Marcellus Shale	5620	5885	
Onondaga Lime	5885	5927	
Chert	5927	6015	Acidized 7-5-66 with 10,000 gallons 28% Hcl
Needmore Shale	6015	6076	acid, overflushed with 4,000 gallons water
Oriskany	6076		Test after acidized 190# spring gauge 4"
Total Depth	6242'		75,000 M

FINAL OPEN FLOW - 75,000 M - Oriskany
 R.P. 1640#

Shut in 7-6-66

Permit No. - Poca.-39



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WW-2A
(Rev. 6-14)

1.) Date: 08.03.2023
2.) Operator's Well Number Gladv 7479
State County Permit
3.) API Well No.: 47- 075 - 00039

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

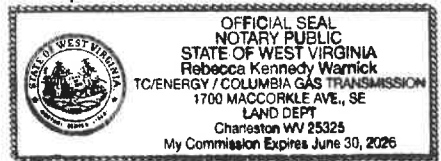
4) Surface Owner(s) to be served: 5) (a) Coal Operator
(a) Name US Dept of Interior (managed by) Name Not operated
Address PO Box 1158 Address _____
Elkins, WV 26241
(b) Name _____ (b) Coal Owner(s) with Declaration
Address _____ Name Not operated
Address _____
(c) Name _____ Name _____
Address _____ Address _____
6) Inspector Gayne Knitowski (c) Coal Lessee with Declaration
Address 21 Energy Way Name Not operated
Gormanian, WV 26720 Address _____
Telephone 304-546-8171

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TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

OR
X Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas
X Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)
I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through ___ on the above named parties by:
 Personal Service (Affidavit attached)
X Certified Mail (Postmarked postal receipt attached)
 Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.
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, 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 and imprisonment.



Well Operator Columbia Gas Transmission, LLC
By: Maria Medvedeva
Its: Senior Wells Engineer Storage Technical Services
Address: 1700 MacCorkle Ave SE
Charleston WV 25314-1273
Telephone: 304-410-4313
Email: maria_medvedeva@tcenergy.com

Subscribed and sworn before me this 3rd day of August, 2023

Rebecca Kennedy Warrick Notary Public
My Commission Expires 6/30/26
Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov

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



August 3, 2023

Bureau of Land Management
626 E. Wisconsin Ave., Suite 200
Milwaukee, WI 53202-4617

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Columbia Gas Transmission, LLC is applying for a permit to the WV Department of Environmental Protection – Office of Oil and Gas, to work on an existing underground natural gas storage well located on property owned by the US Dept. of Interior. As reference, the field and well ID is Glady 7479 (API 47-075-00039).

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.

Note that included in the permit application is a copy of the approved Sundry Notices.

Regards,

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

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com™.

Milwaukee, WI 53202

Certified Mail Fee	\$4.35
Extra Services & Fees (check box, add fee as appropriate)	\$7.55
<input type="checkbox"/> Return Receipt (hardcopy)	\$1.00
<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	\$9.65
Total Postage and Fees	\$17.55

Postmark Here: AUG 14 2023 0726 04

08/14/2023

Sent To: Bureau of Land Management
Street and Apt. No., or PO Box No.
City, State, ZIP+4®: 64747

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

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:
Bureau of Land Management
626 E. Wisconsin Ave
Suite 200
Milwaukee, WI 53202

2. Article Number (Transfer from service label)
7022 2410 0002 6396 3027

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Mail
 Mail Restricted Delivery (over \$500)

A. Signature
 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

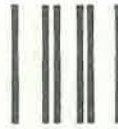
9590 9402 7630 2122 5682 00

www.tcenergy.com

09/29/2023

4707500039W

USPS TRACKING#



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

9590 9402 7630 2122 5682 00

United States
Postal Service

* Sender: Please print your name, address, and ZIP+4® in this box*

Maria Medvedeva



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09/29/2023

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

4707500039W

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No. WVBLMA022923

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

Oil Well Gas Well Other

7. If Unit of CA/Agreement, Name and/or No.

GLADY GAS STORAGE/MNF/FS/WVES39982

8. Well Name and No. GLADY/7479

2. Name of Operator COLUMBIA GAS TRANSMISSION LLC

9. API Well No. 4707500039

3a. Address 1700 MACCORKLE AVE SE, CHARLESTON, WV 3b. Phone No. (include area code)
(304) 373-2412

10. Field and Pool or Exploratory Area
GLADY/GLADY

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
OTHER/Latitude/Longitude Survey Type in A1/

11. Country or Parish, State
POCAHONTAS/WV

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input checked="" type="checkbox"/> Notice of Intent	<input checked="" type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Perform a freshwater treatment. Pending the results from treatment, potentially perform a coil tubing cleanout and acid stimulation.

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14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
MARIA MEDVEDEVA / Ph: (304) 410-4313

Title Sr Well Engineer Well Engineering & Technology

Signature

Date 07/13/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

TREY A MITCHELL / Ph: (414) 297-4438 / Approved

Title Petroleum Engineer

Date 07/17/2023

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office MILWAUKEE

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

09/29/2023

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

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Note that this well is located in the Monongahela National Forest. The surface owner is the US Dept of Interior, and is managed by the BLM and US Forestry Service. Both parties have already approved the proposed well work per the enclosed BLM Sundry Notices and Reports on Wells dated 07/17/23, and USFS Condition of Approval dated 08/03/23. Columbia requests that the 15 day comment period be waived, and the well work permit be issued at the DEP's earliest convenience.

