



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

Monday, April 10, 2023
WELL WORK PERMIT
Vertical / Re-Work

COLUMBIA GAS TRANSMISSION, LLC
1700 MACCORKLE AVENUE SE

CHARLESTON, WV 25314

Re: Permit approval for 7129
47-039-01075-00-00

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: 7129
Farm Name: ROBERTS, MARK A.
U.S. WELL NUMBER: 47-039-01075-00-00
Vertical Re-Work
Date Issued: 4/10/2023

Promoting a healthy environment.

04/14/2023

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 within 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 cement 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. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACOE). Through this permit, you are hereby being advised to consult with the USACOE regarding this proposed activity.

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 Union Pocatalico, WV
Operator ID County District Quadrangle

2) Operator's Well Number: Lanham 7129 3) Elevation: 670.9

4) Well Type: (a) Oil _____ or Gas X

(b) If Gas: Production _____ / Underground Storage X
Deep _____ / Shallow X

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5) Proposed Target Formation(s): Big Lime Proposed Target Depth: 1526

6) Proposed Total Depth: 1526 Feet Formation at Proposed Total Depth: Big Lime

7) Approximate fresh water strata depths: 97' FW as reported by driller 1943

8) Approximate salt water depths: 1050' as reported by driller 1943

9) Approximate coal seam depths: None reported by driller 1943

10) Approximate void depths,(coal, Karst, other): None reported by driller 1943

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)

Pull tubing. Obtain logs. Re-run tubing. Acid stimulate with ~500 gals 15% HCl.

* casing and equipment listed below are existing - 2-3/8" tubing will be pulled and re-run into the well.

Handwritten signature and date: 2/24/23

13) **CASING AND TUBING PROGRAM**

*** existing**

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	
Conductor	10.75 *		40.5	32	32	
Fresh Water	8.625 *		24	441	441	
Coal						
Intermediate	7 *		20	1500	1500	
Production	5.5 *		15.5	1502	1502	100 sx / 120 ft^3
Tubing	2.375*		4.7	1519	1519	
Liners						

Packers: Kind: _____
Sizes: _____
Depths Set _____

WELL JOB PLAN		STS Well Engineering & Technology		PAGE 1	DATE JOB PREPARED: 2/10/2023			
Objective: Obtain HRVRT log				LAST PROFILE UPDATE:				
TITLE: Pull tbg, log, re-run tbg			WORK TYPE: CAPITAL					
FIELD: Lanham		WELL ID: 7129		LEASE #: 48242				
STATE: WV		SHL (Lat/ Long) 38.456908		API: 47-039-01075				
DIST/TWP: Union		BHL (Lat/Long) 38.456908		CNTY: Kanawha				
EXISTING TUBULAR CONFIGURATION		OD (inches)	WEIGHT (PPF)	GRADE	THREAD	DEPTH (ft)	WELLLINE #: X2W7129	
						TOP	BOTTOM	
Conductor								
Surface		10 3/4	40.5			0	32	
Intermediate		8 5/8	24.0	J-55		0	441	
Intermediate		7	20.0			0	1500	
Production		5 1/2	15.5			0	1502	
Tubing		2 3/8	4.7	J-55	8rd EUE	0	1519 *	
Tubing		*w/ 1.81" Baker Model F profile nipple & wireline re-entry guide on bttm						
Perforations		None per historic record						
		Refer to "Wellbore Diagram" tab						
Wellhead		API 3k, 2-3/8 rd wellhead connection, 5-1/2" FS x 7" support csg, Type Q tbg head						
D.H. EQUIPMENT		TYPE		DEPTH (ft)				
PACKER INFO:		Upper						
		Lower						
NIPPLE PROFILE INFO:		Upper						
		Lower						
SSSV INFO:								
CEMENT INFO							CBL TOC (ft)	
10 3/4	No record of cement					-		
8 5/8	No record of cement					-		
7	No record of cement					-		
5 1/2	Cemented with 100 sks					868		
MISC INFORMATION		REFER TO WELL SUMMARY RPT, WELLBORE DIAGRAM, ELOG, ETC. (see spreadsheet tabs below)						
Kill Fluid Calculation		<small>* Note that kill fluid calculation tabs are hidden</small>						
Maximum calculated bottom-hole pressure (for reference only):		1036	psig	* input				
Maximum storage field surface pressure (MAOP):		700	psig	* input				
		<small>*SLP program can be run when well pressure is below 650 psi</small>						
Well TD:		1526	ft TVD	* input				
Bottom of 5-1/2" casing (no perf at top of Big Lime at 1481'):		1502	ft TVD	* input				
Calculated maximum BH pressure at top of zone:		726	psig	* output Kill Fluid (TOZ)				
Kill fluid density at top of zone @:		10.57	ppg	* output Kill Fluid (TOZ)				
Proposed depth of BP:		1900	ft TVD	* input				
Calculated maximum BH pressure at depth of BP:		732	psig	* output Kill Fluid (BP)				
Kill fluid density at depth of BP @:		8.43	ppg	* output Kill Fluid (BP)				
Required minimum kill fluid density:		10.6	ppg	* greater of the two				
		Sodium Chloride system for up to 10 ppg (650 psi field pressure + 100 psi OB), otherwise will need to use Calcium Chloride (up to 765 psi field pressure or 11.5 ppg KWF requirement).						
Current AOF:		11,378	MCF/D					
Top historical AOF:		41,547	MCF/D					
Last MVRT:		None available.						
SBL:		09/06/2005 Baker Atlas 5.5" SBL showed good bond 1484' (bottom logged) - 866', partial 866' - 520' and free pipe to surface.						
PROPOSED YEAR:	2023	ERCB PERMIT REQD:	YES	NO	X	(Internal) PDS Required:	YES	NO
PREPARED BY:	Maria Medvedeva	DT. APPLIED:	ISSUED:		APPROVED:	Brent Criser		
PREP DATE:	2/10/2023	REVIEWED BY:	James Amos					

