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west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Tuesday, September 17, 2019  
WELL WORK PERMIT  
Vertical / Re-Work

DOMINION ENERGY TRANSMISSION, INC.  
925 WHITE OAKS BOULEVARD

BRIDGEPORT, WV 26330

Re: Permit approval for 12909  
47-033-03166-00-00

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: 12909  
Farm Name: KIMBERLY SHAW  
U.S. WELL NUMBER: 47-033-03166-00-00  
Vertical Re-Work  
Date Issued: 9/17/2019

Promoting a healthy environment.

## PERMIT CONDITIONS

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

### CONDITIONS

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

WW - 2B  
(Rev. 8/10)

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

1) Well Operator: Dominion Energy Transmission, Inc. 307048 Harrison Union Big Isaac  
Operator ID County District Quadrangle

2) Operator's Well Number: 12909 3) Elevation: 1093'

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

5) Proposed Target Formation(s): Gantz Proposed Target Depth: 1942'

6) Proposed Total Depth: 1970' Feet Formation at Proposed Total Depth: Gantz

7) Approximate fresh water strata depths: N/A

8) Approximate salt water depths: N/A

9) Approximate coal seam depths: N/A

10) Approximate void depths, (coal, Karst, other): N/A

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)

Please see attached work plan. CONVERT TO OBSERVATION WELL FOR THE GANTZ.

*SDW  
5/6/2019*

13) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE	INTERVALS	CEMENT
	Size	Grade	Weight per ft			
Conductor						
Fresh Water	13-3/8"	N/A	48#/FT	N/A	270'	CTS
Coal	8-5/8"	N/A	24#/FT	N/A	2147'	600 SKS
Intermediate						
Production	4-1/2"	J-55	10.5#/FT	N/A	3590'	525 SKS
Tubing						
Liners						

Packers: Kind: \_\_\_\_\_  
Sizes: \_\_\_\_\_  
Depths Set \_\_\_\_\_

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Office of Oil and Gas

AUG -- 8 2019



1. Phase 1- Preliminary activities

1. File for and receive necessary regulatory permits
2. Upgrade site and access road; disconnect and remove any unnecessary production equipment
3. Install any remaining necessary well site containment

2. Phase 2- Well work activities

1. MIRU rig and any other ancillary equipment
2. Log 4-1/2" casing
3. Install all BOPE equipment
4. TIH with work string to above td
5. Spot cement balance plug from bottom of well to immediately below Gantz, satisfying the requirements of §22-6-24 (a) 13.4.a.1-5
6. TOOH with work string
7. WOC
8. Tag and verify the cement plug top, *ADD CEMENT IF NEEDED.*
9. Perforate 4-1/2" casing immediately below Gantz
10. Set cement retainer immediately above 4-1/2" squeeze perforations
11. Squeeze cement into 4-1/2"x7" annulus. Designed to be to surface.
12. WOC *57'  
8/B*
13. TOOH and move out rig
14. RDMO service rig and ancillary equipment
15. Perform top joint and well head change out activities
16. Bond log 4-1/2" casing
17. Perforate 4-1/2" casing across Gantz formation
18. Swab 4-1/2" casing
19. Remove all environmental controls and assure 70% growth of vegetation

RECEIVED  
Office of Oil and Gas

AUG - 8 2019

WV Department of  
Environmental Protection

**Kennedy Storage  
#12909 [OBS]  
Permit #47-033-03166  
Elev = 1093'[GL]**

Storage Credit Well. Gas prod zones in the Balltown and Speechley [4.5" sliding sleeve].

13 3/8", 48#/ft @ 270', CTS w/ 220sx (Date: 1985)

Cem top outside 4 1/2" above sliding sleeve @ 1950'.

Gantz 1938' - 1956'

Perfs: 1938' - 1950'

8 5/8", 24#/ft csg set @ 2147' cem w/ 600sx, not to surface (Date: 1985)

Balltown perfed from 3261' - 3422', multiple zones, & Speechley from 3147' - 3154', single zone.

There was no written record available showing that the 2-3/8" tubing was pulled, but when the wellhead was replaced in 2011, we found no tubing. It must have been removed between 1985 and 2011.

Speechley 3144' - 3160'

Perfs: 3147' - 3154'

Balltown 3246' - 3447'

Perfs: 3261' - 3422'

TD = 3600'  
Deepest TD = 5254'

4 1/2", 10.5#/ft, J-55 @ 3590', cem w/ 525sx, not to surface (Date: 1985)

RECEIVED  
Office of Oil and Gas

AUG - 8 2019

WV Department of  
Environmental Protection

Well Name & Number:	12909		Lease	W. W. Paugh	
County or Parish:	Harrison	State/Prov.	WV	Country:	USA
Perforations: (MD)	1938' - 1950', 3147' - 3154', 3261' - 3422'		(TVD)	3600'	
Angle/Perfs	Angle @KOP and Depth			KOP TVD	
BHP:	BHT:	Completion Fluid:			
FWHP:	FBHP:	FWHT:	FBHT:	Other:	
Date Completed:	03/11/15				RKB:
Prepared By:	Richard Cross		Last Revision Date:	05/02/11	

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work

Farm name: HAGGERTY, STEPHEN & JOYCE Operator Well No.: 12909

LOCATION: Elevation: 1,097.00 Quadrangle: BIG ISAAC

District: UNION County: HARRISON  
Latitude: 5865 Feet South of 39 Deg. 10 Min. 0 Sec.  
Longitude 3060 Feet West of 80 Deg. 30 Min. 0 Sec.

Company: CNG TRANSMISSION CORP.  
445 W. MAIN ST., P.O. BOX 2450  
CLARKSBURG, WV 26302-2450

Agent: JAMES D. BLASINGAME

Inspector: TIM BENNETT  
Permit Issued: 09/03/99  
Well work Commenced: 11/30/99  
Well work Completed: 12/20/99  
Verbal Plugging \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) \_\_\_\_\_  
Fresh water depths (ft) \_\_\_\_\_  
Salt water depths (ft) \_\_\_\_\_  
Is coal being mined in area (Y/N)? \_\_\_\_\_  
Coal Depths (ft): \_\_\_\_\_

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.

OPEN FLOW DATA

Producing formation Bayard Pay zone depth (ft) 2518-2628'(20)  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
\* Final open flow 148 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 4 Hours  
Static rock Pressure 250 psig (surface pressure) after 12 Hours  
\* Commingled with existing production  
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.