WW-2A
(4/16)

SURFACE OWNER WAIVER

County Pocahontas Operator Columbia Gas Transmission LLC
Operator well number Gladly 7479

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 57th St. SE
Charleston, WV 25304
(304) 926-0450

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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 _____ Signature _____ Date _____

09/29/2023

COAL OPERATOR, OWNER, OR LESSEE WAIVER

* coal not operated

County Pocahontas

Operator Columbia Gas Transmission LLC

Operator's Well Number Glady 7479

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by WV Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office. Mail objections to:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator _____ / owner _____ / lessee _____ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Signature

Date

Company
Name
By
Its

Date

Signature

Date

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09/29/2023

**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
US Dept of Interior and Office of Natural Resources Revenue	United Fuel Gas Company	Storage Lease - 1090700-000	67 / 15

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**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

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
Maria Medvedeva
 Senior Wells Engineer Storage Technical Services

09/29/2023

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) Mikes Run Quadrangle Sinks of Gandy

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

If so, please describe anticipated pit waste: N/A

Will a synthetic liner be used in the pit? Yes No If so, what ml.? N/A

Proposed Disposal Method For Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection (UIC Permit Number 34-167-23862)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Mud Master 64054; Reserve Environmental Services (WMGR 123SW008)
Appalachian Water Services (WMGR 123SW001))

Will closed loop system be used? If so, describe: yes - steel flow line to tanks

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

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

Additives to be used in drilling medium? NaCl, biocide, soda ash, polymer, starch, CaCO3, HCl acid

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) N/A

-Landfill or offsite name/permit number? To be managed by Waste Management and US Ecology for disposal at permitted landfill

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 *Maria Medvedeva*

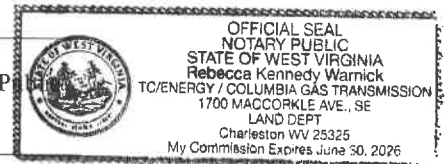
Company Official (Typed Name) Maria Medvedeva

Company Official Title Senior Wells Engineer Storage Technical Services

Subscribed and sworn before me this 3rd day of August 2023

Rebecca Kennedy Warnick Notary Public

My commission expires 6/30/26



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09/29/2023

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): Mikes Run Quad: Sinks of Gandy
Farm Name: MINERALS MANAG LN

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. Fuel, oil, and lubricants will be stored on site, but located within secondary containment. Accidental spills from construction equipment, well treatment fluids, and produced well fluids are the only possible source of contamination to groundwater. Drilling and flowback fluids to be stored in tanks. 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. Tanks to be monitored daily for leaks. 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.

Mikes Run is at a distance of 0.27 miles S.
The USFS Middle Mountain Cabins - HP (WV9942049) is the closest Well Head Protection Area at a distance of 1.44 miles SE from discharge area.

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

N/A

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

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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 and JSA meetings groundwater protection will be a topic of discussion.

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

No fertilizer will be stored on site. Fuel, oil, and lubricants will be stored on site, but located within secondary containment. Spills from construction equipment, well treatment fluids, and produced well fluids are the only possible source of contamination to groundwater.

All construction and well-servicing equipment will be monitored and inspected daily for leaks or spills.

Signature: 

Date: 08.03.2023

09/29/2023

SEE USFS PLAN ATTACHED

Proposed Revegetation Treatment: Acres Disturbed < 1.0 Prevegetation pH per USFS

Lime per USFS Tons/acre or to correct to pH per USFS

Fertilizer type per USFS

Fertilizer amount per USFS lbs/acre

Mulch per USFS Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

US Forest Service to determine seed mix and vegetation treatment requirements.

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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Title: Inspector Date: 8/17/2023

Field Reviewed? (X) Yes () No

09/29/2023

USFS Erosion Control Plan
Glady well 7479 (API 47-07-00039)

Scope of Well Work

- Perform a freshwater treatment. Pending the results from the treatment, potentially perform a coil tubing cleanout and acid stimulation.

Access Roads

- Upgrade roadways to accommodate equipment as needed.
- Vehicle travel to be confined to existing access roads.
- Existing drainage and road surface to be maintained during planned work activities.
- Upon completion of work, access roads to be restored to pre-existing condition as approved by the USFS.

Well Site

- All equipment, tanks, material, vehicles to be confined to pre-disturbed perimeter of well site.
- Perform minor grading to accommodate equipment as needed.
- Apply crushed limestone on well site as needed to stabilize soils and equipment.
- Use portable toilets during plugging and abandonment activities.
- Clean up and properly dispose of all trash generated by project.
- Ensure proper collection, storage, and disposal of all fluids off Forest Service lands.
- No hazardous and flammable materials to be stored on site.
- Remove surface structures.
- Upon completion of work, minor grading, raking, seeding, fertilizing, and mulching to be performed to restore site to pre-existing condition.
- After reclamation, reshape and clean all ditches and dips, clean culverts on access road, reshape and repair the road surface.
- Leave the locked gate on the roadway as is.