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WELL JOB PLAN		STS Well Engineering & Technology		PAGE 2	DATE JOB PREPARED: 2/10/2023
Objective: Obtain HRVRT log				LAST PROFILE UPDATE:	
TITLE: Pull tbg, log, re-run tbg			WORK TYPE: CAPITAL		
FIELD: Lanham	WELL: 7129				
STAT: WV	SHL (Lat/Long):	38.456908	-81.720302	API: 47-039-01075	
TWP: Union	BHL (Lat/Long):	38.456908	-81.720302	CNTY: Kanawha	

PROCEDURE

NOTE: Sodium Chloride fluid system allows for up to 10 ppg KWF (max field pressure of 650 psi + 100 psi overbalance). With higher field pressure will need to use a Calcium Chloride fluid system to achieve necessary KWF ppg + OB margin. Potassium Bromide for field pressures above 765 psi or 11.5 ppg KWF requirement will be required.

- 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. If required, notify State/Federal regulatory agencies prior to beginning work.
- 6 Disconnect well line.
- 7 Prepare access road and well site. Install ECD's per EM&CP.
- 8 Service all wellhead valves.
- 9 Document and report to WE&T the initial casing and annular pressures.
- 10 Kill well with a solids free brine system based on current field pressure (reference Kill Fluid Calculation section). Monitor well for 1-2 days to determine if well is static. If the well is not static, consult with the WE&T engineer for next steps (may need to pump an LCM pill).
- 11 MIRU service rig.
- 12 Remove tbg valve and bonnet. Spray/pour lubricant around top of tubing mandrel and around lock-down pins. Clean mandrel lift threads and verify thread profile. Screw into mandrel a temporary pup joint and valve for well control.
- 13 NU 7-1/16" 3M gate valve, Cameron double BOP (blind-shear in bottom / 2-3/8" pipes in top), and annular. Pressure test low (250psi) and high (1100 psi based on the maximum calculated BHP).
- 14 Unseat mandrel and pull 2-3/8" tubing. Keep hole full while tripping tubing out by circulating over the top of the well for well control.
- 15 Evaluate tubing condition, for tubing to be rerun back in the well.
- 16 MIRU Baker Atlas Logging. Run guage ring and HRVRT. **Request 1-day turn-around (obtain results prior to running tubing back in well)**
- 17 Run tubing back in well with wireline re-entry guide, Otis 1.875 XN, ~4' pup joint, and Otis 1.875 X seating nipples on bottom. Space and land bottom of wireline re-entry guide as close to bottom of 5-1/2" casing as possible. Lock down tubing mandrel.
- 18 Remove BOPE and install remainder of wellhead - for well control either screw into mandrel a temporary pup jt and valve and strip over o have stabbing valve ready to install.
- 19 **If an LCM pill was pumped to kill the well in step 10, spot and inject 500 gal of 15% HCL treated with corrosion inhibitor, iron control / sequestering agent and surfactant into storage zone. Displace with freshwater treated with biocide and clay stabilizer.**
Have liquid caustic on location to neutralize flowback fluids.
- 20 Swab / flow well to re-establish gas flow.
- 21 RDMO service rig.
- 22 Reconnect well line.
- 23 Notify WET Project Support that well is back in-service.
- 24 Reclaim R&L.
- 25 Commission well by completing, processing, and retain for records the Wellsite Review and Turnover Form.
- 26 Notify REG that well is ready for storage service.

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SEE NEXT PAGE IF A
SNUBBING UNIT WILL
BE USED.

PREPARED BY: Maria Medvedeva	REVIEWED BY: James Amos	APPROVED: Brent Criser
PREP DATE: 2/10/2023		