For: CNG TRANSMISSION CORP.  
By: Brian Sheppard, Sr. Staff Engineer  
Date: 02-11-00



IV-35  
(Rev 8-81)

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date August 21, 1985  
Operator's  
Well No. (R-523) 12000  
Farm W. W. Paugh  
API No. 47 - 033 - 3166-00

WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil \_\_\_ / Gas X / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ /  
(If "Gas," Production X / Underground Storage \_\_\_ / Deep \_\_\_ / Shallow \_\_\_ /)  
LOCATION: Elevation: 1093' Watershed Kincheloe Creek  
District: Union County Harrison Quadrangle Big Isaac

Office of Oil & Gas  
Permitting

COMPANY Consolidated Gas Transmission Corp.  
ADDRESS 445 W. Main St., Clarksburg, WV 26301  
DESIGNATED AGENT W. A. Fox  
ADDRESS 445 W. Main St., Clarksburg, WV 26301  
SURFACE OWNER Rod Stanley  
ADDRESS Rt. 2, Box 104, Jane Lew, WV 26378  
MINERAL RIGHTS OWNER Virginia S. Paugh  
ADDRESS 016 W. Pike St., Apt. 405, Clarksburg, WV 26301  
OIL AND GAS INSPECTOR FOR THIS WORK Stephen Casev  
ADDRESS Rt. 2, Box 232-D, Jane Lew, WV 26378  
PERMIT ISSUED April 17, 1985  
Redrill May 1, 1985  
DRILLING COMMENCED Drill Deeper June 26, 1985  
DRILLING COMPLETED July 11, 1985  
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON \_\_\_\_\_

AUG 19 1985

Casing & Tubing	Used in Drilling	MDL of Well	Design of Well	Cement fill up Cu. ft.
Size 20-16				
Cond. 13 3/8				
13-10 7/8	270	270	To surface	
9 5/8				
8 5/8	2147	2147	To 130'	
7				
5 1/2				
4 1/2	3590	3590	150 Skts.	
3				
2				
Liners used				

GEOLOGICAL TARGET FORMATION Benson Depth 4501-4529 feet  
Depth of completed well 3591 feet Rotary X / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh 1940 feet; Salt \_\_\_\_\_ feet  
Coal seam depths: 65-70 Is coal being mined in the area? No

OPEN FLOW DATA  
Producing formation Balltown & Speechley Pay zone depth see perf. feet  
Gas: Initial open flow 189 Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 1958 Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 2 hours  
Static rock pressure 1100 psig (surface measurement) after 14 days hours shut in  
(If applicable due to multiple completion--)  
Second producing formation \_\_\_\_\_ Pay zone depth \_\_\_\_\_ feet  
Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ Mcf/d Oil: Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ hours  
Static rock pressure \_\_\_\_\_ psig (surface measurement) after \_\_\_\_\_ hours shut in

(Continue on reverse side)

FORM IV-35  
(REVERSE)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Perforated 8 5/8" 1938-1940 with 4 holes & 1944-1950 with 12 holes.

Perforated Balltown 3261-1 hole, 3295-1 hole, 3361-3363- 2 holes, 3390-3394- 4 holes,  
3400-1 hole, 3410-1 hole & 3416-3422 6 holes

Fractured with 90,000# sand, 900 bbls. of water and 500 gal. 15% HCL acid.

Perforated Speechley 3147-3154-14 holes.

Fractured with 70,000# sand, 700 bbls. of water and 700 gal. 15% HCL acid.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all free and salt water, coal, oil and gas
Pittsburgh Coal			65	70	
Dunkard			485	555	
Salt			830	972	
Maxon			1130	1185	
Injun			1652	1785	
Berea			1930	1935	
Fifty Foot			2080	2090	
Thirty Foot			2140	2170	
Stray			2185	2237	
Gordon			2242	2262	
Fourth			2290	2320	
Fifth			2423	2433	
New Hole					
Shale			2474	3120	
Sand & Shale			3120	3970	
Bradford			3970	4003	
Sand & Shale			4003	4310	
Riley			4310	4340	
Sand & Shale			4340	4370	
Sand			4370	4400	
Sand & Shale			4400	4990	
Shale			4990	5254	T.D.
New Gamma Ray Logs					
Little Lime			1551	1574	
Big Lime			1592	- -	
Big Injun			- -	1770	
Gantz			1938	1956	
Gantz A			1972	1984	
Warren			2819	2848	
Upper Speechley			2989	3064	
Speechley			3144	3160	
Balltown			3246	3447	
Benson			4501	4529	
Alexander			4794	4869	
Total Depth				5273	
Plugged-					
Gel		5257 - 4600			
Cement		4600 - 4300			
Gel		4300 - 4000			
Cement		4000 - 3800			

(Attach separate sheets as necessary)

Consolidated Gas Transmission Corp.

Well Operator

By: *J. P. Quinn* / Manager of Production

Date: October 24, 1985

Note: Regulation 2.02(i) provides as follows:  
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."



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47-033-03166W  
33-3166F

Form WW-2B

Page \_\_\_ of \_\_\_

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

- 1) Well Operator: CNG Transmission Corp. 10900 33 0 252
- 2) Operator's Well Number: WV 12909 3) Elevation: 1097
- 4) Well Type: (a) Oil \_\_\_ / or Gas X /  
(b) If Gas: Production X / Underground Storage \_\_\_ /  
Deep \_\_\_ / Shallow \_\_\_ /
- 5) Proposed Target Formation(s): Bayard
- 6) Proposed Total Depth: 2518 feet
- 7) Approximate fresh water strata depths: N/A
- 8) Approximate salt water depths: N/A
- 9) Approximate coal seam depths: N/A
- 10) Does land contain coal seams tributary to active mine? Yes \_\_\_ / No X /
- 11) Proposed Well Work: Perforate & Frac proposed zones. Clean well up. Comingle with existing production.
- 12) **CASING AND TUBING PROGRAM**

Office of Oil & Gas Permitting  
AUG 19 1999  
WV Division of Environmental Protection

27519

**TYPE SPECIFICATIONS FOOTAGE INTERVALS CEMENT**

	Size	Grade	Weight per ft	For Drilling	Left in well	Fill-up (cu. ft.)
<b>Conductor</b>						
<b>Fresh Water</b>	13.375	H-40	48	270	270	Surface
<b>Coal</b>						
<b>Intermediate</b>	8.625	J-55	24	2,146	2,146	600
<b>Production</b>	4.5	J-55	10.5	3,590	3,590	525
<b>Tubing</b>						
<b>Liners</b>						