Seed Mix

For spring and fall at 10-15 pounds/acre:

- Annual Rye Grass, Lolium multiflorum, ~5 lbs/acre
- Perennial Rye Grass, Lolium perenne, ~5 lbs/acre
- Partridge Pea, Cassia fasciculata, ~2 lbs/acre
- Beaked Panicgrass, Panicum anceps, ~2 lbs/acre

For summer at 10-15 pounds/acre:

- Annual Rye Grass, Lolium multiflorum, ~6 lbs/acre
- Perennial Rye Grass, Lolium perenne, ~2.5 lbs/acre
- Brown Top Millet, Panicum ramosum, ~3.5 lbs/acre
- Partridge Pea, Cassia fasciculata, ~2 lbs/acre
- Beaked Panicgrass, Panicum anceps, ~2 lbs/acre

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4707500039W

Fertilizer 10-20-10 @ 500 lbs/acre

Agriculture lime or pellets @ 3 ton/acre

Mulch – weed free straw @ 1500 lbs/acre

Misc

- Earth moving equipment to be pressure washed prior to entering Monongolia National Forest (MNF). Road vehicles to be pressure washed prior to entering MNF if there is a buildup of soil underneath or on the vehicle. Additionally, equipment is to be washed between sites.

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USFS Erosion Control Plan


Glady well 7479 (API 47-075-00039)

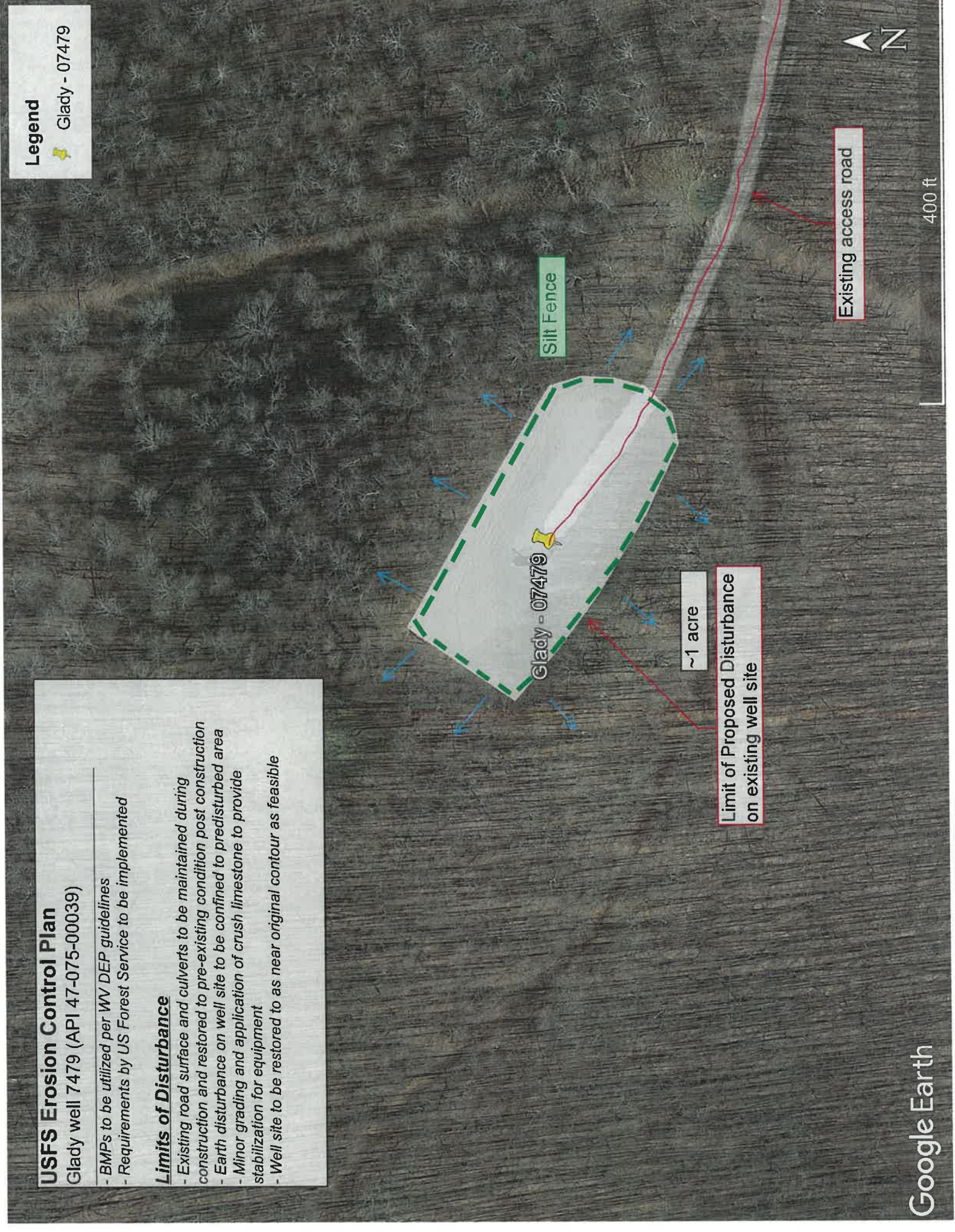
- BMPs to be utilized per WV DEP guidelines
- Requirements by US Forest Service to be implemented