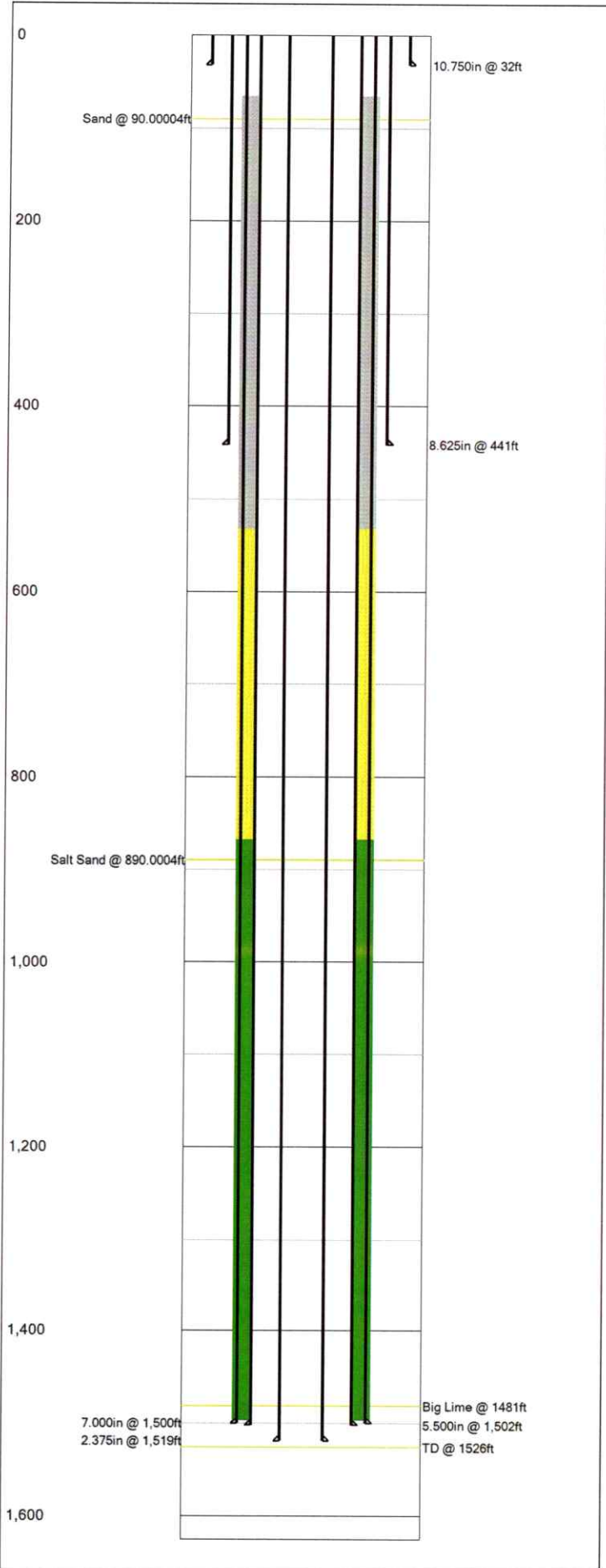
04/14/2023

WELL JOB PLAN		STS Well Engineering & Technology		PAGE 3	DATE JOB PREPARED: 2/10/2023
Objective: Obtain HRVRT log			LAST PROFILE UPDATE:		
TITLE: Pull tbg, log, re-run tbg		WELL: 7129		WORK TYPE: CAPITAL	
FIELD: Lanham	SHL (Lat/Long): 38.456908 -81.720302		API: 47-039-01075		
STAT: WW	BHL (Lat/Long): 38.456908 -81.720302		CNTY: Kanawha		
DIST/TWP: Union					
PROCEDURE (continued)					
<p>Assess condition / integrity of A-section of wellhead to determine if it can handle stand-alone snubbing forces. If deemed necessary, utilize CSI's substructure to provide stability to snubbing stack.</p>					
If determine location is large enough to stage a standalone snubbing unit + crane, and the well cannot be fluid killed, use procedue below -					
<p>40 Document and report to WE&T the initial casing and annular pressures.</p> <p>41 Pump 20 gals methanol and 20 bbls fresh water down tubing to verify it's open.</p> <p>42 Flow well up casing to verify no bridges and dry wellbore.</p> <p>43 MIRU TTS slickline unit. RIH to find bottom of tubing. Install TTS packoff plug #1 in bottom joint of tubing. Perform negative pressure test in stages to 0 psig. Install TTS packoff plug #2. Perform negative pressure test in stages to 0 psig.</p> <p>44 Remove tbg valve and bonnet. Spray/pour lubricant around top of tubing mandrel and around lock-down pins. Clean mandrel lift threads and verify thread profile. NU 7-1/16" 3M gate valve, Cameron double BOP (blind-shear in bottom / 2-3/8" pipes in top), and annular.</p> <p>45 MIRU stand-alone snubbing stack. Perform low (250 psig) and high (1100 psig) pressure test on each BOP component, including FOSV (2), choke line, blow-off line, and equalization line.</p> <p>46 PU pulling joint, screw into tubing hanger, grab bite on tubing with snubbing slips, equalize pressure across hanger, back out mandrel hold-down pins, and unseat hanger.</p> <p>47 Strip / snub tubing out of hole. On last 3 joints RIH 60 ft every joint with weight on masonry twine to verify depth of upper RBP. Last joint, stop connection just below annular, close gate valve and lower snubbing pipe rams, and bleed pressure to verify last joint. Note that there will likely be pressure inside tubing between the two RBPs.</p> <p>48 Evaluate tubing condition, for tubing to be rerun back in the well.</p> <p>49 MIRU Baker Atlas Logging. Run guage ring and HRVRT. Request 1-day turn-around (obtain results prior to snubbing tubing back in well).</p> <p>50 Snub tubing back in well with wireline re-entry guide, Otis XN and Otis X seating nipples on bottom. Do not run tubing into openhole.</p> <p>51 Land tubing and lock-down mandrel. RDMO snubbing unit.</p> <p>52 Reconnect well line.</p> <p>53 MIRU TTS slickline unit. Pressure tubing. Run gauge ring and pull SN plugs. RDMO slickline unit.</p> <p>54 Notify WET Project Support that well is back in-service.</p> <p>55 Reclaim R&L.</p> <p>56 Commission well by completing, processing, and retain for records the Wellsite Review and Turnover Form.</p> <p>57 Notify REG that well is ready for storage service.</p>					
PREPARED BY: Maria Medvedeva		REVIEWED BY: James Amos		APPROVED: Brent Criser	
PREP DATE: 2/10/2023					

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04/14/2023

Last Updated: 1/20/2023 12:07 PM



Field Name		Lease Name		Well No.
Lanham		Lanham - 07129		07129
County		State		API No.
Kanawha		WV		47039010750000
Version		Version Tag		
		0 Current Completion		
G.L. (ft)	K.B. (ft)	Sec.	Township/Block	Range/Survey
1,526.0	1,528.0	56-65	Union	031007129
Operator		Well Status	Latitude	Longitude
TransCanada		ACTIVE	38.4569	-81.7203
Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From
PropNum		Spud Date		Comp. Date
Elijah L. Bailey And/Or		12/1/1943		
Additional Information				
I-77 North to Tappers Creek Exit - Go left 2 miles to Rt 21 North. Go 3 miles. Rt 622 South 4.6 miles and lease road is on left. Follow lease road to well - 2/10 miles.				
Other1	Other2	Other3	Other4	
Lanham	0310	031007129		
Prepared By		Updated By		Last Updated
				1/20/2023 12:07 PM