T.B

**PACKERS**: Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths \_\_\_\_\_

For Office of Oil and Gas Use Only

Fee(s) Paid: \$350. # 03149     Well Work Permit     Reclamation Fund     WPCP

Plat     WW-9     WW-2B     Bond Blanket     Agent  
(Type)



IV-35  
(Rev 8-81)

Date February 21, 1985

State of West Virginia

Department of Mines  
Oil and Gas Division

Operator's Well No. (R-523) 12909  
Farm W. W. Paugh  
API No. 47-033-3166

WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas X / Liquid Injection / Waste Disposal /  
(If "Gas," Production X / Underground Storage / Deep / Shallow /)

LOCATION: Elevation: 1093' Watershed Kingheloe Creek  
District: Union County Harrison Quadrangle Big Isaac

COMPANY Consolidated Gas Transmission Corp.  
ADDRESS 445 W. Main St., Clarksburg, WV  
DESIGNATED AGENT W. A. Fox  
ADDRESS 445 W. Main St., Clarksburg, WV  
SURFACE OWNER Rod Stanley  
ADDRESS Rt. 2, Box 194, Jane Lew, WV 26378  
MINERAL RIGHTS OWNER Virginia S. Paugh  
ADDRESS 916 W. Pike St., Apt. 405, Clarksburg, WV 26301  
OIL AND GAS INSPECTOR FOR THIS WORK Stephen Carey  
ADDRESS Rt. 2, Box 232-D, Jane Lew, WV 26378

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.		Casing pulled in 1937	
18-10"	85	0	
9 5/8"		0	
8 1/2"	978	0	
6 5/8"	1652	424	
5 1/2"	2190	0	
4 1/2"			
3"			
2"			
Liners used			

PERMIT ISSUED  
DRILLING COMMENCED January 16, 1915  
DRILLING COMPLETED March 11, 1915

IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

RECEIVED  
FEB 25 1985

GEOLOGICAL TARGET FORMATION Thirty Foot & Fifth  
Depth of completed well 2464 feet Rotary / Cable Tools X  
Water strata depth: Fresh none feet; Salt 1040 feet  
Coal seam depths: 65-70 Is coal being mined in the area? No

OPEN FLOW DATA  
Producing formation: Thirty Foot & Fifth Pay zone depth See tons feet  
Gas: Initial open flow            Mcf/d Oil: Initial open flow            Bbl/d  
Final open flow 2193 Mcf/d Final open flow            Bbl/d  
Time of open flow between initial and final tests            hours  
Static rock pressure 525 psig (surface measurement) after 24 hours shut in  
(If applicable due to multiple completion--)  
Second producing formation            Pay zone depth            feet  
Gas: Initial open flow            Mcf/d Oil: Initial open flow            Bbl/d  
Final open flow            Mcf/d Oil: Final open flow            Bbl/d  
Time of open flow between initial and final tests            hours  
Static rock pressure            psig (surface measurement) after            hours shut in

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

June 2, 1937 - 60 quarts in Thirty Foot

WELL LOG

FORMATION, COLOR, HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Pittsburgh Coal	65	70	
Dunkard	485	555	
Salt	830	972	
Maxon	1130	1185	
Injun	1652	1785	
Berea	1930	1935	
Fifty Foot	2080	2090	
Thirty Foot	2140	2170	
Stray	2185	2237	
Gordon	2242	2262	
South	2290	2320	
Fifth	2423	2433	
Total Depth		2464	

DEPT. OF MINES  
 OIL & GAS DIVISION

(Attach separate sheets as necessary)

Consolidated Gas Transmission Corp.

Well Operator

By: J. C. ... Manager of Production

Date: February 21, 1938

Note: Regulation 2.02(i) provides as follows:  
 "The term 'log' or 'well log' shall mean a systematic, detailed geological record of all formations, including those encountered in the drilling of a well."



WW-2A  
(Rev. 6-14)

1.) Date: 4-30-2019  
2.) Operator's Well Number 12909  
State County Permit  
3.) API Well No.: 47- Harrison 03166

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:  
(a) Name Virginia E. Grogg  
Address 3219 Gladesville Road  
Independance, WV 26374  
(b) Name Kimberly S Shaw  
Address 3180 Kincheloe Road  
Jane Lew, WV 26378  
(c) Name \_\_\_\_\_  
Address \_\_\_\_\_  
6) Inspector \_\_\_\_\_  
Address \_\_\_\_\_  
Telephone \_\_\_\_\_

5) (a) Coal Operator  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(b) Coal Owner(s) with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
(c) Coal Lessee with Declaration  
Name \_\_\_\_\_  
Address \_\_\_\_\_

TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas  
OR  
 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: Office of Oil and Gas  
 Personal Service (Affidavit attached)  
 Certified Mail (Postmarked postal receipt attached)  
 Publication (Notice of Publication attached)

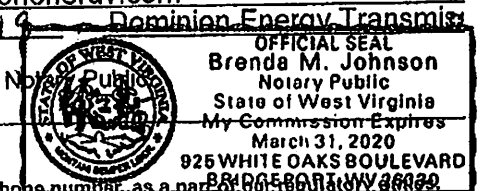
AUG - 8 2019

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 Dominion Energy Transmission, Inc  
By: John M. Love  
Its: Designated Agent  
Address: 925 White Oaks Blvd  
Bridgport, WV 26330  
Telephone: 681-622-1948  
Email: john.d.frost@dominionenergy.com

Subscribed and sworn before me this 13<sup>th</sup> day of May, 2019

Brenda M. Johnson  
My Commission Expires March 31, 2020  
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](mailto:depprivacyofficer@wv.gov)



7017 0190 0000 9775 7123

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

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

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Certified Mail Fee  
 \$ 3.50

Extra Services & Fees (check box, add fee as appropriate)

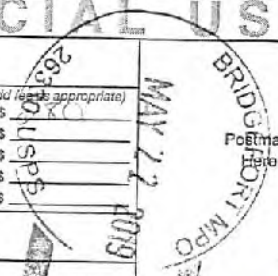
<input type="checkbox"/> Return Receipt (hardcopy)	\$	
<input type="checkbox"/> Return Receipt (electronic)	\$	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$	
<input type="checkbox"/> Adult Signature Required	\$	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$	