Limits of Disturbance

- Existing road surface and culverts to be maintained during construction and restored to pre-existing condition post construction
- Earth disturbance on well site to be confined to predisturbed area
- Minor grading and application of crush limestone to provide stabilization for equipment
- Well site to be restored to as near original contour as feasible

Legend

-  Glady - 07479




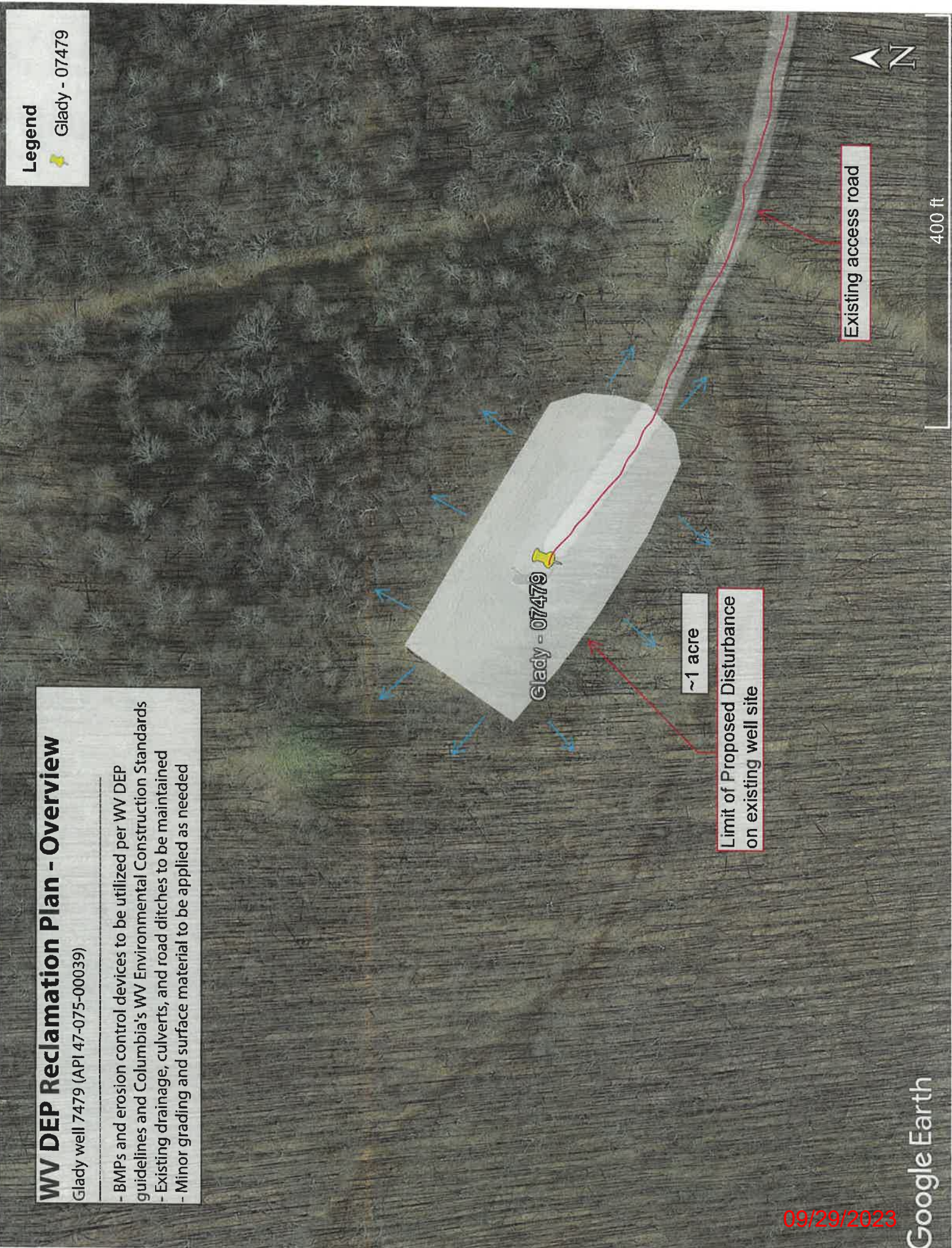
WV DEP Reclamation Plan - Overview

Glady well 7479 (API 47-075-00039)

- 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

 Glady - 07479



09/29/2023

4707500039W

Legend
Glady - 07479

Train Stop, New Tygart Flyer, Durbin &

WV DEP Reclamation Plan - Overview

Glady well 7479 (API 47-075-00039)

- 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

Laurel Fork South Wilderness

Glady - 07479

Existing access road



3 mi

09/29/2023

Google Earth

Image Landsat / Copernicus

4707500039W

(BEVERLY EAST)