Tubular Summary						
Date	Description	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
12/1/1943	Casing	10.750	40.50		0	32
12/2/1943	Casing	8.625	24.00	j-55	0	441
12/3/1943	Casing	7.000	20.00		0	1,500
7/2/1950	Casing	5.500	15.50		0	1,502
9/8/2005	Tubing	2.375	4.70	J-55	0	1,519

Casing Cement Summary						
C	Date	No. Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	9/6/2005	0	5.500	65	532	Free Pipe
	9/6/2005	0	5.500	532	868	Partial Quality
	9/6/2005	0	5.500	868	1,497	Good Quality

Formation Tops Summary		
Formation	Top (TVD ft)	Comments
Sand	90	Comments: w @ 97
Salt Sand	890	Comments: w @ 1050 Gas @ 1014
Big Lime	1,481	Comments: Gas @ 1511 1520-1524
TD	1,526	GaS 1520'-1524'-6.755 MMCF-NAT 330#

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WV Department of
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WR-35
Rev (5-01)

DATE: 3/17/08
API #: 47-039-01075

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

Well Operator's Report of Well Work

Farm name: Roberts, Mark A. Operator Well No.: 7129

LOCATION: Elevation: 675 ft Quadrangle: Pocatalico

District: Union County: Kanawha
Latitude: 700 Feet South of 38 Deg. 27 Min. 30 Sec.
Longitude 3,450 Feet West of 81 Deg. 42 Min. 30 Sec.

Company: Columbia Gas Transmission Corp

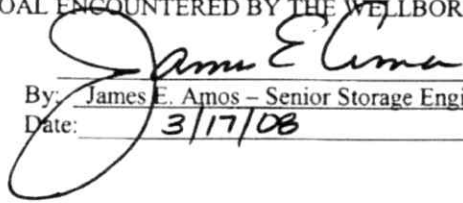
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1700 MacCorkle Ave SE Charleston, WV 25325-1273				
Agent: Paul Amick	This is an existing storage well - all of the existing tubing was pulled and new tubing ran			
Inspector:				
Date Permit Issued: 8/22/05				
Date Well Work Commenced: 8/24/05	2-3/8" tbg		1520	NA
Date Well Work Completed: 10/5/05				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): 1528				
Fresh Water Depth (ft.): not applicable - rework				
Salt Water Depth (ft.): not applicable - rework				
Is coal being mined in area (N/Y)? no				
Coal Depths (ft.): _____ ft				

OPEN FLOW DATA

Producing formation Big Lime Pay zone depth (ft) 1482 - 1526
Gas: Initial open flow 11,700 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 58,000 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests not applicable Hours
Static rock Pressure 850 psig (surface pressure) after 72+ Hours

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.

Signed:


By: James E. Amos - Senior Storage Engineer - Columbia Gas Transmission Corp
Date: 3/17/08

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WV Department of
Environmental Protection

04/14/2023

4703901075W

Lanham Storage well 7129

This is an existing storage well. Below is a summary of work performed.

- 1) Killed well.
- 2) Pulled tubing.
- 3) Logged (GR-Neutron- cement bond log-pipe inspection).
- 4) Installed new wellhead.
- 5) Performed acid treatment.

Treatment Data: 2000 gals HCl acid
 22 MSCF nitrogen
 Break @ 650 psig
 ATP = 900 psig

* Note that no earthen pit was utilized. Flowback treatment fluids recovered via steel tanks and transported to LAD in Wheeling, WV for disposal/processing.

04/14/2023

JAN 13 2000

WV Division of
Environmental Protection

DATE: 12-30-99
API #: 47-039-1075
4703901075W

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Reviewed K

Well Operator's Report of Well Work

Farm name: Roberts, Mark Operator Well No.: Lanham 7129

LOCATION: Elevation: 675' Quadrangle: Pocatalico

District: Union County: Kanawha
Latitude: 600 Feet South of 38 Deg. 27 Min. 30 Sec.
Longitude 3450 Feet West of 81 Deg. 42 Min. 30 Sec.

Company: Columbia Gas Transmission

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: P. O. Box 1273 Charleston, WV 25325-1273	10-3/4"	40.5 lb.	32'	
Agent: Richard L. Coty	8-5/8"	24 lb.	441'	
Inspector: Carlos Hively				
Date Permit Issued: 11-22-99	7"	20 lb.	1500'	8 sx
Date Well Work Commenced: 12-16-99				
Date Well Work Completed: 12-16-99	5-1/2"	15.5 lb.	1502'	100 sx
Verbal Plugging:				
Date Permission granted on:	2-3/8"	4 lb.	1526'	
Rotary Cable X Rig				
Total Depth (feet): 1708'				
Fresh Water Depth (ft.): 97'				
Salt Water Depth (ft.): 1050'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): NOT Reported				

OPEN FLOW DATA * Storage well - rates and pressures vary.

Producing formation Big Lime (storage) Pay zone depth (ft) 1511' - 1524'

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d

Final open flow N/A MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests _____ Hours

Static rock Pressure _____ psig (surface pressure) after _____ 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

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.

Signed: Paul C. Amick
By: Paul C. Amick
Date: 12-30-99

04/14/2023

4703901075W

Pumped a matrix acidizing treatment using 1100 gallons of 15% swic acid at 1 BPM.

04/14/2023

WORK ORDER

REQUEST NO. 2951
 DATE August 14, 1950

BUDGET NO. 497 WORK ORDER NO. 5901
 DATE ISSUED 8-15-1950

COMPANY United Fuel Gas Company DEPT. Production (for Storage) DIVISION Standard
 PROPOSED WORK Recondition Well X-2-7129 and Install Miscellaneous Material.

KNOWN AS Well # X-2-7129-Addition. NO. ORIGINAL INSTALLATION DATE
 PURPOSE AND NECESSITY To clean out well and to install heavy equipment, due to well being purchased for storage purposes in Pool X-2.