Postage  
 \$ .95

**Total Postage and Fees**  
 \$ 7.25

Sent To  
 Kimberly S. Shaw  
 Street and Apt. No., or PO 3180 Kincheloe Road  
 City, State, ZIP+4® Jane Lew, WV 26378

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



7017 0190 0000 9775 7178

**U.S. Postal Service™** 47-033-03166W  
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Certified Mail Fee  
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Extra Services & Fees (check box, add fee as appropriate)

<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$	<u>3.80</u>
<input type="checkbox"/> Return Receipt (electronic)	\$	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$	
<input type="checkbox"/> Adult Signature Required	\$	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$	

Postage  
 \$ .95

**Total Postage and Fees**  
 \$ 7.25

Sent To  
 Virginia E. Grogg  
 Street and Apt. No., or PO 3219 Gladesville Rd  
 City, State, ZIP+4® Independence, WV 26374

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



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WV Department of  
Environmental Protection

WW-2B1  
(5-12)

Well No. 12909

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 No water sources identified for human consumption, domestic animals, or other general use  
Sampling Contractor identified within 2000 ft of the existing storage well.

Well Operator Dominion Energy Transmission, Inc  
Address 925 White Oaks Blvd  
Bridgeport, WV 26330  
Telephone 681-622-1948

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

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WV Department of  
Environmental Protection

August 2<sup>nd</sup>, 2019

**By U.S Mail, Certified Delivery**

7018 0680 0000 8051 8998

WV DEP  
Office of Oil and Gas  
601 57th Street  
Charleston, WV 25304  
Art: Jeff McLaughlin OOG

**RE: Permit 12909 (47-033-03166) Rework Application**

To the Office of Oil and Gas,

Dominion Energy Transmission, Inc. is submitting the permit application packet for reworking 12909 (47-033-03166)

The following documents are enclosed:

- Check for rework application (EF0000113487)
- Permit application packet
- Mylar
- Copies of certified mail receipts from landowners
- Topographic map section

CK# 314017  
Amt \$ 650  
Date 6/5/19

The documents enclosed are for your records and review. If you should have any questions or comments related to the rework operations, please contact me by the means of the information listed below.

Sincerely,

J. Daniel Frost

(C): 681-622-1948

(E): john.d.frost@dominionenergy.com

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WV Department of  
Environmental Protection

WW-2A Surface Waiver  
(4/16)

**SURFACE OWNER WAIVER**

County Harrison Operator Dominion Energy Transmission  
Operator well number 12909

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

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

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

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

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 928-0450

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

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

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

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

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

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

**VOLUNTARY STATEMENT OF NO OBJECTION**

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

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

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

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

Company Name \_\_\_\_\_  
By \_\_\_\_\_  
Its \_\_\_\_\_ Date

03166  
\_\_\_\_\_  
Print Name

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Office of Oil and Gas  
AUG - 8 2019  
\_\_\_\_\_  
WV Department of  
Environmental Protection  
\_\_\_\_\_  
Signature Date



WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Harrison  
Operator Dominion Energy Transmission, Inc Operator's Well Number 12909

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 57<sup>th</sup> 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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Environmental Protection

WW-2A1  
(Rev. 1/11)

Operator's Well Number 12909

**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
<small>Please see attached document</small>			

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

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

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

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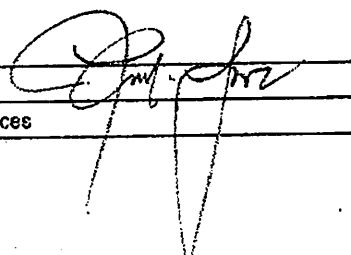
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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired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

Well Operator:  
By: Its:

Dominion Energy Transmission  
 John Love  
 Director of storage and land services



Grantor/Lessor	Grantee/Lessee	Royalty	Book page
W.W Paugh Et Al	Hope Natural Gas	Storage	740/44

Hope Natural Gas Company changed its name to Consolidated Gas Supply Corporation. On January 1, 1984 Consolidated Gas Supply Corporation assigned its leasehold interest to Consolidated Gas Transmission Corporation. On January 1, 1998 Consolidated Gas Transmission Corporation became CNG Transmission Corporation. As a result of a merger with Dominion Resources Inc. CNG Transmission Corporation changed its name to Dominion Transmission Inc. on May 2000. Dominion Transmission Inc. changed its name to Dominion Energy Transmission Inc. on May 12, 2017.

WW-9  
(5/16)

API Number 47 - 033 - 03166  
Operator's Well No. 12909

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

Operator Name Dominion Energy Transmission, Inc OP Code 307048

Watershed (HUC 10) Middle West Fork River Quadrangle Big Isaac

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.?

Proposed Disposal Method for Treated Pit Wastes:

- Land Application (if selected provide a completed form WW-9-GPP)
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_ )

Will closed loop system be used? If so, describe: Yes, above ground steel pits and dumpster receptacles.

SDW  
5/16/2019

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

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

Additives to be used in drilling medium? Sodium/Potassium Chloride, Xanthan gum, Sodium Bicarbonate, Caustic Soda, Biocide

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

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

-Landfill or offsite name/permit number? Waste Management, Clarksburg, WV

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 \_\_\_\_\_  
Company Official (Typed Name) John M. Love  
Company Official Title Director, Storage and Land Services

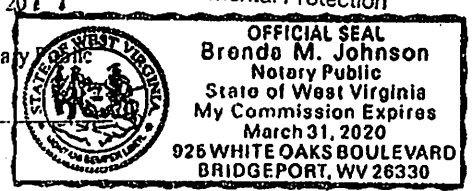
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Subscribed and sworn before me this 13<sup>th</sup> day of May, 2019

Brenda M. Johnson

Notary Public

My commission expires March 31, 2020





Form WW-9

Operator's Well No. 12909

Proposed Revegetation Treatment: Acres Disturbed 0.65 acres Prevegetation pH \_\_\_\_\_

Lime 3.0 Tons/acre or to correct to pH 6.5

Fertilizer type 10/10/20

Fertilizer amount 500 lbs/acre

Mulch Hay or Straw @ 2.5 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type lbs/acre

Seed Type lbs/acre

Meadow Mix @ 40lbs/acre

Meadow Mix @ 50lbs/acre

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: S. P. [Signature]

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

Title: OOG Inspector

Date: 5/6/2019

Field Reviewed?  Yes  No

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Environmental Protection

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

Operator Name: Dominion Energy Transmission  
Watershed (HUC 10): Middle West Fork River Quad: Big Isaac  
Farm Name: \_\_\_\_\_

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

Well workover fluids generated in relation to downhole well work will be contained in above ground tanks and will be hauled offsite for disposal at a DETI approved facility.  
Surface water will be handled, as follows:  
Surface water not entering the site containment will be diverted to E&S controls, to minimize sedimentation.  
Surface water entering the site containment will be evaluated for contamination. If contamination is present, the water will be collected and hauled offsite for disposal at a DETI approved facility. If no contamination has occurred, the water will be discharged from the site and will be diverted to E&S controls, to minimize sedimentation.