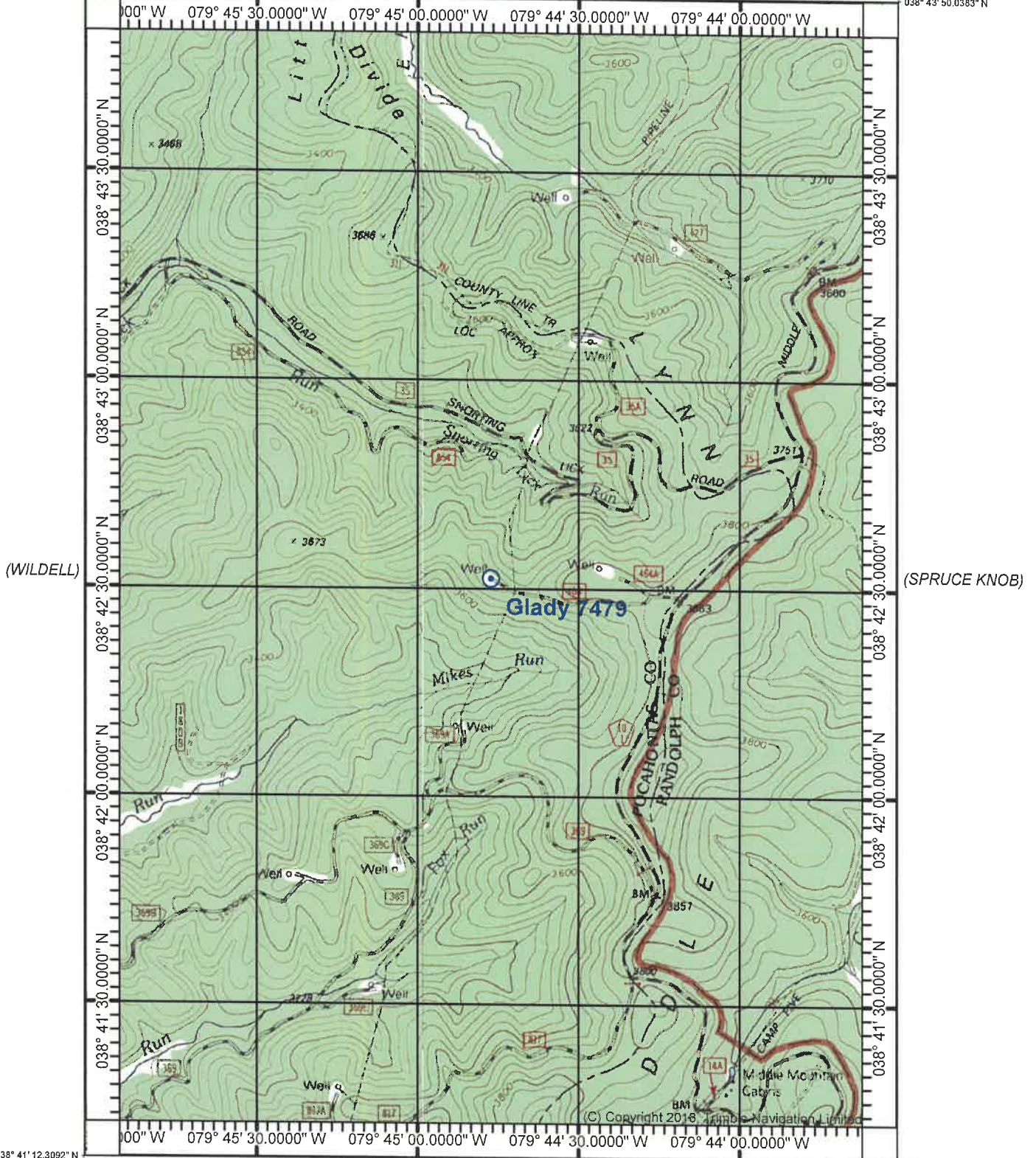


SINKS OF GANDY QUADRANGLE
WEST VIRGINIA
TOPOGRAPHIC SERIES (WHITMER)

079° 45' 55.5350" W
038° 43' 50.0383" N

(GLADY)

079° 43' 36.5642" W
038° 43' 50.0383" N



038° 41' 12.3092" N
079° 45' 55.5350" W

(THORNWOOD)
SCALE 1:24000

Printed: Tue May 23, 2023

038° 41' 12.3092" N
079° 43' 36.5642" W

(DURBIN)

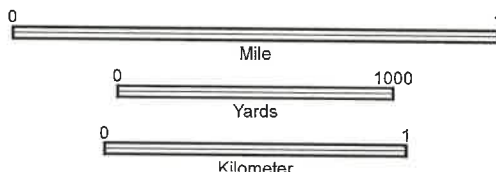
(SNOWY MT)

Produced by Trimble Terrain Navigator Pro
Topography based on USGS 1:24,000
Maps

North American 1983 Datum (NAD83)