LOCATION: Well X-2-7129 - E.N. Bailey et, al Farm.
 IN Union TOWN Rural TAX DISTRICT Kenawha COUNTY West Virginia STATE

RELATED PROJECT WORK ORDER NO. FOR
 APPROVED BY John C. Martin APPROVED BY J. J. Martin

DETAIL OF EXPENDITURES							
MATERIAL TO BE INSTALLED- SEES Price	SIZE	ESTIMATE		ACTUAL		VARIATION	
		QUANTITY	AMOUNT	QUANTITY	AMOUNT		
15.5# Steel Cag.	1.16	5 1/2" OD	1500	1,740.00			
Steel Tubing	.22	2"	1625	358.00			
Type Q Tong Head		7"x2"	1	200.00			
Ward. 2245 Flg. F.V.-Comp.		4"	1	271.00			
WKM-3000# Ss. Gate		2"	1	58.00			
Sag. Nipple	6.30	7"x5"	1	6.00			
Baker Cement Shoe	61.71	5 1/2" OD	1	62.00			
Turnbuckles	11.68	1 1/2"x18"	2	24.00			
Ans. Clamps	15.60	2"	1	15.00			
Fittings w/Flanges				35.00			
TOTAL MATERIAL				2,770.00			
INSTALLATION OR REPAIRMENT COST							
Direct Labor				1,000.00			
Use of Auto and Hauling				500.00			
Tools, Supplies and Miscellaneous Expense				75.00			
Hauling, erecting & dismantling Spudder				300.00			
Fuel (Gasoline)				100.00			
Cement & Service				325.00			
Acidizing & Service				365.00			
Stores Expense and Freight				216.00			
Labor Benefits Overheads				172.00			
Administrative Overheads				41.00			
TOTAL INSTALLATION OR REPAIRMENT COST				3,074.00			
TOTAL ESTIMATE				5,844.00			

INDICATE NORTH SKETCH INVENTORY MAP NO.
Map Square 30-05

Notes: Move in Bucyrus Erie Spudder, and string of Cleaning Out Tools Acidine Well, Pull 3" Tubing, Set Bridge with Cal-Seal on Top, Run String of 5 1/2" OD with Baker Cement Shoe, Cement well to top of hole, Clean Out Well, Run String of 2" Tubing, Install Miscellaneous equipment, Leave Well shut in, and report results.

* Hauling, Erecting & Dismantling Spudder Charges included in above items.
 * Fuel and Hauling.
 * Spudder Charges included in Tools, Supplies and Miscellaneous.

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 Office of Oil and Gas
 MAR 09 2023
 WV Department of
 Environmental Protection

Jerry Hsch
Carterville, Ill

2-497-5901

04/14/2023

4703901075w

X-2 7/29
F-18742

E. W. Bailey, et al
Columbian Carbon Company
Union District, Kanawha County
Map Square 56-65
Elevation 670.0 DF
Commenced 11-10-43
Completed 12-2-43

CASING AND TUBING:

Size	Weight	Used	Left	Packers Gas Anchor
10 3/4"	40.50#	31'10"	31'10"	
8 1/4"	24#	440'10"	440'10"	42" long
7"	20#	1500' 0"	1500' 0"	Depth set 1503'
3 1/2"	8.7#	1529'	1529'	
5 1/2"	17#	23'	23'	

Surface	0	20
Red Rock	20	90
Sand	90	100
Red Rock	100	210
Sand	210	380
Slate & Shells	380	410
Sand	410	470
Slate	470	490
Sand	490	595
Slate & Shells	595	890
Sand	890	1272
Slate break	1272	1312
Sand	1312	1481 SLM
Big Lime	1481 SLM	1526
TOTAL DEPTH	1526 DLM	

Fresh Water 97' 4 BPH
Salt Water 1050' HF

Gas 1014' show

Big Lime Gas 1511' show
Gas 1520-24

Acidized with 1000 gals

Volume 6,866 MCF
72 hr. RP 330#

Not Shot

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Environmental Protection

STATE OF MISSISSIPPI
DEPARTMENT OF MINES
AND GEOLOGICAL SURVEY

M.S. 56-65

WELL RECORD

Well No. 1075 Oil or Gas Well Gas

Operator Columbian Carbon Company

Address Box 873, Charleston 25, W. Va.

Driller B. W. Ralloy, et al Area 55.8

Location (township) North Fork of Potomac River

Well No. 1 (69-72) Date 670,000

District 10102 County Franklin

The surface of land is owned in fee by B. W. Ralloy, et al

W. H. Washington et. al Address Chas. 2, W. Va.

Mineral rights are owned by B. W. Ralloy, et al
(for further addresses contact Columbian Carbon)

Drilling commenced 11-10-13

Drilling completed 12-30-13

Date shut in 12-31-13 From _____ To _____

Well Acidized with 1000 gal. acid

Open Flow 1000 lbs Water in _____ Inch

1000 lbs Merc. in _____ Inch

Volume 6,566 M Cu. Ft.

Rock Pressure 330 lbs 72 hrs.

Oil _____ lbs. 1st 24 hrs.