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

A temporary cellar will be installed around the well. The cellar will be of metal construction. The floor will be sealed with an impermeable barrier (e.g. synthetic liner, cement, etc.). Full site containment will be employed. The site containment will consist of an impermeable synthetic liner, overlain with matting materials. The sides of the containment will be bermed.

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

Closest water body: Unnamed tributary of Kincheloe Creek  
Distance to closest water body (from wellhead): 630' to unnamed tributary  
No Well Head Protection Area within 2000' of the discharge area

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

Existing gas storage/production well. Well is operated in accordance with any regulations required, pertaining to groundwater protection.

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

WV Department of  
Environmental Protection

No groundwater quality data available.

No sources of water utilized for human consumption, livestock consumption, or other potable use were identified during surveying activities, within 2000'.

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. Fill material utilized will either be existing soil and rock at the site or construction grade aggregate and materials. No deicing is planned for this site. In the event deicing is required, no waste products will be used for this purpose.

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.

Employees will be instructed to identify fluids present in the site containment area. If the fluids have not been contaminated with workover fluid and do not have an oil sheen present, the fluid may be discharged and diverted to E&S controls to minimize sedimentation.

If the fluids present in the site containment area have been contaminated with workover fluid or have an oil sheen present, they will be gathered and hauled to offsite disposal at a DETI approved facility.

E&S controls are to be monitored and maintained.

State regulations require a copy of the permit associated with this GPP to be on site for the duration of the planned well work. This Groundwater Protection Plan will be included in that permit package and may be used as guidance for preventing groundwater contamination.

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

E&S controls will be inspected on a weekly basis, at a minimum.

Site containment will be monitored as part of the daily well work activities. Site containment will be removed and hauled offsite to an approved DETI facility, at the completion of the project.

Signature: S. D. Warratt

Date: 5/6/2019

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Environmental Protection

47-033-03166W

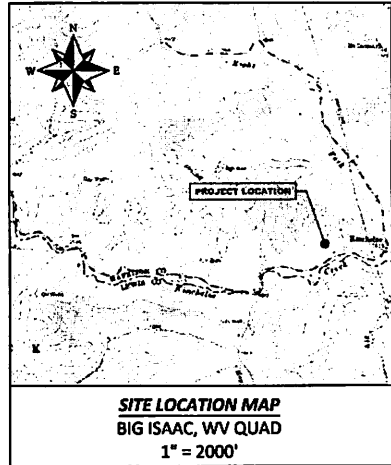
# 12909 WELL EROSION & SEDIMENTATION CONTROL PLAN

UNION DISTRICT, HARRISON COUNTY, WEST VIRGINIA

PREPARED FOR :  
**DOMINION ENERGY TRANSMISSION, INC.**

925 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330

CONSULTANTS	
SIGNATURES	DATE



TS-1	TITLE SHEET
ES-1	EROSION & SEDIMENTATION CONTROL PLAN
DS-1	EROSION & SEDIMENTATION CONTROL NOTES & DETAILS

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**AUG - 8 2019**  
 WV Department of  
 Environmental Protection

**CALL BEFORE YOU DIG!**

WEST VIRGINIA LAW REQUIRES  
48 HOUR NOTICE FOR CONSTRUCTION PHASE  
AND NO MORE THAN 10 WORKING DAYS IN ADVANCE

West Virginia One Call System, Inc.  
8-1-1

POCS Serial No.  

ABBREVIATIONS	LEGEND	LEGEND
BMP - BEST MANAGEMENT PRACTICES	--- PROPERTY LINE	EXISTING GAS WELL
CFS - COMPOST FILTER SOCK	- - - EXISTING 2" CONTOURS	GRAVEL
EAS - EROSION & SEDIMENTATION	--- EXISTING 10' CONTOURS	PROPOSED 10' CONTOUR FILTER SOCK
EX - EXISTING	- - - PROPOSED 2" CONTOURS	
LAT - LATITUDE	- - - PROPOSED 10' CONTOURS	
LONG - LONGITUDE	- - - PROPOSED TOP OF CUT PERIMETER	
QUAD - QUADRANGLE	- - - PROPOSED TOP OF SLOPE PERIMETER	
PROP - PROPOSED	- - - LIMITS OF DISTURBANCE	
RCE - ROCK CONSTRUCTION ENTRANCE	--- TREE LINE	
	--- STREAM	
	--- SOIL BOUNDARY	
	--- EXISTING GAS LINE	
	--- EXISTING OVERHEAD ELECTRIC LINE	
	⊙ EXISTING SANITARY SEWER MANHOLE	
	⊙ EXISTING GAS METER	

THIS DRAWING IS FOR THE EROSION AND SEDIMENTATION CONTROL PLAN/PERMIT ONLY.

**POLESTAR**  
 ENGINEERING CONSULTING ENVIRONMENTAL  
 SCIENCE & TECHNOLOGY  
 PHONE (724) 860-0000  
 1000 COOK ROAD  
 UNIONTOWN, PA 15401