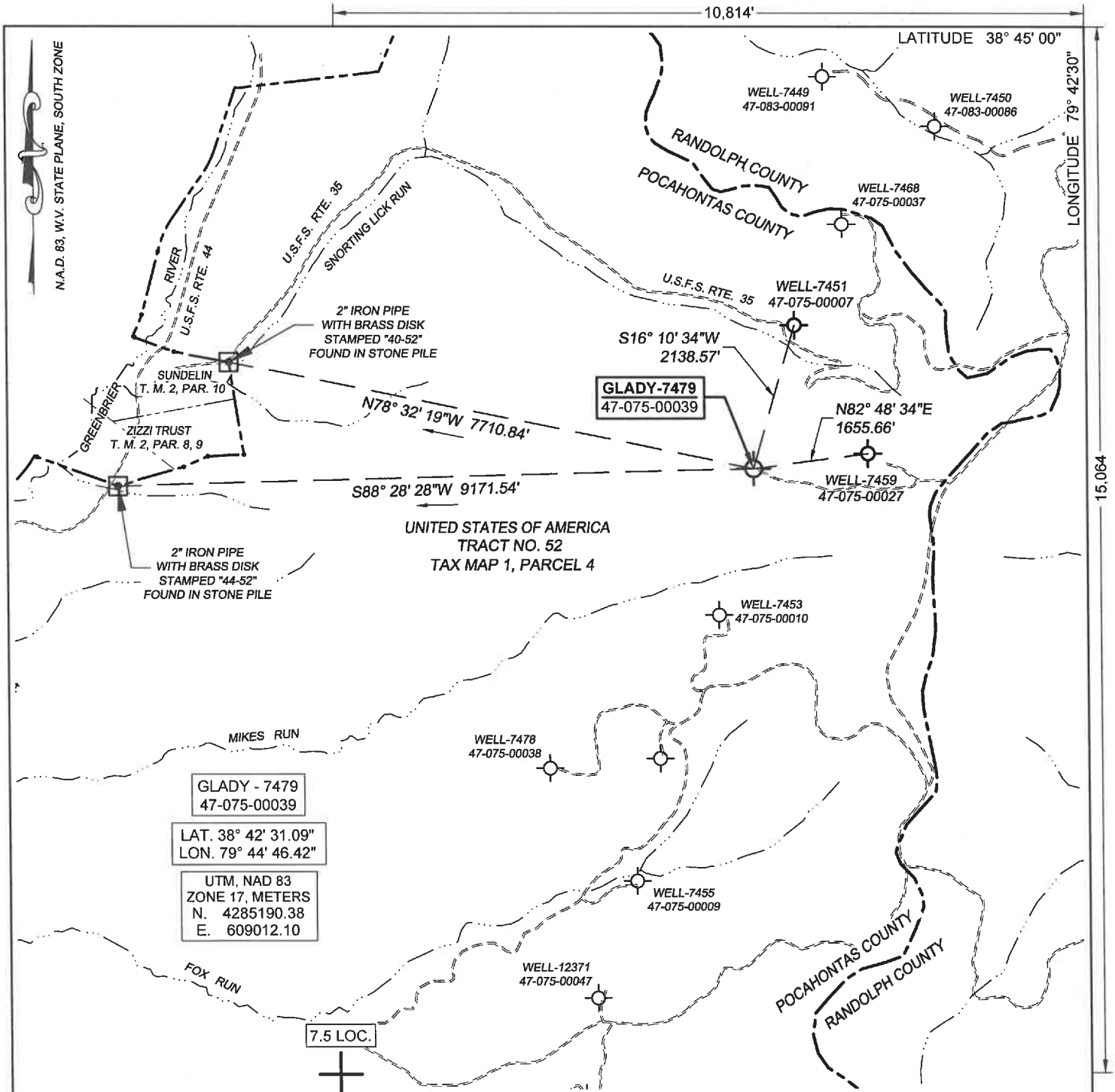
To place on the predicted North American
1927 move the projection lines 13M N and
19M E

Declination



38079-F5-TM-024
SINKS OF GANDY, WV
JAN 1, 1998

09/29/2023

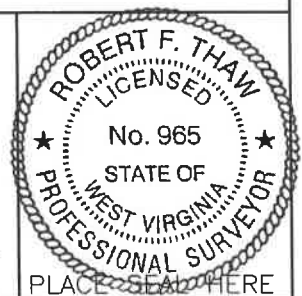


(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE No **2201-2345-001-015**
 DRAWING No. **GLADY-7479**
 SCALE **1"=2000'**
 MINIMUM DEGREE OF ACCURACY **1:200**
 PROVEN SOURCE OF ELEVATION **TRIMBLE R-12**
 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) *R. Thaw*
ROBERT F. THAW PS #965



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

DATE JULY 17 2023
 OPERATOR'S WELL No. 7479
 API WELL No. 47 075 - 00039

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE COUNTY PERMIT
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 3728.0 WATER SHED MIKES RUN
 DISTRICT GREENBANK COUNTY POCAHONTAS
 QUADRANGLE SINKS OF GANDY