Fresh water 97' feet _____ feet

Salt water 1050' feet _____ feet

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
See reverse side

COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES
_____ FEET _____ INCHES _____ FEET _____ INCHES

Formation	Color	Hard or Soft	Top	Bottom	Oil Gas or Water	Depth Faced	Remarks
Surface			0	20			
2' Rock			20	90			
Sd.			90	100	F. water	97'	10" blr. 1 hr.
Red Rock			100	210			
Sand			210	380			
Slate & Shells			380	410			
Sand			410	470			
Slate			470	490			
Sand			490	595	gas	1011'	show
Slate & Shells			595	890	C. water	1050'	hole full
Sand			890	1272			
Slate break			1272	1312			
Sand			1312	1481 3LM			
Big Lime			1481 3LM	1526	gas	1511'	show
TOTAL DEPTH				1526' 3LM			
					Gas: 1511', 1520-24'		

(see reverse side for cement record)

Lanham 7129

F18742

F1874

WW-2A
(Rev. 6-14)

1). Date: 02/21/2023
2.) Operator's Well Number Lanham 7129
State County Permit
3.) API Well No.: 47- 039 - 01075

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

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WV Department of
Environmental Protection

4) Surface Owner(s) to be served:
(a) Name Mark A. Roberts
Address PO Box 444
Dunbar, WV 25064
(b) Name _____
Address _____
(c) Name _____
Address _____
6) Inspector Terry Urban
Address PO Box 1207
Clendenin, WV 25045
Telephone 304-549-5915
5) (a) Coal Operator
Name Not operated
Address _____
(b) Coal Owner(s) with Declaration
Name Not operated
Address _____
(c) Coal Lessee with Declaration
Name Not operated
Address _____

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

OR 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.

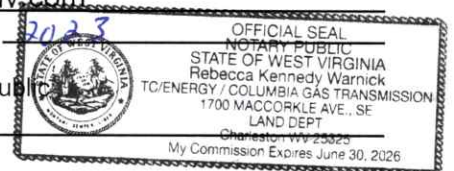
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, 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 21st day of February, 2023

Rebecca K. Warnick 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

04/14/2023

4703901075 W

Columbia Gas Transmission, LLC

1700 MacCorkle Ave., SE, Charleston, WV, USA 25314



RECEIVED
Office of Oil and Gas

MAR 09 2023

WV Department of
Environmental Protection

February 22nd, 2023

Mark A. Roberts
PO Box 444
Dunbar, WV 25064

Columbia Gas Transmission, LLC is applying for a permit to the WV Department of Environmental Protection – Office of Oil and Gas, to repair an existing underground natural gas storage well located on property owned by you. As reference, the field and well ID is Lanham 7129 (API 47-039-01075).

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.

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®.

Dunbar, WV 25064

Certified Mail Fee	\$4.15
Extra Services & Fees (check box, add fees to postage)	
<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	\$9.65
Total Postage and Fees	\$17.15

Sent To: Mark Roberts
Street and Apt. No., or PO Box No.
City, State, ZIP+4®: LM 7129

Postmark: SOUTHBRIDGE STATION, WV FEB 22 2023

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"> 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. 	<p>A. Signature <input type="checkbox"/> Agent <input checked="" 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 <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>
<p>1. Article Addressed to:</p> <p>Mark A. Roberts PO Box 444 Dunbar, WV 25064</p> <p>9590 9402 7630 2122 5691 46</p>	<p>25064</p>
<p>2. Article Number (Transfer from service label)</p> <p>7022 2410 0002 6396 2938</p>	<p>3. Service Type</p> <p><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"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery</p>

WW-2A Surface Waiver
(4/16)

SURFACE OWNER WAIVER

County Kanawha

Operator

Columbia Gas Transmission LLC

Operator well number

Lanham 7129

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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Office of Oil and Gas
MAR 09 2023
WV Department of
Environmental Protection

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 _____

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

* coal not operated

County Kanawha

Operator Columbia Gas Transmission LLC

Operator's Well Number Lanham 7129

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:

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Office of Oil and Gas

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

MAR 09 2023

WV Department of
Environmental Protection

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

**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
E Bailey etal	United Fuel Gas Company	Storage Lease - Office of Oil and Gas	123 / 510 - 512

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Environmental Protection

**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



04/14/2023

WW-2B1
(5-12)

Well No. Lanham 7129

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.

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Certified Laboratory Name _____
Sampling Contractor _____

MAR 09 2023

WV Department of
Environmental Protection

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.

WW-9
(5/16)

4703901075W

API Number 47 - 039 - 01075
Operator's Well No. Lanham 7129

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) Pocatalico River Quadrangle Pocatalico, 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 *KW*

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 Appalachian Water Services (WMGR 123SW001))

Will closed loop system be used? If so, describe: yes - steel flow line to tanks RECEIVED Office of Oil and Gas

Drilling medium anticipated for this well (vertical and horizontal)? Fresh water MAR 09 2023

-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 WV Department of Environmental Protection

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*

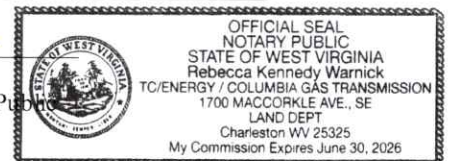
Company Official (Typed Name) Maria Medvedeva

Company Official Title Senior Wells Engineer Storage Technical Services

Subscribed and sworn before me this 21st day of February, 2023, 20

Rebecca K. Hamrick Notary Public

My commission expires 6/30/26



04/14/2023

Proposed Revegetation Treatment: Acres Disturbed < 1.0 Prevegetation pH 6-7

Lime 2 Tons/acre or to correct to pH 7-8

Fertilizer type 10-10-10

Fertilizer amount 600 lbs/acre

Mulch hay or straw @ 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

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.

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MAR 09 2023

Plan Approved by:

[Handwritten Signature]

Comments:

WV Department of Environmental Protection

Title:

Ingeborg DeLeon

Date:

2-24-23

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): Pocatalico River Quad: Pocatalico, WV
Farm Name: Elijah J. Bailey etal

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.

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MAR 09 2023
WV Department of
Environmental Protection

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

Pocatalico River is at a distance of 0.07 miles W.

The Rippling Waters Campground WV9918017 is the closest Well Head Protection Area at a distance of 9.87 miles NE from discharge area.