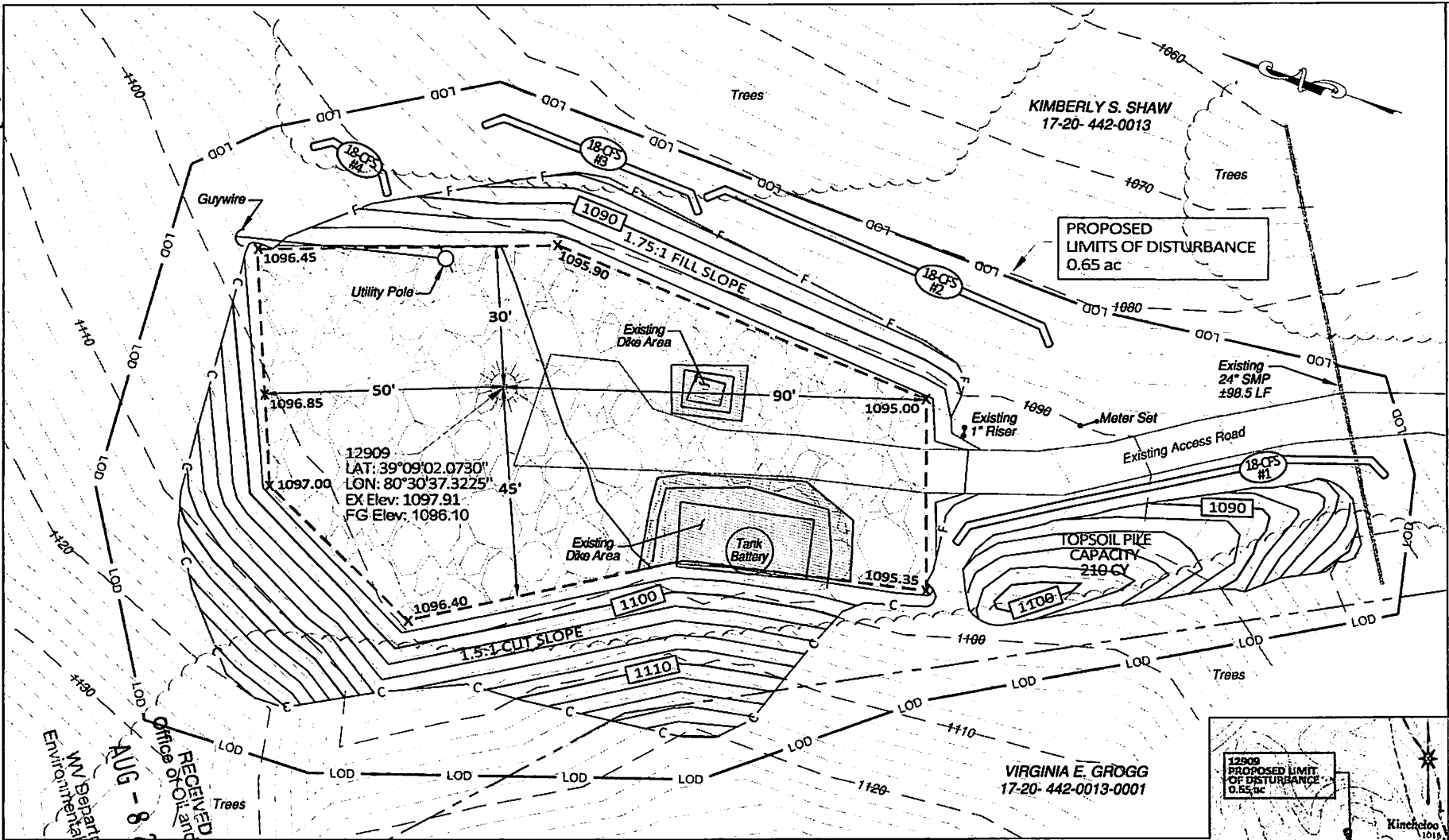
REVISION RECORD	
No.	Date

**DOMINION ENERGY TRANSMISSION, INC.**  
**12909 WELL**  
 UNION DISTRICT - HARRISON COUNTY  
 WEST VIRGINIA

Project Number: 12909  
 Drawing Scale: AS SHOWN  
 Date Issued: 8-23-2019  
 Index Number:  
 Drawn By: SDC  
 Checked By: JA  
 Project Manager: MM  
**TS-1**



47-033-0366W



12909  
 LAT: 39°09'02.0730"  
 LON: 80°30'37.3225" 45'  
 EX Elev: 1097.91  
 FG Elev: 1096.10

KIMBERLY S. SHAW  
 17-20- 442-0013

PROPOSED  
 LIMITS OF DISTURBANCE  
 0.65 ac

VIRGINIA E. GROGG  
 17-20- 442-0013-0001

Environmental Protection  
 M. Barbara  
 AUG - 8 2019  
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 Office of Oil and Gas

- GENERAL NOTES:**
- Temporary erosion control access roads must be restricted to as close to pre-construction conditions as practicable.
  - For areas that will be disturbed or disturbed, the contractor is not required to install Erosion & Sedimentation Control (E&S) Best Management Practices (BMP) or perform site restoration.
  - Naturally occurring vegetative filters will be utilized along the LOD to filter sediment from runoff. If at any time a vegetative filter becomes ineffective, Compost Filter Socks (CFS) should be installed immediately in accordance with the installation procedure outlined in the details.
  - E&S differing from those shown on the plans may be needed by the contractors based on construction and/or tree clearing techniques utilized.
  - Soil information obtained from Weibull survey, NRCS.
  - Erode project limits are outside 100-Year Flood Hazard Area (Zone X). See FEMA Flood Insurance Rate Map Number 54033C0220D EFFECTIVE 10-2-2012.
  - Erosion Control Blankets to be placed on all disturbed slopes steeper than 3:1 and on all disturbed areas within 50' of streams unless otherwise noted.

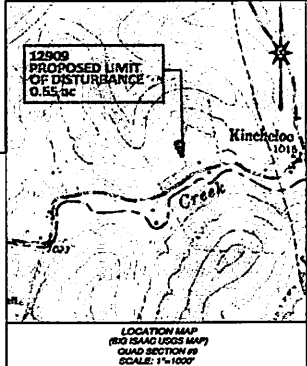
**PROPOSED PAD EARTHWORK**  
 Topsoil Removal Volume: 205.3 C.Y.  
 Cut Volume: 242.0 C.Y.  
 Fill Volume: 236.0 C.Y.  
 Area = Cut: 8,267 9/8 F. - 621 Acres  
 Area = Fill: 5,625 0/8 F. - 0.13 Acres

Perimeter Control Schedule (See Erosion & Sedimentation Control Plan for Control Locations)				
Perimeter Control #	CFS Size	Slope Percent	Slope Length Above Barrier (Ft.)	CFS Length (Ft.)
1	18"	17.6%	33	25
2	18"	15.0%	42	30
3	18"	13.0%	54	50
4	18"	28.0%	64	20

**CALL BEFORE YOU DIG!**

WEST VIRGINIA LAW REQUIRES  
 48 HOUR NOTICE FOR CONSTRUCTION PHASE  
 AND NO MORE THAN 10 WORKING DAYS IN ADVANCE

West Virginia One Call System, Inc.  
 8-1-1  
 POCS Bural No.