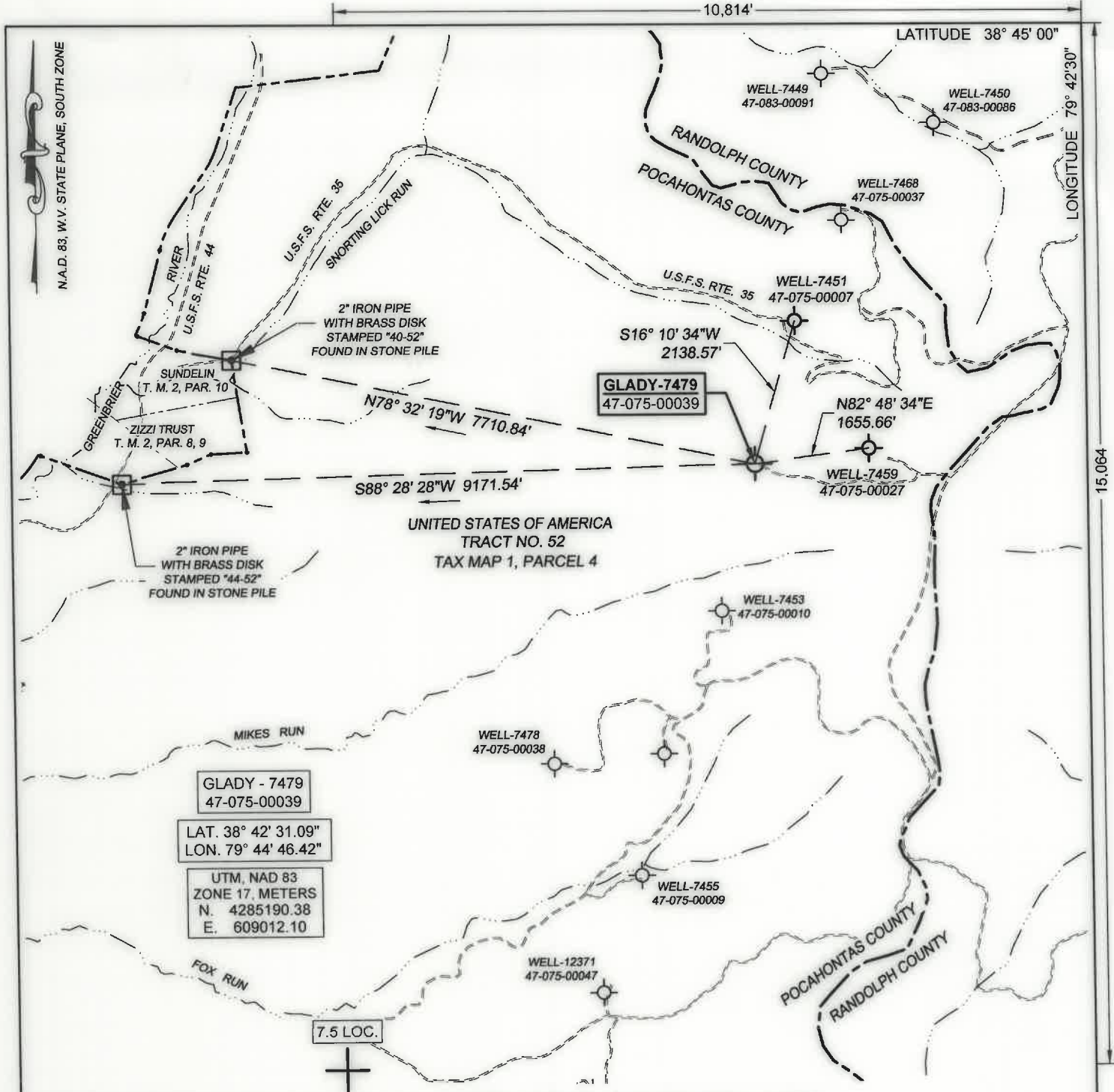
SURFACE OWNER UNITED STATE DEPARTMENT OF THE INTERIOR ACREAGE 6,595
 OIL & GAS ROYALTY OWNER UNITED FUEL GAS COMPANY LEASE ACREAGE 48,212.33
 LEASE No. 1090700-000

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) 09/29/2023

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION ORISKANY ESTIMATED DEPTH 6240
 WELL OPERATOR COLUMBIA GAS TRANSMISSION, LLC DESIGNATED AGENT MARIA MEDVEDEVA
 ADDRESS PO BOX 1273, CHARLESTON, WV 25325-1273 ADDRESS 1700 MACCORKLE AVE., SE CHARLESTON, WV 25314

FORM IV-6 (8-78)



GLADY - 7479
47-075-00039

LAT. 38° 42' 31.09"
LON. 79° 44' 46.42"

UTM, NAD 83
ZONE 17, METERS
N. 4285190.38
E. 609012.10

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

FILE No **2201-2345-001-015**
DRAWING No. **GLADY-7479**
SCALE **1"=2000'**
MINIMUM DEGREE OF ACCURACY **1:200**
PROVEN SOURCE OF ELEVATION **TRIMBLE R-12**
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) *R. Thaw*
ROBERT F. THAW PS #965