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

N/A

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

04/14/2023

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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MAR 09 2023
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Environmental Protection

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: 02/21/2023

MAR 09 2023

WV Department of
Environmental Protection




WV DEP Reclamation Plan - Overview

Lanham well 7129 (API 47-039-01075)

- 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

 Lanham - 07129

04/14/2023

Google Earth

3000 ft

4703901075W

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WV Department of
Environmental Protection



WV DEP Reclamation Plan - Site Detail

Lanham well 7129 (API 47-039-01075)

- 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

- Lanham - 07129
- LM 7129 CWA

Existing Access Road

Lanham - 07129

Limit of Proposed Disturbance
on existing well site

~0.18 acres

300 ft



04/14/2023

Google Earth

4708901075W

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POCOTALICO QUADRANGLE

WEST VIRGINIA

TOPOGRAPHIC SERIES

(ROMANCE)

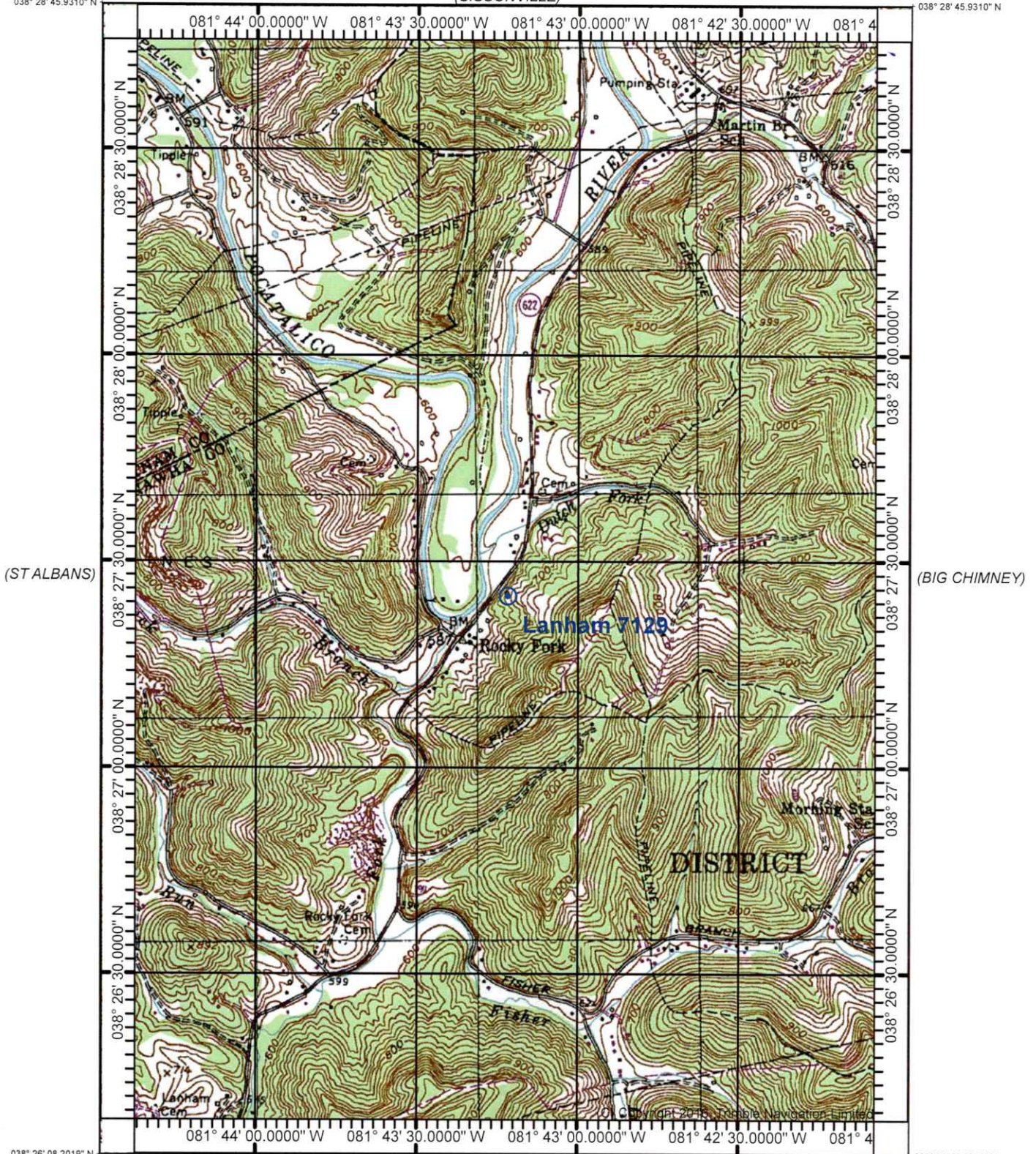
(BANCROFT)



081° 44' 22.4482" W
038° 28' 45.9310" N

(SISSONVILLE)

081° 42' 03.9625" W
038° 28' 45.9310" N



038° 26' 08.2019" N
081° 44' 22.4482" W

(CHARLESTON WEST)
SCALE 1:24000

Printed: Tue Feb 21, 2023

081° 42' 03.9625" W
038° 26' 08.2019" N

(ALUM CREEK)

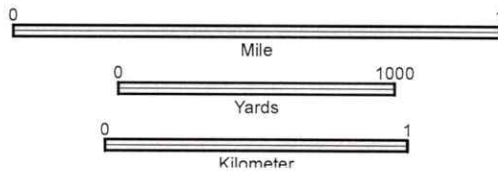
(CHARLESTON EAST)