**POLESTAR**  
 ENGINEERING & SURVEYING, INC.  
 PHONE: (717) 550-4100 FAX: (717) 550-4126  
 400 DODD BLVD.  
 LEBANON, PA 17042

REVISION RECORD

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

**DOMINION ENERGY TRANSMISSION, INC.**  
 12909 WELL

UNION DISTRICT - HARRISON COUNTY  
 WEST VIRGINIA

**EROSION & SEDIMENTATION CONTROL PLAN**

Project Number: 12909  
 Drawing Scale: 1"=10'  
 Date Issued: 6-28-2019  
 Index Number:  
 Drawn By: EDE  
 Checked By: JA  
 Project Manager: title

**ES-1**

THIS DRAWING IS FOR THE EROSION AND SEDIMENTATION CONTROL PLAN/PERMIT ONLY.





47-033-03166W

**POLESTAR**  
ENGINEERING, SURVEYING, ENVIRONMENTAL  
PHONE: (724) 550-4190 FAX: (724) 550-4128  
400 DIXON BLVD.  
UNIONTOWN, PA 15401

**LOCATION MAP**

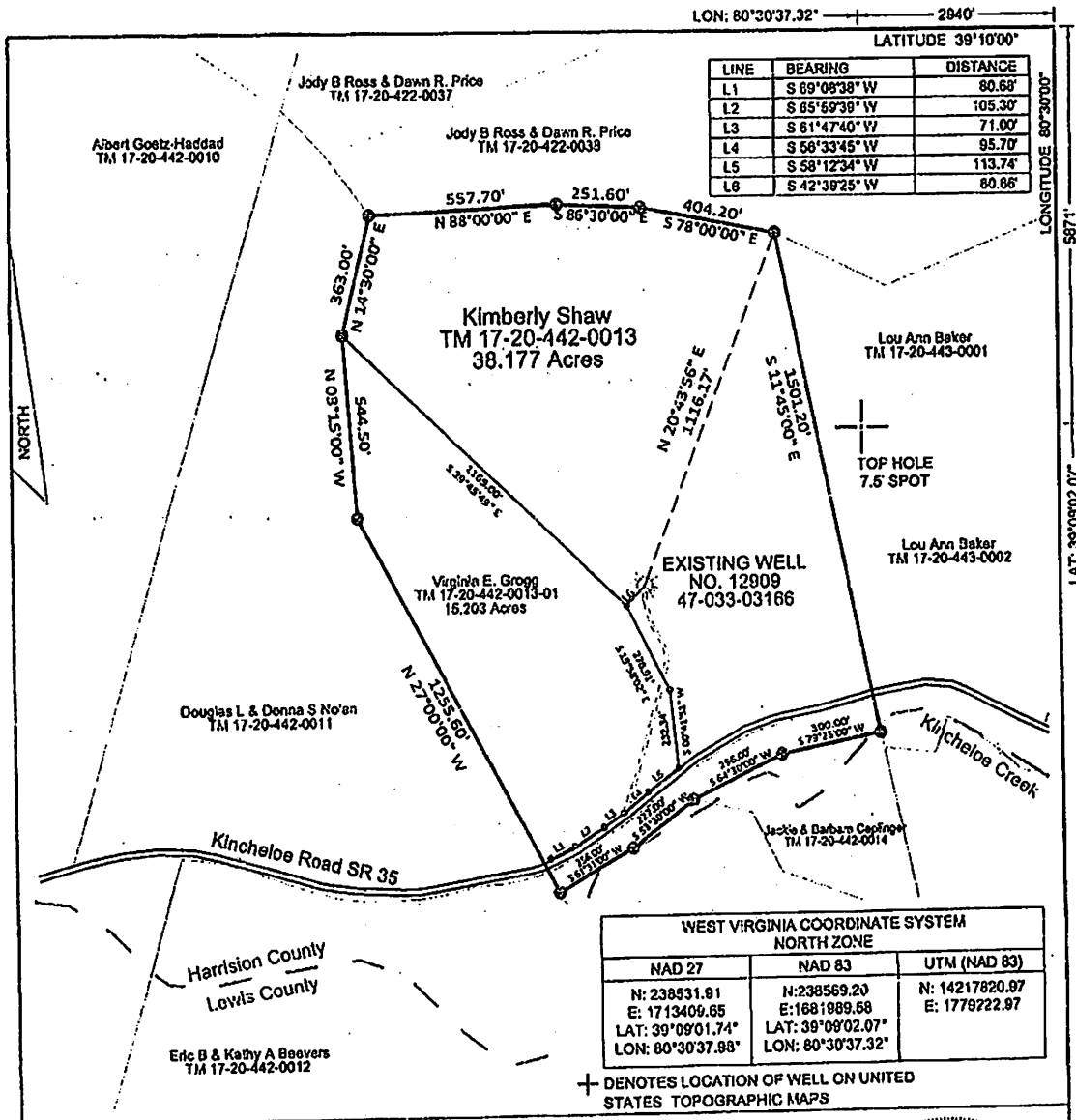
12909  
Dominion Energy  
August 05, 2019  
Big Isaac 7.5' Quad  
Quad Section 9  
Scale: 1" = 2000'



AUG - 8 2019

WV Department of Environmental Protection

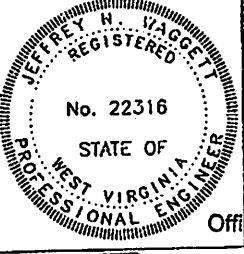




FILE NUMBER: WV-  
 DRAWING NUMBER: 12909 PLAT.DWG  
 SCALE: 1"=400'  
 MINIMUM DEGREE OF ACCURACY: SUBMETER  
 PROVEN SOURCE OF ELEVATION: DGPS (SUBMETER MAPPING GRADE)

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

*Jeffrey N. Waggett*  
 JEFFREY N. WAGGETT, WV P.E. #22316  
 POLESTAR ENGINEERING  
 400 DIXON BLVD., UNIONTOWN, PA 15401  
 PHONE: 724-850-4190



DATE: APRIL 29, 2019  
 OPERATORS WELL NO.: 12909  
 API WELL NO.: 47 033 03166  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS

RECEIVED  
 Office of Oil and Gas  
 AUG - 8 2019  
 WV Department of Environmental Protection