STATE OF WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS NITRO, WV		DATE <u>JULY 17</u> <u>2023</u> OPERATOR'S WELL No. <u>7479</u> API WELL No. <u>47 075 - 00039</u>
WELL TYPE: OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> (IF "GAS") PRODUCTION <input type="checkbox"/> STORAGE <input checked="" type="checkbox"/> DEEP <input checked="" type="checkbox"/> SHALLOW <input type="checkbox"/>		STATE <u> </u> COUNTY <u> </u> PERMIT <u> </u>
LOCATION: ELEVATION <u>3728.0</u> WATER SHED <u>MIKES RUN</u> DISTRICT <u>GREENBANK</u> COUNTY <u>POCAHONTAS</u> QUADRANGLE <u>SINKS OF GANDY</u>		
SURFACE OWNER <u>UNITED STATE DEPARTMENT OF THE INTERIOR</u> ACREAGE <u>6.595</u> OIL & GAS ROYALTY OWNER <u>UNITED FUEL GAS COMPANY</u> LEASE ACREAGE <u>48.212.33</u> LEASE No. <u>1090700-000</u>		
PROPOSED WORK: DRILL <input type="checkbox"/> CONVERT <input type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input checked="" type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input type="checkbox"/> OTHER PHYSICAL CHANGE IN WELL (SPECIFY) <u> </u>		09/29/2023
PLUG AND ABANDON <input type="checkbox"/> CLEAN OUT AND REPLUG <input type="checkbox"/> TARGET FORMATION <u>ORISKANY</u> ESTIMATED DEPTH <u>6240</u> WELL OPERATOR <u>COLUMBIA GAS TRANSMISSION, LLC</u> DESIGNATED AGENT <u>MARIA MEDVEDEVA</u> ADDRESS <u>PO BOX 1273, CHARLESTON, WV</u> ADDRESS <u>1700 MACCORKLE AVE., SE</u> <u>25325-1273</u> <u>CHARLESTON, WV 25314</u>		

FORM IV-6 (8-78)

USFS Conditions of Approval
08.03.2023

4707500039W

Maria Medvedeva

From: Scrafford, Hannah - FS, WV <Hannah.Scrafford@usda.gov>
Sent: Thursday, August 3, 2023 2:35 PM
To: Maria Medvedeva
Cc: Tribble, Jack - FS, WV
Subject: RE: [EXTERNAL] RE: [External Email]TCE 2024 Glady 7445 workover projects
Glady 7457
Glady 7479

Hi Maria,

That looks good to me! Thank you for making the changes so quickly!

Do you have a timeline for the work on the wells? I saw a date on one but not on the others. We like to go out and touch base whenever work is being done. Do you have photos and information on the plugging of well 7427?

Best,
Hannah



Hannah Scrafford
Range & Minerals Technician
Forest Service
Monongahela National Forest
Greenbrier Ranger District

p: 304-718-2947
hannah.scrafford@usda.gov
7409 Staunton Parkersburg Turnpike
Bartow, WV 24920
www.fs.fed.us



Caring for the land and serving people

RECEIVED
Office of Oil and Gas
AUG 25 2023
WV Department of
Environmental Protection

From: [Maria Medvedeva](#)
Sent: Wednesday, August 2, 2023 11:11 AM
To: [Scrafford, Hannah - FS, WV](#)
Cc: [Tribble, Jack - FS, WV](#)
Subject: RE: [EXTERNAL] RE: [External Email]TCE 2024 Glady 7445 workover project

Hannah, good afternoon,
Please see the updated Erosion Control Plans as per your feedback. Flammable materials comment was added under the Wellsite section. Additional equipment comment was added to the Misc section. Seed mix recommendations added verbatim.

Please let me know if you have any additional feedback. Thanks and have a great day!

Maria (Masha) Medvedeva

Senior Wells Engineer – Well Engineering & Technology
Storage Technical Services
maria_medvedeva@tcenergy.com
M: +1-304-410-4313

09/29/2023

4707500039 W

Additional Information

Other description

Location of Well

0. SHL: LAT: 38.7086 / LONG: -79.74653 (TVD: 0 feet, MD: 0 feet)

BHL: LAT: 38.7086 / LONG: 79.74653 (TVD: 0 feet, MD: 0 feet)

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Office of Oil and Gas
AUG 25 2023
WV Department of
Environmental Protection

(Form 3160-5, page 3)

09/29/2023

N/A

4707500039W

WW-2B1
(5-12)

Well No. Glady 7479

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.

RECEIVED
Office of Oil and Gas
AUG 25 2023
WV Department of
Environmental Protection

09/29/2023

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

OK No 4707500039W
34698
\$900.⁰⁰



August 24th, 2023

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

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

Glady 7479 (API 47-075-00039)

Please email to address below, and return hardcopies of permits to:

Columbia Gas Transmission
1700 MacCorkle Ave SE
Charleston, WV 25314
Attn: Maria Medvedeva

If you have questions, feel free to call.

Regards,

Maria Medvedeva
Senior Wells Engineer
Well Engineering & Technology
Columbia Gas Transmission, LLC
Mob: 304-410-4313
maria_medvedeva@tcenergy.com

RECEIVED
Office of Oil and Gas
AUG 25 2023
WV Department of
Environmental Protection

www.tcenergy.com

09/29/2023