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 10M N and
13M E

Declination

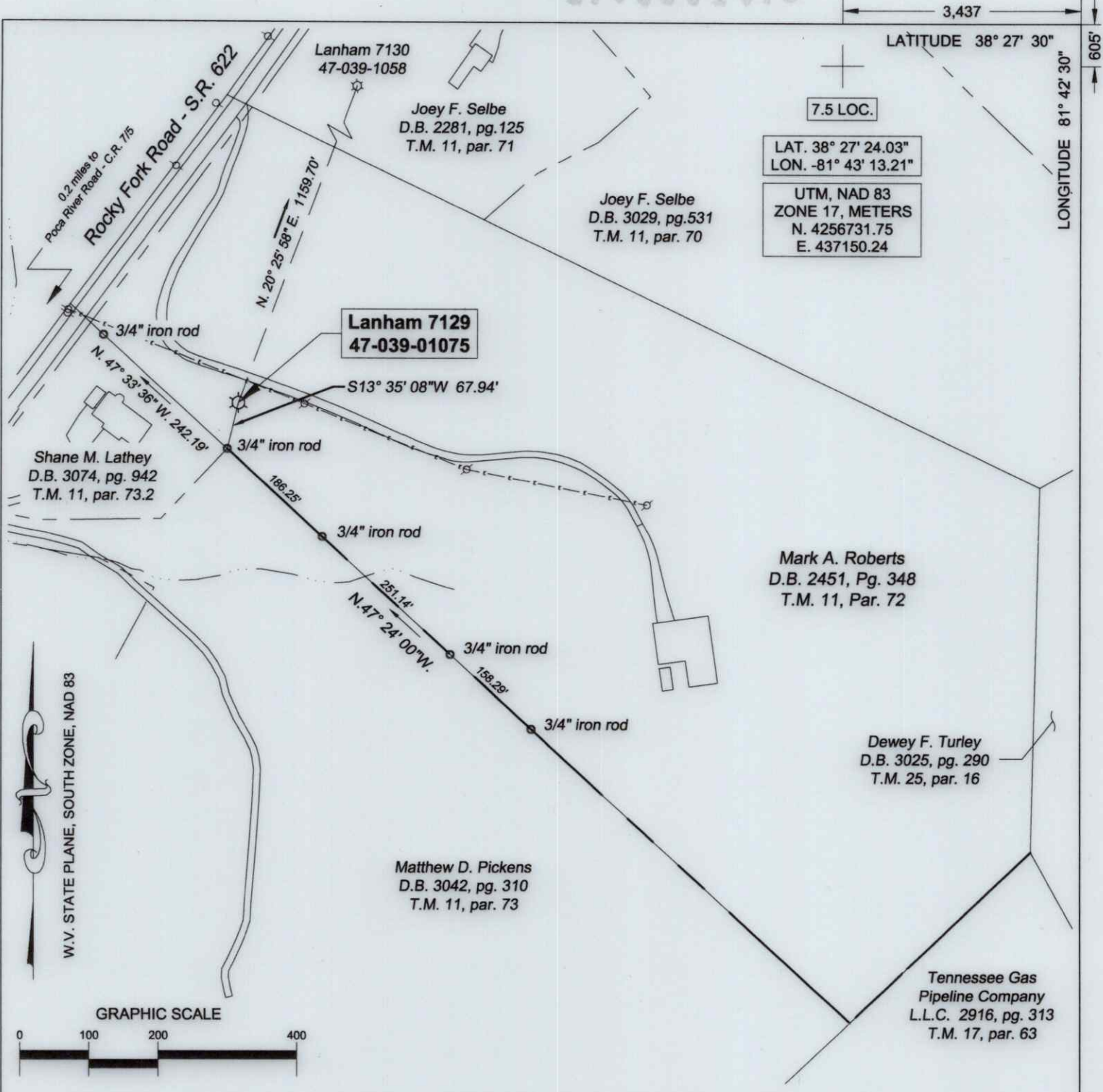


CONTOUR INTERVAL 20 FT

38081-D5-TM-024
POCOTALICO, WV
JAN 1, 1999

04/14/2023

4703901075



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

FILE No. 2301-2345-001-001

DRAWING No. LANHAM - 7129

SCALE 1 INCH = 200 FEET

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) *R. Thaw*

ROBERT F. THAW PS #965



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

DATE FEBRUARY 16 2023

OPERATOR'S WELL No. 7129

API WELL No. 47 039 01075W

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE COUNTY PERMIT

(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 670.9' WATER SHED POCATALICO RIVER

DISTRICT UNION COUNTY KANAWHA

QUADRANGLE POCATALICO, WV

SURFACE OWNER MARK A. ROBERTS ACREAGE 19.82 AC. (DEED)

OIL & GAS ROYALTY OWNER COLUMBIA GAS TRANSMISSION CORP.

LEASE ACREAGE 56.8 ACRES LEASE NO. 1048242-002 **04/14/2023**

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE

STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION

OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION BIG LIME ESTIMATED DEPTH 1526

WELL OPERATOR COLUMBIA GAS TRANSMISSION, LLC DESIGNATED AGENT MARIA MEDVEDEVA

ADDRESS PO BOX 1273, CHARLESTON, WV 25325-1273 ADDRESS 1700 MACCORKLE AVE, S.E. CHARLESTON, WV 25314

FORM IV-6 (8-78)

CK# 43060
CKAMNT \$900.00

Columbia Gas Transmission, LLC

1700 MacCorkle Ave., SE, Charleston, WV, USA 25314

4703901075W  TC Energy

March 9th, 2023

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

RECEIVED
Office of Oil and Gas
MAR 09 2023
WV Department of
Environmental Protection

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

Lanham 7129 (API 039-01075)

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



Kennedy, James P <james.p.kennedy@wv.gov>

well work permit issued 4703901075

1 message

Kennedy, James P <james.p.kennedy@wv.gov>


Mon, Apr 10, 2023 at 11:23 AM

To: maria_medvedeva@tcenergy.com, Terry W Urban <terry.w.urban@wv.gov>, sallierobinson@kanawha.us

To whom it may concern, a well work permit has been issued for 4703901075.

James Kennedy

WVDEP OOG

 **4703901075.pdf**
7143K

04/14/2023