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  IF "GAS": PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: 1098 FT. WATERSHED: MIDDLE WEST FORK RIVER DISTRICT: UNION COUNTY: HARRISON QUADRANGLE: BIG ISAAC

SURFACE OWNER: KIMBERLY SHAW ACREAGE: 53.38  
 OIL AND GAS ROYALTY OWNER: 0 LEASE ACREAGE: 0

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION   
 PERFORATE NEW FORMATION  PLUG AND ABANDON  CLEAN OUT AND REPLUG   
 OTHER PHYSICAL CHANGE IN WELL (SPECIFY) CONVERT STORAGE/PRODUCTION WELL TO STORAGE/OBSERVATION WELL

TARGET FORMATION: GANTZ ESTIMATED DEPTH: 1938-1946 FT

WELL OPERATOR: DOMINION ENERGY TRANSMISSION INC. DESIGNATED AGENT: JOHN LOVE  
 ADDRESS: 925 WHITE OAKS BLVD. ADDRESS: 925 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

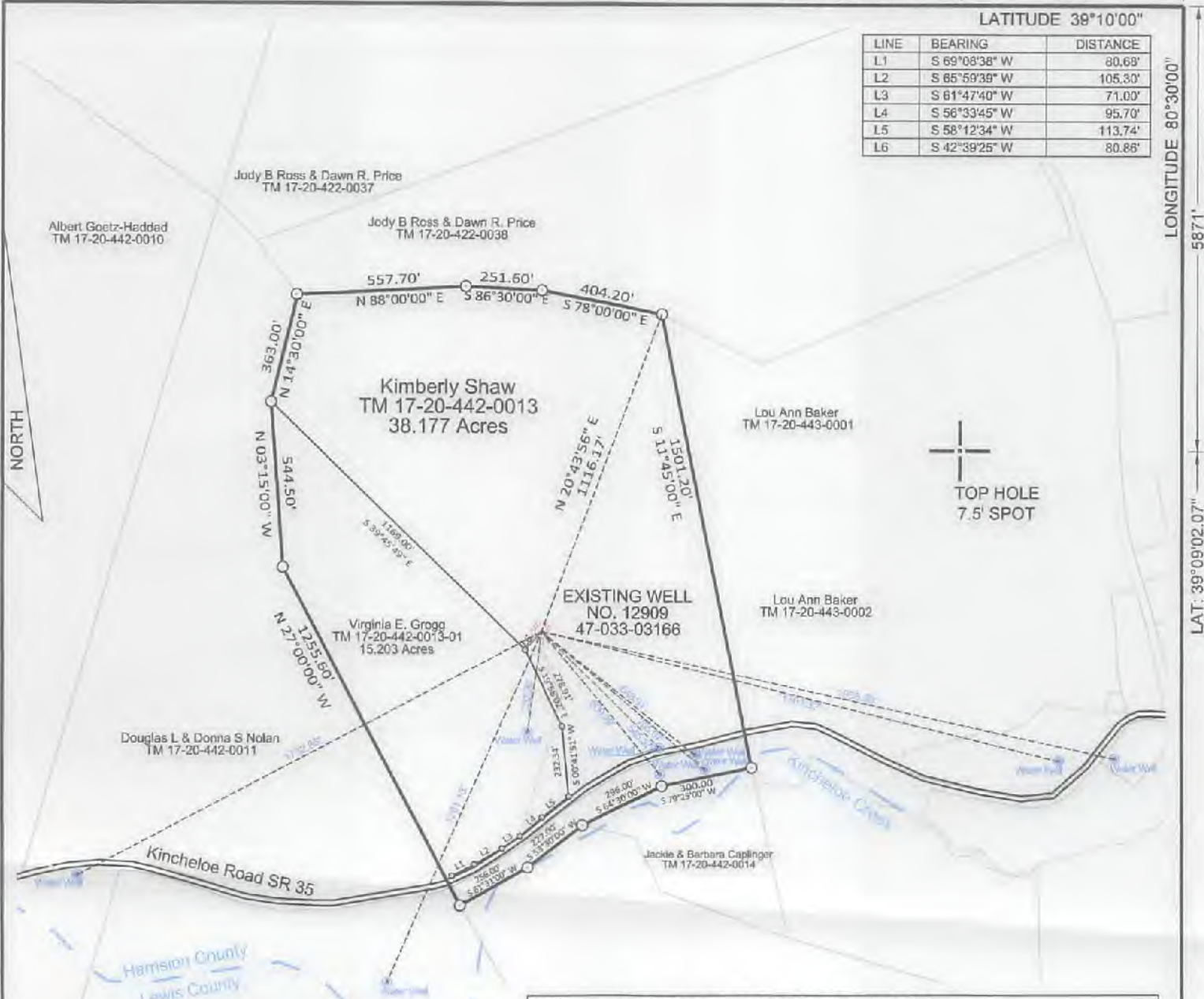
LON: 80°30'37.32" ————— 2940'

LATITUDE 39°10'00"

LINE	BEARING	DISTANCE
L1	S 69°08'38" W	80.68'
L2	S 65°59'39" W	105.30'
L3	S 61°47'40" W	71.00'
L4	S 56°33'45" W	95.70'
L5	S 58°12'34" W	113.74'
L6	S 42°39'25" W	80.86'

LONGITUDE 80°30'00" ————— 5871'  
LAT: 39°09'02.07"

NORTH



WEST VIRGINIA COORDINATE SYSTEM			
NORTH ZONE			
NAD 27	NAD 83	UTM ZONE 17 NORTH (NAD 83)	
		FEET	METERS
N: 238531.91	N: 238569.20	N: 14217820.97	N: 4333600.50
E: 1713409.65	E: 1681969.58	E: 1779222.97	E: 542308.25
LAT: 39°09'01.74"	LAT: 39°09'02.07"		
LON: 80°30'37.98"	LON: 80°30'37.32"		

⊕ DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER: WV-  
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*Jeffrey N. Waggett*

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 POLESTAR ENGINEERING  
 400 DIXON BLVD., UNIONTOWN, PA 15401  
 PHONE: 724-550-4190



DATE: JULY 25, 2019  
 OPERATORS WELL NO.: 12909  
 API WELL NO.: 47 — 033 — 03166 **W**  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS



WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  IF "GAS": PRODUCTION  STORAGE  DEEP  SHALLOW   
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HARRISON COUNTY PERMIT 03089